ANNEX A. INCREMENTAL COSTS AND BENEFITS OF THE PROJECT:

1. Background

The GEF Incremental Costs analysis requires a consideration of the baseline and additional costs associated with achieving '*domestic*' benefits (*i.e.,* those accruing to the participating countries) and global environmental benefits (*i.e.,* those accruing beyond the jurisdiction of the participating countries). The regional scope of this project presents methodological difficulties in assessing costs that are normally calculated in a purely national context. As with any legitimate GEF project, the benefits arising from this project will accrue at global, regional and national scales. The purpose of this analysis is to attempt to segregate the costs of project activities benefiting conditions and resources in coastal areas under national jurisdiction, on the one hand, and the costs of project activities that provide additional (incremental) benefits in the form of reduced stress and improved conditions in international waters areas beyond the individual jurisdictions of the participating countries. This analysis also provides justification for the incremental costs by assessing the incremental benefits and showing, where possible, that these outweigh the incremental costs of the project.

Global Benefits

Assessing the global benefits of a GEF project necessitates, in the first instance, a consideration of the comparative environmental importance, from a global perspective, of the region or area covered by the project, together with an understanding of the extent to which the project reduces environmental loss or degradation. This reduction in environmental degradation represents the predominant environmental benefit of the project at all scales. Partitioning the total benefit at global, regional and national scales poses problems in the context of incremental cost calculations because, in many cases, the benefits cannot be valued in purely monetary terms and, furthermore, predicting the distribution of benefits among geographical areas is profoundly difficult. In the context of international waters, however, interventions addressing transboundary environmental issues and concerns are considered to be wholly incremental.

This project comprises two major foci: first, the prevention of pollution in the Mediterranean Sea (implementation of SAP-MED); and second, measures to enhance the preservation of biodiversity in this same enclosed Sea. In addressing those two foci, the project adopts a combination of holistic and sectoral (for technical/methodological reasons) approaches. The first component comprises integrated approaches for the implementation of both SAPs and their NAPs through ICZM, IWRM and Management of Coastal Aquifers and provides mutual support to the two major foci. The second and third components address them separately with targeted activities for each of them. The fourth component addresses Project coordination, management and M&E, including replication and communication strategies and NGOs involvement plan. The Mediterranean Sea is universally recognized as the most enclosed marginal sea. Within its catchment lay the oldest cradles of modern civilization, Egypt, Greece and Rome. Today, it contains diverse social and cultural entities, including the countries of North Africa, the eastern Mediterranean, the Balkans and South-Eastern member states of the European Union. The importance of the Mediterranean Sea to the economies of these countries, whether for transportation or the recovery of resources, is indisputable. It is clear from the number and scale of GEF projects in Mediterranean countries that the social, political and environmental importance of the region is already well-recognized. The pilot project on POPs is a direct contribution of Mediterranean Countries to the global efforts to reduce the adverse impacts on health and environment of POPs.

Baseline Activities and Costs

At a national level all the countries of the region have sought, over the last decade, to strengthen their national capacity for sound and sustainable management of the marine environment. Following the past emphasis on assessment of problems, significant experience has been built up at a national level. In some

instances, however, countries have been unable to devote sufficient resources internally to developing such capacity; hence the stage of development varies widely from country to country.

Strictly, baseline activities in the region are of two types. The first type comprises activities undertaken by the participating countries predominantly for national purposes to improve the social and environmental conditions that offer social and economic benefit. The second type comprises contemporary activities being undertaken by international agencies and supported by a wide variety of donor institutions, both bilateral and multilateral, in which the developing countries of the Mediterranean participate. An effort has been made in the text of the project brief and in the estimation of baseline costs to identify and segregate these two types of baseline activity. The primary reason for such segregation is to ensure that there is a specific allocation of baseline costs to issues of national action directed primarily at obtaining domestic benefits. International projects support not only the acquisition of domestic benefits to the participating countries but also a variety of regional and global benefits in engendering the introduction of uniform and effective management and surveillance mechanisms throughout the developing world.

Incremental Costs

The analysis of incremental costs is the main subject of this annex. In addition to the estimation of incremental costs, an effort is made to determine and distinguish between any additional domestic benefits provided by the project as distinct from those accruing in areas beyond individual national jurisdictions. Such projections of benefit are fraught with difficulty as noted above. Therefore, frequently it is only possible to examine the likely scale of incremental benefits accruing from project activities as a means of providing justification for the incremental costs and the investment of GEF financing.

Domestic Benefits

The domestic benefits accruing from this GEF alternative project comprise improvements in the condition of the environment under national jurisdictions and the enhancement of national capacities to manage and control the adverse environmental impacts of economic activities. Those components of the project directed towards enhanced management of land-based activities to reduce the entry of contaminants into the sea will yield major domestic benefits because the receiving coastal area is closest to the sources. The project components devoted to SAP-BIO implementation will have domestic benefits largely limited to the economic and social benefit accruing from increased biological diversity in coastal areas under national jurisdiction. Nevertheless, to the extent that such biodiversity enhancements align with international aspirations adopted from global perspectives, some of these benefits could be claimed as incremental. In large part, the capacity-building activities within the project will result primarily in domestic benefits to the participating countries. Nevertheless, to the extent that such national capacity-building enables improved coordination among national actions to protect and enhance the marine environment of the Mediterranean as a whole, there will exist incremental benefits. In relation to land-based source control, these incremental benefits will accrue at the regional level whilst greater harmonization of interventions directed towards biodiversity protection and enhancement can be argued to accrue at both regional and global levels.

Incremental Benefits

The present project adds significantly to the '*regional baseline*' enabling the countries to accelerate the implementation of the two Strategic Action Programs, that on land-based activities and that on biodiversity. Timely implementation of these two SAPs is unlikely to occur in the absence of a GEF intervention, since the level of funding currently available for regional coordinated action is insufficient to address all aspects of these programs.

The incremental benefits of this project will accrue both to the international waters of the region and international waters beyond the Mediterranean. In the case of stress associated with contaminants derived from land-based activities, the greatest incremental benefits will be regional. Biodiversity preservation in

the Mediterranean also constitutes an incremental benefit in the context of contemporary international initiatives. Incremental benefits of project interventions aimed at biodiversity enhancements fall into two categories: those relating to the mitigation of transboundary environmental impacts, such as loss of fish spawning and nursery habitats that serve as a source of propagules for fisheries elsewhere in the region or as habitat for endangered species; and those resulting from adoption of a harmonized regional approach to interventions.

All activities within the proposed project have been based on the priorities identified in the two strategic action plans for the Mediterranean engendered through the Barcelona Convention. Thus, there exists a basis of regional coordination in the selection of priorities for action included in the project. This enhances the probability that the incremental benefits of project activities are maximized and that GEF support will be devoted both to supporting the region in promulgating collective action towards regional priorities. The fact that these priority concerns fall within the two of the priorities for international action, namely land-based sources and [biodiversity], provides an automatic alignment with global priorities as represented by the international waters and biodiversity focal areas of the GEF portfolio.

The value of a regional approach to the harmonization of actions is demonstrated in part by the following example in relation to land-based sources of pollution. All countries have some form of water quality and discharge aspirations, often reflecting in part the comparative importance of pollution as a problem within a national context. In cases where a country having low importance from the perspective of the total pollutant loading of the Mediterranean imposes stricter standards than a country that is a major source of contaminants they place themselves at economic disadvantage whilst contributing little to the maintenance of the health of the Mediterranean Sea environment. Harmonization of standards within the region results in more effective interventions by riparian states, greater equity in economic costs and benefits, and will yield enhanced incremental benefits.

The activities proposed within the POPs sub-component have been based on concrete assessment of the state-of-the-art of PCBs management in the region and its impacts on health and environment, especially the marine environment. The incremental benefits are seen in the reduction of levels of PCBs in marine ecosystem e.g. food chain and sediments, the reduction of transboundary movement of PCBs at regional and global levels and building harmonized regional capacities to the environmental sound management of PCBs . Without GEF's financial support, the region would probably maintain the current practice of long term storage of PCBs contaminated oils and equipments without any environmental protection and inappropriate disposal of contaminated metals and oils. Postponing the establishment of an harmonized management plan for the treatment of contaminated equipment increases the risks of new environmental contamination and of human exposure. PCBs still in use in electrical equipment are at risk of release through fires in electrical equipment; those off-line can release PCBs through leaks and spills. Stocks that are not well protected can be accessed by people wishing to utilize the oils; cases have been documented in various countries of PCB-contaminated oils being used as an "industrial hand cleaner" and for cooking. Repeated exposure to even small quantities of PCBs can cause damage to the liver and neurological and immune systems. Inadequate handling of PCBs can also lead to emissions of other toxic substances, including dioxins and furans, that are POPs regulated under the Stockholm Convention.

2. INCREMENTAL COST ASSESSMENT AND JUSTIFICATION

Project Components and Activities

This project comprises four (4) components as follows:

1. Integrated Approaches for the Implementation of the SAPs and NAPs: ICZM, IWRM and Management of Coastal Aquifers
2. Pollution from land-based activities: Implementation of SAPMED and related NAPs;
3. Conservation of biological diversity: Implementation of SAPBIO and related NAPs;
4. Project coordination, replication and communication strategies, management and M&E

Component 1 comprises: the management of coastal aquifers and groundwater; the application of integrated coastal zone management and integrated water resources management; the next two components comprise the principal sectoral activities of the project.

Component 2 is directed at improving the protection of the Mediterranean basin through improved pollution control associated with land-based activities in the participating countries.

Component 3 deals with the implementation of SAP-BIO, and development of a marine protected area network in the Mediterranean and wider application of protected areas and improved fisheries resource management based on an ecosystem approach.

Component 4 contains essentially all the project management, coordination and M&E activities, including Sustainable Financial Mechanism and NGO Mobilization, the development of a communication and replication strategies.

Baseline and Incremental Costs and Benefits

The project activities are so diverse that it is neither easy nor logical to roll up the baseline and incremental activities and costs for all project components into a single presentation of each at an overall project level. Accordingly, the assessment of incremental costs and benefits associated with the activities requires analyses at the component level and, in some cases, at the sub-component, or activity, level. Such analyses are presented by project component in the following sections.

Component 1: Integrated approaches for the implementation of the SAPs and NAPs: ICZM, IWRM and Management of Coastal Aquifers

This component has four sub-components. These are addressed separately in the following sections.

Sub-Component 1.1. Management of Coastal Aquifers and groundwater

This sub-component comprises three (3) activities that are addressed in sequence in the following sections.

1.1.1. This activity involves an assessment of the risks to coastal aquifers and associated uncertainties together with vulnerability mapping. The cost of the GEF alternative is $2,075,000 of which $350,000 is the estimate of baseline costs. The incremental cost is therefore $1,725,000 and, of this amount, $625,000 is requested from the GEF. The purpose of this activity is to develop in the region the water resources planning and knowledge for developing and evaluating options for reducing the stress on aquifers, for introducing groundwater management into sustainable land resources development and sustainable coastal and SIDS development. In large part, the initial benefits of this activity are domestic and realized in the participating countries of the region. Nevertheless, increased incorporation of groundwater management into environmental and resource protection in these countries will engender benefits at both regional and

global levels that should far outweigh the incremental costs. The incremental benefits have been conservatively estimated to be $15 million.

1.1.2. This activity focuses on the development of a regional plan of action for regional and national actions of coastal groundwater and sustainable land management. The plan will identify priority issues and the steps required to identify, manage and protect Mediterranean coastal aquifers with reference to the geographic, hydrogeological and environmental conditions of coastal ground waters, socio-economic settings, policy issues and strategies on groundwater. The component will define actions to control groundwater salinization and pollution in coastal aquifers and the transport of land-based source pollutants through groundwater seepage and discharges into coastal and marine waters. It will also cover issues relating to coastal land management to prevent land degradation. The cost of the GEF alternative is $3,335,000 with $560,000 being the estimate of baseline costs. The incremental cost is therefore $2,775,000 of which $775,000 is being sought from the GEF. In the context of the enclosed nature of the Mediterranean Sea such costs should be greatly outweighed by the incremental benefits to international waters within the region that are estimated to exceed $30 million.

1.1.3. The third activity involves the introduction of legal, institutional and policy measures to enable coastal aquifer management to be effected in each of the participating countries of the region. The costs of this GEF alternative activity are $1,270,000 of which $200,000 is the estimate of baseline costs. The GEF is being requested to provide $370,000 towards the incremental costs of $1,070,000. Similar to the other activities in this sub-component, the incremental costs are small compared to the expected incremental benefits that will accrue as a consequence of dedicated attention to coastal aquifer management. In the case of this last activity, the incremental benefits have been estimated to be about $5 million.

Sub-Component 1.2. Integrated Coastal Zone Management (ICZM)

The Mediterranean Strategy for Sustainable Development (MSSD) calls for action to move the region towards sustainable development in order to strengthen peace, stability and prosperity, taking into account of its weaknesses and the threats it faces but also of its strengths and opportunities. One of seven essential issues on which the MSSD attempts to achieve progress on is "Promoting sustainable management of the sea and the littoral and urgently stopping the degradation of coastal zones". Action in this context calls for the promotion of integrated development and management of coastal areas. Its purpose is to fully incorporate ICZM into the strategies, approaches and actions adopted within the region to reduce stress on the Mediterranean Sea. This sub-component comprises two activities as outlined below.

1.2.1. The first activity provides support for the preparation of National ICZM Strategies and National Action Plans. It is directed towards developing the role of ICZM as a policy framework for water resources management and biodiversity protection at the regional level. The baseline cost of activities associated with the promotion of ICZM among the participating countries is currently $8,850,000. This is in addition to the costs of a variety of international programs involving the promotion of ICZM that encompass the region that are estimated to be $2,540,000. The total cost of GEF alternative is $10,085,200 making the incremental cost $1,235,200 of which $565,000 is requested from the GEF. The GEF investment will undoubtedly be outweighed by the incremental benefits resulting from the activity.

1.2.2. The second activity involves the implementation of demonstration projects for effective management of coastal areas and identification and management of sensitive areas and marine protected areas (MPAs). The ICZM approach, tools and techniques will be demonstrated in selected countries through preparation of ICZM plans. The activity will include: joint drafting of an Integrated River Basin Management Plan (IRBN); organization of national workshops to ensure broad stakeholder involvement in IRBM Plan preparation and implementation; and finalizing the IRBM plan including implementation

instruments. This work will contribute to the formulation of an ICZM Protocol for the Mediterranean. Despite the existence of a number of international programs supporting ICZM in the region costing just under $10 million, no country baseline exists for this activity; thus, the project activities are entirely incremental in the amount of $879,500 of which $385,000 is requested from the GEF. The overall justification of such a financial commitment are that the more widespread is the implementation of sound multi-sectoral coastal management arrangements, the greater protection is provided to international waters areas like the Mediterranean. In view of the number of participating countries in this activity, the investment appears to be warranted by the scale of the likely incremental benefits accruing from the activity.

Sub-Component 1.3. Integrated Water Resource Management

The objective of this sub-component is to facilitate action to promote IWRM planning at national, transboundary and regional levels to reduce pollution from land-based activities. It comprises four activities outlined below. The total cost of the GEF alternative is $1,750,000 with a baseline cost of $250,000. Thus, the incremental cost is $1,500,000 of which $500,000 is requested from the GEF. The main outcome of this sub-component will be that countries have increased capacity to manage their water resources effectively based on IWRM principles. It will result in the progressive adoption of IWRM policies, implementation of IWRM practices in pilot areas and the building of capacity. In the context of the WSSD targets, a GEF commitment of $500,000 in combination with a total of $1,000,000 co-financing from other sources to meet the incremental costs appears to be an appropriate level of investment in the development of IWRM.

1.3.1. This activity develops Action Plan for IWRM in the Mediterranean. The action plan will make reference to ongoing and planned regional and sub-regional initiatives undertaken by international organizations as well as countries. The incremental cost of these activities is $230,000 of which $80,000 is being sought from the GEF.

1.3.2. This activity provides catalyzing action and building capacity for national IWRM planning in two (2) countries. This activity will provide technical support through focused policy workshops and training courses for the preparation of IWRM roadmaps and the elaboration of strategic parts of full-scale IWRM plans and will address financing needs for meeting the water-related MDGs and WSSD targets. The incremental cost of these activities is $800,000 of which $200,000 is being sought from the GEF.

1.3.3. This activity aims at developing an IRBM in globally important river basin(s) and adjacent coastal area. IRBM plans will be prepared in two (2) selected areas of importance in the context of biodiversity protection. One related national workshop and a number of local consultation meetings would be organized for each area. The activity will provide an opportunity to test real situations for application of an integrated approach to ICM that includes IWRM principles. The incremental cost of these activities is $430,000 of which $200,000 is being sought from the GEF.

1.3.4.This activity provides a short list of transboundary basins and water issues for the implementation of pilot projects. Emphasis will be on the effectiveness, tractability and replicability of interventions. The assessment will cover approximately 15 transboundary water bodies. The incremental cost of these activities is $40,000 of which $20,000 is being sought from the GEF.

Component 2. Pollution from land based activities, including Persistent Organic Pollutants: Implementation of SAP-MED and associated National Action Plans

This component has three sub-components. Each is dealt with in sequence below.

Sub-Component 2.1. Control of Land-based Sources of Marine Pollution

Baseline activities are largely those engendered by Mediterranean countries in relation to the LBS Protocol under the Barcelona Convention. To date, these activities have included the preparation of National Diagnostic Analyses, National Baseline Budgets and National Action Plans for addressing priority pollutants identified in the Strategic Action Plan (SAP-MED) for the implementation of the LBS Protocol. Individual National Action Plans include both tangible actions, such as the construction of effluent treatment systems, and intangible actions, such as the improvement of legislative and institutional frameworks. The implementation of these National Action Plans, in the case of the developing countries of the region, requires an investment of resources over a timescale that exceeds the rates of financial support available for marine environmental protection activities. Accordingly, there exist baseline activities and funding supporting project activities that address LBS issues but these are generally a minor part of the costs of the highest priority national interventions. This GEF project will enable these highest priority actions to be implemented in a timely manner and will accelerate policy and institutional changes at local, national and regional levels and significantly improve the quality of the marine environment of the Mediterranean Sea, thereby providing direct incremental benefits. During project lifetime and beyond there will be sustained incremental benefits consequent to the accelerated introduction of legislative and institutional change provoked by this project. The baseline costs have been estimated on the basis of the information available in the National Diagnostic Analyses (NDAs) and National Action Plans (NAPs) provided by the Mediterranean Countries in 2003-2004. This sub-component comprises seven (7) activities as outlined below.

2.1.1. The first activity is directed at addressing LBS priorities identified as common to a number of Mediterranean developing country jurisdictions. The first activity deals with phosphogypsum wastes from the fertilizer industries in Lebanon, Tunisia and Syria. These countries are either discharging such wastes directly into the sea or drying the slurry on land that results in coastal contamination either directly from the discharge or the entry of wind-borne material from waste piles on coastal lands. The total costs of this project activity are $1,720,000 of which $1,460,000 is represented by baseline costs to the countries concerned. The incremental costs are therefore $260,000 or approximately 15% of the total cost. Of the incremental costs, $120,000, or 46%, is requested from the GEF. While there are clearly substantial national benefits to the three countries involved in this activity, the benefits of reduced contamination of marine resources, especially seafood, with contaminants of concern, such as cadmium, beyond the immediate coastal zones of the three countries, could reasonably be expected to constitute much more than 15% of the overall benefits of the interventions made within the project, thereby justifying the incremental costs.

2.1.2. The second activity addresses leather tannery waste having high biological oxygen demand and containing significant concentrations of chromium. Some tanneries are removing grease and floating material before discharge that reduces the BOD by about 50% but has little effect on the chromium content of the waste. Tannery wastes have been identified by Albania, Algeria, Egypt and Turkey as a priority LBS issue in relation to damage and threats to the marine environment. This project activity involves improving controls on chromium and BOD releases from tannery wastes and the implementation of a demonstration project in Turkey that addresses wastes from a group of tanneries. It then involves the preparation and implementation of guidelines for the effective control of Cr and BOD in tannery effluents in Albania, Algeria and Egypt. The total costs of the GEF alternative are $925,000 of which $565,000 is baseline cost. The incremental cost is therefore $360,000, which represents 39% of the overall cost of this

activity. An amount of $170,000, equivalent to 47% of the incremental costs, is requested from the GEF. If substantial and sustainable reductions in BOD discharge from tanneries in Albania, Algeria, Egypt and Turkey can be made, the incremental benefit to the countries of the Mediterranean will undoubtedly far exceed this proportion of the incremental cost.

2.1.3. The third activity deals with the management and recycling of used lubricating oils in Algeria, Albania, Croatia, Egypt, Libya, Morocco, Montenegro, Syria and Palestinian Authority. In general, 40-50% of waste lubricating oil is recycled. The rest is either released into the sewage system or burnt with other wastes. This project activity will create a lubricating oil recycling system in Algeria, undertake a demonstration of its effectiveness and replicate the administrative and technological arrangements, including training and capacity-building, in the other seven participating countries. The total costs of this activity are $695,000 of which $385,000 is the estimate of baseline costs. The incremental costs are therefore $310,000, or 44% of the budget for this activity, of which $150,000 is requested from the GEF. The collection, storage, avoidance of spillage and safe recycling of used lubricating oils is a topic of relevance to most developing countries and, indeed, to some developed countries. The persistence of oil in the marine environment inevitably means that oil introduced into the Mediterranean will not only interfere with legitimate activities in the country of origin but also adversely effect maritime activities in other countries of the enclosed sea. In that context, the incremental cost of 48% is likely to be an absolute minimum figure for the scale of incremental benefits gained through the prevention of used lubrication oil leakage to the sea.

2.1.4. The fourth activity addresses the recycling of used automobile lead-acid batteries in Albania, Algeria, Croatia, Egypt, Lebanon, Libya, Morocco, Montenegro, Syria, Tunisia, Turkey and Palestinian Authority. Recycling of such batteries is also a common problem in a wide range of developing countries. Lead batteries are currently recycled through a process that produces substantial emissions of organic material and lead. This project activity is designed to establish an environmentally sound recycling system in Syria, including the completion of any necessary legislative changes and creation of administrative mechanisms, and then disseminate the procedures and expertise to the other participating countries. The total cost of the activity is $664,000. The baseline costs are $400,000 leaving $264,000 as the incremental cost, which represents 40% of the total. An amount of $124,000 towards the incremental costs is being requested from the GEF. It is a reasonable assumption that the benefits of reduced residual lead discharges to the marine environment and the associated reduction in contamination of commercial and subsistence fish products would have benefits, both in terms of the market acceptability of seafood and reduced health protection costs, especially for children, in Mediterranean and other countries that would far exceed both the GEF proportion and the total of the incremental costs.

2.1.5. The fifth activity involves an assessment of the discharge of nutrients to the Mediterranean Sea from rivers. This activity stems primarily from concerns about the frequency of harmful algal blooms that can be triggered by nutrient enrichment or altered relationships between nitrogen and phosphorus containing nutrients. These concerns have been heightened by the incidence of eutrophication in the receiving waters of the Rhone, Ebro, Po and other rivers discharging to the Aegean Sea. The principal focus of the activity is on nitrogen compounds because the nitrogen inputs have increased markedly while phosphorus nutrient compounds have declined over the last two decades. The activity is directed at obtaining quantitative information of the riverine discharges of water, sediments and nutrients to the Mediterranean Sea in a spatially and temporally comprehensive manner. This will permit the establishment of the magnitudes of nutrient input on the scale of the major Mediterranean Sea sub-basins (*i.e.,* the Alboran, North-Western, South-Western, Tyrrhenian, Adriatic, Ionian, Central, Aegean, North-Levantine and South-Levantine Seas) and correlate nutrient budgets with specific time periods (e.g., decades) to which they correspond. The database being constructed in the framework of the MAP project of MEDPOL will be further enlarged and made more comprehensive and temporally and spatially coherent than might have been achievable within the projected baseline activities. This will permit the development of more sophisticated

models for the prediction of riverine nutrient fluxes in relation with current and projected land use practices. Such models will benefit from the availability of an abundance of water chemistry data, demographic information and land use practices within the basin. The cost of the GEF alternative for this activity is $970,000 including baseline costs of $750,000. Thus, the incremental cost is $220,000, or 23% of the total, to which the GEF is requested to provide a contribution of $90,000. In view of the compromises to marine resources and amenities caused by eutrophication, whether or not accompanied by harmful algal blooms, the incremental costs of this activity would be dwarfed by both the additional domestic incremental benefits of interventions based on a more thorough understanding of nutrient sources and nutrient effects in the Mediterranean Sea obtained through the activity.

2.1.6. All the Mediterranean countries are developing national standards for releases and emissions through a national consultation procedure. The sixth activity in the LBS component has the purpose of developing Emission Limit Values (ELV) for industrial effluents and Environmental Quality Standards (EQS) for receiving water bodies. It has the objective of introducing ELV and EQS into the legislation of all the participating countries for all substances included in the SAP-MED. The cost of the GEF alternative is $552,000 of which $282,000 is estimated to constitute baseline costs. The incremental cost of $270,000 represents 49% of the total cost and the GEF is being requested to provide $120,000 of this. It is extremely difficult to project the likely extent of incremental benefits of the application of ELV and EQS in the ten participating countries. Assuming that the values chosen have the effect of reducing the rates of introduction of anthropogenic material into the Mediterranean, there will clearly be some reduction in the anthropogenic stress on the entire system. However, whether the current levels of stress associated with the industries to be subjected to ELV and/or the excess concentrations of contaminants in the sea above those concomitant with the EQS values are major sources of adverse effects on marine fauna and flora or pose major risk to human health remains unknown. It is therefore not possible to estimate quantitatively the incremental benefits likely to accrue from the development and imposition of ELV and EQS. Nevertheless, if the focus of attention in the development of ELV is on waste streams that are known to be major sources of adverse effect and the development of EQS focuses on improving conditions that are known to be adverse, the incremental costs are likely to be far outweighed by the incremental benefits. It therefore appears that the incremental benefits would be more than commensurate with the scale of incremental costs and provide some confidence that they would exceed the GEF portion of these costs.

2.1.7. The seventh and last activity in this sub-component deals with the improvement of inspection systems for compliance assessment and enforcement. While almost all Mediterranean countries have created inspection systems, they suffer from weaknesses in respect to compliance and enforcement. The primary objective of this activity is to enhance and update the inspectorates in eight countries: Albania, Bosnia and Herzegovina, Croatia, Lebanon, Morocco, Montenegro, Syria and Turkey. This is primarily a capacity-building activity but will be of critical importance in applying in a sustainable manner the enhanced controls introduced as a result of the other activities in this sub-component. The total cost of this activity is $4,225,000 of which $3,913,000 is attributable to baseline costs. Thus, the incremental cost is $312,000, or 7% of the total cost of the GEF alternative, of which $176,000 is requested from the GEF. In this case, there exist two types of incremental benefit of the intervention: first, the actual reduction in stress on the Mediterranean as a whole and the concomitant direct incremental benefit to the other riparian countries; and, second, the enhanced confidence of the other countries in the region that the controls and compliance monitoring are being implemented more or less uniformly throughout the region. Both aspects contribute to incremental benefit and recognizing this, the incremental benefit would be likely to more than compensate for the incremental cost, especially in view of the number of countries participating in the activity.

Sub-Component 2.2. Transfer of Environmentally Sound Technology (TEST)

This sub-component has been designed to address pollution from land-based activities of priority industrial pollution hot spots that are identified in the Strategic Action Plan (SAP). Some 101 priority hot spots were identified as impacting public health, drinking water quality, recreation and other beneficial uses, aquatic life (including biodiversity), and economy and welfare (including marine resources of economic value). Almost all hot spots are considered, in the national reports, as having transboundary impacts on the issues considered in the analysis. Under baseline conditions, the national governments of the Mediterranean countries would continue their efforts in addressing pollution from land-based sources but national priorities would likely be directed at sources most adversely affecting local conditions. The cost of the GEF alternative for this sub-component is $29,745,000 of which $27,345,000 is estimated to be the baseline costs. Thus, the incremental costs are $2,400,000 of which $1,000,000 or 42% is being sought from the GEF. The balance of the sub-component costs is being met through co-financing. In the absence of an estimate of the current costs of adverse effects on resources and amenities arising from contaminant releases to the Mediterranean from the proponent countries, it is a somewhat tenuous exercise to estimate the benefits, both domestic and incremental, arising from the implementation of this project sub-component. Nevertheless, the incremental cost of $2.4 million seems a relatively small sum in relation to the likely scale of adverse effects on resources and the health protection costs associated with risks posed by the consumption of Mediterranean seafood in the region and beyond. It can therefore be stated with some confidence that the sum of domestic and incremental benefits associated with reduced releases of contaminants achieved through the introduction of improved technology and management will exceed the incremental costs of this sub-component.

Sub-Component 2.3. Environmentally Sound Management of equipment, stocks and wastes containing or contaminated by PCBs in national electricity companies of Mediterranean countries

This sub-component addresses improved regional management interventions to reduce the use and release of polychlorinated biphenyls (PCBs) in Mediterranean countries. It follows from identification of PCBs as justifying priority attention in the region based on the results of National Action Plans (POPs-NIPs) completed or in progress in the region. The project consists of 5 activities to be implemented in Albania, Egypt, Lebanon, Libya and Syria (those Mediterranean countries which have ratified the Stockholm Convention): Institutional and legal frameworks for implementation of ESM of PCBs; Demonstration projects to improve the management program of PCBs and facilitate the implementation of NIPs and SAP-MED; Technical capacity for ESM of PCBs equipment; Awareness of importance of ESM of PCBs equipment; National capacity to implement PCBs phase-out and disposal programs. It builds on the preparative activities relating to the Stockholm Convention 2004 that include the preparation of National Action Plans for POPs by all Contracting Parties to the Convention. The cost of the GEF alternative is $7,200,000 with a baseline on $2,200,000 making the incremental costs $5,000,000. The GEF is requested to provide $2,450,000, (additionally $250,000 go for the management and $200,000 go to replication activities of the sub-component), equivalent to 49% of the incremental costs. The benefits of this sub-component relate primarily to the reduction in risks to human health and lowered contamination of marine resources associated with the reduced use and release of PCBs from the electrical industries, including stockpiles, in the participating countries. A substantial portion of the benefits will be domestic, particularly those relating to the risks posed by direct exposures to PCBs. However, reduced environmental releases of PCBs and the resulting reduction in POPs contamination of the marine environment and its resources, such as fisheries products, is likely to constitute dominantly incremental benefits gained by the region as a whole. If the substantial improvements in PCB management can be achieved, the incremental benefits in terms of improved health protection and improved value of marine resources will far exceed the entire costs of the sub-component.

Component 3: Conservation of biological diversity: Implementation of SAPBIO and associated

National Action Plans

Sub-Component 3.1. Conservation of Coastal and Marine Diversity through Development of a Mediterranean Marine Protected Area (MPA) Network

This sub-component has the objective of strengthening the conservation of regionally important coastal and marine biodiversity through the creation of an ecologically coherent MPA network in the Mediterranean region. The incremental costs of this sub-component are $5,885,000 and the GEF is being requested to provide $42,500 from International Waters.

Sub-Component 3.2. Promotion of the sustainable use of fisheries resources in the Mediterranean through ecosystem-based management

This sub-component has a GEF alternative cost $3,315,000 of which the baseline amounts to $1,800,000. The incremental cost is therefore $1,515,000 to which the GEF is requested to contribute $757,500. In the case of this sub-component, similar to the other activities in component 2, the primary target beneficiaries will be the populations of the Mediterranean countries. The benefits flowing from the adoption of the ecosystem-based approach are essentially long-term and contribute both to sustaining renewable resource utilization as well as other downstream benefits such as improving tourism potential. Increased fisheries yields will contribute directly to income generation and poverty alleviation in fisheries-dependent communities. Reinstating keystone species, particularly large predator species, will have a positive trophic cascade effect that will benefit coastal communities. Over the short-term, local communities will benefit from more effectively managed protected areas that have greater potential for cost recovery and improved ecological function. In addition, governments and institutions will benefit from institutional strengthening as a result of improved planning capacity, networking and general skill development. Accordingly, drawing a distinction between domestic and incremental benefits is extremely difficult but, in view of the geographical and physical oceanographic proximity of Mediterranean countries, the incremental benefits are likely to exceed 50% of the incremental costs justifying the level of GEF financial commitment to the project.

The sub-component comprises three (3) activities as characterized in the following sections.

3.2.1. This activity is directed at the establishment of the ecosystem approach to fisheries management at regional and sub-regional levels. Its goal is to assist the countries to improve capacity building, management, governance and legislation for the application of the ecosystem approach to fisheries. It has a GEF alternative cost of $800,000 that includes $400,000 of baseline costs. The incremental cost is therefore $400,000 to which the GEF is requested to contribute $200,000.

3.2.2. The purpose of this activity is to reduce the levels the by-catch mortality inflicted by fishing fleets on populations of particularly vulnerable species of fish and invertebrates and on marine mammals (including cetaceans and the monk seal), turtles and sea birds. The GEF alternative is costed at $2,120,000 with a baseline cost of $1,200,000. Thus, the incremental costs are $920,000 to which the GEF is requested to contribute $517,500.

3.2.3. The goals of this activity are to eliminate some particularly harmful fishing practices still practised in some areas of the Mediterranean, to raise fishing stakeholders' awareness of the harmful effects of fishing on biodiversity and enhance stakeholders' capacity to participate in environmental protection activities. It involves the identification and rectification of unsustainable fishing practices at regionally representative MPA sites. The cost of the GEF alternative is $395,000 with a baseline cost of $200,000. The GEF is being requested to contribute 20% ($40,000) of the incremental costs of this activity.

Component 4. Project Management and Co-ordination, Replication and Communication Strategies

This component has three (3) sub-components as outlined below.

SUB-COMPONENT 4.1. PROJECT COORDINATION, MANAGEMENT AND M&E

This sub-component includes activities related to the SP project management and coordination, M&E activities and the involvement of stakeholders in project activities and demonstrations. It will establish effective project implementation and coordination at both regional and national levels to ensure that the projected outputs are delivered and the overall objectives achieved.

The sub-component comprises nine (9) activities sum up in 3 main groups: coordination, management, and M&E; Sustainable Financial Mechanism for long-term implementation of NAPs; and NGO Mobilization.

The project coordination, management and M&E costs are $3,594,000. These costs are entirely incremental because they will be wholly incurred for GEF project management. The requested GEF funding is $2,220,000 or 62% of these costs.

Sustainable Financial Mechanism for long-term implementation of NAPs (activity 4.1.4). This project activity will aim to bring strategic financial planning and management into the NAP project cycle and overcome the present difficulties of implementation. The total cost of the GEF alternative for this activity is $27,673,000 of which $27,043,000 are the estimated baseline costs. The incremental cost is therefore $630,000 of which $400,000 is being requested from the GEF. The fact that the NAPs derive from coordinated regional action and represent a commitment among the Contracting Parties to the Barcelona Convention to play their full part in the protection of the Mediterranean Sea, logically means that it could be argued that the activity could be regarded as entirely incremental on the basis that it promotes regional coordination of national activities. This is balanced by the fact that the benefits of the implementation of the NAPs will inevitably be partially to the countries concerned. It is virtually impossible to define the likely proportion of incremental benefits from each country's implementation of its NAP but 2% incremental benefit would appear to be considerably lower than might be expected. The GEF portion of the funding for this activity corresponds to 63% of the incremental cost. The GEF is a primary exponent of coordinated regional action in regional areas towards the preservation and improvement of the marine environment and its resources, thereby wholly justifying such a commitment.

NGO Mobilization (activity 4.1.9) This activity addresses the involvement of community-based organizations in negotiation and decision-making processes relating to environmental protection. Its objective is to ensure effective involvement of civil society in a "*Strategic Partnership*" through enhancing the role of NGOs and community-based organizations in the region to gain wide stakeholder participation and achieve wide involvement in decision-making and project implementation**.**

The activities foreseen are expected to contribute to the overall transparency of SAP implementation and enhancing the levels of commitment by civil society and other stakeholders while promoting effective public access to environmental information and public participation in environmental decision-making in the Mediterranean region. The total cost of the GEF alternative for this activity is $300,000 and has no baseline component making the total project costs incremental. The incremental cost is therefore $300,000 of which $150,000 is being requested from the GEF.

SUB-COMPONENT 4.2. INFORMATION AND COMMUNICATION STRATEGIES

This sub-component covers the preparation of information packages, the convention of events in the region and the planning and execution of public information campaigns. These activities are intended to lead to increased public awareness of issues relating to the Mediterranean Sea and illustrate how existing compromises of the marine region can be reduced or alleviated. This component has been prepared and included as a means of providing specific activities dedicated to public information and awareness. It has a cost of $961,000 and has no baseline component making the total project costs incremental. The GEF is being requested to contribute $530,000 or slightly more than half the incremental costs. The benefits gained in terms of public awareness and increased availability of information concerning the status of the Mediterranean Sea and the measures that are being implemented to protect it and address the source of existing and foreseen problems in the area will be basin wide. Clearly, much of the improvement in public awareness will result in domestic as well as regional benefits and it would be premature to attempt to distinguish between these types of benefit. Nevertheless, the cost of this sub-component is approximately 4% of the incremental costs of the entire project. This seems to constitute a reasonable allocation of funds to the dissemination of information and communication with the wider Mediterranean community thereby justifying the inclusion and level of funding requested.

Sub-Component 4.3. Replication Strategy

This sub-component provides dedicated attention to the potential for replication of demonstrations and initiatives from both within and outside the region. The cost of the GEF alternative for this sub-component is $4,351,500 with a baseline cost of $2,300,000. This yields an incremental cost of $2,051,500 to which the GEF is requested to contribute $1,090,000 or 53% of the incremental cost. The inclusion of this sub-component for a cost representing a modest portion of overall project costs should yield greater efficiency and incremental benefits far exceeding the investment.

4.3.1. The first activity will involve establishing a Project Replication Team (PRT) to ensure that all regional projects developed under the LME Partnership have valid replication components (or a strategy) integrated into the project from the concept design stage. The Project Replication Team will also contribute to, facilitate, coordinate and guide the replication process in all its development stages, including specific measures of progress, risk assessment and expected impacts, thereby allowing feedback and project adjustments as and when required. The total cost of this activity is $1,635,500 built on a baseline of $1,500,000, much of which is based on support provided by other international funding agencies, leading to an incremental cost of $135,500 of which $80,000 is requested from the GEF.

4.3.2. The second activity involves the collection of information. Practical baseline methodology will be developed to effectively collate, record and manage information in a common web-based platform (web portal). INFO/RAC is developing at present a similar system for UNEP/MAP named *Info*MAP. This provides a coordinated basis for the development a similar system for the Mediterranean thereby offering the opportunity for increased synergy, improved quality, integration and avoidance of duplication. This platform will incorporate information from activities carried out under the regional component of the project. The total cost of this activity is $1,550,000 with a baseline of $600,000. The incremental cost is therefore $950,000 of which $450,000 is requested from the GEF.

4.3.3. The third activity involves information analysis. The information collected on the regional projects will be placed into a macro-scale Mediterranean “arena” to identify potentially matching replication sites taking account of physical, geographical, environmental and political and social criteria. Its purpose is to identify potential sites for the replication of initiatives developed under the regional projects followed by promotion. The total cost of this activity is $770,000 with a baseline of $200,000 leading to an incremental cost of $570,000 of which $335,000 is requested from the GEF.

4.3.4. The fourth activity is devoted to a comparative assessment of potential sites to determine those in which demonstrations would be both appropriate and beneficial. The assessment process will be based on a scoring system probably incorporating indicators and be made available to a wide audience of potential users through outreach and information dissemination. This activity has no baseline and is entirely incremental at a cost of $291,000 of which $150,000 is being requested from the GEF.

4.3.5. The final activity involves the promotion of replication. The previous activities in this sub-component will provide a basis in terms of conceptual design and stakeholder commitment (especially donor and government interest) to embark on the promotion of replication projects. The Project Replication Team will be supported by the collective contributions of LME Partners and gradually assume a more coordinating and monitoring role in the replication process. There is no baseline component to this activity and it is therefore entirely incremental at a cost of $105,000 of which $75,000 is being requested from the GEF.

DETAILED INCREMENTAL COSTS AND BENEFITS

Component/ Activity No.	Component/Activity	Total (GEF Alternative) Cost $	Baseline Cost $	Incremental Cost $	GEF Funding$	Incremental/ Total Cost (GEF/IC) %	Incremental Cost/Benefit Considerations
1.	**Integrated approaches for the implementation of the SAPs and NAPs: ICZM, IWRM and management of coastal aquifer**						
1.1.	*Management of Coastal Aquifers and groundwater*	*6,680,000*	*1,110,000*	*5,570,000*	*1,770,000*	*83% (31%)*	
1.1.1.	Assessment of coastal aquifer risk and uncertainty	2,075,000	350,000	1,725,000	625,000	83% (36%)	Water resources planning and knowledge for reduced international water stress. Introduction of groundwater management as a crosscutting and strategic water resource management process. Improved land resources development and sustainable coastal and SIDS development. Enhanced basis for adaptation to climatic change. Collective benefits should exceed the incremental costs of this activity.
1.1.2.	Regional Actions for coastal aquifer management	3,335,000	560,000	2,775,000	775,000	83% (28%)	Adoption of a strategic approach to hydrogeological water resources management resulting in reduced LBS pollution of coastal aquifers and marine and coastal waters. Improved ability to address coastal land degradation, including salinization and desertification. Conservation of submarine groundwater discharges, wetlands and biodiversity/fisheries resources.
1.1.3.	Legal policy reform for coastal aquifer management	1,270,000	200,000	1,070,000	370,000	84% (35%)	Reduced stress on international waters. Regional groundwater mechanisms for implementation of water resource and environmental conventions. Development of the capacity for multi-sectoral and multiple focal area integration for the purposes of reducing the stress on international waters.
1.2.	*Integrated Coastal Zone Management*	*10,964,700*	*8,850,000*	*2,114,700*	*950,000*	*19% (45%)*	
1.2.1.	Support for the preparation of National ICZM Strategies and National Action Plans	10,085,200	8,850,000	1,235,200	565,000	12% (46%)	The minor proportion of incremental costs associated with this activity will undoubtedly yield a larger incremental benefit.
1.2.2.	Application of ICZM approach, tools and techniques in demonstration areas	879,500	0	879,500	385,000	100% (44%)	In view of the number of participating countries, the investment appears to be warranted by the likely incremental benefits that will accrue from it.

Component/ Activity No.	Component/Activity	Total (GEF Alternative) Cost $	Baseline Cost $	Incremental Cost $	GEF Funding$	Incremental/ Total Cost (GEF/IC) %	Incremental Cost/Benefit Considerations
1.3.	*Integrated Water Resource Management*	*1,750,000*	*250,000*	*1,500,000*	*500,000*	*85% (33%)*	*Countries have increased capacity to manage their water resources effectively based on IWRM principles. Progressive adoption of IWRM policies, implementation of IWRM practices in pilot areas and the building of associated capacity.*
1.3.1.	Develop Action Plan for IWRM in the Mediterranean	260,000	30,000	230,000	80,000	88% (35%)	The incremental benefits of this activity in terms of coherent basin management should far outweigh the incremental costs.
1.3.2.	Catalyze action and build capacity on National IWRM Planning in 2 target countries	900,000	100,000	800,000	200,000	89% (25%)	The small augmentation of baseline activities by this activity will yield substantially larger incremental benefits in terms of accelerated attention to millennium development goals and WSSD targets.
1.3.3.	Develop an IRBM in globally important river basin(s) and adjacent coastal area	530,000	100,000	430,000	200,000	81% (46%)	The small augmentation of baseline activities by this activity will yield substantially larger incremental benefits in terms of accelerated attention to millennium development goals and WSSD targets.
1.3.4	Preparation of short list of transboundary basins and water issues	60,000	20,000	40,000	20,000	67% (50%)	IWRM priority interventions` and investment opportunities identified in approximately 15 shared water bodies and international workshops convened for six shared water-bodies
2.	**Pollution from land based activities, including Persistent Organic Pollutants: Implementation of SAP MED and related NAPs**						
2.1.	*Facilitation of policy and legislation reforms for pollution control*	*9,751,000*	*7,755,000*	*1,996,000*	*950,000*	*20% (47%)*	*Accelerated mutual achievement of reduced effects of land-based activities with enhanced benefits of all riparian states. Incremental benefits likely to exceed incremental cost.*
2.1.1.	Management of phosphogypsum wastes	1,720,000	1,460,000	260,000	120,000	15% (46%)	Enhanced coordination of interventions to reduced impact of phosphogypsum discharges from fertilizer industries having reduced incremental impact on fisheries protection and seafood quality. Major benefits will be domestic but incremental benefits likely to be commensurate with the incremental costs.
2.1.2.	Chromium and BOD control in tanneries	925,000	565,000	360,000	170,000	39% (47%)	Reduced BOD and Cr discharges having reduced impact on international waters (IW). Incremental benefits likely to far outweigh the incremental costs.
2.1.3.	Recycling of used automobile lubricating oils	695,000	385,000	310,000	150,000	44% (48%)	Reduced land-based oil inputs to IW providing water quality improvements and reduced seafood tainting. Incremental benefits likely to far outweigh the incremental costs.
2.1.4.	Recycling of lead batteries	664,000	400,000	264,000	124,000	40% (47%)	Reduced Pb leakage to IW with associated improvements in seafood quality and reduced risks to human health. Incremental benefits likely to be commensurate with the incremental costs.

Component/ Activity No.	Component/Activity	Total (GEF Alternative) Cost $	Baseline Cost $	Incremental Cost $	GEF Funding$	Incremental/ Total Cost (GEF/IC) %	Incremental Cost/Benefit Considerations
2.1.5	Riverine input of nutrients	970,000	750,000	220,000	90,000	23% (45%)	The availability of improved understanding of the sources and effects of nutrients in the Mediterranean Sea will offer the opportunity to devise effective interventions to reduce the incidence of eutrophication and harmful algal blooms yielding far larger benefits than the incremental costs of this activity.
2.1.6.	Development and application of Emission Limit Values (ELV and Environmental Quality Standards (EQS)	552,000	282,000	270,000	120,000	49% (44%)	This is an ambitious activity but, if successful and applies to the sources of greatest damage and risk. The long-term incremental benefits will undoubtedly outweigh the incremental costs.
2.1.7.	Facilitation of policy and legislation reforms for pollution control – Permit, inspections and compliance systems	4,225,000	3,913,000	312,000	176,000	7% (56%)	A laudable activity to improve compliance with controls leading to increased confidence in waste management procedures. In the long term, the incremental benefits should greatly outweigh the incremental costs.
2.2	*Transfer of Environmentally Sound Technology (TEST)*	*29,745,000*	*27,345,000*	*2,400,000*	*1,000,000*	*8% (42%)*	The coordinated introduction of sound technology and management approaches in the region is expected to have benefits far exceeding the incremental costs. It is, however, not possible to determine the proportions of domestic and incremental benefits.
2.3.	*Environmentally Sound Management of equipment, stocks and wastes containing or contaminated by PCBs in national electricity companies of Mediterranean countries*	*7,200,000*	*2,200,000*	*5,000,000*	*2,450,000*	*69% (49%)*	This component will result in increased domestic benefits in comparison with the baseline activities. Furthermore, concerted action of this type will result in incremental benefits in terms of improved human health and improved fisheries product values that will far exceed the incremental costs.
3.	**Conservation of biological diversity: Implementation of SAPBIO and related NAPs**						
3.1.	*Conservation of Coastal and Marine Diversity through Development of a Mediterranean MPA Network*	*7,535,000*	*1,650,000*	*5,885,000*	*42,500*	78% (0,01%)	
3.2.	*Promotion of the Sustainable Use of Fisheries Resources in the Mediterranean through Ecosystem-based Management Approaches*	*3,315,000*	*1,800,000*	*1,515,000*	*757,500*	46% (50%)	
3.2.1.	Regional ecosystem approach to fisheries management	800,000	400,000	400,000	200,000	50% (50%)	The relatively modest cost of this initiative is likely to be substantially outweighed by the incremental benefits.

Component/ Activity No.	Component/Activity	Total (GEF Alternative) Cost $	Baseline Cost $	Incremental Cost $	GEF Funding$	Incremental/ Total Cost (GEF/IC) %	Incremental Cost/Benefit Considerations
3.2.2.	By-catch reduction at fleet level	2,120,000	1,200,000	920,000	517,500	43% (56%)	The small incremental cost of this activity will not only yield incremental benefits relating to biodiversity protection but also domestic and incremental benefits relating to improved fisheries yield.
3.2.3.	Address unsustainable fisheries practices in MPAs	395,000	200,000	195,000	40,000	49% (20%)	The small incremental cost of this activity will not only yield incremental benefits relating to biodiversity protection but also domestic and incremental benefits relating to improved fisheries yield.
4.	**Project Coordination, Replication and Communication Strategies, Management and M&E**						
4.1.1, 4.1.2, 4.1.3, 4.1.6, 4.1.7, 4.1.8, 4.1.9	*Project Coordination, Management and M&E*	*3,594,000*	*0*	*3,594,000*	*2,220,000*	100% (62%)	*The justification for the incremental costs of this sub-component relate to effective and successful GEF project implementation.*
4.1.4	Financial Sustainable mechanism for long term implementation of NAPs	*27,673,000*	*27,043,000*	*630,000*	400,000	2% (63%)	Potential incremental benefits are likely to exceed the incremental costs attributed to the GEF. The long-term benefits of sustained financing should far outweigh the incremental costs.
4.1.10	NGO Mobilization	*300,000*	*0*	*300,000*	150,000	100% (50%)	Facilitate NGO and CBO participation in all processes of the "Strategic Partnership" components; NGO and CBO involvement in the region strengthened through capacities development, lessons learnt, and best practice knowledge products
4.2.	*Information and Communications Strategies*	*961,000*	-	*961,000*	*530,000*	*100% (55%)*	*The addition of a dedicated communications program in the project should yield basin-wide benefits, both domestic and incremental, that far outweigh the incremental cost.*
4.3.	*Replication Strategy*	*4,351,500*	*2,300,000*	*2,051,500*	*1,090,000*	*47% (53%)*	*The potential for useful replication of demonstrations and other initiatives both within and outside the region adequately justify the associated incremental costs.*
4.3.1.	Guiding replication and communication	1,635,500	1,500,000	135,500	80,000	8% (59%)	
4.3.2.	Collection of information	1,550,000	600,000	950,000	450,000	61% (47%)	
4.3.3.	Information analysis, sharing and dissemination	770,000	200,000	570,000	335,000	74% (58%)	
4.3.4.	Assessment of replication potential	291,000	-	291,000	150,000	100% (51%)	
4.3.5.	Catalyzing implementation - "*on-site*" replication	105,000	-	105,000	75,000	100% (71%)	

COMPONENT/ACTIVITY	Total (GEF Alternative) Cost $	Baseline Cost $	Incremental Cost $	GEF Funding $	Incremental/Total Cost (GEF/IC) %
PDF-B Phase Program	1,958,500,500	0	1,958,500	700,000	100%(36%)

ANNEX B-1

Logframe Matrix for the Strategic Partnership

Results	Objectively Verifiable Indicators	Means of Verification	Critical Assumptions and Risks
Long-term Goal: To reverse the trend of water quality and biodiversity degradation in the Mediterranean.	By end of 10 years Impact: • Reduced land based pollution; • Reduced loss of bio-diversity; • Reduced eco-system degradation; • Reduced stress at water-body level. In line with MDG/WSSD Environmental targets	- MAP coordinated long-term monitoring programme; - Data from various Mediterranean monitoring programs (government, institutions etc).	- Efforts to reduce stress will out way projected increases of biodiversity loss and pollution in the basin.
Outcomes			
Integrated Mediterranean Seas large marine eco-system (LME) preservation & protection program implemented.	By end of 5 years: 1. National & Regional Policy, legal & institutional reforms adopted and ready for implementation in minimum of 6 countries; 2. Hotspots and sensitive areas of national priority previously identified in NAPs and SAPs with improved environmental conditions (15% of major hotspots/sensitive areas identified in TDA); 3. Replication/Scaling – Up strategy adopted and successful investments being replicated in 5 countries; 4. Leveraged financing for multiple investments and policy measures. Strategy developed for links with private sector; 5. Long-term Barcelona Convention and MAP based framework in place and operational ensuring the sustainability of the SP beyond the life-span of the project.	- Legal, policy and institutional reforms endorsed or in the process of endorsement, monitored through the Barcelona Convention mechanisms; - Reports of SP Focal Points on Inter-ministry Committee Meetings submitted to the SC; - Reports from the Co-ordination Group and Steering Committee; Completed work-plans; - APR, HPR, PIR reports; - WB and RC projects reports; demonstration indicators verified; - Reports of the Contracting Parties to the Barcelona Convention	- Countries commit necessary resources for implementation of SAPs and NAPs; - All stakeholders will collaborate and participate actively in the activities and demonstration projects; - Countries are committed to prioritizing SAP and NAP implementation.
Outputs			
A. Investment Fund Implemented 1. Innovative, cost-effective investments in specific country contexts promoted/implemented.	1.1 Selection criteria, sector priorities and identification/preparation mechanism established and operational; 1.2 IF Demonstration projects identified, funded, implemented, evaluated and reported;	- IF projects provide inputs to SP replication and regional workshops; - IF project reports; Bank supervision mission reports; - Bank Country Assistance Strategies, PRSPs	-

Results	Objectively Verifiable Indicators	Means of Verification	Critical Assumptions and Risks
B. Regional Component Implemented 2. Increased knowledge of countries and donors on most innovative projects/ technologies that address regional priority objectives. 3. Enhanced capacity of country governments to implement policies and strategies that address SAP priorities. 4. Stress reduction measures monitored at water-body level. 5. Increased scientific knowledge concerning the coastal zone, pollution and biodiversity of the Mediterranean.	2.1 Development, training and demonstration of new tools/techniques and guidelines to address SAP priorities in all countries and widely disseminated; 2.2 Participation of countries and donors in project activities; 2.3 Communication strategy to ensure wide dissemination of project results. 3.1. National & Regional Policy, legal & institutional reforms drafted, based on needs identified in SAP MED and SAP BIO in all participating countries; 3.2. Relevant institutions in all countries strengthened; 3.3. Participation of all relevant stakeholders in project activities and SAP/NAP implementation 4.1 Demonstrations (approx. 31) implemented and monitored for stress reduction over the period of the project (see M&E). 5.1 Assessments (aprox. 6) undertaken related to coastal aquifers, nutrient fluxes, MPA's, by-catch and unsustainable fishing practices	- No of institutions adopting new tools/techniques and guidelines; - No of policy documents drafted and adopted; - APR, HPR, PIR reports; - Project Steering Committee Meeting reports; - Co-ordination Group Meeting Reports; - Inter-ministerial meeting reports - Workshop reports; - Thematic reports; - Publications; - GIS maps.	- The legislative agencies of the participating countries will collaborate and participate actively in the activities related to the regulatory-legal framework; - Willingness of high-level decision makers to participate in the Project; - National and local governments continuously support the preparation and implementation of relevant strategies, NAPs and demo projects.
C. SP Coordination Group established & operational 6. Replication/communication strategy for scaling up successful investments within and across countries fully developed.	6.1 At least 20 new potential replicable projects identified, including their funding mechanisms; 6.2 Regional replication strategies designed and implemented for each Investment Fund sub-project; 6.3 Communication Strategy for the Strategic Partnership developed, improving access to, and sharing of, information, results and lessons learned with all key stakeholders informed of SAP and project activities, and sharing of lessons learned.	- APR, HPR, PIR reports; - Project Steering Committee Meeting reports; - Co-ordination Group Meeting Reports; - PRT documents and reports; - PRP Assessment documents; - Info material and reports; - PRP final documents.	- High level of commitment of the members and experts participating in the PRT; - Favorable environmental and socio-economic conditions for the correct identification of PRPs; - Reliability of data and analysis. Availability to share data; - Level of collaboration and by in by national stakeholders; - Availability of sufficient financial resources and good quality project results.

Results	Objectively Verifiable Indicators	Means of Verification	Critical Assumptions and Risks
7. Resource mobilization strategy/financing mechanism developed introduced.	7.1 Establishment of a sustainable financing resource capacity/platform in the region. 7.2 Collection and diffusion of information and policy briefs on contemporary and available financial practices; 7.3 Preparation of guidelines for public sector investment and private sector participation in environmental financing and of "Tool Kits" and guidelines for establishing and implementing financial strategies; (MAP and World Bank)	- APR, HPR, PIR reports; - Project Steering Committee Meeting reports; - Co-ordination Group Meeting Reports; - Policy briefs prepared and disseminated; - "tool kits" and guidelines for setting up and implementing financial strategies;• - Guidelines for public sector investment planning and private sector participation; - Training of environmental finance experts/officers.	- Cooperation from Ministries of Finance;• - Cooperation from private and public sectors; - Stakeholders collaborate and participate actively in the activities.
8. SP coordination of project team(s), committees, donors and governments programs.	8.1 Establishment of a Strategic Partnership Project Steering Committee (SPSC) to engage all key stakeholders involved in SAP-MED and SAP-BIO implementation; 8.2 Establishment of a Strategic Partnership Co-ordination Group (SPCG); 8.3 Identification and design of sub-projects under the Investment Fund component reflect systematic interactions within the context of the coordination mechanisms of the Regional Project component.	- APR, HPR, PIR reports; - Project Steering Committee Meeting reports; - Co-ordination Group Meeting Reports.	- Cooperation of SP Focal Points; - Information exchange between all relevant focal points and ministries participating in the project - Cooperation of private sector and donors in the SP
9. Monitoring & Evaluation System	9.1 Integrated M&E system established & operational based on the Project Logframe, Annual Work Plans & Budgets and the 12 month M&E plan. 9.2 Outcomes-Goal progress assessed annually in APR, Output-Outcome progress assessed half-yearly in HPRs, and implementation progress assessed in the PIRs, external Mid-term and Final Evaluations . 9.3 Periodic/Specific Thematic Reports provided as requested	- APR, HPR, PIR reports; - Project Steering Committee Meeting reports; - Co-ordination Group Meeting Reports; - M&E.	- Partners to the SP successfully complete all activities/demonstrations as per work-plan - Coordination Group adequately monitoring all projects activities throughout implementation
10. Long term Regional Framework developed.	9.1 Long-term Barcelona Convention and MAP based public/private strategic framework in place	- Reports of MAP; - Recommendations approved by the CoP of the Barcelona Convention.	- Cooperation of private sector and donors - MAP ensures continuation of framework as part of its mandate

ANNEX B-2

Logframe Matrix for the Regional Component of the Strategic Partnership

Component Outcomes	Objectively Verifiable Indicators	Means of Verification	Critical Assumptions and Risks
Objective: To promote and induce harmonized policy, legal and institutional reforms and fill the knowledge gap aimed at reversing marine and coastal degradation trends and living resources depletion, in accordance with priorities agreed by the countries in the SAP MED and SAP BIO and to prepare the ground for the future implementation of the ICZM Protocol.	**Key Indicators:** - Adoption implementation of regional and national policy/legal/institutional reforms in all countries; - Regional and National institutions strengthened in all countries; - Increased scientific knowledge of the Mediterranean: Assessments (min. of 6) undertaken related to coastal aquifers, nutrient fluxes, MPA's, by-catch and unsustainable fishing practices- Participation of all relevant stakeholders in project activities and SAP/NAP implementation - Development, training and demonstration of new tools/techniques and guidelines to address SAP priorities in all countries and widely disseminated - Replication strategy designed and implemented with a minimum of 20 new replication projects identified **Key SR Indicators to include**: - 45,000 ha coastal zone managed through application of ICZM and IWRM - 20,000 ha of land with appropriate aquifer and groundwater management in place - Pollution reduction of min. 50% at demonstration sites (Cd, Hg, Pb, Cr, BOD and total nitrogen) - 50% of lubricating oil and lead batteries recycled at demonstration sites - 1187 tons of PCB's removed and disposed (in five countries), 100% reduction at the selected demonstrations sites. - Surface area covered by MPA's will be increased by 10% (from 9,732,600 to 10,705,860 hectares) Unsustainable fishing practices reduced by 90% at priority sites (covering 30,000 ha)	- APR, HPR, PIR reports; - Reports from the SPCG, SPSC and inert-agency meetings; Legal, policy and institutional reforms endorsed or in the process of endorsement, monitored through the Barcelona Convention mechanisms	- Willingness of high-level decision makers to participate in the Project; National and local governments continuously support the preparation and implementation of relevant strategies, NAPs and demo projects

Component 1: Integrated approaches for the implementation of Saps and NAPs: ICZM, IWRM and Management of Coastal Aquifers.			
1. Regional legislation addressing ICZM, IWRM and aquifer managements as mechanisms to protect the Mediterranean from biodiversity loss and pollution from land based sources.	1.1 Regional legislation drafted and presented to the CoP for adoption: - Regional Action Plan for Coastal aquifers; - Regional Plan for eco-hydrogeological management, land degradation and protection of priority coastal wetlands; - Regional Action Plan for IWRM.	- APR, HPR, PIR reports; - Reports from the SPCG, SPSC and inert-agency meetings; - Legal, policy and institutional reforms endorsed or in the process of endorsement, monitored through the Barcelona Convention mechanisms.	- Willingness of high-level decision makers to participate in the Project; - National and local governments continuously support the preparation and implementation of relevant strategies, NAPs and demo projects;
2. Regional and National institutions strengthened for ICZM and IWRM.	2.1 Sub-regional/National Plans drafted and applied in demonstration areas: - ICZM NAPs drafted through a participatory approach and adopted for minimum of 2 countries; - ICZM Plans to demonstrate ICZM approach, tools and techniques in two areas; - IWRM plans drafted for 2 countries; - IRBM plans for 2 water bodies prepared in parallel with ICZM and Coastal Aquifer. 2.2. New tools and guidelines developed and applied in demonstration areas: - COED assessments for a min. of 2 countries; - Coastal aquifer and land management approaches developed and implemented at 3 demonstration sites and eco-hydrogeology applications for management and protection of coastal wetlands; - Integrated Transboundary Water Resources Management introduced in 6 water bodies. 2.3 Min of 24 ICZM/IWRM related institutions strengthened. 2.4 Case study for harmonizing national institutional arrangements and legislation with ICZM Protocol. 15 juridical practitioners trained on implications of national ratification of the Protocol.	- APR, HPR, PIR reports; - Reports from the SPCG, SPSC and inert-agency meetings; - Sub-regional/national plans and guidelines drafted and in the process of adoption; - number of newly adopted national policy documents on ICZM and IWRM in support of the implementation of SAP MED and SAP BIO; - number of national and local institutions' staff dealing with ICZM and IWRM trained on systemic inclusion of relevant issues in national policy framework for pollution reduction and biodiversity protection.	- Willingness of high-level decision makers to participate in the Project; National and local governments continuously support the preparation and implementation of relevant strategies, NAPs and demo projects.

3. Stress reduction measures achieved through ICZM, IWRM and management of aquifers and monitored at water-body level.	3.1 Minimum of 3 joint ICZM, IWRM and aquifer and land management demonstrations implemented, disseminated and analyzed for their replicability. 3.2 Stress Reduction: - 20,000 hectares of land directly impacted by intervention for 6 countries (coastal urban, coastal plains/agriculture, and upper watersheds, to address LBS, coastal salinization, through coastal sedimentation and siltation, flooding, wetland sedimentation); - 300 Hectares of wetland under proper wetland management; - 3 demonstrations resulting in 45,000 hectares of coastal zone managed through application of ICZM and IWRM.	- APR, HPR, PIR reports; - Reports from the SPCG, SPSC and inert-agency meetings - Demonstration reports - Regional and national workshops reports;	Cooperation of National and local governments.
4. Sustainable financing opportunities established.	4.1 Priority intervention and investment opportunities for IWRM identified in approximately 15 shared water bodies. 4.2 Methodology for selection, implementation and sustainable financing of pilot ICZM projects will be drafted and distributed.	Assessment reports and funding mechanisms	Cooperation of countries and donors.
5. Increased scientific knowledge concerning the management of aquifers and groundwater.	5.1. Scientific assessments: - Assessment of risk and uncertainty related to Mediterranean coastal aquifers in all countries; - Coastal vulnerability mapping of aquifers in selected sites, and the production of GIS maps in 3 countries; Assessment of land degradation in the context of ICZM.	- APR, HPR, PIR reports; - Thematic reports; - Publications.	- timely mobilization of CA vulnerability mapping teams and pilot area surveys; -countries' cooperation and support in facilitating vulnerability mapping filed survey, data collection and capacity building.
Component 2. Pollution from land based sources, including Persistent Organic Pollutants: Implementation of SAP MED and related NAPs			
6. Increased capacity of basin countries to implement policies and strategies that address SAP MED and the NAPs priorities.	6.1 National legal and policy documents drafted (min. of 5) incorporating the SAP-MED priorities and in process of adoption by the countries. 6.2. Implementation initiated for a minimum of 8 NAP priorities in participating countries as a result of project activities and pilot projects, and monitored though Barcelona Convention mechanisms. 6.3. Management plans/guidelines developed and applied for the reduction of pollution from land-based sources. - ELV (and EQS) in all countries;	- APR, HPR, PIR reports; - Reports from the SPCG, SPSC and inert-agency meetings; - number of newly adopted national policy documents in support of the implementation of SAP MED; - Guidelines adopted; - Training materials; reports of the workshops of national and regional	- The legislative agencies of the participating countries will collaborate and participate actively in the activities related to the regulatory-legal framework; - Availability of funding from industries; - Stakeholders agreement on ELV and EQS; - Agreement of national authorities on the ELV · and EQS;

	- Guidelines for pollution reduction (phosphogypsum wastes, tannery effluents, the recycling of lubricating oil and lead batteries) in all countries; - Plans of action for permitting, compliance and inspection systems in 8 countries.	experts in private and public sectors; - Plans of action endorsed for the uniform approach to permit and inspection; ELV and EQS approved by national authorities;	- Stakeholders collaborate and participate actively in the activities;
7. Increased knowledge of countries and donors on innovative technology to reduce pollution and increased scientific knowledge.	7.1. Environmentally sound technology (TEST-MED) applied to 8 demonstration enterprises resulting in the reduction of pollution loads from industrial hot spots in accordance with SAP objectives, their results widely disseminated and analyzed for their replicability. 7.2 Assessment riverine fluxes of nutrients to the Mediterranean.	Contact with target enterprises to verify ISO certification; Communication/Revisit the target enterprises to check production results and monitoring figures.	Enterprises will apply for ISO certification.
8. Stress reduction measures achieved through demonstration projects and monitored at water-body level.	8.1 Pilot projects (9) implemented, widely disseminated and analyzed for their replicability, resulting in 50% pollution reduction at the demonstration sites of: - cadmium (Cd) from phosphogypsum wastes; - mercury (Hg) from phosphogypsum wastes; - lead (Pb) from phosphogypsum wastes; - Cr from tannery effluents; - BOD from tannery effluents; - total nitrogen from tannery effluents. 50% of lubricating oil and lead batteries recycled at demonstration sites 8.2 Application of TEST in 8 demonstration enterprises (in 4 countries) resulting in: - Water productivity at demonstration enterprises increased by 40%; Reduction of min 30% pollution loads at the demonstration enterprises.	- APR, HPR, PIR reports; - Reports from the SPCG, SPSC and inert-agency meetings; - Thematic reports.	Cooperation of National and local governments, institutions and industry in project activities
9. Initiation of NAP/NIP implementation for the ESM of equipment, stocks and wastes contaminated with PCBs in national electricity companies of Mediterranean countries	9.1 Five countries with strengthened administrative capacity, including chemicals management administration within the central government; 9.2 Five countries with strengthened legislative and regulatory frameworks for the management of POPs; 9.3 Five countries with strengthened capacity for enforcement	- APR, HPR, PIR reports; - Reports from the SPCG, SPSC and inert-agency meetings; - Thematic reports. -	The legislative agencies of the participating countries will collaborate and participate actively in the activities related to the regulatory-legal framework; Cooperation with NIP coordinators

	9.4 Demonstration projects implemented in five countries, with 1187 tons of PCB's removed and disposed, 100% reduction at the selected demonstrations sites.		
Component 3. Conservation of biological diversity: Implementation of SAP BIO and related NAPs			
10. Countries have the capacity to conserve regionally important coastal and marine biodiversity through the creation of an ecologically coherent MPA network in the Mediterranean region.	10.1 Regional Coordination Unit (RCU) for MPAs established and methodologies for MPA management and creation agreed. 10.2 Implementation of projects/tools /technologies for biodiversity conservation: - 3 MPA management tools developed; and demonstrated in 2 MPAs. 10.3 Area under protection to be increased by 10%, from 9 732 600 hectares to 10,705,860 hectares	- APR, HPR, PIR reports; - Reports from the SPCG, SPSC and inert-agency meetings; - Thematic reports; Workshop reports.	- Willingness of high-level decision makers to participate in the Project; - National and local governments continuously support the preparation and implementation of relevant strategies, NAPs and demo projects - The integrated nature of the project (three implementing agencies) means that con-financing or delivery failure may have implications for other activities and sub-components;
11. Countries have the capacity to utilize coastal and high seas resources through the adoption of the ecosystem approach to fisheries management and the application of targeted interventions to reduce by catch and other unsustainable fishing practices	11.1 National policy/legislative reforms drafted for all countries: - Ecosystem approach mainstreamed into fisheries management policies and activities: 4 sub-regional and 5 national policy reforms and management reforms to incorporate EAF drafted. 11.2 Implementation of projects/tools /technologies for biodiversity conservation: - Fisheries plans to integrate EAF and biodiversity conservation in the Fisheries Research Institutes and management organizations in 5 countries; - Methodology for by-catch reduction in 2 countries. 11.3 By catch of iconic and vulnerable species reduced by 75 %. 11.4 Unsustainable fishing practices reduced by a minimum of 90 % at regionally prioritized sites in 7 countries covering 30,000 ha.	- APR, HPR, PIR reports; - Reports from the SPCG, SPSC and inert-agency meetings; - Thematic reports; Workshop reports.	- Willingness of high-level decision makers to participate in the Project; - National and local governments continuously support the preparation and implementation of relevant strategies, NAPs and demo projects

Component 4. Project Coordination, Replication and Communication strategies, Management and M&E[1]			
12. Effective project management of the regional component established and coordination and synergy between the Regional Project and the Investment Fund components of the Strategic Partnership.	12.1 Project Management: - PMU, SPSC, SPCG, SPB established and functional; - Work plan adopted and implemented. 12.2 Project Co-ordination: - PMU, SPSC, SPCG, SPB meetings; - All countries have established inter-ministry committees; - Identification and design of sub-projects under the Investment Fund component reflect systematic interactions within the context of the coordination mechanisms of the Regional Project component.	- APR, HPR, PIR reports; - Reports from the SPCG, SPSC and inert-agency meetings.	Effective communication/ collaboration with the PMU and all the implementing agencies
13. Replication and communication mechanisms are designed and implemented for RPs under the LME Partnership, with results communicated and disseminated	13.1 Replication Strategy for the RC - Project Replication team established with ToRs; - Accessibility of information: data via the web-portal, meetings, workshops held; - Potential Replication Projects (PRPs) identified, including their funding mechanisms. - Replication Potential assessment completed with scored Replication Projects; - Replication potential catalyzed at the national level: PRPs have a specific section with complete data sets and strategy for their replication. 13.2 Communication Strategy: - Printed material regarding the project activities disseminated to the general public; - Number of public events; - Magazine designed, on-line and updated; Number and success of campaigns to the general pubic (including civil society interest groups).	- APR, HPR, PIR reports; - Reports from the SPCG, SPSC and inert-agency meetings; - PRT documents and reports; - User Reports; - Internet database; - Internet web sites; - PRP Assessment documents; - Info material and reports; Project reports; - PRP final documents; - Leaflets, brochures, etc.; · - Event reports; · - Web site; - Campaign reports.	- High level of commitment of the members and experts participating in the PRT; - Favorable environmental and socio-economic conditions for the correct identification of PRPs; - Reliability of data and analysis. Availability to share data;

[1] The activities under Component 4 are aimed to provide support to both the Regional Component and Investment Fund of the Strategic Partnership

14. Involvement of all key stakeholders in the project activities and SAP implementation process .	14.1 Effective national inter-ministry coordination through the establishment of inter-ministry committees in all countries 14.2 NGO/CBO's present and participate in: stakeholder consultation meetings, advisory bodies, managing/decision making bodies of the project, and monitoring and evaluation activities. 14.3 NGO involvement plan published and all stakeholders have a copy early in project implementation	- Regional and national workshops reports; - Project progress reports, Project monitoring and evaluation reports; - Qualitative analysis on how effective NGO involvement has been - to be conducted at the end of the project; - Related references in reports of regional (Barcelona Convention, Barcelona Process, etc.), sub-regional and national processes; Media coverage.	- Level of collaboration and by in by national stakeholders; - Availability of sufficient financial resources and good quality project results; - Political willingness to cooperate and to activity participate in the project programs and initiatives; - Stakeholders collaborate and participate actively in the activities; Stakeholder Involvement Plan implemented successfully.

Project Activities:
<u>Component 1 Integrated approaches for the implementation of the SAPS and NAPS: ICZM, IWRM and management of coastal aquifer</u> <u>Sub-Component 1.1. Management of Coastal Aquifers and Groundwater</u> 1.1.1 Assessment of risk and uncertainty related to Mediterranean coastal aquifers 1.1.1.1. Assessment of risk and uncertainty related to the Mediterranean coastal aquifer 1.1.1.2. Coastal aquifer vulnerability mapping: Pilot Project in one selected country 1.1.1.3. Coastal aquifer supplement to TDA-MED: Development of a coastal TDA supplement 1.1.2 Regional actions for Costal Aquifer Management 1.1.2.1. Development of a regional Action Plan on Coastal Aquifers 1.1.2.2. Integration of groundwater management in ICZM and IWRM planning systems 1.1.2.3. Identification and planning of coastal groundwater demonstrations 1.1.2.4. Sustainable Coastal land management 1.1.2.5. Implementation of eco-hydrogeology applications for management and protection of coastal wetlands 1.1.2.6. Coastal aquifer supplement to SAP MED, SAP BIO and NAPs 1.1.3 Legal, Institutional and policy reform for Coastal Aquifer management 1.1.3.1. Policy/legal/institutional regional assessment for coastal aquifer management 1.1.3.2. Policy/legal/institutional reforms, institutional development for coastal aquifer management
<u>Sub-Component 1.2. Integrated Coastal Zone Management</u> 1.2.1 Support activities in preparation of National ICZM Strategies and NAPs 1.2.1.1. Strengthening the role of ICZM as a policy framework for water resources management and biodiversity protection (capacity building activities, regional workshop, dissemination of results)

Project Activities:
1.2.1.2. Support to the preparation of two to four ICZM NAPs (draft ICZM NAPs, National conferences on ICZM NAPs) 1.2.1.3. Harmonizing national institutional arrangements and legislation with ICZM Protocol for the Mediterranean 1.2.1.4. Developing/strengthening of coastal legislation in two to four Mediterranean Countries 1.2.1.5. Use of Cost of Environmental Degradation (COED) as an ICZM tool (sectoral COED assessments in 2 countries; capacity building and network of experts) 1.2.2. Application of ICZM approach, tools, and techniques in demonstration areas 1.2.2.1. ICZM Plans to demonstrate ICZM approach, tools and techniques in two selected areas (drafting and finalizing ICZM plans conferences.) 1.2.2.2. Capacity building for effective implementation and sustainable financing of pilot ICZM projects 1.2.2.3. Co-ordination and harmonization of ICZM component with other components' activities in demo projects
Sub-Component 1.3. Integrated Water Resources Management (IWRM) 1.3.1 Develop Action Plan for IWRM in the Mediterranean 1.3.2. Catalyze Action and Build capacity on National IWRM Planning (workshops and targeted training courses in 4 countries 1.3.3. Develop Integrated Resources Basin Management (IRBM) in globally important river basins and adjacent coastal area (drafting and finalizing of IRBM, organization of national and local workshops, ident. of priority investments 1.3.4. Prepare Short List of Transboundary Basins and Water Issues suitable for interventions and the implementation of pilot projects
Component 2. Pollution from land based activities, including Persistent Organic Pollutants: implementation of SAP MED and related NAPs Sub-Component 2.1. Facilitation of policy and legislation reforms for pollution control – Industrial Pollution pilot projects (based on NAP priorities): 2.1.1 Phosphogypsum slurry management· 2.1.2 Chromium and BOD control of tanneries effluent 2.1.3 Lubricating oil recycling and regeneration 2.1.4 Lead batteries recycling 2.1.5 Assessment of the magnitude of riverine inputs of nutrients into the Mediterranean Sea 2.1.6 Setting Emission Limit Values (ELV) in industrial effluents and Environmental Quality Standards (EQS) Sub-Component 2.1. Facilitation of policy and legislation reforms for pollution control – Permit, Inspection and Compliance Systems: 2.1.7 Permit, Inspection and Compliance Systems: meeting among agencies responsible for permitting, inspections and enforcement to form plans of action for permitting, compliance and control 2.1.8 Training workshop to provide practical guidance and uniformity on inspecting on the most commonly polluting and industrial facilities of the country. 2.1.9 National final meeting for the assessment and feedback to propose solutions for the formulation of amendments to the existing legislation.
Sub-Component 2.2. Transfer of Environmentally Sound Technology (TEST-MED) 2.2.1 Set up national focal points 2.2.2 Introduction of the TEST integrated approach 2.2.3 Set-up of the information management system 2.2.4 Identification and selection of demonstration enterprises 2.2.5 Preparation of initial review at demonstration enterprises including market and financial viability and initial environmental review 2.2.6 Implementation of a Cleaner Production Assessment

Project Activities:
2.2.7 Development of energy efficiency audits, skills of enterprises employees, feasible energy efficiency measures 2.2.8 Introduction of EMS principles and design of EMS 2.2.9 Introduction of Environmental Management Accounting practices and design 2.2.10 Investment promotion of EST project 2.2.11 Introduction of basic principles for the preparation of enterprise sustainable strategies (SES) 2.2.12 Preparation of National Publication on the application of the TEST approach; 2.2.13 Organization of seminars 2.2.14 Organization of a Regional Workshop to present the results 2.2.15 Dissemination of Cleaner Production (CP) successful case studies and organization of seminars on (CP) 2.2.16 Organization of a Forum for Mediterranean countries on Sustainable Production 2.2.17 Networking activities
Sub-Component 2.3. Environmentally Sound Management of equipment, stocks and wastes containing or contaminated by PCBs in national electricity companies of Mediterranean countries 2.3.1 Legislative and institutional framework for implementation of ESM of PCBs 2.3.2 Demonstration projects to improve the management programme of PCBs and facilitate the implementation of NIPs and MED-SAP Guidelines for PCBs management implemented 2.3.3 Awareness of importance of ESM of PCBs equipment 2.3.4 Technical capacity for ESM of PCBs equipment 2.3.5 National capacity to implement PCBs phase-out and disposal programs
Component 3: Conservation of biological diversity: implementation of SAP BIO and related NAP Sub-Component 3.1. The conservation of coastal and marine diversity through development of a Mediterranean MPA Network 3.1.1 Establishment of coordination mechanism for regional MPA management 3.1.1.1. Inception and Terminal activities 3.1.1.2. Develop communication & information tools 3.1.1.3. Development of long-term management arrangements 3.1.1.4. Activities follow up and Advisory Committee meetings 3.1.2 Planning and extended MPA Network 3.1.2.1. Establish priority activities required 3.1.2.2. Identify stakeholders & partnership 3.1.2.3. Assessment of new site options 3.1.2.4. Ecological assessment of demonstration area 3.1.2.5. Identify stakeholders participation mechanism 3.1.2.6. Identify high seas fisheries protected areas 3.1.2.7. MPA creation guidelines and teaching packages 3.1.3 Improved MPA management 3.1.3.1. Management Workshop – Existing MPAs 3.1.3.2. Management Workshop – New MPAs

Project Activities:
3.1.3.3. Training for existing MPA managers 3.1.3.4. Training for new MPA mangers 3.1.3.5. Development of innovative training tools 3.1.3.6. Demonstration project on guidelines and specific zoning for the management of recreational activities in Turkey 3.1.3.7. Demonstration project on guidelines for the management of recreational fisheries activities in Algeria 3.1.4 Regional MPA monitoring System 3.1.4.1. Feasibility study, design & creation 3.1.4.2. Training MPA managers in M&E 3.1.4.3. Assessment of management effectiveness 3.1.4.4. Demonstration project on monitoring and evaluation system for the Croatian MPAs network 3.1.5 Ensuring financial Suitability 3.1.5.1. Financial analysis of new MPA needs 3.1.5.2. Training in business planning 3.1.5.3. Financial mechanism for MPA network development 3.1.5.4. Training in conservation finance 3.1.5.5. Demonstration project on long term financial mechanism in Tunisia 3.1.5.6. Demonstration Project on financial sustainability mechanism in 3 new areas 3.1.6 Support to the Legal Governance 3.1.6.1. Legal assessment 3.1.6.2. Institutional analysis 3.1.6.3. Legal training for MPA managers 3.1.6.4. Issue of users guide of MPA management issues
Sub-Component 3.2. Sustainable use of fisheries resources through ecosystem-based management approaches 3.2.1 Regional ecosystem approach to fisheries management 3.2.1.1. Identify regional EAF priorities 3.2.1.2. Apply EAF to fisheries management 3.2.1.3. Legal reform for EAF implementation 3.2.2 By catch reduction at fleet level 3.2.2.1. By catch reduction at fleet level 3.2.2.2. Demonstrate by catch mitigation solutions 3.2.3 Address unsustainable fisheries practices in MPAs 3.2.3.1. Identify areas with significant impacts
Component 4. Project Coordination, Replication and Communication strategies, Management and M&E Sub-Component 4.1 Project Co-ordination, Management and M&E 4.1.1: Program Project Management 4.1.2: Strategic Partnership's Steering Committee (SPSC)

Project Activities:
4.1.3: Strategic Partnership Coordination Group (SPCG) 4.1.4: Sustainable financing mechanism for the long term implementation of NAPs 4.1.5: Long term Sustainability of Activities Beyond the Lifetime of the SP. 4.1.6: Inter agencies meetings 4.1.7: Mid-Term Stocktaking Meeting 4.1.8: Auditing, Evaluation and Reporting 4.1.9: Country Focal Point Support Program (CFPSP) 4.1.10 NGO Mobilization
Sub-Component 4.2 Information and Communication strategies 4.2.1 Design and preparation of IC Strategy, information materials (leaflet, brochures, etc.) for selected audiences 4.2.2 Design, production and updating of on line LMA magazine 4.2.3 Participation to selected national/international environmental events 4.2.4 Planning of an "ad hoc" audiovisual campaign for wide media dissemination
Sub-Component 4.3. Replication Strategy 4.3.1 Guiding the replication process 4.3.1.1. Creation of a Med-LME Project replication Team 4.3.2 Collecting information 4.3.2.1. Developing an ICT platform: data collection, database, monitoring and updating 4.3.3 Information analysis, sharing and dissemination 4.3.3.1. Information analysis, selection of PMAs 4.3.3.2. Organization of replication meetings 4.3.3.3. Design and implementation of dissemination mechanism and Partnership building 4.3.3.4. Organization of a regional conference 4.3.4 Replication potential assessment 4.3.4.1. Design and implementation of a Replication Scoring System 4.3.5 Catalyzing implementation 4.3.5.1. Initial facilitation of on-site project development

ANNEX C: RESPONSE TO PROJECT REVIEWS

a) Convention Secretariat comments and IA/ExA response (none received)
b) STAP expert review and IA/ExA response
c) GEF Secretariat and other Agencies' comments and IA/ExA response

Project: Strategic partnership for the Mediterranean Sea Large Marine Ecosystem-Regional Component: Implementation of agreed actions for the protection of the environment al resources of the Mediterranean Sea and its costal areas

STAP TECHNICAL REVIEW

Author: Prof. Dr. Dirk Van Damme

Date: Thursday, 14 September, 2006

1. Scientific and technical soundness of the project

1.1. Comments related to the scientific basis and the proposed technologies:

1.1.1. Assessment of the scientific basis of the project.

The scientific basis is generally speaking well covered and sufficient information and knowledge on the dynamics, functioning and structure of the ecosystems covered is available due to the fact that the project build on former experience. A weak point and scientifically debatable issue is the text concerning the impact of climate change on the studied ecosystem i(paragraph 22-25). It is extremely important that this environmental factor is taken into consideration as is done in the project proposal. However, the assumption is here made that the projected global sea rise of 5 mm/year can be transposed on the Mediterranean Basin. In my opinion, this is not evident. If the desertification in this region continues, which is a likely assumption, then the amount of water lost through evaporation could be far in excess than the quantity of water needed to balance the loss that is able to pass trough the extremely narrow Straight of Gibraltar. In other words it is possible that the level of the Mediterranean will be decreasing instead of increasing. Equally linked with climate change is the important factor of increasing salinity. The Mediterranean is already more saline than the Atlantic. Increased evaporation in combination with the significantly increased amount of salts in domestic and industrial waste water could become a major ecological threat (e.g. directly or indirectly by causing stratification). The part on the climate change should hence be altered taking in consideration the above and underlining the complexity. Sufficient information on the hydrological regime, land use practices, drainage, groundwater and population dynamics is available.

1.1.2. Appropriateness of approach to collect relevant information on sections of society and economy and on the different aspects of the environment, water management and ecosystem

The way the information has been collected is not only appropriate but recommendable in the sense that it does not try to divulge gaps or shortcomings, which are inevitable in such a complex project.

1.1.3. Assessment of the correct identification of the sectoral changes required to achieve the goals of the OPs

The sectors and changes in each sector elementary to achieve the proposed goals are properly identified and targeted.

1.1.4. Has the issue of inter-comparability of data been addressed?

Yes, quite adequately. It consitutes a main issue.

1.1.5. Analysis of the interlinkages between water-related environmental issues and root causes behind different environmental problems.

The analytic part of this project proposal is rudimentary since the relations are well known and an in-depth discussion would be superfluous in this type of implementing project.

1.1.6. Presentation of the tools and methodologies for TDA and SAP

The methodologies are clearly presented though with a caveat that dueto the complexity of the project there is a need for improvising and alteration whilst the project evolves. This is in my b-view the only correct approach.

1.1.7. Does the project determine what type of measures is needed to ensure that the ecological carrying capacity is not exceeded.

The project is more a follow up resulting from the determination/identification of the measures that need to be taken. In inherently identifies them.

1.1.8. Assessment of adequacy of the scope of the project.

The scope of the project is, considering the degree of difficulties there have to be overcome in transboundary cooperation and the appalling low level of existing administrative, legal and technical infrastructure concerning the protection of the coastal and marine realm in the countries involved, realistic in its scope. It is not adequate in the sense that its implementation will significantly alter the degradation of the Mediterranean ecosystem but it is a necessary and essential major step in that direction.

1.1.9. Are the proposed technologies adequate to the regional socio-economic profile?

Yes. The technologies are already existing or can be rapidly adapted to the specific socio-economic profile.

1.1.10. Could the proposed technologies pose environmental threats?

None at all.

1.2. Question related to the use of technology

To what extent will technological innovations be used to support the project?

The project does not encompass the use or development of really novel technology

1.3. Questions related to institutional arrangements

Assessment of institutional arrangements.

The institutional arrangements are worked out in detail and perfected as can be seen in the annexes

1.4. Other questions

1.4.1. Is choice of demonstration sites representative and appropriate?

Yes, since it is based on former practical experience and not on theory.

1.4.2. Have any problems been overlooked?

No

1.4.3. Assessment of adequacy of the scope of the project

The scope of the project is adequate as an essential step (see above). In my opinion are the incremental costs for activity 2.1.7. '*improvement of inspection systems'* of subcomponent 2.1 '*Control of land-based source of pollution'*., the incremental costs of sub-component 2.2 '*Transfer of technology'* and those of sub-component 4.3 '*Replication strategy'* underestimated.

1.4.4. Have issues of conflict been addressed?

Not in particular, though suggested, e.g. in the use of fisheries resources.

2. Identification of the global environmental benefits

2.1. Does the project address issues that will result in global environmental benefits?

The results of this kind of proposal concerning the implementation of transboundary protective measures and actions, such as formulated in the project proposal, possess a high replication and as such are important on a global scale.

2.2. Are any negative environmental effects anticipated?

No

3. How does the project fit within the context of the goals of GEF

Does the project fit within the overall strategic thrust of the GEF- funded IW activities to meet the incremental costs of: (a) assisting groups of countries to better understand the environmental concerns of their IWs and work collaboratively to address them; (b) build the capacity of existing institutions; and (c) implement measures that address the priority trans-boundary environmental concerns?

The project fits perfectly on all levels within GEF's goals

4. Regional context

Assessment of the regional scope of the project.

Mediterranean Sea and coastal regions of the countries along its southern and eastern borders.

5. Replicability of the project

Scope for replication of some of the approaches in other international water bodies.

A region highly suitable for replication should be the South Chine Sea

6. Sustainability of the project

Largely depends on national government commitment. Key is the regional mechanism which should provide focus and means for coordinating national efforts, thereby enhancing the efficiency and effectiveness of individual country undertakings. Involvement of the private sector, inter-governmental financial institutions, investors and commercial banks is also a key element of sustainability.

The project tries to commit as intensely as possible the governments and private sectors concerned. Due to the fact that the countries involved all fringe the Europran Union with its stringent environmental regulations, this particular international political and economic context should logically form a guarantee for its sustainability

7. Does the project make an effort to change cultural and deeply embedded habits that have given rise to the environmental problems addressed by the project?

The project addresses only the environmental problems that are created by a combination of a demographic explosion and (agro)industrialization. In my opinion it would be counterproductive to try to incorporate such issues (e.g. population decrease trough birth control) in this type of project and in this stage of development of environmental conservation.

Secondary issues

Linkages to other focal areas
Most IW projects have outspoken linkages with the biodiversity focal area, and to land degradation.

Linkages to other programs and action plans at regional or sub-regional levels
The IWs area includes numerous international conventions, treaties and agreements. The architecture of marine agreements is especially complex, and a large number of bilateral and multilateral agreements exist for transboundry freshwater basins.
Related conventions and agreements in other areas increase the complexity. These initiatives provide a new opportunity for cooperating nations to link many different programs and instruments into regional comprehensive approaches to address IWs.
Have all relevant conventions been considered and taken into account in the project?
Is the proposed activity consistent with existing national plans?

Other beneficial or damaging environmental effects
Assess beneficial and detrimental environmental effects that could result from the intervention.

Degree of involvement of Stakeholders in the project
Because of the area-wide interventions, community involvement and stakeholder participation are especially important in OP 9.
Are the national and regional institutions likely to be able to contribute to the achievement of the objectives identified?
Are all countries which have a stake in the IW body subject of the intervention by the project involved in it?

Capacity building aspects
Capacity building is an important component in international waters projects.
Institution building plays a crucial role, and specific capacity-strengthening measures are required to assist countries in finding the appropriate institutional and organizational matters.

Following the formulation of Strategic Action Plan (SAP), the next step is to formulate a capacity building, technical assistance or investment project.

Innovativeness of the project
Assessment of the innovativeness of the project.

ANNEX C1

Response to STAP/IA comments

REVIEWER'S COMMENTS	RESPONSE	AMENDMENT LOCATION
1.1.1. Assessment of the scientific basis of the project The scientific basis is generally speaking well covered and sufficient information and knowledge on the dynamics, functioning and structure of the ecosystems covered is available due to the fact that the project build on former experience. A weak point and scientifically debatable issue is the text concerning the impact of climate change on the studied ecosystem i(paragraph 22-25). It is extremely important that this environmental factor is taken into consideration as is done in the project proposal. However, the assumption is here made that the projected global sea rise of 5 mm/year can be transposed on the Mediterranean Basin. In my opinion, this is not evident. If the desertification in this region continues, which is a likely assumption, then the amount of water lost through evaporation could be far in excess than the quantity of water needed to balance the loss that is able to pass trough the extremely narrow Straight of Gibraltar. In other words it is possible that the level of the Mediterranean will be decreasing instead of increasing. Equally linked with climate change is the important factor of increasing salinity. The Mediterranean is already more saline than the Atlantic. Increased evaporation in combination with the significantly increased amount of salts in domestic and industrial waste water could become a major ecological threat (e.g. directly or indirectly by causing stratification). The part on the climate change should hence be altered taking in consideration the above and underlining the complexity. Sufficient information on the hydrological regime, landuse practices, drainage, groundwater and population dynamics	The Reviewer raises an important scientific question regarding the final effect and impact of Climate Change in the Mediterranean. Although the project does not deal with Climate Change per se, we believed it was important to mention a few facts regarding CC and its possible effects in the Mediterranean area. The reviewers is correct that a number of serious uncertainties exist in this respect. We have, therefore, added a paragraph that discusses those uncertainties and moderates our previous discussion on CC impacts in the area	Project Brief: Paragraphs 22-26: It should be noted however, that although global warming seems to be well established and global sea level rise as well, the response of various regions to that forcing is still a big unknown. It has been shown, for example, that global warming is not a unimodal phenomenon but rather a multimodal one with differing responses in different areas. In this respect it is interesting to note that during the period from 1960 to 1980 while global warming was evident on a global scale, the Mediterranean Sea's temperature at surface was decreasing. The complexity of positive and negative feedback mechanisms within the climate system and the weaknesses of present regional climatic models, should result in a cautious approach of the various prediction scenaria. This need for cautiousness applies of course to the discussion of the previous paragraphs as well. Nevertheless, there is no doubt that climate change will have an impact in the Mediterranean as well and therefore this is an issue to follow closely in the coming years.

is available		
1.2. To what extents will technological innovations be used to support the project? The project does not encompass the use or development of really novel technology.	Although we do not take the reviewer's comment as a negative one but rather as a comment on the nature of the project, we do believe that TEST is a very successful and innovative technology, which will be applied for the first time in the Mediterranean area.	

ANNEX C2

Response to GEF Secretariat and other Agencies' comments

April 2007

Recommendation by program manager	*Response*	*Location(s) of ammendments*
1. Exec. Summary Point 4.1: include Spain among donors and members of the Steering Committee.	Spain has been added to the donors and to the Steering Committee.	- Exec. Summary: page 17/18 - section 4.1 (2nd para.) - Project Brief: page 40 (para. 151); page 55 (para 229) - Annex E: page 1 – section 1.1 (1st para.)
2. Include under the responsibility of the PMU the following activity: to identify a set of environmental status indicators reflecting SAP targets and agreements, and to promote in the countries, with the support of MAP, the harmonized monitoring of these indicators well beyond the project's life. The proposed set of indicators and monitoring procedures will be presented to the Steering Committee during the Inception Meeting.	The PMU responsibilities has been updated to include the development of environmental status indicators (reflecting SAP targets and agreements) during the inception period, their presentation at the Inception Meeting and their long-term monitoring.	- Exec. Summary: page 17 - section 4.1 (2nd para) - Project Brief: page 40 (para. 149); page 44 (para. 172) - Annex E: page 1 – section 1.1 (objective iv); page 2 – section 1.1 (last para.); page 6 (last para.); page 22 (text above Table E-5)
3. Check the total figure for co-financing (which should be $23,723,200).	"The total co-finance is 29,607,200 USD of which the secured amount is 23,720,500 USD".	- N/A

4. Ensure that project will have a website according to IW LEARN criteria, and that it will participate to IW LEARN initiatives, including biannual conferences.	Additional text to Component 4.2 added to clarify that the project will have a website according to IW LEARN criteria (and gives web address). Text already mentions that it will participate to IW LEARN initiatives, including biannual conferences.	- Exec. Summary, page 20 – section 4.2 (2nd para.) - Project Brief, page 46 section 4.2.1 (following para. 184)
5. Adequately respond to all issues on the POPs part of the project raised under the General Comments section	See below	-

POPS COMPONENT (GRANIER 6TH APRIL 07)	RESPONSE	*Location(s) of ammendments*
6. The entry under "further processing" dated December 2006 includes 5 points that UNEP and GEFSEC agreed should be taken into consideration in developing the PCB component before WP inclusion. I find no documentation to reflect whether any of these points have indeed been taken into consideration (detailed activities and link with NIPs; specific country endorsements, links with related projects and role of UNIDO).	More information is provided on NAPs and NIPs and their operational links and on other international and national related projects. Although the countries' endorsements already received indeed cover all components of the Project, including PCBs, additional and specific endorsement will be asked for the PCB component and will be submitted before CEO endorsement. UNIDO's position is that the project should not be split between two agencies . As UNIDO was not involved in the concept and preparation of the project UNIDO agrees that the project should be run by MEDPOL. Nevertheless, while MEDPOL will execute the POPs component of the project, UNIDO will closely follow its progress. . .	- Annex F, pages 105-109

7. In addition, I have the following comments: - The share for the POPs focal area is $2.9m, or 23% of the GEF allocation for this project. This should be more or less reflected in the level of documentation provided. In particular, the POPs component has to be more visible in the Executive Summary.	Within the Executive summary, the section summarizing the POPs activities has been expanded to reflect the percentage of the project.	- Exec. Summary: Page 13-15, Section 2.3 - Project Brief, page 34-34 (para. 122 to 131),
8. Similarly, needs more visibility in the log-frame, particularly in the "results" section, as well as in the incremental costs analysis.	Log-frame has been revised with visible indicators Results section within the project Brief and executive summary has been expanded Incremental Costs section has been amended	- Exec. Summary: Page B-7/8, point 9 - Project Brief, page 35, Component 2 Results - Exec. Summary: Page 14, Component 2 Results - Exec. Summary: Page A-3/A-10,
9. $2.9m are to be allocated from the a very active network which promoted POPs focal area. $2.45m is attributed to the PCB component. What of the remaining $0.45m?	From 2,9 million USD POPs allocation, 200,000 USD have been taken for Replication Strategy (Sub-Component 4.3) and 250,000 USD for Project Management (Sub-Component 4.1)". This has been clarified in the documents.	- Project Brief, page 64, footnote after para 247. - Exec. Summary: Page 13, footnote after Activity 2.3
10. $2m to cofinance the PCB component come from the "multilateral trust fund". Please clarify what fund this is.	The Multilateral Trust Fund should read Mediterranean Trust Fund. This has been corrected.	- Project Brief, page 70-71, Table 6. - Exec. Summary: Page. 33-36: d) Co-financing Sources table.

11. How are UNEP and MEDPOL going to ensure adequate environmental safeguards when it comes to disposal operations?	Any demonstrations within the project (e.g. servicing, maintenance, storage and disposal operations) would be required to meet appropriate local and international environmental standards and incorporate suitable safeguards. The project will take advice on these from local and international authorities (for example follow country procedures on Environmental Impact Assessment) and also seek advice from other similar GEF supported projects. Suitable conditions, specifications and safeguards will be incorporated in any commercial tendering exercises. International transboundary movements of PCB wastes as part of disposal operations will be required to be compliant with relevant international rules, standards and guidelines for such hazardous wastes.	- Annex F, Section 2.3 page 110, chapter "Objectives/outputs" and chapters 2.3.2, 2.3.2.3, page 113
12. What is the comparative advantage of MEDPOL and CP/RAC to execute this component?	The appropriate management of POPs is one of the important issues of the SAP to which countries are committed. The POP's component of the various NAPs have been prepared by MEDPOL and CP/RAC on the basis of a comprehensive inventory and	- Annex F, section 2.3, chapter "Institutional coordination and support"

	management plans agreed upon by the Contracting Parties of the Barcelona Convention in 2005. MED POL is in charge of the follow up to the implementation of the SAP and the NAPs and CP/RAC is also involved to the management of hazardous wastes making use of BATs and BEPs. The execution of this component by MED POL in cooperation with CP/RAC will therefore facilitate the implementation of the countries' commitments under the Barcelona Convention and the Stockholm Convention.	
13. Need to work on the results framework for the PCB component. At the very least, a detailed M&E plan with baseline should be produced within year one of project implementation. Amounts of PCBs disposed of should be a target (1187 tons are mentioned somewhere - this is target for SP2).	M&E Plan expanded, and will be finalized (including baselines) for during the inception phase of the project. A more detailed framework plan of implementation of the activities is prepared according to the countries' capabilities and the status of preparation of NIPs.	- Annex E, M&E Plan: Tables E-4 and E-5 - Annex F, section 2.3, chapter "Institutional coordination and support"
14. I understand that disposal operations will take place as "demonstrations", addressing part of the problem in each country. How much of the problem?	The percentage of PCBs to be disposed as a result of the project vis-à-vis the total PCBs is calculated	- Annex F, section 2.3, chapter "Objectives/outputs"
15. Sections on sustainability and stakeholder analysis as they pertain to POPs are weak.	Sustainability prospects and stakeholder involvement are analyzed more in detail.	- Annex F, section 2.3, chapters "Risks and sustainability" and

		"Stakeholder involvement"
16. Following up on the first 2 points of Dec 2006: the 3 lines per country provided in Annex F do not constitute "country specific description of PCBs circumstances and planned activities [etc]". Albania and Lebanon have submitted their NIP already. Syria (with UNEP) and Egypt (with UNIDO) should be complete - certainly the PCB inventory part should be.	More detailed information on the countries' specific circumstances related to the project is provided.	- Annex F, section 2.3, chapter "State of the art of the implementation of ESM of PCBs in the targeted countries"
17. Not clear why Stockholm Convention Secretariat should be in the steering committee since that secretariat has no operational mandate. More useful to have UNIDO (in particular to facilitate linkages with the TEST-MED component). As well as representatives of the other projects - Maroc, Tunisia, Algeria.	The proposed institutional and coordination arrangements were re-arranged and simplified taking into account the existence of a Steering Committee for the whole project. National Focal Points are expected to collate information on other projects and share it with the members of the Steering Committee.	- Annex F, section 2.3, chapter "Institutional coordination and support"
18. Need to update information: e.g. Algeria has ratified the SC.	Table 1 of the project Brief has been updated for all Conventions	- Project Brief: page 23 (Table 1)
19. Need to mention the Morocco PCB project with UNDP which might advance faster than the regional West Africa project.	Reference has been included.	- Annex F, section 2.3, chapter "Background"
20. It is mentioned that endrin is allowed for limited applications in the EU. Is this so?	Information was outdated, is in fact banned in EU and reference has been removed.	- Project Brief: page 10 (para. 36)

21. The project addresses SP1 (Capacity building for NIP implementation) - about $1.1m and SP2 (Investments for NIP implementation) - about $1.35m.	Documents were based on August 2006 version of POPs strategic objectives. All documents have been revised based on Feb. 2007 Strategic Objective document to include both Strategic Objectives 1 and 2	- Exec Summary: page 1 (GEF Strategic Objectives; page 28/19, Fit to GEF Focal Area (4th para) - Project Brief, page 22 (para. 76)

ANNEX D
Work-plan and Timetable

Component																					
Sub-Component																					
1. Integrated approaches for the implementation of the SAPs and NAPs: ICZM, IWRM and management of coastal aquifer																					
	Year 1				**Year 2**				**Year 3**				**Year 4**				**Year 5**				
1.1 Management of Coastal Aquifer and Groundwater																					
1.1.1 Assessment of coastal aquifer risk and uncertainty and mapping of their vulnerability																					
1.1.1.1 Assessment of risk and uncertainty related to the Mediterranean coastal aquifer																					
1.1.1.2 Coastal aquifer vulnerability mapping: Pilot Project in one selected country																					
1.1.1.3 Coastal aquifer supplement to TDA-MED: Development of a coastal TDA supplement																					
1.1.2 Regional actions for Costal Aquifer Management																					
1.1.2.1 Development of a regional Action Plan on Coastal Aquifers																					
1.1.2.2 Integration of groundwater management in ICZM and IWRM planning systems																					
1.1.2.3 Identification and planning of coastal groundwater demonstrations																					
1.1.2.4 Sustainable Coastal Land Management																					
1.1.2.5 Implementation of eco-hydrogeology applications for management and protection of coastal wetlands																					
1.1.2.6 Coastal aquifer supplement to SAP MED, SAP BIO and NAPs																					
1.1.3 Legal, Institutional and policy reform for Coastal Aquifer Management																					
1.1.3.1 Policy/legal/institutional regional assessment for coastal aquifer management																					
1.1.3.2 Policy/legal/institutional reform, institutional development and mechanism for coastal aquifer management																					

Component																				
Sub-Component																				
1. Integrated approaches for the implementation of the SAPs and NAPs: ICZM, IWRM and management of coastal aquifer																				
	Year 1				**Year 2**				**Year 3**				**Year 4**				**Year 5**			
1.2 Integrated Coastal Zone Management																				
1.2.1 Support activities in preparation of National ICZM Strategies and NAPs																				
1.2.1.1 Strengthening the role of ICZM as a policy framework for water resources management and biodiversity protection																				
1.2.1.2 Support to the preparation of ICZM NAPs																				
1.2.1.3 Harmonising national institutional arrangements and legislation with ICZM Protocol for the Mediterranean																				
1.2.1.4 Developing/strengthening of coastal legislation in the Mediterranean (notably national Coastal Laws)																				
1.2.1.5 Use of Cost of Environmental Degradation (COED) as an ICZM tool																				
1.2.2 Application of ICZM approach, tools, and techniques in demo areas																				
1.2.2.1 ICZM Plans to demonstrate ICZM approach, tools and techniques in selected areas																				
1.2.2.2 Capacity building for effective implementation and sustainable financing of pilot ICZM projects																				
1.2.2.3 Coordination and harmonization of ICZM component with other components' activities in demo projects																				
1.3 Integrated Water Resources Management (IWRM)																				
1.3.1 Develop Action Plan for IWRM in the Mediterranean																				
1.3.2 Catalyse Action and Build capacity on National IWRM Planning in 2 target countries																				
1.3.3 Develop Integrated Resources Basin Management (IRBM) in globally important river basin(s) and adjacent coastal area																				
1.3.4 Preparation of Short list of Transboundary Basins and Water issues																				

Component																				
Sub-Component																				
2. Pollution from land based activities, including Persistent Organic Pollutants: implementation of SAP MED and related NAPs																				
	Year 1				**Year 2**				**Year 3**				**Year 4**				**Year 5**			
2.1 Facilitation of policy and legislation reforms for pollution control																				
(a) Industrial pollution pilot projects																				
2.1.1 Phosphogypsum slurry management in Lebanon, Tunisia and Syria																				
2.1.2 Chromium and BOD control of tanneries effluent in target countries																				
2.1.3 Lubricating oil recycling and regeneration in target countries																				
2.1.4 Lead batteries recycling in target countries and Palestinian Authority																				
2.1.5 Setting ELV in industrial effluents and EQS in all participating countries																				
2.1.6 Assessment of the magnitude of riverine inputs of nutrients into the Med. Sea																				
(b) Permit, Inspection and Compliance																				
2.1.7 Meetings among agencies responsible for permitting, inspections and enforcement																				
2.1.8 Training workshops to provide practical guidance and uniformity on inspecting on the most commonly polluting and industrial facilities of the country																				
2.1.9 National final meeting for the assessment and feedback to propose solutions for the formulation of amendments of the existing legislation																				
2.2 Transfer of Environmentally Sound Technology (TEST)																				
First stage: 2.2.1 Set up national focal points																				
2.2.2 Introduction of the TEST integrated approach																				
2.2.3 Set-up of the information management system																				
2.2.4 Identification and selection of demonstration enterprises																				
2.2.5 Initial review at demonstration enterprises, incl. market and financial viability																				
Second stage: 2.2.6 Implementation of a Cleaner Production Assessment																				
2.2.7 Introduction of EMS principles and design of EMS																				
2.2.8 Introduction of Environmental Management Accounting																				
2.2.9 Preparation and promotion of EST investment projects																				

Component																				
Sub-Component																				
Continued 2. Pollution from land based activities, including Persistent Organic Pollutants: implementation of SAP MED and related NAPs																				
Cont. 2.1 Facilitation of policy and legislation reforms for pollution control	**Year 1**				**Year 2**				**Year 3**				**Year 4**				**Year 5**			
Continued 2.2 Transfer of Environmentally Sound Technology (TEST)																				
2.2.10 Introduction of basic principles for the preparation of enterprise sustainable strategies (SES)																				
Third Stage: 2.2.11 Preparation of National publication on the application of the TEST approach																				
2.2.12 Organization of national seminars in each country																				
2.2.13 Introductory seminars on TEST approach at other enterprises in each country																				
2.2.14 Regional Workshop to present the results of TEST-Med projects																				
2.2.15 Starting of networking activities																				
2.3 Environmentally Sound Management of equipment, stocks and wastes containing or contaminated by PCBs in national electricity companies of Mediterranean countries																				
2.3.1Legislative/institutional framework for implementation of ESM of PCBs																				
2.3.2 Demonstration projects to improve the management programme of PCBs																				
2.3.3 Awareness of importance of ESM of PCBs equipment																				
2.3.4 Technical capacity for ESM of PCBs equipment																				
2.3.5 National capacity to implement PCBs phase-out and disposal programmes																				
3. Conservation of biological diversity: implementation of SAP BIO and related NAPs																				
[3.1 Conservation of Coastal and Marine Diversity through Development of a Mediterranean MPA Network]																				
3.1.1 Establishment of coordination mechanism for regional MPA management																				
3.1.1.1 Inception and Terminal activities																				
3.1.1.2 Develop communication & information tools																				

Component																					
Sub-Component																					
3. Conservation of biological diversity: implementation of SAP BIO and related NAPs																					
3.1 Conservation of Coastal and Marine Diversity through Development of MPA	**Year 1**				**Year 2**				**Year 3**				**Year 4**				**Year 5**				
3.1.1.3 Development of long-term management arrangements																					
3.1.1.4 Activities follow up and Advisory Committee meetings																					
3.1.2 Planning and extended MPA Network																					
3.1.2.1 Establish priority activities required																					
3.1.2.2 Identify stakeholders & partnership																					
3.1.2.3 Assessment of new site options																					
3.1.2.4 Ecological assessment of demonstration area																					
3.1.2.5 Identify stakeholders participation mechanism																					
3.1.2.6 Identify high seas fisheries protected areas																					
3.1.2.7 MPA creation guidelines and teaching packages																					
3.1.3 Improved MPA management																					
3.1.3.1 Management Workshop – Existing MPAs																					
3.1.3.2 Management Workshop – New MPAs																					
3.1.3.3 Training for existing MPA managers																					
3.1.3.4 Training for new MPA mangers																					
3.1.3.5 Development of innovative training tools																					
3.1.3.6 Demonstration project on guidelines and specific zoning for the management of recreational activities in Turkey																					
3.1.3.7 Demonstration project on guidelines for the management of recreational fisheries activities in Algeria																					
3.1.4 Regional MPA monitoring System																					
3.1.4.1 Feasibility study, design & creation																					

Component																				
Sub-Component																				
Continued. 3. Conservation of biological diversity: implementation of SAP BIO and related NAPs																				
3.1 Conservation of Coastal and Marine Diversity through Development of MPA	**Year 1**				**Year 2**				**Year 3**				**Year 4**				**Year 5**			
3.1.4.2 Training MPA managers in M&E																				
3.1.4.3 Assessment of management effectiveness																				
3.1.4.4 Demonstration project on monitoring and evaluation system for the Croatian MPAs network																				
3.1.5 Ensuring financial Suitability																				
3.1.5.1 Financial analysis of new MPA needs																				
3.1.5.2 Training in business planning																				
3.1.5.3 Financial mechanism for MPA network development																				
3.1.5.4 Training in conservation finance																				
3.1.5.5 Demonstration project on long term financial mechanism in Tunisia																				
3.1.5.6 Demonstration Project on financial sustainability mechanism																				
3.1.6 Support to the Legal Governance																				
3.1.6.1 Legal assessment																				
3.1.6.2 Institutional analysis																				
3.1.6.3 Legal training for MPA managers																				
3.1.6.4 Issue of users guide of MPA management issues																				
3.2 Promotion of the sustainable use of fisheries resources in the Mediterranean through ecosystem – based management approaches																				
3.2.1 Regional ecosystem approach to fisheries management																				
3.2.1.1 Identify regional EAF priorities																				
3.2.1.2 Apply EAF to fisheries management																				
3.2.1.3 Legal reform for EAF implementation																				
3.2.2 Bycatch reduction at fleet level																				
3.2.2.1 Bycatch reduction at fleet level																				
3.2.2.2 Demonstrate bycatch mitigation solutions																				

Component																				
Sub-Component																				
Continued. 3. Conservation of biological diversity: implementation of SAP BIO and related NAPs																				
Continued. 3.2 Promotion of the sustainable use of fisheries resources …	**Year 1**				**Year 2**				**Year 3**				**Year 4**				**Year 5**			
3.2.3 Address unsustainable fisheries practices in MPAs																				
3.2.3.1 Identify areas with significant impacts																				
4. Project Co-ordination, Replication and Communication Strategies, Management and M&E																				
4.1 Project Co-ordination, Management and M&E																				
4.1.1 Project Management Unit[1]																				
4.1.2 Strategic Partnership Project Steering Committee (SPSC)[2]																				
4.1.3 Strategic Partnership Coordination Group (SPCG) + WB personnel																				
4.1.4 Sustainable Financial Mechanism for the long term implementation of NAPs																				
4.1.5 Long term Sustainability of Activities Beyond the Lifetime of the SP[3]																				
4.1.6 Inter agencies meetings																				
4.1.7 Mid Term Stocktaking Meeting																				
4.1.8 Auditing, Evaluation and Reporting																				
4.1.9 Country Focal Point Support Program (CFPSP)																				
4.1.10 NGOs involvement in the region																				
4.2 Information and Communication strategies																				
4.2.1 Design and preparation of IC campaigns, information materials (leaflet, brochures, etc.)																				
4.2.2 Design, production and updating of on line LMA magazine																				
4.2.3 Participation to selected national/international events																				
4.2.4 Planning of "ad hoc" audiovisual campaigns for wide media dissemination																				

[1] This Sub-component includes the PMU (Project Management Unit), which will extend for a period of six month beyond the project life after the end of the project to properly finalize and close all the pending financial issues.
[2] The first three month of the project will be an inception period during which the first Steering Committee will be held, baseline information gather by the partners will be finalized and the work-plan of the first year will be discussed and decided in detail.
[3] The Steering Committee and the Coordination Group will carry out this Sub-component

Component																				
Sub-Component																				
Continued. 4. Project Co-ordination, Replication and Communication Strategies, Management and M&E																				
	Year 1				**Year 2**				**Year 3**				**Year 4**				**Year 5**			
4.3 Replication Strategy																				
4.3.1 Guiding the replication process																				
4.3.1.1 Creation of a Med-LME Project Replication Team																				
4.3.2 Collecting information																				
4.3.2.1 Developing an ICT Platform, data collection, database, monitoring & updating																				
4.3.3 Information analysis, sharing and dissemination																				
4.3.3.1 Information analysis, selection of PMAs and dissemination																				
4.3.3.2 Organization of two Replication meetings																				
4.3.3.3 Design and implementation of dissemination mechanism and partnership building																				
4.3.3.4 Organization of a regional conference																				
4.3.4 Replication potential assessment																				
4.3.4.1 Design and implementation of a Replication Scoring System																				
4.3.5 Catalysing implementation																				
4.3.5.1 Initial facilitation of on-site project development																				

ANNEX E

MONITORING AND EVALUATION (M&E) PLAN

STRATEGIC PARTNERSHIP AND REGIONAL COMPONENT

As described in the Project Brief the Strategic Partnership for the Mediterranean LME consists of the following 2 components:

- The Regional Component: Implementation of agreed actions for the protection of the environmental resources of the Mediterranean Sea and its coastal areas (outlined in the present document), and
- The Investment Fund for the Mediterranean Sea Large Marine Ecosystem Partnership (" led by the World Bank and already approved by the GEF Council in August 2006).

The M&E framework presented within this document is for the overall Strategic Partnership and for the Regional Component. Details of the M&E Plan for the Investment Fund are found in the Project Brief submitted separately by the World Bank.

1.1. Project Inception Phase (3 months)

The first meeting of the SP Steering Committee (SPSC) will double as the Inception Workshop for the project and will therefore include the following participants: SP national focal points from all GEF-eligible countries, representatives of the implementing agencies (UNEP and the WB), representatives of the executing agency (UNEP/MAP), the GEF Secretariat, the co-executing agencies (FAO, UNESCO, UNIDO, MEDPOL, METAP, SPA/RAC, PAP/RAC, INFO/RAC, CP-RAC, WWF, MIO-ECSDE) and the EU, the Project Manager, the President of the Bureau of Contracting Parties to the Barcelona Convention, major donors (France, Italy, Spain) and one NGO representing a network of NGOs in the Mediterranean. The SPSC will be co-chaired by the President of the Bureau of the Barcelona Convention and the Coordinator of UNEP/MAP.

The objectives of the Inception Workshop are the following:

i. To plan the co-ordination of actions to be undertaken under the Regional Component (UNEP-MAP and co-executing agencies) and the Investment Fund (World Bank);
ii. To assist the PMU to take ownership of the project's goals and objectives and introduce all co-executing agencies for the implementation of the project;
iii. To present the roles, support services and complementary responsibilities of the co-executing agencies of the project and to present UNEP project related budgetary planning, budget reviews, and mandatory budget re-phasing;
iv. To assist the PMU to finalize preparation of the project's first annual work plan on the basis of the project's logframe matrix and Monitoring and Evaluation (M&E) plan. This will include reviewing the logframe and M&E plan (indicators, means of verification, assumptions), revising them if necessary, and on this basis finalize the Annual Work Plan (AWP). The resulting amendments to the workplan and Log-frame will be adopted by the Steering Committee;
v. To review the baseline data for the M&E indicators, and indicate where additional information may be required;
vi. To present and review environmental status indicators, reflecting SAP targets and agreements, which will be developed during the inception period of the project, along with specific arrangements for their long-term monitoring beyond the lifespan of the project (with the support of MAP).

vii. To present the roles, support services and complementary responsibilities of UNEP-MAP, the World Bank and the co-executing agencies of the project; and

viii. To provide a detailed overview of UNEP reporting and monitoring and evaluation (M&E) requirements, with particular emphasis on the Annual Project Implementation Reviews (PIRs) and related documentation, the Annual Project Report (APR), as well as mid-term and final evaluations.

The Inception Workshop will also provide an opportunity for all parties to understand their roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. The Terms of Reference for project staff and decision-making structures will be discussed again, as needed, in order to clarify for all, each party's responsibilities during the project's implementation phase.

This Project will have a three month inception period which will include the first Steering Committee/Inception Meeting, the preparation of the report of the meeting, the finalization of the Log-frame, M&E plan (including environmental status indicators), baseline data and the preparation of the AWP. Table E1 provides an indicative monitoring and evaluation work plan for the Strategic Partnership. Table E2 provides the list of indicators for the Strategic Partnership and tables E3 to E5 provide a list of appropriate indicators for the Regional Component. Baseline data will be finalized during the inception period of the project.

1.2. Monitoring Responsibilities and Events

The Inception Workshop will present a Schedule of M&E-related meetings and reports for both the Strategic Partnership and the Regional Component. This will be developed by UNEP, UNIDO, FAO, the World Bank, the PMU and co-executing agencies.

Such a schedule will include: (i) tentative time frames for Steering Committee and Co-ordination Group Meetings and (ii) project related Monitoring and Evaluation activities.

Day to day monitoring of implementation progress will be the responsibility of the PMU based on the Project's Annual Work Plan and its indicators with the support of all responsible co-executing agencies. The PMU will inform UNEP, UNIDO, FAO and all co-executing agencies of any delays or difficulties faced during implementation so that the appropriate support or corrective measures can be adopted in a timely and remedial fashion. The WB will inform UNEP, UNIDO and FAO of any delays or difficulties faced during implementation of the IF component.

The PMU will fine-tune the progress and performance/impact indicators of the Project at the Inception Workshop in consultation with UNEP, UNIDO, FAO, the WB and the co-executing agencies. Specific targets for the first year implementation progress indicators together with their means of verification will be developed at this Workshop. These will be used to assess whether implementation is proceeding at the intended pace and in the right direction and will form part of the Annual Work Plan. Targets and indicators for subsequent years would be defined annually as part of the internal evaluation and planning processes undertaken by the PMU, and agreed with the Executing and Implementing Agencies.

Periodic monitoring of implementation progress will be undertaken by UNEP, UNIDO, FAO and the co-executing agencies through the provision of half-yearly reports submitted to the PMU, UNEP-MAP and UNEP.

Annual Monitoring will occur through the preparation of the APR to be reviewed by the Steering Committee (SPSC). The APR will be drafted by the PMU, based on the activity and demonstration reports by the co-executing agencies. In addition the WB will provide to UNEP, UNIDO and FAO annual Project Progress Reports.

1.3. Project Monitoring Reporting

The Project Manager in conjunction with the Project extended team (PMU staff, UNEP, UNIDO, FAO, and all co-executing agencies) will be responsible for the preparation and submission of the following reports that form part of the monitoring process. Items (a) through (e) are mandatory and strictly related to monitoring, while (f) through (g) have a broader function and the frequency and nature is project specific to be defined throughout implementation.

(a) Inception Report (IR)

A Project Inception Report will be prepared immediately following the Inception Workshop. It will include a detailed First Year Work Plan divided in quarterly time-frames detailing the activities and progress indicators that will guide implementation during the first year of the Project. The Report will also include the detailed project budget for the first full year of implementation, prepared on the basis of the Annual Work Plan, and including any monitoring and evaluation requirements to effectively measure project performance during the targeted 12 months time-frame.

The Inception Report will include a more detailed narrative on the institutional roles, responsibilities, coordinating actions and feedback mechanisms of project related partners. In addition, a section will be included on progress to date on project establishment and start-up activities and an update of any changed external conditions that may effect project implementation, including and unforeseen or newly arisen constraints.

When finalized, the report will be circulated to project counterparts who will be given a period of one calendar month in which to respond with comments or queries. Prior to this circulation of the IR, UNEP, UNIDO, FAO and the co-executing agencies will review the document.

(b) Half-yearly Progress Report (HPR), Annual Project Report (APR) and Project Implementation Review (PIR)

The HPR is a self-assessment report by project management to the UNEP Office and provides them with input to the reporting process as well as forming a key input for the Steering Committee. The PIR is an annual monitoring process mandated by the GEF, to be conducted by the UNEP Task Manager in consultation with UNEP-MAP. It has become an essential monitoring tool for project managers and offers the main vehicle for extracting lessons from ongoing projects. In addition, UNEP Task Manager, based on the knowledge of the project progress, will submit to UNEP Evaluation and Oversight Unit a annual project report, which is a UNEP self-evaluation tool.

An APR/PIR is prepared on an annual basis following the first 12 months of project implementation. The purpose of the APR/PIR is to reflect progress achieved in meeting the project's Annual Work Plan and assess performance of the project in contributing to intended outcomes through outputs and partnership work. The APR/PIR is discussed in the SPSC meeting so that the resultant report represents a document that has been agreed upon by all of the primary stakeholders.

The items in the APR/PIR to be provided by UNEP GEF includes the following:

- An analysis of project performance over the reporting period, including outputs produced and, where possible, information on the status of the outcome;
- The constraints experienced in the progress towards results and the reasons for these;
- The three (at most) major constraints to achievement of results;
- Annual Work Plans and related expenditure reports;
- Lessons learned;
- Clear recommendations for future orientation in addressing key problems in lack of progress.

UNEP analyses the individual APR/PIRs by focal area, theme and region for common issues/results and lessons. The Reports are also valuable for the Independent Evaluators who can utilise them to identify any changes in project structure, indicators, workplan, etc. and view a past history of delivery and assessment.

(d) Periodic Thematic Reports

As and when called for by UNEP or UNEP-MAP, the project team will prepare Specific Thematic Reports, focusing on specific issues or areas of activity. The request for a Thematic Report will be provided to the project team in written form by UNEP/UNEP-MAP and will clearly state the issue or activities that need to be reported on. These reports can be used as a form of lessons learnt exercise, specific oversight in key areas, or as troubleshooting exercises to evaluate and overcome obstacles and difficulties encountered. UNEP and UNEP-MAP are requested to minimize their requests for Thematic Reports, and when such are necessary will allow reasonable timeframes for their preparation by the project team.

(e) Project Terminal Report

During the last three months of the project the project team will prepare the Project Terminal Report. This comprehensive report will summarize all activities, achievements and outputs of the Project, lessons learnt, objectives met, or not achieved, structures and systems implemented, etc. and will be the definitive statement of the Project's activities during its lifetime. It will also lay out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the Project's activities.

(f) Technical Reports (project specific- optional)

Technical Reports are detailed documents covering specific areas of analysis or scientific specializations within the overall project. As part of the Inception Report, the project team will prepare a draft Reports List, detailing the technical reports that are expected to be prepared on key areas of activity during the course of the Project, and tentative due dates. Where necessary this Reports List will be revised and updated, and included in subsequent APRs. Technical Reports may also be prepared by external consultants and should be comprehensive, specialized analyses of clearly defined areas of research within the framework of the project and its sites. These technical reports will represent, as appropriate, the project's substantive contribution to specific areas, and will be used in efforts to disseminate relevant information and best practices at local, national and international levels.

(g) Project Publications (project specific- optional)

Project Publications will form a key method of crystallizing and disseminating the results and achievements of the Project. These publications may be scientific or informational texts on the activities and achievements of the Project, in the form of journal articles, multimedia publications, etc. These publications can be based on Technical Reports, depending upon the relevance, scientific worth, etc. of these Reports, or may be summaries or compilations of a series of Technical Reports and other research. The project team will determine if any of the Technical Reports merit formal publication, and will also, in consultation with UNEP, UNEP-MAP, the government and other relevant stakeholder groups, plan and produce these Publications in a consistent and recognizable format. Any publications need prior clearance from UNEP and UNEP-MAP. Project resources will need to be defined and allocated for these activities as appropriate and in a manner commensurate with the project's budget. INFO/RAC will play a key role in the publication and dissemination of publications (see Component 4.2)

2. INDEPENDENT EVALUATION

The project will be subjected to at least two independent external evaluations as follows:-

(i) Mid-term Evaluation and Mid-Term Stocktaking Meeting

An independent Mid-Term Evaluation will be undertaken at the end of the second year of implementation. The Mid-Term Evaluation will determine progress being made towards the

achievement of outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization, terms of reference and timing of the mid-term evaluation will be decided after consultation between the parties to the project document. The Terms of Reference for this Mid-term evaluation will be prepared by UNEP Evaluation and Oversight Unit.

A mid-term stocktaking meeting will take place during the second or third year of the Strategic Partnership. It will be convened a few months prior to a Barcelona Convention COP. Participants will include: all Steering Committee members; representatives of the Executing Agencies, co-financing agencies and appropriate GEF focal areas; and the managers of all Investment Fund projects both ongoing and in preparation. The GEF Independent Office of Evaluation will also participate and present the independent mid-term evaluation of the project. The Regional Project and the Investment Fund will prepare and submit a consolidated progress report, describing the results achieved in the context of established indicators, and containing recommendations for any mid term project revisions. This meeting will provide an opportunity to bring project progress to the attention of the Barcelona Convention COP.

(ii) Final Evaluation

An independent Final Evaluation will take place three months prior to the end of the project, and will focus on the same issues as the mid-term evaluation. The final evaluation will also look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental goals. The Final Evaluation should also provide recommendations for follow-up activities. The Terms of Reference for this Mid-term evaluation will be prepared by UNEP-Evaluation and Oversight Unit in line with the GEF evaluation requirements.

Audit Clause

UNEP-MAP will provide UNEP with quarterly financial reports as well as certified annual financial statements with an audit of the financial statements relating to the status of UNEP (including GEF) funds according to the established procedures to be set out in the project document. The Audit will be conducted by the legally recognized auditor, or by a commercial auditor.

Table E-1: Indicative Monitoring and Evaluation Work Plan and corresponding budget

Activity/Reporting	Time/Frequency	Responsible Partner(s)	Budget USD[1]	
			GEF	Other
Inception Workshop	Within the first two months of project start up	PMU; co-executing agencies; SP Focal Points; UNEP/MAP, UNEP, UNIDO, FAO, GEF, WB	58,000	0
Inception report	Immediately following the IW/Steering Committee	PMU and all executing/co-executing agencies[2]	4,000	0
Measurement of initial baseline and means of verification for project indicators	Start, middle and end of the project	PMU and all executing/co-executing agencies	60,000	0
Project Implementation Plan	Project Commencement	PMU	0	15,000

[1] **Excluding Project team salaries**

[2] FAO, WWF, UNESCO UNIDO, SPA/RAC, PAP/RAC, CP/RAC, GWP-MED, MIO-ECSDE, METAP, UNEP-MAP MEDPOL

Activity/Reporting	Time/Frequency	Responsible Partner(s)	Budget USD[1]	
			GEF	Other
(PIP) review of work-plan, timetable and budget.		UNEP, UNIDO, FAO WB		
Annual Project Report (APR)	Annually	PMU, executing/co-executing agencies and WB	20,000	0
Project Implementation Review (PIR)	Annually	UNEP, UNIDO, FAO UNEP-MAP	20,000	0
Half-yearly Progress Reports (HPR) including activity and demonstration reports from each partner	Half-yearly	PMU, executing/co-executing agencies and WB	0	20,000
SP Steering Committee meetings and reports	Annually	PMU, SPSC, UNEP, UNIDO, FAO and WB	213,000	35,000
SP Co-ordination Group meetings and reports	Annually	PMU, SPCG and WB	0	160,000
Inter-agency (IA) meetings and reports	Annually	PMU; executing/co-executing agencies;	0	35,000
Periodic Thematic Reports, Technical Reports and Project publications	To be determined by the PMU, SPPSP, UNEP and co-executing agencies	Executing/co-executing agencies	0	38,000
SP Focal Point reports on country activities including minutes of inter-ministry committee meetings.	Annually	SP National Focal Points	0	0
Independent Mid-term Project Evaluation	Mid-point of project implementation phase	UNEP, UNIDO, FAO	30,000	0
Mid-Term Stocktaking meeting	Mid-point of project implementation phase	PMU, SPSC, UNEP, UNIDO, FAO and WB	0	71,000
Final Independent Project Evaluation	End of project implementation	UNEP, UNIDO, FAO	30,000	0
Terminal Report	At least one month prior to project termination	PMU, Executing/co-executing agencies, WB	20,000	0
Lessons learned	Annually	PMUExecuting/co-executing agencies, WB	15,000	0
Quarterly financial reports	Quarterly	UNEP-MAP	40,000	0
Audit	Annually	UNEP-MAP	40,000	0
TOTAL INDICATIVE COST Excluding project team staff time and UNEP staff and travel expenses			**550,000**	**374,000**

The following tables (Table E-2 to Table E-5) list the principal indicators showing improvements in Process and Stress Reduction relative to Project activities and deliverables. Process and Stress Reduction tables capture the primary indicators from the Log-Frame. Table E-2 presents the principal indicators for the overall Strategic Partnership (including RC and IF). Tables E-3 to E-5 lists the indicators for the Regional Component.

These tables and their indicators will be reviewed at the Inception stage and endorsed by the SPCG. Environmental status indicators, reflecting SAP targets and agreements, will also be identified, along with specific arrangements for their long-term monitoring beyond the lifespan of the project (with the support of MAP). Following endorsement, the PMU will develop a national monitoring template for Impact Measurement which directly relates to the requirements for IW indicator monitoring and this will be adopted and implemented within the first 6 months so as to allow monitoring to proceed at the

national level during or immediately after the Inception Phase. This will provide measured and verified date for the overall M&E plan which will confirm Project delivery and confirm successful achievement of IW Indicator targets in Process and Stress Reduction.

IW, BD, POPS AND LD PROCESS, STRESS REDUCTION AND ENVIRONMENTAL INDICATORS

Table E-2. Strategic Partnership Indicators

Process Indicators/Activity	Parameters measured	Target and Baseline[3]	Means of Verification	Responsible agency	Location of Action
Project Co-ordination and Management					
Establishment of a Strategic Partnership Project Steering Committee (SPPSC) to engage all key stakeholders involved in SAP-MED and SAP-BIO implementation	SPPSC established and functional	Target: Within the first three months of project implementation	Progress reports (HPR) Steering Committee Meeting Reports SP Focal Point reports	UNEP-MAP	Regional
Establishment of a Strategic Partnership Coordination Group	SPCG established and functional	Target: Within the first three months of project implementation	Progress reports (HPR) Steering Committee Meeting Reports	UNEP-MAP	Regional
Establishment of a Project Management Unit for the Regional Component of the Strategic Partnership	PMU established and functional	Target: Within the first month of project implementation	Inception report, HPR reports	UNEP-MAP	Regional
Identification and design of sub-projects under the Investment Fund component reflect systematic interactions within the context of the coordination mechanisms of the Regional Project component	No of IF projects based on SAP priorities No of IF projects that further activities of the RC	Target: All IF projects based on SAP priorities	Progress reports (HPR) Steering Committee Meeting Reports WB PPR reports	UNEP-MAP and WB	All countries
Replication/communication strategy					
Regional replication strategies designed and implemented for each Investment Fund sub-project	No of regional strategies designed No of projects replicated	Target: Min of 5 regional strategies for replication designed by year 5.	HPR reports PRT documents and reports	INFO-RAC and WB	Regional

[3] More detailed baseline data is also available in Annexes F, H, I, M and N

Process Indicators/Activity	Parameters measured	Target and Baseline[3]	Means of Verification	Responsible agency	Location of Action
At least 20 new potential replicable projects identified, including their funding mechanisms.	No of replicable projects developed and ready for implementation	Target: 20 replicable projects by year 5	APR, HPR, PIR reports SPSC, SPCG Meeting reports PRT documents and reports; PRP Assessment documents; PRP final documents.	INFO-RAC	Regional
Communication Strategy for the Strategic Partnership developed, improving access to, and sharing of, information, results and lessons learned with all key stakeholders informed of the project activities, and sharing of lessons learned	Positive feedback from stakeholders and national/international organizations informed of SP project activities and results. High level of access to web-site and requests for information through IW:LEARN	Target: All relevant stakeholders informed of project activities by year 2. Lessons learned disseminated to all national/international organizations by year 5	Leaflets, brochures, etc. Event reports Web site Campaign reports	INFO-RAC	All participating countries
Resource mobilization strategy/financing mechanism					
Financial Networking mechanism established linking international and regional financial institutions for NAP implementation and environmental investments	Partnerships established between Public and private sector for SAP and NAP implementation; Guidelines for Public sector investment planning and private sector participation prepared with Cooperation from private and public sectors	Target: Within the first 2 years Baseline: No current regional financing mechanism for SAP-MED and SAP-BIO implementation	Meeting reports; Adoption by MAP of the guidelines; HPR and activity reports	MEDPOL (and UNEP-GPA)	Regional
Long term Sustainability of Activities Beyond the Lifetime of the SP					
Long-term Barcelona Convention and MAP based public/private framework in place and operational meeting BC defined objectives for sustained LME management.	No of stakeholders informed of projects outcomes No of partnerships established No of environmental initiatives developed with private sector	Target: Strategic framework established within MAP before year 5 Baseline: There is currently no co-ordinated framework to ensure region wide collaboration of private/public sector	Reports of MAP Recommendations approved by the CoP of the Barcelona Convention	MAP and MEDPOL	Regional

Tables E-3 to E-5: Regional Component Indicators

Table E-3. Regional Level Process Indicators

Process Indicators/Activity	Parameters measured	Target and Baseline[4]	Means of Verification	Responsible agency	Location of Action
Regional legislation drafted and presented for adoption to the CoP					
Regional Action Plan on Coastal Aquifers	Action Plan drafted finalized with involvement of all countries and relevant stakeholders	Target: By year 5 Baseline: No regional plan exists	Adopted by CoP	UNESCO	Regional
Regional plan for eco-hydrogeological management, and land degradation mitigation and protection of priority coastal wetlands	Regional Plan drafted finalized with involvement of all countries and relevant stakeholders	Target: By year 5 Baseline: No regional plan exists	Adopted by CoP	UNESCO	Regional
Regional Action Plan for IWRM	Regional Action Plan formulated through participatory consultation with governments and stakeholders Regional High-Level Conference organized Regional Action Plan adopted and provides framework for concrete follow up action	Target: By year 5 Baseline: No common IWRM plan or guidelines for Mediterranean. Will be based on MSSD and Euro-Mediterranean Partnership	Regional Action Plan Reports of sub-regional consultations Proceedings of Regional Conference Dissemination material	GWP-MED	Regional
Newly established and/strengthened transboundary waters institutions including:					
Regional Coordinating unit for MPA management established and methodologies for MPA creation agreed	Institutional arrangements agreed and in place. Regional Coordinating unit functional and actively coordinating and monitoring project activities.	Target: Within the first year Baseline: Furthers the work undertaken by MEDPAN (2005-2007)	HPR reports	SPA-RAC and WWF-MeDPO	Regional

[4] More detailed baseline data is also available in Annexes F, H, I, M and N

Process Indicators/Activity	Parameters measured	Target and Baseline[4]	Means of Verification	Responsible agency	Location of Action
Tools/guidelines for improved management of MPAs developed and implemented	3 management tools developed and disseminated to managers, practitioners, relevant authorities and stakeholders Tools successfully applied in 2 MPA's; and their results widely disseminated	Target: 3 tools demonstrated in 2 MPA's (western and eastern Mediterranean) by year 5 Baseline: Limited management tools targeted for Mediterranean MPAs	HPR and activity reports A set of documents and management tools (3), available in three languages	SPA-RAC and WWF-MeDPO	Regional Demonstrated in 2 MPAs (to be defined)
MPA monitoring framework developed and accepted for implementation	Database established, including integrated indicators for MPA; guidance and methodology; The Rapid Assessment and Prioritization of Protected Areas Management method adapted to MPAs	Target: A monitoring scheme developed for the network of MPAs and implemented in at least one of the countries involved in the project by year 4 Baseline: No regional MPA monitoring framework existing	Activity and demonstration, meetings and workshop reports; Feasibility study report; Database; Training documents; Guidance and methodology document	SPA-RAC and WWF-MeDPO	Regional
Stakeholder participation:					
NGO Involvement Plan finalized, published and all stakeholders receive a copy early in project implementation	Positive feedback from NGO/CBO's regarding involvement in the project	Target: All relevant NGOs/CBOs receive a copy of the Involvement Plan by year 3 Baseline: Long history of stakeholder involvement in Mediterranean projects	Qualitative analysis on how effective NGO involvement has been - to be conducted at the end of the project; HPR reports; Activity reports	MIO-ECSDE and INFO-RAC	All participating countries

Table E-4. National Level Process Indicators

Process Indicators/Activity	Parameters Measured	Target and Baseline	Means of Verification	Responsible agency	Location of Action[5]
National/sub-regional legal/policy documents drafted/adopted based on identified policy gaps (for pollution reduction, MPA management and creation, EAF, ICZM, IWRM and management of aquifers and groundwater) including:					
A single legal governance approach to support the establishment and function of MPA's throughout the Mediterranean region, providing a framework for legislation development at national level	National legal and policy documents drafted for all 12 countries for the management of existing and creation of new MPA's	Target: Min of 12 legal and policy documents by year 4 Baseline: Inadequate[6]	Project reports and publications	SPA-RAC and WWF-MedPO	All participating countries
Ecosystem approach mainstreamed into fisheries management policies and activities	Number of sub-regional and national policy documents for EAF	Target: 4 sub-regional policy and management reforms drafted; 5 national policy and management reforms drafted by year 4 Baseline: Ecosystem approach is currently not mainstreamed into fisheries management policies and activities	National policy documents, regional EAF action plans under GFCM (regional), COPEMED, EastMed, AdriaMed and MedSudMed (sub-regional);	FAO/GFCM	Sub-regional and national
National policy documents for SAP-MED priorities: Management of phosphogypsum wastes (Lebanon and Tunisia), tannery effluents (Turkey), recycling of lubricating oil (Algeria) and lead batteries (Syria), PCB disposal (5 countries)	Number of review reports Number of new or revised policy documents	Target: 10 national policy documents drafted and in the process of adoption by year 5. Baseline: No national policy documents exist regarding these issues, which instead fall under the general national environmental law. Regarding lub-oil and lead batteries, they fall under the Basel Convention which all countries have ratified, but again there are no specific laws	Review reports on existing legal instruments New/revised legal and policy documents drafted and in the process of adoption.	MEDPOL	Lebanon, Tunisia, Turkey, Syria, Albania, Egypt and Libya

[5] Countries participating in project activities and demonstrations are given in Annex G, and are still to be confirmed
[6] See Annex N for full baseline analysis

Process Indicators/Activity	Parameters Measured	Target and Baseline	Means of Verification	Responsible agency	Location of Action[5]
Five countries with strengthened legislative and regulatory frameworks for the management of POPs;	No of revised legal, regulatory and administrative instruments No of documents/guidelines on ESM standards for PCB equipment	Target: Revised legal, regulatory and administrative instruments drafted and in the process of adoption by year 5 Baseline: All countries have ratified the Stockholm Convention. However, specific legal and institution arrangements for PCB management, handling, monitoring, phase out and disposal are inadequate or lacking	Review reports on existing legal instruments New/revised legal and policy documents drafted and in the process of adoption.	MEDPOL CP/RAC	Albania, Egypt, Lebanon, Libya, Syria
National legal and policy documents drafted and in process of adoption for ICZM in 4 selected countries with specific focus on the protection of the Mediterranean Sea Basin from bio-diversity loss and pollution from land-based sources	No of national legal and policy documents drafted and adopted No of national and local institutions' staff dealing with ICZM and IWRM trained on systemic inclusion of relevant issues in national policy framework for pollution reduction and biodiversity protection; No of newly adopted national policy documents on ICZM and IWRM in support of the implementation of SAP MED and SAP BIO;		Legal and policy documents, HPR reports	PAP-RAC GWP-MED UNESCO	Montenegro, Albania, Algeria and Lebanon
Stakeholder participation:					
Effective national inter-ministry coordination.	All countries have established inter-ministry committees	Target: Within the first 5 months	HPR Project Steering Committee Meeting Reports Focal Point reports	UNEP-MAP	All participating countries

Process Indicators/Activity	Parameters Measured	Target and Baseline	Means of Verification	Responsible agency	Location of Action[5]
Full stakeholder involvement in the preparation and implementation of all demonstrations	No of stakeholders participating in project demonstration design and implementation Results disseminated to all relevant stakeholders	Target: By year 5 Baseline: Stakeholder participation not always sufficient in past projects due to inadequate planning	Review reports Project documentation showing the extent of stakeholder participation in project committees and activities	MIO-ECSDE, UNEP-MAP (and all co-executing agencies)	All participating countries
GEF SGP projects address the environmental concerns of the SAP MED and SAP BIO	No of GEF SGP aligned with SAP and NAP priorities No of documented case studies from SPG projects identifying lessons	Target: By year 5 Baseline: GEF SGP has not included SAP priorities as part of their criteria in the past	GEF SGP Monitoring and evaluation Project reports Case study reports	MIO-ECSDE	Morocco, Tunisia, Egypt, Palestinian Authority, Lebanon, Syria, Turkey and Albania
Strengthened national institutions/application of new plans, tools, techniques and guidelines					
ICZM NAPs drafted through a participatory approach and adopted for minimum of 2 countries	The attendance of national high-level decision makers to the consultation meetings, workshop and conference on ICZM Strategy; Number of national ICZM Strategies endorsed by the Governments; Number of National Action Plans (NAPs) for Strategy implementation prepared; Number of ICZM Plans prepared in selected demonstration sites; ICZM demonstration projects implemented and results analyzed for their replication; Stakeholders involvement in demonstration areas	Target: By year 5 Baseline: Inadequate ICZM NAP for most countries[7]	Meeting and conference reports; Demo projects progress reports; Stakeholders Interactive participatory plan (IPP); Training courses materials and reports; Outline for national ICZM strategies and NAPs; ICARM Plan;	PAP/RAC	All countries NAPs for 2 countries

[7] Full baseline analysis is given in Annex I

Process Indicators/Activity	Parameters Measured	Target and Baseline	Means of Verification	Responsible agency	Location of Action[5]
ICZM Plans finalized for two areas	Final ICZM plans for two selected areas; Joint meetings and harmonization meetings organized; Two national workshops prepared and organized; workshop reference document prepared and disseminated.	Target: By year 5 Baseline: Inadequate[8]	Meeting reports; progress reports; ICZM Plan for a transboundary demo area of high environmental sensitivity; ICZM Plan for a wetland-marine area of high biodiversity value	PAP/RAC	2 selected areas Montenegro and Albania : Skadar (Alb.: Shkodra) lake - Bojana (Buna) river and estuary) Algeria (the Reghaia wetlands, lake and coastal area)
IWRM plans drafted for 2 countries	No of catalyzing multi-stakeholder workshops; No of training courses No of IWRM plans elaborated	Target: By year 5 Baseline: Only a very few countries have completed their national IWRM plans or their very close to and even attempt to gradually move in the implementation phase. Many countries are in the process of developing their national IWRM plans while a smaller group of countries are still in the very initial phase of preparation	Activity reports, Meeting reports; Training/Capacity building material; IWRM Roadmaps or related documents-	GWP-MED	2 countries

[8] Full baseline analysis is given in Annex I

Process Indicators/Activity	Parameters Measured	Target and Baseline	Means of Verification	Responsible agency	Location of Action[5]
IRBM plan for 2 water bodies prepared in parallel with ICZM and Coastal Aquifer	No of catalyzing multi-stakeholder workshops; No of training courses 2 IRBM plans	Target: IRBM plan for 2 water bodies (aprox. 350 km2) finalized by year 5 Baseline: Few adequate IRMB plans.	Activity reports, Meeting reports; IRBM plans; Project reports; Dissemination material	GWP-MED, UNESCO and PAP/RAC	Montenegro and Lebanon
Tools/guidelines for ICZM, IWRM and Aquifer management applied including COED, SEA, the ICARM approach, coastal aquifer and land management approaches developed and implemented at demonstration sites, and eco-hydrogeology applications for management and protection of coastal wetlands.	No of institutions adopting new tools; No of trained professionals on new tools; The attendance of national high-level decision-makers at the meetings; COED prepared in number of countries; CCA prepared in one of countries; ICZM approaches, tools and techniques demonstrated in selected countries; International	Target: Minimum of 24 ICZM/IWRM related institutions to adopt and apply new tools/guidelines developed for ICZM, IWRM and Aquifer management Baseline: Inadequate[9]	Meeting and conference reports; Demo projects progress reports; Stakeholders Interactive participatory plan (IPP); Training courses materials and reports; 2 sectoral COED assessments;	GWP-MED, UNESCO and PAP/RAC	All countries
Case study for harmonising national institutional arrangements and legislation with ICZM Protocol. 15 juridical practitioners trained on implications of national ratification of the Protocol	No of key stakeholders informed of ICZM protocol	Target: All coastal zone managers and 15 juridical practitioners informed about ICZM Protocol Baseline: None	Workshop report Case study	PAP/RAC	All countries

[9] Detailed baseline data in Annex I

Process Indicators/Activity	Parameters Measured	Target and Baseline	Means of Verification	Responsible agency	Location of Action[5]
Tools/guidelines for pollution reduction from land-based sources tools applied: ELV (and EQS), guidelines for pollution reduction (phosphogypsum wastes, tannery effluents, the recycling of lubricating oil and lead batteries) guidelines for marine litter management and plans of action for permitting, compliance and inspection systems.	No of institutions adopting new tools/techniques/guidelines; No of trained professionals; No of workshops and attendance	Target: By year 5 Baseline: Tools/guidelines introduced to countries that do not have appropriate tools/guidelines to assist in meeting SAP-MED targets	Pilot projects reports; Guidelines adopted; Training materials; reports of the workshops of national and regional experts in private and public sectors; Plans of action endorsed for the uniform approach to permit and inspection; ELV and EQS approved by national authorities;	MEDPOL, WHO-MED	All countries
Five countries with strengthened administrative capacity, including chemicals management administration within the central government	No of personnel of electrical companies trained in appropriate disposal of PCB's from electrical companies No of personnel trained on risk assessment and precautionary planning of phase out of contaminated service equipment Project management and steering group established	Target: By year 3 Baseline: To be identified	Training/workshop reports, training material; ToRs	MEDPOL CP/RAC	Albania, Egypt, Lebanon, Libya, Syria

Process Indicators/Activity	Parameters Measured	Target and Baseline	Means of Verification	Responsible agency	Location of Action[5]
Target enterprises implement integrated approaches to environmental management and national institutions have the competence to assess environmental management in industry	8 demonstrations enterprises in 4 countries adopt EST; No of staff trained in EST; Results disseminated to other enterprises and industrial associations (as well as to enterprises in the rest of the region)	Target: By year 5 Baseline: Few industries use Environmentally Sound Technology (EST); Capacity exists but it is not coordinated; Lack of awareness industry on the benefits of EST; National legislation regarding ESTs, BETs, and BATs is scarce.	Activity and workshop reports; Training material; Dissemination of results at and of project; Contact with target enterprises to verify ISO certification; Communication/Revisit the target enterprises to check production results and monitoring figures	UNIDO and CP/RAC	4 countries (Tunisia, Morocco, Lebanon, Egypt)
Tools/guidelines for the protection of biodiversity including: tools/guidelines for the management of MPA's, fisheries plans will be developed and implemented to integrate EAF and biodiversity conservation in the Fisheries Research Institutes and management organizations and implementation of a methodology for by-catch reduction.	No of institutions adopting new tools/techniques/guidelines; No of trained professionals; No of workshops and attendance	Target: Tools/guidelines applied in a min. of 20 relevant institutions Baseline: Institutional strengthening required for appropriate MPA management and adoption of EAF	Countries' reports, local workshops proceedings; Training sessions and material; A set of documents and management tools, available in three languages	FAO-GFCM, SPA-RAC and WWF	All countries
Approximately 31 demonstration projects resulting in direct improvement of 15% of identified hotspots and indirect benefits to 50% of all hot-spots (replication of demonstrations, policy, institutional, legal reforms and improved integrated management)	No of demonstrations No of demonstrations replicated No of hotspots directly improved	Target: By year 5 Baseline: 101 hot-spots identified in the TDA-MED	HPR reports Demonstration reports	All partners	All participating countries
Sustainable financing/investments					

Process Indicators/Activity	Parameters Measured	Target and Baseline	Means of Verification	Responsible agency	Location of Action[5]
Financial Strategies for sustainable financing of SAP-MED developed	Policy briefs; Toolkits	Target: By year 2 Baseline: No financial strategies defined for SAP-MED implementation except for within countries sectoral national plans	Policy briefs; "tool kits" and guidelines; Guidelines; Training documentation; Proposals implementing SAP priorities with funding mechanisms finalized	MEDPOL (and UNEP-GPA)	All participating countries
12 countries that receive support for strengthening PA systems to ensure their long-term sustainability	Financial mechanisms investigated and developed for at least 3 MPAs; Members of the network trained in MPAs business plan development; MPAs conservation financial mechanisms and the financial sustainability of the MPAs network assessed; N. of trainings, n. of participants to the trainings, assessments finalized, framework of Business Plan, guidance and methodology, implementation of the method	Target: By year 5 Baseline:	Trainings and training material (guidance and methodological documentation); A framework of business plan; A study report, technical recommendations and guidance; Business plan and feasibility study for Tunisia;	SPA-RAC and WWF-MedPO	All participating countries
Priority intervention and investment opportunities identified in approximately 15 shared water bodies	Assessment of 20 transboundary water bodies and concrete interventions and investments	Target: By year 5	Activity reports, Meeting reports; Local pre-feasibility assessments; Meetings reports;	GWP-MED	20 transboundary water bodies
Methodology for selection, implementation and sustainable financing of pilot ICZM projects drafted and distributed	A compendium containing lists of funding regulations, programmes and financial institutions in the region relevant to environmental and ICZM projects widely disseminated	Target: By year 5 Baseline: Majority of ICZM projects fail due to lack of sustainable financing	Compendium Progress reports Stakeholders IPP	PAP-RAC	All countries

Table E-5. Stress Reduction Indicators

Stress Reduction Indicators	Parameters Measured	Target and Baseline	Means of Verification	Responsible agency	Location of Action
ICZM, IWRM and Management of Aquifers					
Aquifers and Land degradation 20,000 hectares of land directly impacted by intervention for 6 countries (coastal urban, coastal plains/agriculture, and upper watersheds, to address LBS, coastal salinization, through coastal sedimentation and siltation, flooding, wetland sedimentation)	No of Management measures implemented in demo's adequate to address issues of pollution reduction, biodiversity conservation; No of institutions strengthened/implementing new tools/techniques; Area of land under improved management	Target: Total 20,000 hectares Sub-reg 1 N. African coast, Algeria, Morocco, Tunisia (sedimentary aquifers): coastal urban, coastal plains, upper watersheds/aquifer recharge areas: 10,000 hectares Sub-reg 2 Eastern Mediterranean Coast: Lebanon, Syria (karst aquifers): 6,000 hectares Sub-reg 3 Eastern Adriatic Coast: Croatia, Montenegro: 4,000 hectares Baseline: 20,000 km2 (2,000,000 ha) = aprox. 1% of total	Project progress reports; Demonstration reports; Project monitoring and evaluation reports;	UNESCO (in collaboration with PAP-RAC and GWP-MED)	Algeria, Morocco, Tunisia, Lebanon, Syria, Croatia and Montenegro
Aquifers and groundwater 300 Hectares of wetland under proper wetland management	Area of land under improved management; No of institutions strengthened/implementing new tools/techniques	Target: 300 Hectares of wetland by year 5	Project progress reports; Demonstration reports; Project monitoring and evaluation reports;	UNESCO (in collaboration with PAP-RAC and GWP-MED	Tunisia and Croatia
ICZM/IWRM 3 demonstrations resulting in 45,000 hectares of coastal zone managed through application of ICZM and IWRM	Area of land under improved management; No of institutions strengthened/implementing new tools/techniques	Target: Boka Kotorska Bay (Montenegro) - 150 km2, - Litani River (Lebanon) - 200 km2 - Reghaia - 100 km2 Baseline: 1.1 million km2 (110,000,000 hectares) = 0.04%	Project progress reports; Demonstration reports; Project monitoring and evaluation reports;	PAP-RAC, GWP-MED and UNESCO	Montenegro Lebanon

Stress Reduction Indicators	Parameters Measured	Target and Baseline	Means of Verification	Responsible agency	Location of Action
Pollution from land-based sources					
Min. of 1,03 tones of cadmium (Cd) from phosphogypsum wastes avoided in Lebanon	Quantity of phosphogypsum slurry released into the sea	Target: 50% reduction according to SAP in demonstration site Baseline: 2,06 tons/y of Cd.	+Industry register +National register +MAP reporting system	MEDPOL	Salaata, North Lebanon
Min. of 90,75 tones of mercury (Hg) from phosphogypsum wastes avoided in Lebanon	Quantity of phosphogypsum slurry released into the sea	Target: 50% reduction according to SAP in demonstration site Baseline: 181,5 tons/y of mercury	+Industry register +National register +MAP reporting system	MEDPOL	Sfax, Tunisia
Min. of 0,93 tones of lead (Pb) from phosphogypsum wastes avoided in Lebanon	Quantity of phosphogypsum slurry released into the sea	Target: 50% reduction according to SAP in demonstration site Baseline: 1,85 tons/y of lead	+Industry register +National register +MAP reporting system	MEDPOL	Sfax, Tunisia
Min. of 76,5 tones of Cr from tannery effluents avoided in Turkey	Loads of Cr released	Target: 50% reduction according to SAP in demonstration site Baseline: 153 tons/y	+Industry register +National register +MAP reporting system	MEDPOL	Buyuk Menderes, Izmir , Turkey
Min. of 1755 tones of BOD from tannery effluents avoided in Turkey	Loads of BOD released	Target: 50% reduction according to SAP in demonstration site Baseline:3510 tons/y	+Industry register +National register +MAP reporting system	MEDPOL	Buyuk Menderes, Izmir , Turkey
Min. of 525 tones of total nitrogen from tannery effluents avoided in Turkey	Loads of total nitrogen released	Target: 50% reduction according to SAP in demonstration site Baseline;1050 tons/y	+Industry register +National register +MAP reporting system	MEDPOL	Buyuk Menderes, Izmir , Turkey
Min. of 80.000 tones of lubricating oil recycled in Algeria	Quantity of Luboil collected	Target: 50% reduction or 80000 tons/y collected Baseline: 160.000 tons/y	+ national register +Number of new collection companies	MEDPOL	Algeria. National level
Min. of 150 tones of lead batteries recycled in Syria	Number of tons of batteries recycled	Target: 50% recycled Baseline: 300 tons/y	+ national register +Number of new collection companies	MEDPOL	Syria, Tartous and Lattakia Governorates
ESM of equipement, stocks and wastes containing or contaminated by PCBs in national electricity companies of Mediterranean countries					

Stress Reduction Indicators	Parameters Measured	Target and Baseline	Means of Verification	Responsible agency	Location of Action
1187 tones of PCB's removed and disposed, 100% reduction at the selected demonstrations sites in 5 countries	tons and cost per ton (per compound);	Target: 1187 tons of PCBs, 100% disposal at demonstration sites at a cost of 2500 US$ per ton (to be confirmed) Baseline: To be assessed fully during inception period Lebanon: 42 tons (100%) Albania: 280 tons (13%) Egypt: 280 tons Libya: 280 tons Syria: 280 tons (9%)	+ Number of authorizations	MEDPOL CP/RAC	Lebanon: national level Albania:Vlora Egypt: Mediterranean coast Libya: to be defined Syria: Coastal area
POPs phased-out from use	tons and cost per ton (per compound);	Target: To be identified during inception phase Baseline: To be assessed during inception phase		MEDPOL CP/RAC	Albania, Egypt, Lebanon, Libya, Syria
Transfer of Environmentally Sound Technology (TEST-MED)					
Water productivity at demonstration enterprises increased by 40%	Water productivity at demonstration enterprises	Target: Reduction of 40% at all demonstration enterprises by year 5 Baseline: To be identified	Demonstration reports	UNIDO and CP-RAC	8 demonstration enterprises in Tunisia, Morocco, Lebanon, Egypt
Reduction of pollution loads at the demonstration enterprises.	Total Hg and Cd (in biota and sediment); Nutrients, dissolved oxygen, chlorophyll-a, phytoplankton; BOD5, COD	Target: Aprox. 30% reduction in BOD and 50% in heavy metals by year 5, Baseline: To be identified	UNEP/MAP MEDPOL's monitoring programme reports and database[10]	UNIDO and CP-RAC	
Marine protected Areas and Sustainable fisheries					
By catch of iconic and vulnerable species reduced by 75 %	% by catch in the demonstration areas	Target: Reduction of 75% in by catch in the 2 demonstration areas (covering aprox. 2,000 ha) Baseline: Overall discard rate in the Mediterranean is 4.9%, but often is as high as 50% for areas that are trawled.	Demonstration reports	FAO/GFCM	Morocco and Turkey

[10] For more information see http://195.97.36.231/medpol/

Stress Reduction Indicators	Parameters Measured	Target and Baseline	Means of Verification	Responsible agency	Location of Action
Unsustainable fishing practices reduced by a minimum of 90 % at regionally prioritized sites in 7 countries covering 30,000 ha.	% reduction of fishing practices	Target: 90% reduction by year 5. Includes a SPAMIs, MPAs and one dolphin reserve. Baseline: Destructive fishing practices biggest threat to fisheries and biodiversity for many countries such as dynamite and poison fishing	Demonstration reports	FAO/GFCM	Morocco, Tunisia, Egypt, Libya, Turkey, Croatia, Algeria
Area under protection to be increased by 10%, from 9,732,600 hectares to 10,705,860 hectares	Area of MPA's	WDPA (September 2006) lists 287 MPAs for the Mediterranean, covering approx 982,000 hectares	Demonstration reports	SPA-RAC and WWF-MedPO	All countries
2 MPAs (covering approx 12 100 hectares) with managed appropriately	No of management tools developed and applied in demonstration areas	Target: By year 5 Baseline: Management of MPA's inadequate.	Demonstration reports	SPA-RAC and WWF-MedPO	Turkey and Algeria

Table E-6. Environmental/Water resources Status Indicators

Environmental/Water resources Status Indicators	Parameters Measured	Target and Baseline	Means of Verification	Responsible agency	Location of Action
To be further developed during the inception period of the project					

ANNEX F

DESCRIPTION OF COMPONENT ACTIVITIES, INCLUDING DEMONSTRATION AND RELEVANT SUPPORTING INFORMATION

Component 1: Integrated approaches for the implementation of the SAPs and NAPs: ICZM, IWRM and management of coastal aquifers

Sub-Component 1.1: Management of Coastal Aquifers and Groundwater

Implementing Agency

UNESCO/HP, United Nations Educational, Scientific and Cultural Organization/Hydrological Programme

Background/Context/Rationale

In the Southern, Eastern and Adriatic Mediterranean basins the surface watercourses are limited and the coastal aquifers dominate the discharges and contributions to the Mediterranean sub-basin water balance and related water transport of Land Base Source (LBS) contaminants into the marine and coastal waters. In this process the coastal aquifers control seawater intrusion and coastal salinization and support coastal fresh- and brackish water ecosystems and habitats for a rich biodiversity. The relatively high importance of coastal groundwater exchange with the coastal and marine water bodies is due to the semi-arid and arid climate in the southern and eastern sections, and on the other hand to the hydro-geological conditions and the predominance of karst aquifer systems along the entire Mediterranean coast (Figure 2). As a result a major share of the freshwater inflows into the Mediterranean Sea are in the form of groundwater discharges from large and dominantly non-renewable regional aquifer systems in the south, and from karst and local coastal aquifers, vulnerable to contamination and LBS transport into the coastal waters.

Land degradation, as a major concern along the Mediterranean coast, represents a principal source of LBS pollution of the coastal and marine waters. Coastal land degradation and pollution loads transported and deposited as coastal sedimentation represents a growing threat to coastal and marine biodiversity. Land conservation therefore, especially in upper watersheds in the coastal foothills, offer important opportunities to reduce LBS and silting up of coastal wetlands, and at the same time to enhance water resources to address the principal problem of coastal water shortage and drying up and loss of humid zones. The land linkage in integrated coastal land and water management approach could produce important synergies in support of sustainable ICZM. International environmental management, as provided under the Rio Conventions, CBD, CCC, CCD and other global instruments, recognizes the needs and provides for opportunities to work towards a common focus and develop synergies between the conventions in concrete projects at the national and local level where joint land and groundwater management, as the key feature of the coastal aquifer sub-component, represents significant opportunities to synergies between the Conventions (Figure 1). The approach under the sub-component, for the implementation of regional plans of action is focused reduction of increasing pollution and biodiversity loss from degradation of coastal land and water resources. This entails the supplement of the TDA-MED with groundwater and land related issues, and the introduction of sustainable coastal natural resources management, focused on land and groundwater resources management for synergies under SAP-MED and SAP-BIO.

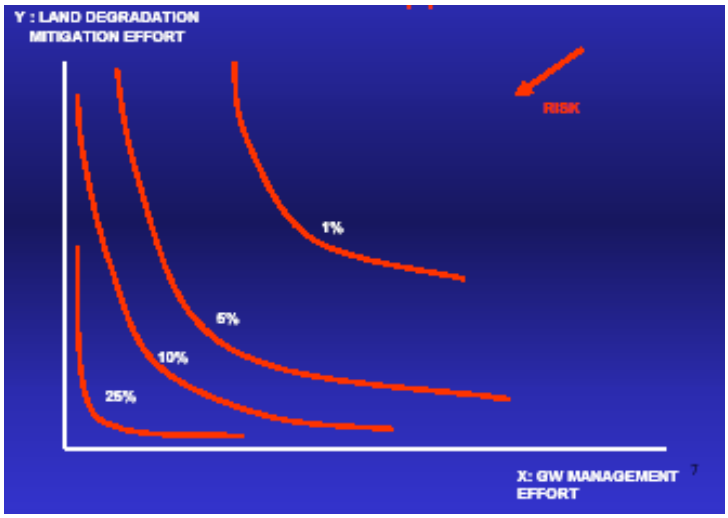


Figure 1: Joint land and groundwater management; synergies for reduced risk

The coastal aquifer systems constitute the hydrological interface between the marine and the terrestrial eco-systems with important environmental and social functions that are critical to sustainable coastal zone development and reduced coastal aquifer and land degradation. In the densely populated, rapidly developing and increasingly urbanized Mediterranean coastal zone, the coastal aquifers, with large subsurface storage volumes, represent a generally available and secure water supply. Water shortage, on immediate and longer term represents the common major concern along the Mediterranean coast, and with over-use and pollution the coastal aquifers are increasingly threatened by depletion and degradation driven from growing water demands, and impacts of climatic change and coastal drought. The adverse consequences include land degradation as soil degradation with coastal salinization and loss of land productivity and coastal wetlands and biodiversity. The need is for improved water demand management with appropriate water and land resource enhancement and rehabilitation with managed aquifer recharge and water re-use. There is the requirement to revert current trends of coastal land degradation, with soil erosion, salinization and sedimentation that contribute a substantial share of the growing flows of LBS contaminants transported into the sea. Seawater pollution represents one of the MPPI's and transboundary issues in the TDA-Med, and is addressed in the GPA and the LBS Protocol. Re-use of large and rapidly increasing volumes of urban wastewater, currently being discharged into the sea, represents a significant additional source to address the priority concern of coastal water shortage, and in the light of the current poor records and the limited prospects for large investments in wastewater management an alternative supplementary efficient approach with environmental and productivity benefits to reduce LBS pollution. In this perspective the rational of the sub-category is built on synergies from integrated approaches with the objective of sustainable coastal land and groundwater management, coastal land rehabilitation and waste water re-use towards zero-discharge waste discharges from point and diffuse LBS and mitigating coastal water shortage is a principal strategy under the development objectives for sustainable ICZM.

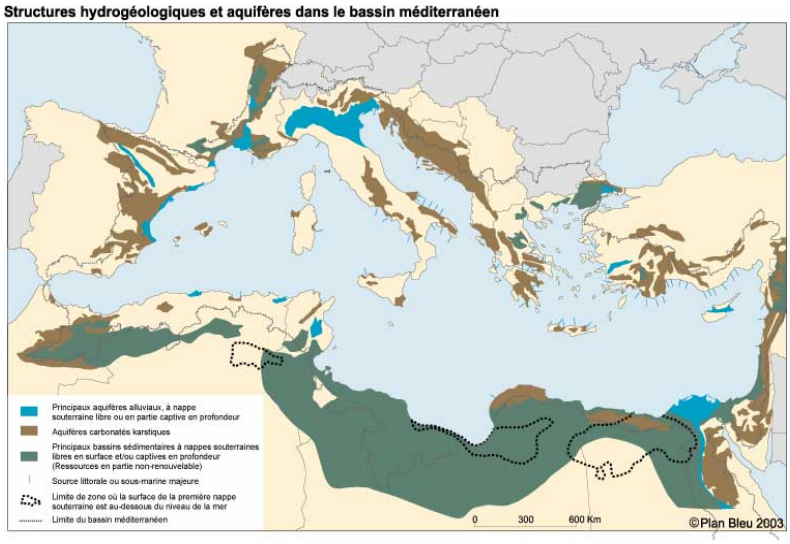
The coastal aquifers support large numbers with many listed coastal wetlands as habitats for coastal and marine biodiversity that include fresh and brackish water humid zones and coastal lagoons with listed habitats and threatened transboundary sites related to Mediterranean coastal and marine biodiversity that include internationally important landing sites for migrating birds. With depletion and degradation of the coastal aquifers and land degradation and sedimentation, groundwater dependent wetlands are drying up or degraded by salinization and sedimentation from accelerated land degradation changing sea and freshwater exchange in brackish wetlands and lagoons with consequent degradation and loss of coastal wetland ecosystems and biodiversity, wealth and well-being of coastal populations, and decline in increasingly demanded ecological services including climate and flood regulation and coastal water pollution reduction and denitrification. The trend for sustainable wetland protection is towards cross sectoral and eco-system approaches, focused on action

land and aquifer system management that consider the trade-offs between different and current and future ecosystem services.

Immediate opportunities and benefits include important synergies between joint groundwater and land management especially along the southern and eastern coasts through water watershed management, and land conservation in the foothills to secure recharge of coastal aquifers and control sedimentation and prevent seawater intrusion and coastal zone salinization. The land degradation and the coastal sedimentation have a variety of adverse impacts on the coastal ecosystems including habitats and ecological functions affecting fisheries reproduction, and water retention and purification including nutrient cycling. The threats from the impacts of land degradation include coastal wetlands, where different categories and specific wetlands are referred to in the reference wetlands mentioned in Supplementary information A; Hydrological management of coastal wetlands. Among the threatened coastal and marine habitats include generally present, and significantly transboundary sea grass bottoms, and also coral reefs that are highly vulnerable to sedimentation as the result of coastal land degradation and sedimentation. Other examples are coastal wetlands and brackish ponds and coastal lagoons that are being affected by coastal land degradation. Further options to address and reduce land related threats from non-sustainable practices, including irrigation and mono-culture in coastal agriculture, include coastal soil erosion control, identification and measures to prevent and reduce the flow of nutrient into the marine waters and growing coastal discharges of land-based source POPs and PCBs with pesticides and other agro-chemicals, especially in the coastal zones located in karstic areas with high vulnerability for pollution and contamination transport. An ultimate and cross-cutting option is to strengthen the capacity in agricultural land use planning. The above threats and options for action underline the importance to identify and address important OP-15, including coastal sedimentation, salinization, reduced purification and nutrient cycling, and loss of coastal wetlands, as well as OP-14 linkages with contamination transportation agents as sedimentation, infiltration and storm runoff. In particular there is need to support and strengthen the capacity on land management activities and to value conservation, sustainability and productivity benefits.

The activity on sustainable coastal management brings the focused and policy intervention on improved land management and sustainable land use options for land and water resources. The issues, with dry land degradation or desertification and degradation and salinization in the water scarce in the southern Mediterranean semi-arid coastal zones aid, and coastal land and water salinization driving accelerated coastal desertification are reflected in the SRAPs and to less extent the NAPs adopted by in the Mediterranean coastal sub-regions (e.g. Union of Magreb States (UMA) and a majority of the individual Mediterranean coastal states. The SRAPs offer the opportunity for coordination and synergy under the UNCCD process. For policy and investment intervention and demonstrations of sustainable land management, the focus is on coastal agriculture in particular coastal irrigation and catch cropping and aquaculture for nutrient cycling

The coastal ground waters and land resources are critical to coastal zone and coastal basin development. The aquifer resources cut across coastal zone development and, in sections with coastal rivers, river basin systems and ICZM and IWRM planning systems with opportunity to introduce application of groundwater parameters and enabling provisions under selected cases of joint ICZM and IWRM planning for synergies from collaboration with the project partners, IWRM (GWP-MED) and ICZM (PAP-RAC) under the project.



Description of activities, including demonstration and pilot projects

Within the **general objective to supplement and support the achievement of the targets established by SAP MED and SAP BIO**, the immediate objectives of the sub-category are to establish:

- Improved knowledge on the status of coastal aquifers and coastal land systems and their vulnerability and related risk,
- Scope, priorities and guidelines for regional action for integrated coastal aquifer and land management, for reduced LBS pollution and eutrophication, enhanced coastal water security and mitigation of coastal land degradation and salinization, for conservation of coastal ecosystems and biodiversity
- Legal, institutional and policy reforms for coastal aquifer management.

The activities under the sub-category are organized under three technical assistance components. The sub-category activities, with a total duration of 60 months, will be implemented over a total period of 4 years, coinciding with the first 4 years of the regional component project, with limited continuation into the 5th year for with consolidation, dissemination and follow up of the sub-category outcomes. The activities under the technical assistance components are supplemented with capacity and awareness building support targeted towards action and implementation.

Collaboration with the project partners
The activities under the aquifer subcategory, will be coordinated with related activities executed by other project partners, with legal, institutional and policy reforms exploring linkages with the regional protocols and policy instruments under the Barcelona Convention, coordinated with and feeding into related activities, in particular the ICZM and the IWRM components in collaboration with PAP/RAC and GWP-MED.

The activity on implementation of eco-hydrogeology applications for management and protection of coastal wetlands will be coordination with SPA/RAC on identification of coastal wetlands priorities and synergies for SAP-BIO implementation.

The collaboration with the project partners will be focused on joint capacity building programs, development of common planning parameters and enabling provisions and institutional arrangements, and reflected in the scope and locations of groundwater demonstrations.

Parallel GEF coastal groundwater projects
The coastal aquifer subcategory is linked to three current coastal groundwater GEF PDF-A projects, introducing groundwater into coastal zone development in LME, and SIDS systems:

- GEF/IW-UNEP: *Joint Management of Coastal Aquifer System of the Gulf of Guinea,* within the Guinea Current LME, for equitable management and use of the coastal aquifers system for sustainable development and protection of biodiversity and natural resources in the terrestrial and marine sections of the coastal zone.

GEF/IW-UNEP: *Management of Risks to Sustainability of Coastal Aquifers in the Caribbean SIDS,* to develop methodologies and capacity to manage the risks to coastal aquifer systems in support of sustainable SIDS development.

GEF/IW-UNDP: *Integration of Groundwater Issues into the TDA and SAP Action Programme for the Caspian Sea,* to supplement the Caspian Environment Program (CEP) in an updated SAP for, (a) integrated coastal groundwater management strategies into SAP (b) pilot response mitigation strategies frames, (c) demonstration of groundwater management strategies agreed under the TDA/SAP, and development of groundwater-related protocols to the Caspian Convention.

The project activities, 1.1.2.4 *Sustainable coastal land management,* and 1.1.2.5 *Eco-hydrogeology applications for management and protection of coastal wetlands,* are closely linked to coastal aquifer resources and both directed towards introduction and integration of cross-sectoral and ecosystem approaches, building on established methodology for SLM and biodiversity preservation to address two of the main concerns in the TDA-MED, as LBS coastal water pollution and eutrophication, and degradation and loss of groundwater dependent coastal wetlands and ecosystems, from coastal land degradation and sedimentation. Such integrated methodology will have global application in support of sustainable ICZM and biodiversity preservation for replication and enhanced implementation beyond the Mediterranean basin, under the above projects, and in other coastal and SIDS systems.

The land management activity, under OP-15 is introduced as a supplement under the TDA-MED to establish and draw upon the linkages under the OP-15 on policy, and legal and institutions including under the UNCCD and ICZM, with a priority attention to coastal land use, especially irrigated agriculture and the environmental and sustainability threats to the Mediterranean LME caused by non-sustainable land management and use practices. The immediate objective is to address negative impacts of land degradation to secure functions and integrity of coastal and also marine ecosystems through sustainable land management practices

1.1.1 Assessment of coastal aquifer risk and uncertainty and mapping of their vulnerability

The activity supports upfront assessment and dissemination of the main Mediterranean coastal aquifer systems and knowledge mapping of the information base for identification of related risk and uncertainty. Coastal aquifer risk and uncertainty are assessed based on commonly accepted and emerging concepts on regional risk and environmental security in the coastal zone, including aquifer vulnerability mapping, identification of seepage and submarine discharges into coastal and marine waters, land degradation and sedimentation with related transportation of LBS contaminants, and land and water salinization and coastal wetlands and sustainable socio-economic development and human well being. The component provides for vulnerability mapping of coastal aquifers representative for main aquifer categories in the sub-regions, in selected pilot countries in the Adriatic and the Southern Mediterranean coasts. Drawing upon the risks and uncertainty assessment and the vulnerability mapping, a coastal aquifer and land management supplement is developed and adopted as a supplement to the TDA-MED.

1.1.1.1 Assessment of risk and uncertainty related to Mediterranean coastal aquifers

The activity (consultant study; national and regional workshops) includes two steps: the preparation an updated inventory assessment of the coastal aquifer resources in the Mediterranean (see the

paragraph *Additional Information*) and the identification and concepts with assessment of main risks and uncertainties, related to coastal aquifer and land systems and wetlands and to ICZM with related transboundary issues (see the paragraph *Additional Information*).

The assessment will establish the significance of related social, economic and environmental attributes, objectives and goals related to coastal aquifer risk (e.g. saline intrusion and coastal zone salinization, coastal aquifer pollution and groundwater transport and discharges into coastal and marine waters of LBS contamination, loss of coastal ecosystems and wetlands etc.) and assess the causes with socio-economic drivers and pressures.

The assessment and adoption process includes:

(a) Review of the identified risk at national level and in the perspective of national attributes;
(b) Trade-off of country and alternative attributes; and
(c) Reconciliation of risks and uncertainties and aggregation of country diverting attributes into a regional consensus towards a common approach and framework on shared the risk and uncertainty.

1.1.1.2 Coastal aquifer vulnerability mapping: pilot project in one selected country

The coastal aquifers in the Mediterranean are subject to intensive exploitation in support of social and economic growth of the increasingly urbanized, densely populated and economically important coastal zone. This has resulted in increased groundwater and consequent land salinization, from salt-water intrusion in the coastal aquifers with loss of water and land resources with adverse environmental, social and economic impacts. The eastern coast of the Adriatic Sea and also the Levantine sub-basin are characterized by the karst hydrogeology with high infiltration and vulnerability, limited surface runoff, and high submarine groundwater discharges from karstic aquifers and springs. In these systems, anthropogenic contamination of groundwater resources can result in harmful impacts on the quality of the coastal environment and in transfer and seepage discharge of LBS contaminants into the coastal waters and the sea. In the perspective of these threats, Italian research teams have developed coordinated national programs to introduce and apply state-of-the-art technologies and tools to land management, definition of relationships and the interface between freshwater and seawater, the dynamics of salt water intrusion, with assessment and mapping of the vulnerability of the coastal aquifers.

The vulnerability mapping activity, focused on defining the management efforts for quality protection in the coastal aquifers, is based on assessed and mapped coastal aquifer vulnerability. The activity draws upon the unique Italian experience and applied methodology for coastal area management based on inventory, identification and mapping of aquifer vulnerability. A team of specialists from Italian universities will develop GIS based aquifer vulnerability maps as tools to invent and monitor the sources and the risks of LBS contamination of the coastal aquifers.

The objective of the activity is to transfer the above technology and knowledge to responsible institutions and establish sustainable and capacity to for autonomous prevention of aquifer pollution risks and degradation of the coastal and the marine environment, in the in countries Adriatic and the Southern Mediterranean basins.

The activity, involves a pilot project in one selected country, in a pre-selected sub-region, with the following outputs:

- Field assessment of coastal aquifers and the LBS pollution risks from groundwater flows to the sea;
- Development of local awareness on sea water intrusion;
- Preparation of computerized maps for selected areas of contamination sources, with classification of the vulnerability for sea water intrusion and contamination of the coastal ground waters;

- Establishment of a computerized management information system for management of the aquifers in the coastal zone, including GIS systems, for risk prevention based on databases and vulnerability maps.

1.1.1.3 Coastal aquifer supplement to TDA-MED: development of a coastal TDA supplement

The activity (national consultancy and one regional workshop) includes two steps based on the outcome of the risk and uncertainty assessment and the vulnerability mapping, a coastal TDA supplement to the substantial sections under major environmental concerns, legal and Institutional analysis and environmental quality objectives is developed and adopted in a regional workshop as a supplement to the TDA-MED.

1.1.2 Regional Action for Coastal Aquifer Management

The component aims at formulation and the development and initiated implementation in support of the objectives under TDA-MED, SAP-MED and SAP BIO, of a regional plan for regional and national actions of coastal groundwater and land management. The plan will identify priority issues and steps to identify, manage and protect coastal aquifers and related land systems with reference to the geographic, hydro-geological and environmental conditions of coastal ground waters, sustainable land management, including socio-economic issues and policy and strategies on groundwater and land management. The component will define integrated actions, including managed recharge and re-use for zero-disposal of waste into the marine water body, and land management and eco-hydrogeology applications for management and protection of coastal wetlands to control groundwater salinization and pollution (see the paragraph *Additional Information*) and coastal degradation (see the paragraph *Additional Information*), and consequent LBS transport through groundwater discharges and sedimentation into coastal and marine waters.

Groundwater storage and flows, and transport and discharges of LBS coastal pollution are critical to waters security and sustainable coastal zone and coastal basin development cutting across the ICZM and IWRM planning systems. Groundwater and land parameters for joint ICZM and IWRM planning at field level, in selected basins will be developed and applied in collaboration with the Sub-component 1.3 (IWRM/GWP) and Sub-component 1.2 (ICZM/PAP-RAC) under the project[1].

The approaches under the plan with up-to-date appropriate technology for regional action will be demonstrated in replicable coastal groundwater demonstrations at three sites (located in and representative for the eastern Adriatic coast (Croatia, Montenegro), North Africa (Tunisia) and the Levantine coast (Egypt or Lebanon) with integrated systems for waste managed aquifer recharge, agricultural waste water re-use and sustainable land management to mitigate coastal sedimentation and related coastal pollution land where priority options and opportunities (see the paragraph *Additional Information*), will be reviewed and selected for regional effectiveness and replicability and planned for implementation. The actions identified under the regional action plan will be added to and integrated as supplements under the SAP MED, the SAP BIO and the NAPs.

1.1.2.1 Development of a Regional Action Plan on Coastal Aquifers

The regional action plan on coastal aquifer and land management will organized as a common regional Mediterranean plan, with sub-regional plans for, (a) the Southern and Central basins, (b) the Levantine and Aegean Sea basins, and (c) the Eastern coast of the Adriatic Sea basin. The plan will define the actions to address aggregated coastal aquifer risk and uncertainty from adverse impacts as, (a) aquifer depletion, sea water intrusion and coastal zone salinization; (b) LBS aquifer pollution and contaminant transportation into coastal and marine water bodies, (c) coastal land degradation and desertification. The action plan will provide an integrated instrument towards the project objectives balancing social, economic and environmental attributes within the framework of actual, prospective future impacts on the coastal aquifers, in consideration of socio-economic drivers and pressures in

[1] Demonstrations proposed by PAP/RAC, and GWP-MED include the Litani river and the Boka Kotorska Bay, respectively.

particular agricultural water demands and use of agro-chemicals, trends of coastal urbanization, industrial development and growth in sea side tourism with the resulting groundwater overuse and pollution. The process of the plan development will include following steps:

(a) Preparation of draft sub-basin action plans including 3 sub-regional workshops and working meetings;
(b) Reconciliation into a common regional action plan in a regional Mediterranean workshop.

The activity will build on country participation mainly through the national IHP Committees, and the G-WADI network.

1.1.2.2 Integration of groundwater management in ICZM and IWRM planning systems

Groundwater flows and storage, and transport and discharges LBS coastal pollution are critical to coastal zone and coastal basin development and make part of ICZM and IWRM planning systems. Groundwater parameters for joint ICZM and IWRM planning at field level developed and applied in collaboration with IWRM and ICZM. The demonstrations will expose integrated management approaches and the synergies with environmental, social and productivity benefits and include a common Aquifer, IWRM and ICZM management demonstration jointly with GWP-MED and PAP/RAC in a selected river basin and coastal zones.

1.1.2.3 Identification and planning of coastal groundwater demonstrations

The activity will review and identify replicable priorities and opportunities for the coastal aquifer and land demonstrations including appropriate integrated management approaches for multi-environmental and social benefits, and identify three (3) representative sites, for replicable integrated groundwater demonstrations of methodology to address coastal pollution (see the paragraph *Additional Information*), and other threats and issues related to the coastal aquifer and land degradation, to demonstrate integrated approaches of zero-waste discharges into coastal waters, measures to address depletion and degradation and salinization of coastal aquifer salinization and eco-hydro-geological management and protection of coastal eco-systems and groundwater dependent wetlands. The activity is described further in Supplementary Information B (Table 1).

The three integrated demonstrations (see the paragraph *Additional Information)*, will be planned for representative coastal areas in the three sub-regions (1) the North African coast (Tunisia), (2) the Eastern Adriatic coast (Croatia and Montenegro); and (3) the Eastern Levantine coast (Lebanon or Egypt). In the light of the social diversities between the sub-regions, and the differences in karstic and sedimentary aquifer systems, the activity will be directed towards planning and pre-design, including capacity building and training programs and exchange and replication mechanisms.

1.1.2.4 Sustainable coastal land management

To ensure a sustainable coastal natural resource base with water and land management the activity on sustainable coastal land management is focused on land management objectives, with assessment of impacts of land degradation and related threats from non-sustainable agricultural and other coastal land use on the coastal and marine ecosystems priority issues, as loss of habitats and biodiversity as well as land and water productivity. In the semi-arid coastal sections the activity aims at coordinate and establish linkages between the SAP-MED and SAP-BIO and the Sub- regional Action Programme (SRAPs), notably for the Magreb and the Western Asia sub-regions, under the CCD process.

The SRAPs are directed towards two thematic network areas on (a) sustainable water resources management; and (b) sustainable management of the vegetation cover, with the control of deforestation, overgrazing, and non-sustainable agricultural land uses, as monoculture for food crop production. The SRAPS address the transboundary coastal ecosystems, especially the coastal plains.

One focus area is sustaining the water resources and hydrogeological conditions and control sedimentation of wetlands including groundwater recharge and flood control. This is essential to sustain a wide range environmental and production services of wetlands and reduce nutrient discharges and eutrophication. This includes nutrient recycling and conversion; filtering and trapping with efficient opportunities related to irrigation and waste water re-use and managed aquifer recharge. The activity will be coordinated with parallel activities under the component, especially eco-hydrogeology and planning of integrated demonstrations for synergies and pressure-reduction benefits in coastal dry lands, wetlands and fresh- and brackish water and marine ecosystems.

The activity provides for (a) an initial assessment of land degradation in the context of ICZM, and control of LBS pollution of coastal and sea waters; (b) identification and definition of option for action formulated in a regional guideline on coastal zone land management in the context of transboundary issues and priorities defined in the TDA-MED; The land degradation issues will be introduced as supplements under the TDA-MED with land management action under SAP-MED and SAP-BIO; and supplements under the ICZM Protocol; (c) policy and legal/institutional development of enabling capacity for coastal land management; (d) planning and initiation of three integrated coastal land management demonstrations, integrated with the coastal aquifer demonstrations, at selected coastal sites in each of at least the three Mediterranean sub-basins (North Africa, Eastern Adriatic coast). The coastal sustainable land management activity is cross-cutting, related to OP15, under the Mand Degradation Focal Area and foreseen to be financed entirely from co-financing sources. The implementation of this activity under Sub-Component 1.1 therefore depends on and is subject to the identification of the necessary funding from co-financing sources.

1.1.2.5 Implementation of eco-hydrogeology applications for management and protection of coastal wetlands

The activity supports the introduction and implementation of up-to-date technology for hydro-geological management and protection of listed and other coastal wetlands along the Mediterranean coast, as a strategic integrated option for action for conservation of the coastal aquifers and sensitive groundwater dependent ecosystems and habitats for coastal and marine biodiversity, provided for under the Ramsar Convention (i.e. in the Valencia Declaration 2002), in SAP BIO and in national conservation policies. The activity, executed in cooperation with the Spanish Geological Survey (IGME), builds on the experience from the recent comprehensive assessment, classification and management intervention for protection and restoration of (13) coastal wetlands in Spain. The activity involves four steps:

a. Hydro-geological pre-assessment of the Mediterranean coastal wetlands for groundwater dependence, with identification of current and potential threats, and the scope for hydrological management intervention;

b. Develop methodology and guidelines for hydro-geological management of coastal wetlands; with wetland typology and classification for genetic origin, morphology, as i.e. bays, deltas or coastal plains and fluvial activity and functions; assessment of hydro-geological conditions including associations with and recharge from nearby aquifers and the degree of interdependence with underlying and associated ground waters; related hydro-chemical characteristics and possible contamination threats;

c. Plan application of the methodology in representative selected priority Mediterranean coastal wetlands;

d. Develop a plan for action for eco-hydro-geological management and protection of priority coastal wetlands as supplement to SAP BIO (in coordination with SPA/RAC).

1.1.2.6 Coastal aquifer supplement to SAP MED, SAP BIO and NAPs

The activity, that includes synthesis and review study, sub-regional and regional workshops, will consolidate the results of the Activities 1.1.2.1 – 1.1.2.5 and develop the coastal groundwater and land management supplements to SAP MED, SAP BIO and NAPs.

1.1.3. Legal, institutional and policy reform for Coastal Aquifer Management

The activity supports a regional review and assessment of the existing policy frameworks with legal and institutional mechanisms at regional and domestic level for the implementation of coastal aquifer management and development. Policy gaps and requirements for policy, legal and institutional reform for coastal aquifer management will be identified, assessed and considered for provisions under the regional MED protocols (ICZM, LBS and Biodiversity protocols), or as an independent protocol on coastal groundwater and land management, and in the policy instruments and supplementary provisions to SAP MED, SAP BIO and NAPs (developed under Activity 1.1.2.6).

1. *Policy/legal/institutional regional assessment for coastal aquifer management*

The activity includes assessment of existing water resources and environmental policy with legal and institutional frames regarding coastal aquifer and groundwater and related environmental management, and the capacity and current gaps to addressing related risk and uncertainties. (a) At the domestic level in the project countries, and (b) in related international instruments, regional protocols under the Barcelona Convention and in the regional strategic policy instruments. It involves two sequential but partly parallel steps:

a. Assessment of existing legal and institutional frames regarding groundwater management in the 12 Mediterranean countries (Albania, Algeria, Bosnia and Herzegovina, Croatia, Egypt, Lebanon, Libya, Morocco, Montenegro, Syria, Tunisia, and Turkey), related protocols (ICZM, LBS and Biodiversity) under the Barcelona Convention and strategic policy instruments (SAP-MED, SAP-BIO). Attention will be given to coordination and integration of the ICZM and IWRM frameworks at regional and domestic level.

   At the national level
   - Review of current national water policy, including socio-economic and development factors with agricultural and urban use;
   - Assessment and review of current existing water laws (with GW provisions in such laws), specific regulations on GW management, environmental laws and regulations, and extract and analyse the principles and specific provisions regarding GW, and regarding coastal aquifers if any, according to a common thematic scheme to be elaborated and adopted for the analysis of the domestic provisions in the project countries;
   - Assessment of the institutions in charge of GW management and GW related environmental management of their functions and responsibilities;

   At the regional/bilateral level
   - Assessment of international regional and bilateral agreements/MOU/conventions that include management/protection provisions on groundwater and GW and GWD systems (etc)
   - Analysis of the specific provisions on GW, and on coastal aquifers if any;
   - Assessment of regional and bilateral institutions.

b. Building on the result from step a, assessment of the requirements and the provisions regarding the coastal aquifers in international instruments, the Barcelona Convention, and related protocols and regional policy instruments. Identify and conclude on issues, gaps and required action for legal and policy reform at regional and national level.

2. *Policy/legal/institutional reform, institutional development for coastal aquifer management*

The activity, which includes national meetings and regional workshop, provides for development and implementation of policy and legal and institutional reform with establishment of regional and sub-regional consultation mechanisms for harmonized action on coastal aquifer management.

Expected Results
The outcomes expected under the Sub-category are:

1.1.1. Improved knowledge on the status of coastal aquifers, their vulnerabilities and related risks.

Risks and uncertainties on coastal aquifers, with linkages and impacts from and on coastal land, and LBS pollution transportation to coastal and marine waters assessed and accepted.
Vulnerability of coastal aquifers implemented in selected countries and for representative and applicable hydrogeological conditions and aquifer systems along the Mediterranean coast,
Coastal aquifer supplement to the TDA-MED developed and adopted,

1.1.2. Regional Actions for Coastal Aquifer Management;

- Regional action plan on coastal aquifer management developed and agreed, including,
- Integrating coastal groundwater under ICZM and IWRM demonstrations;
- Identification and programs for groundwater demonstration projects,
- Sustainable coastal land management introduced and used as strategy for LBS pollution reduction, land and water resources productivity enhancement, mitigation of coastal salinization and conservation of coastal and marine ecosystems wetlands, within the scope of ICZM.

Introduction of sustainable coastal natural, land and water, resources management with:
- Strengthened capacity for improved sustainable land management planning,
- Strengthened policy, regulatory, and economic incentive framework for adoption of sustainable practices for preservation of the structure and functional integrity of ecosystems, and improved productivity of land, and

. Established linkages and coordinated action with global, regional and national action plans under UNCCD.

- Hydrogeological management approaches of coastal wetlands introduced. Classification and methodology for hydrogeological management of coastal wetlands tested in selected wetlands, and adopted for region-wide implementation,
- Coastal aquifer options for action introduced and adopted as supplements under SAP MED and SAP BIO and NAPs;

1.1.3. Legal, institutional and policy reforms for Coastal Aquifer Management.

- Policy/legal/institutional mechanisms for coastal aquifer management at regional and domestic level assessed for gaps and strengthening.
- Consultation mechanism for integrated coastal aquifer management, addressing land development and related threats to Mediterranean LME ecosystems, including coastal, marine biodiversity and habitats, sustainable land and water productivity and protection, developed and adopted at technical regional and domestic level.
- Establish linkages and operational provisions with other environmental instruments including CCD, CBD, and CCC.

Risk and Sustainability

Project risks under the Sub-Component 1.1 and its implementation are related to political and policy, socio-economic and institutional factors, with governance capacity and coordination and integration constraints. The main risk is limited inclusiveness and country participation in the implementation of the developed methodologies and approaches. Other risks relate to limited awareness and recognition of groundwater as a critical natural resource, and attitudes and limited attention and capacity to manage and protect groundwater resources resulting in uncontrolled extractions driven by growing water demands, and degradation from salinization and quality degradation from surface and human-induced pollution. Other risk is related to obstacles to integrated cross-sectoral and eco-system approaches due to sector-based attitudes and interests in established water and land using sectors and

urban water and sanitation industries, such as agriculture and traditional and vested interest in water supplies and waste water disposal. The risks are further impaired from social constraints and reluctance to adjust domestic agricultural water use and food security policy. However with changing national attitudes and policies and inter-regional initiatives including the European Neighbourhood Policy, groundwater resources management and environmental protection are come at the focus as priority strategy for sustainable regional and national development in particular in the economically important and fast growing coastal zones, and coastal aquifer management has become a mainstream issue expected to attract political attention and the commitment. In conclusion the political and policy, institutional, and integration risks at regional and domestic level can be expected to be balanced by the motivation and government commitment to the critical issues of water resource security and coastal zone development.

Other risks, as well as institutional challenges under the project is the integration of a groundwater as a fresh water resource administrated under water resources administrations, under regional or zone based development institutions responsible for the coastal development and coastal water bodies. The issue is addressed under the activities under sub-category and coastal aquifers are reflected in the draft *MAP draft Protocol on the integrated management of Mediterranean coastal zones* and the sectoral integration is also under the Inter-ministerial Coordination Function provided under the regional project to strengthen coordination of the implementation of SAP MED and SAP BIO at country level. The risk of limited coordination between regional and country and replication of methodologies and approaches is addressed through three homogeneous and manageable 4-country sub-regional groups.

The sustainability of the project outcome is secured through awareness and capacity building programmes under the sub-category and the opportunities to link up and integrate the coastal aquifer activities, in relation to immediate common and transboundary issues that include coastal water shortage, land degradation and desertification and sea water pollution to the programs in parallel water resources, regional development and inter-regional trade programs and ecological conservation initiatives in the Mediterranean. A vision of zero-waste-discharge based on integrated groundwater and land management and efficient re-use of growing flows of waste water from coastal urban areas would represent a common driver for reduced common risk in the Mediterranean coastal zone.

Linkages with other programmes and initiatives

Parallel GEF coastal groundwater projects

The coastal aquifer subcategory is linked to three current coastal groundwater GEF PDF-A projects, introducing groundwater into coastal zone development in LME, and SIDS systems:

- GEF/IW-UNEP: *Joint Management of Coastal Aquifer System of the Gulf of Guinea,* within the Guinea Current LME, for equitable management and use of the coastal aquifers system for sustainable development and protection of biodiversity and natural resources in the terrestrial and marine sections of the coastal zone.

- GEF/IW-UNEP: *Management of Risks to Sustainability of Coastal Aquifers in the Caribbean SIDS,* to develop methodologies and capacity to manage the risks to coastal aquifer systems in support of sustainable SIDS development.

- GEF/IW-UNDP: *Integration of Groundwater Issues into the TDA and SAP Action Programme for the Caspian Sea,* to supplement the Caspian Environment Program (CEP) in an updated SAP for, (a) integrated coastal groundwater management strategies into SAP (b) pilot response mitigation strategies frames, (c) demonstration of groundwater management strategies agreed under the TDA/SAP, and development of groundwater-related protocols to the Caspian Convention.

- The project activities, *Sustainable coastal land management,* and *Eco-hydrogeology applications for management and protection of coastal wetlands,* are closely linked to coastal

aquifer resources and both directed towards introduction and integration of cross-sectoral and ecosystem approaches, building on established methodology for SLM and biodiversity preservation to address two of the main concerns in the TDA-MED, as LBS coastal water pollution and eutrophication, and degradation and loss of groundwater dependent coastal wetlands and ecosystems, from coastal land degradation and sedimentation. Such integrated methodology will have global application in support of sustainable ICZM and biodiversity preservation for replication and enhanced implementation beyond the Mediterranean basin, under the above projects, and in other coastal and SIDS systems.

Stakeholder involvement

Together with the regular contacts and coordination mechanisms under MED/MAP, and the entire regional project, the sub-category, in particular, will involve the participation of the following groups of stakeholders:

- The governments of the (12) project countries, with the water resources-irrigation, environmental and agricultural ministries/ authorities at national level,
- City- municipal and coastal development authorities,
- Groundwater users, including irrigation/water users associations, municipalities, industries and tourism development groups, in public and private sectors,
- Sub-category implementation partners: IGRAC, IGME, INWEB, Technical University of Turin with Italian University Team of Hydrogeologists.
- UNESCO, and UNESCO –ISARM and UNESCO/IHP partners: FAO, IAEA, ECE, ESCWA, ESA,
- International institutions and environmental convention secretariats and networks (e.g. Ramsar Secretariats, MED-WEB)
- International and regional water resources /groundwater professional organizations, associations and networks; IHP international and regional networks/National IHP committees; IAH; national water resources professional associations
- Regional and sub-regional institutions and UN Economic Commissions (ECE, ESCWA, ECA)
- Regional and national scientific and research centres, (e.g. CEDARE, OSS, ACSAD),
- UNESCO centres, and UNESCO Chairs, National Universities academic institutions,
- EU regional cooperative partnership initiatives and water programs (e.g. ENP, EUWI, Petersburg and Athens process etc.), with cooperating Mediterranean and European Governments (i.e. Greece, Germany)
- Multi- and bilateral donors, and international and regional development banks

Table: Analysis of Stakeholders

Stakeholder Groups	Problems/needs	Expectations	Drawbacks	Potentials	Consequences for sub-category
National Governments groundwater, agricultural, environmental officials and experts	Limited public resources, focused on immediate, social-economic water demands necessities and equity; top-down non-integrated /coordinated, project and budget-driven, national policy attributes and development programs (e.g. national food security) . In appropriate incentives and uncontrolled groundwater development Limited	Coordinated and integrated action. Improved data collection and management. Access to modern, appropriate affordable technology (e.g. for re-use and managed aquifer recharge)	Firm Sectoral positions and barriers. Limited resources, incentives and motivation.	Devoted and well educated human capacity Policy and structural adjustment and adaptation in the MEDA and Balkan countries driven by Europe and ENP	Involvement, enabling capacity and support of national officials and expertise. Priority to: introduction and demonstration of modern, appropriate and affordable technology. Strengthen and regional exchange and harmonization of water resources/ groundwater

Stakeholder Groups	Problems/needs	Expectations	Drawbacks	Potentials	Consequences for sub-category
	inter-country consultation and exchange at sectoral and professional level.				governance mechanism
Groundwater users: Farmers, Municipalities , Industries, Sea side Tourism entities	The groundwater use sectors in the coastal zone including the environmental uses, are exhausting and depleting the coastal water resources. As a result and without effective governance and control and monitoring, extraction of coastal groundwater's is rapidly growing, with over-use and consequent rapid depletion, salinization, surface based groundwater pollution. The immediate and long term problem is the gaps in the regional cooperation to jointly address these threats common to the Mediterranean coastal economies. .	Efficient low risk drought secure water supply and production Water supply and sanitation for socio-economic development	Rural related poverty; capital scarcity; Unbalanced water production and water costs/prices with inadequate water pricing. Traditional sewage treatment un affordable with the consequent of rapid development of city-urban water supplies without sanitation.	Increased managed aquifer recharge and re-use driven by: water scarcity, aquifer degradation and salinization, increasingly limited availability and high water values and costs to agriculture, large city water supplies, constraining coastal urban and tourism development;	
Regional, Sub regional representatives	Limited regional cooperation in the MEDA and the Balkan Countries	Establishment of regional-sub-regional water and environmental cooperation sectors	Low level of regional/sub-regional policy and governance interventions	Expanding regional and sub-regional cooperation and functions in the MEDA and the Balkan	The envisaged consultation mechanisms need to be based on common regional functions and assigned to and hosted by regional and sub-regional institutions

Supplementary information

A. **Hydro-geological management of coastal wetlands**
B. **Demonstrations of integrated coastal aquifer and land management approaches**
C. **Description of Demonstration areas**

A. HYDROLOGICAL MANAGEMENT OF GROUNDWATER DEPENDENT COASTAL WETLANDS

1.- Introduction.

The Mediterranean Basin is rich in groundwater dependent ecosystems (GDE) with coastal and terrestrial wetlands, of high ecological and socio-economic values. The wetlands, many of which are

protected areas, support habitats for rich and varied biodiversity and a wide range of ecological functions. The GDE include coastal wetlands that range from onshore marshlands including a number of landing sites for migrating birds, to brackish coastal marches, lagoons, and coastal sea grass bottoms, and marine areas with submarine groundwater discharges that are related to marine fisheries. The specific categories include coastal karst aquifers include highly specific and vulnerable GD ecosystems and some threatened coastal wetlands represent UNESCO historic sites (e.g. the Ichkul national park, Tunisia, linked to the sea with as Roman canal systems). Many of these wetlands are however drying up, becoming salinised, and polluted are becoming increasingly groundwater dependent and eutrophisized with consequent decline in the hydrogeological functioning, and loss in ecological values. The main impacts that affect to these coastal ecosystems are: intensive groundwater exploitation, waste water spilling, chanalizations, and urban areas. As a consequence of these impacts, many of these wetlands have been modified and its current behavior have severely changed versus its no-perturbed behavior under natural conditions. In order to manage these wetlands properly, it is needed to design an action strategy that allow to get with success to the best option for the wetland conservation.

This action strategy is defined by a series of steps: To define the genetic classification of the wetland as an essential base of work. This implies to define the geological sites and geological characterization of the wetland as a basis to know the hydrological component of input and output waters that define the hydrological budget of the system. This quantitative component has a relevant importance in the current and future conservation strategy of the system. The analyses may be completed with geochemical characterization of surface waters and groundwater's involved in the wetland functioning. The following step would be to define the water uses in the area in order to define the pressures and impacts that affect directly the quality and quantity of water that should fed the system.

2. Genetical characterisation.

The hydrogeological component of the coastal wetland is essential in order to define the quantitative volumes involved in the wetland conservation. The quality of waters involved in the system will affect also the ecological conditions of the ecosystem. Both aspects may be studied through a methodology applied by the Geological Survey of Spain (IGME) to the Spanish Ramsar sites (IGME, 2003). The elements considered in this characterization are shown in figure 1. This figure shows the following aspects:

a) Geological characterisation of the wetland according to its geographical location.
b) Groundwater-fed coastal wetland character. This aspect is determined according to the permanence of water into the wetland and its hydrogeological functioning.
c) Hydrochemical characterisation of wetland water. This aspects defined the salinity of the waters involved into the wetland functioning. The water salinity will be a condition for the flora and fauna living in and surrounding the wetland. This characterisation is done according to five ranges: fresh water, few mineralised (< 750 mg/l), fresh water relatively mineralised (750-1,500 mg/l), brackish water (1,500-3,000 mg/l), saline water (3,000-35,000 mg/l) and hypersaline water (>35,000 mg/l).

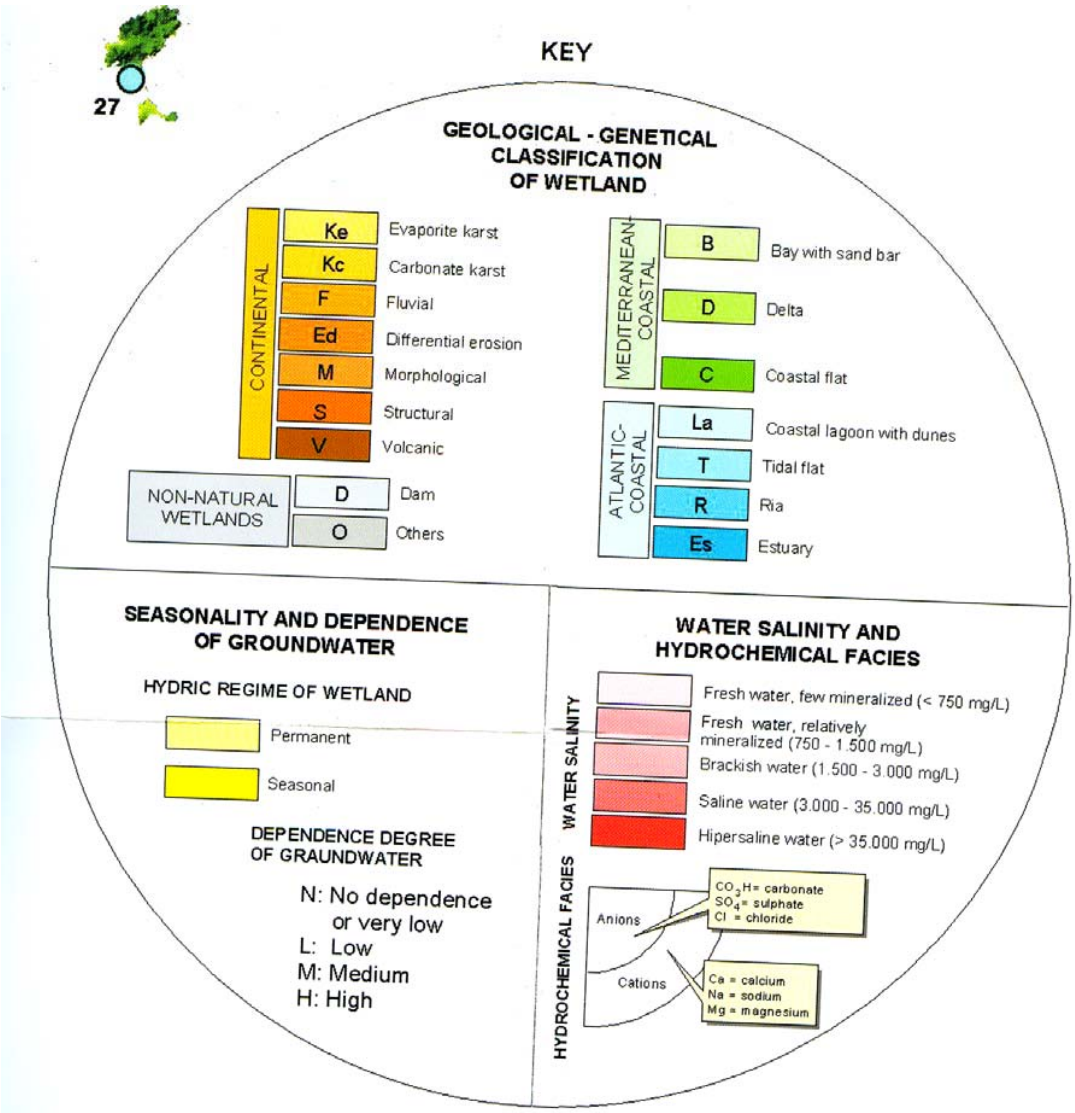


Figure 1.- Geological- genetical classification of wetlands (IGME, 2003).

3.- Hydrogeological management of coastal wetlands.

Once the hydrogeological characterization has been done, the best way to manage the wetland is to define the current status of the wetland and possible scenarios of management through hydrogeological simulation. The results obtained will allow to choose priority scenarios with more successful for wetland conservation according to the current pressures and impacts affecting the system and future threats.

The following are examples of action for implementation and possible pilot studies and demonstrations. These depend on and relate to the actual issues and conditions as illustrated from the following from the investigations and management interventions on the coastal wetlands in Spain:

- **typical on-the-ground management interventions,**

- Rehabilitation of coastal wetlands that have been drained (tidal marshes in the Cadiz Bay, Spain).
- Removal of tourist or industrial constructions: Salt marsh of Guardias Viejas, Almería).
- Silting of wetland-beds in wetlands that have been reclaimed into irrigation areas:
- Minerals extraction: Padul wetland (Granada, Spain).
- Alteration of hydrological regime as consequence of intensive groundwater pumping for irrigation: Fuente de Piedra (Málaga, Spain).

- **possible pilot coastal wetlands (representative for different wetland categories, such as protected listed areas/wetlands with high ecological/economic/amenity (e.g. Parc National IchKeul, Tunisia) and conservation values:**
-

- Albufera de Valencia (Valencia, Spain). It is a Ramsar site wetland. High ecological value and cultural and historical associated values to the region history. It is a groundwater-fed wetland with high dependence of groundwater discharges.
- Cabo de Gata-Níjar (Spain): Biosphere Reserve (MaB Programme/UNESCO) and Ramsar site. It is a low groundwater-fed wetland with magnesium chloride waters.
- Salinas de Santa Pola: Ramsar Site. It is a low groundwater-fed wetland with sodium chloride waters.
- Salinas de la Mata-Torrevieja. Ramsar site. It is a low groundwater-fed wetland with sodium-magnesium chloride waters.
- Marjal de Pego-Oliva: Ramsar site. It is a high groundwater-fed wetland with sodium chloride waters.
- Aiguamolls del Emporda: Ramsar site. It is a high groundwater-fed wetland with sodium chloride waters.
- Prat de Cabanes-Torreblanca: Ramsar site. It is a high groundwater-fed wetland with sodium chloride waters.
- Ebro Delta: Ramsar site. It is a high groundwater-fed wetland with sodium chloride-sulphuried waters. High ecological value and also cultural, scientific and economic value.
- Albufera de Adra. Ramsar site. It is a high groundwater-fed wetland with sodium chloride waters.

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VULNERABILITY MAPPING ACTIVITY[2] ASSOCIATED TO HYDROGEOLOGICAL CHARACTERIZATION OF COASTAL WETLANDS.

The vulnerability mapping is frequently referred to vulnerability to pollution. This concept is ordinary defined as susceptibility of an aquifer (its groundwater) to be polluted by human activities. Some techniques associated to Geographical Information Systems have been developed (Adams and Foster, 1992; Robins *et al.*, 1994; Vrba and Zaporozec, 1994; Hötzl, 1996; Maxe and Johansson, 1998). Also different methods to do vulnerability mapping have been proposed: DRASTIC (Aller *et al*., 1987), GOD (Foster, 1987); AVI (Van Stempvoort *et al.*, 1992), SINTACS (Civita, 1994), ISIS (Civita and De Ragibus, 1995), SEEPAGE (Navulur and Engel, 1997); REKA (Malik and Svasta, 1999).

These methods have been applied mainly in detritic aquifers. The cartography mapping to pollution in karstic aquifers is less developed due to the heterogeneity of these kind of aquifers and its hydrogeological complexity.

The main methods applied in vulnerability mapping to pollution may be classified according to three basic categories (Vrba and Zaporozec, 1994): methods of simulation, statistical methods and

[2] Vulnerability mapping for the eco-hydrogelogical objectives under the coastal wetlands activity will be closely coordinated with and draw upon the result of the coastal aquifer vulnerability mapping activity, I/2.

index and overlapping. The last one, implies a qualitative determination of vulnerability and consist of applying some criteria previously defined for each kind of vulnerability according to hydrogeological characteristics.

Main methods of vulnerability mapping.-

1/ DRASTIC Method. (Aller *et al.*, 1987). It has been applied mainly in USA, although also in other places as Spain. It uses seven parameters: depth water, net recharge, media aquifer, soil media, topography, impact of the vadose zone media, hydraulic conductivity of the aquifer. Each parameter has several intervals, some such as D and T with a high range of variation, meanwhile the weighing factors vary between 1 and 5. This method differs five classes of vulnerability: very low, low, media, high and very high.

2/ SINTACS Method. (Civita, 1994). This methods considers seven parameters: depth pf piezometric level, efficient infiltration, effect of autodepuration of non saturated zone, type of layer, hydrogeological characteristics of the aquifer, hydraulic conductivity of the aquifer, slope of topographic surface.

This method is basically an adaptation of DRASTIC Method developed in order to be applied to Mediterranean aquifers, with modifications made in all those aspects referred to punctuation and weighting factors. This method establishes six kinds of vulnerability, the same of DRASTIC plus the class of extreme vulnerability, that complicate the possible use of the resulting map.

3/ GOD Method. (Foster, 1987). This method use three variable to assess vulnerability: Groundwater occurrence, overall aquifer class and depth to groundwater. The index obtained may varied between 0 and 1 and five classes of vulnerability are established.

4/ AVI Method. (Van Stempvoort *et al.*, 1992). Its name responses to the initials: Aquifer Vulnerability Index. This method uses just two variable establishing a numerical relation between them. The used parameters are: width of the sedimentary layer and hydraulic conductivity. Whereas the other cited methods define ranges, this method calculate the vulnerability index through a mathematical expression.

5/ EPIK Method. (Doerfliger, 1996). It was developed to be applied to karstic aquifers. It uses four parameters: epikarst, protection cover, infiltration condition and karst network development. The final index EPIK, named protection factor is obtained through a mathematical expression. The punctuation of each parameter varies between 1 and 4, meanwhile the weighting factors vary between 1 and 3. Four vulnerability classes are established pending on the protection factor.

6/ COP Method. (Vías *et al.*, 2002, 2006). This meted uses three parameters: Overlying layers, flow Concentration and Precipitation. The 0 factor depends on the natural capacity of protection that the aquifer has to pollution, due to the soil and lithology of non saturated zone. The factor C depends on the surface conditions that control water flows towards zones of rapid infiltration. The index COP is obtained through the product of these three parameters: C*O*P

The values obtained vary between o and 10. The values close to 0 means minimum protection (or maximum vulnerability) and values close to 10 mean maxima protection (or minimum vulnerability) of the aquifer to pollution.

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B. Demonstrations of integrated coastal aquifer and land management approaches

Table 1. Demonstrations of integrated coastal aquifer and land management approaches

OBJECTIVES	BASELINE	DEMO ACTIVITIES Planning / capacity building of:	CROSS- BENEFITS related to:			
			(1) Reduced LBS	(2) CWR	(3) SCML	(4) Wetlands, ecosystems
(1) Reduced LBS Bacteriological, BOD, nutrients, salt	Individual national sectoral investments in WWT– Limited implementation low efficiency, loss of CFWR	Alternative re-use, zero-waste discharge systems;: Optimal (minimum) WWT systems / processes for reuse GW recharge, wetland support etc. Water quality standards Assess sea water quality and coastal eutrophication benefits Identification of replication potential and coastal sites	Working towards zero-waste discharge. Introduce reuse directed WWT technology for zero-discharge, affordability with effective implementation of LBS reduction. Capacity on technology and cross-sectoral system management.	Additional supply and enhancement of CFWR to meet regional increasing demands. Additional source for GW recharge for annual and long term flow regulation, salinization control	Additional water source for land conservation and productive land use, afforestation and coastal riparian nutrient control and catch cropping	Support wetlands with permanent re-use supplies: Control of contamination and eutrophication
(2) CWR	Domestic GW management and development	MAR, control salinization and sea water intrusion, Irrigation and other reuse systems, drought security, CC adaptation	Control GW transported LBS from coastal agriculture,	Enhanced CWR to address critical coastal water shortage and meet increasing demands	MAR and GW management to address coastal land degradation and salinization	Conservation of humidity and water quality in GDEs
(3) SCML	Coastal erosion and salinization and inappropriate land use resulting in land and water resources loss of productive natural resources, LBS pollution	Watershed (foot hill) management, GW recharge, land rehabilitation/ renovation, sedimentation, salinization contamination and nutrition discharge control, Irrigation reuse - soil nutrition systems management	Appropriate land use and conservation for riparian control of sedimentation and related LBS pollution	Additional supplies; water harvesting and coastal aquifer recharge, MAR in coastal foothills, irrigation areas etc	Sustainable coastal land management; including upper watershed, and coastal plains for urban and agricultural uses	Reduced coastal wetland sedimentation and salinization; sustainable land management and use for wetland conservation.
(4) Wetlands, ecosystems	Continued loss with reclamation, depletion, drying up and contamination of wetlands; loss of ecosystems, GW recharge zones;	Classification, GW management, nutrient absorption ; on-the-ground management intervention/action	Wetland capacity to reduce sediment, nutrient and other LBS pollutant flows to the sea	Conservation of groundwater recharge areas and landscape greening for improved micro-climate	Reduced erosion, and salinization, and desertification and sand dune intrusion by retention of humid zones	Sustainable management of coastal GWD wetlands and ecosystems,; conservation of coastal and marine biodiversity; protected areas

CFWR: Coastal fresh water resources; SCML: Sustainable Coastal land management; WWT; wastewater treatment;
MAR: Managed Aquifer recharge; GDE: groundwater dependent ecosystem

C. Description of Demonstration areas

Reghaia Project Demo Area

The Reghaia coastal area and basin consist of a Ramsar listed coastal wetland of regional importance for biodiversity including as a migrating bird landing site, the Reghaia lake, a closed basin that is adversely affected from municipal waste water pollution from the Reghaia Town at some 4 km distant form the coast. The existing Reghaia sewage treatment plant is not functional and as a result municipal waste is discharged into the lake and ultimately into the coastal waters. Moreover the lake waters are heavily used for irrigation with the threat of depletion of the lake water body and the coastal aquifer. At the same time and beyond the scale of this potential coastal SPA, at the wider scale the Reghaia basin makes part of the larger Mitidja aquifer contiguous and interacting with the Algerian coastline. The Mitidja aquifer basin is heavily used for agriculture municipal supplies and is threatened by over-abstraction and pollution and subject to consequent coastal sea water intrusion and salinization, and ultimately pollution of the coastal and waters.

In this situation the Algerian Government has recognized the importance of waste water reuse , where the sewage discharges will amount to one billion Cu m in 2020, and initiated steps, with a pilot project in the Reghaia Basin for Managed Artificial Recharge (MAR) of the coastal aquifers and agricultural municipal waste water reuse in the Mitidja aquifer system.

UNESCO/IHP under the "Water Programme for Africa", supported by Italy is currently implementing a technical assistance project on: "Integrated Basin Management System for agricultural Waste water reuse (Système Intègrè de Gestion du Bassin pour la réutilisation des Eaux usées pour l'Agriculture). The Reghaia Lake pilot basin project is focused on coordination of the participating domestic ministries, local institutions and water users. The groundwater demonstration is focused on coastal water quality management and will consider, draw upon, and incorporate the result listed below, of the above project into the ICZM management planning systems:

- Improved knowledge base on the pollution sources and their impact on the surface and groundwater quality;
- Integrated water quality and also quantity management planning in the Reghaia Lake basin coastal aquifer system;
- Evaluation of management and technological options;
- Proposal of appropriate guidelines on municipal reuse in agriculture; including economic evaluation and financial institutional arrangements;
- Roles and coordination frameworks for the concernes domestic institution sna sectors;

Transboundary demonstration area at Boka Kotorska (Montenegro)

General description of the coast

The Government of Montenegro undertook in the late 90s a process of assessing the current coastal management situation in the country in order to ensure appropriate mid to long term planning for its most rapidly developing narrow zone right on the coastline. The Montenegrin coast stretches over 90 km in a straight line, between Croatia and Albania. Entire length of the coast including small islands is 300 km. The coast occupies a narrow land strip sharply separated from the rest of the country by a high mountain range parallel to nearly the entire length of the shoreline.

The coastal region consists of 6 municipalities and their settlements. Three municipalities - Herceg Novi (235 km^2), Kotor (335 km^2) and Tivat (46 km^2) are settled in Boka Kotorska Bay. The Bay is a rare fjord-like geomorphological feature (by shape but not morphogenesis).

Physical and ecological conditions

Mediterranean climate prevails in the Bay, characterised by long, hot and dry summers and relatively mild and rainy winters. While the coast records very high quantity of precipitation, it experiences

unfavourable seasonal oscillations. In addition, rain water penetrates quickly into the soil and is evacuated by underground water karst networks. The water balance is therefore problematic since it is when water is needed the most by vegetation and tourists, that it is least available. The coast is made of large karst aquifer in which several ground water tables are found. However, the groundwater regime is still not fully understood, especially for karst aquifers.

Boka Kotorska physical oceanographic conditions are typical of very low energy environments and they vary within the different embayments. They depend upon exposure to wind and inflow from surrounding surface and submarine freshwater outlets. Erosion processes are a widespread occurrence along the coast, especially in areas of soft flysch rocks. These processes cause damage to productive land and undermine various structures, such as agriculture terraces.

Due to rapid urbanisation and development of different industrial, commercial and tourist sites, beach equilibrium conditions are disturbed. Coastline retreat is noticed in several beaches. Coastal erosion affects especially flysch and sandy beaches.

Given still relatively contained development of Boka Kotorska, especially in its immediate hinterland, the habitat and biodiversity of the area is of high ecological and landscape value. Ecosystems are distributed in mosaics, especially in the coast hinterland: more than 120 species of plants, about 55 species of invertebrates, about 30 species of amphibians and reptiles, more than 220 species of birds, and more than 37 species of mammals are registered.

Water resources offer multiple potential uses in the coastal region, such as drinking water supply and thermo-mineral springs. The majority of consumption is for domestic use, tourism accounting for slightly less than a quarter and industry twice as less as tourism. At present available quantities of underground waters much exceed existing needs. This means that any long-term water supply strategy will rely exclusively on underground waters. Nevertheless, good quality water supply to coastal settlements remains a critical issue. Among limiting natural factors are salt intrusion in some springs in the coastal karst zone and long distance from large springs to settlements. This is exacerbated by poor quality drinking water supply networks. Kotor and Tivat are municipalities in Boka Kotorska Bay that will have to look for new water resources despite some recent improvements in water supply. A co-operation between Montenegro and Croatia regarding efficient water resources management in the area is much needed.

Human uses and activities

As a result of rural migration for the north region of Montenegro to the central and coastal region, population growth in coastal municipalities since 1991 has been 8% which is twice the national population growth. Southern region of Montenegro, which includes coastal area, accounts for 31,5% of the national GDP. The unemployment rate was 22% in 2004. Poverty remains a critical issue with 10,9 of population living in absolute material poverty (<3.50€/d).

The most economically valuable agriculture land in Montenegro is in the coastal region and is progressively lost to real-estate speculation. 1 ha of land on the coast is worth some 3 ha in any other part of the country. Tourism-related agriculture may not be sufficient for maintaining production at a year-round economically viable level.

The internal market for marine fish is rather shallow because of the low level of domestic consumption (1 kg/pers/year). Some over 200 boats operate in Boka Kotorska up to 80m depth on the open sea. Current status of fishery catches is unclear due to the lack of relevant fishery statistics over the last 15 years despite the legal obligation to produce catch records. Illegal fishing is still a regular practice. Marine fishing and mariculture are overlooked activities in the country despite significant economic potential.

Industries in the area are few although quite diversified. The largest industry is shipbuilding, with two shipyards in Bijela-Herceg Novi and Tivat. Ship-repair activities generate an export income of more than 15 million $ per year. Boka Kotorska has a control role in the country's maritime economy, with

diversified activities in the ports of Kotor, Zelenika and Risan as well as in shipyards in Tivat and Bijela. A major negative impact to maritime industry was the loss of country's complete commercial fleet (40 ships). There is at present only one maritime company in Montenegro, Barska plovidba.

Tourism is the main economic activity in Montenegro, currently accounting for 14.8% of GDP. Tourists are especially attracted to Boka Kotorska area because of its rich cultural heritage and unique landscape. The area has some 20.000 beds for exclusive vacation, cultural and recreational tourism. Beach tourism (bathing) is a dominant type of tourism. A strong international Blue Flag beaches campaign is currently going on. Major international tourism investors are still waiting for a consolidation of investment conditions.

Spatial and Urban Development

Spatial Plan of the Republic of Montenegro is the main reference document for urban and spatial development, giving the framework orientation for development of the coastal region. The Coastal Area Spatial Plan, soon to be adopted by the Parliament, provides key orientations for priority development zones along the coast. Preliminary National Coastal Management Strategy: Diagnosis prepared in 2005 took stock of coastal zone characteristics and potentials. The document recognised 7 coastal areas and produced relevant SWOT analysis. Boka Kotorska figures as separate coastal area, divided in two sectors. Relevant stakes for the area have been identified.

The analysis for tourism development are done in Master plan for tourism development from 2001. Being aware of the importance to harmonize defined measures and proposals with principles of sustainability, its revision is initiated following UNWTO directions and will be finalized in 2007.

During the 1990s coastal management was given its most elaborated administrative and legal framework: the Coastal Zone Act was adopted and the Coastal Zone Management Agency (Morsko Dobro) was established in 1992. The coastal zone was given a legal delimitation and Morsko Dobro was given control under the zone. The key mandate of the Agency is to "enlarge the protions of the coast that can be used for different economic and other activities such as managed beaches for tourism and new infrastructure". Morsko Dobro also monitors beach erosion since 2004 with the help of the Centre for marine and coastal engineering "Adriatic", based in Kotor. The institutions collect data to establish beach profiles to give evidence of sediment transport and evaluate beach erosion. However, the management of the marine side of the coast is much neglected and overlooked.

Montenegro has not yet fulfilled its obligation to prepare a national Biodiversity Strategy and Action Plan. In expecting this document to be done, SAP/BIO National reports provides main orientations for coastal and marine biodiversity protection in facing with growing interest of foreign investitures for real estates in coastal area in Montenegro what causes loosing of the valuable agriculture land and biodiversity reach zones. There are no National Parks on the coast proper despite high biodiversity in some coastal areas. Many areas of natural, cultural and landscape value still have to be legally protected. Monitoring capacity on accidental or voluntary introduction of alien species and their actual impact should be enhanced.

Boka Kotorska Bay endangered marine and coastal area

The Boka Kotorska Bay enters in the land at 15 nautical miles and it is directly linked with open seawaters of South Adriatic. Boka Kotorska Bay is complex and is composed of external (Herceg Novi Bay), middle (Tivat Bay) and internal (Risan-Morinj and Kotor-Dobrota Bay) part. External and middle parts are linked with Kumbor neck, and middle and internal, with Verige neck, 340 m wide.

Internal part of the Bay is precipitous, with narrow coastal zone. External part of the Bay is lower, with more lower ground (Tivat, Mrcevo and Grbalj field and valley Sutorina). There the coast is wider, up to 10km. Precipitous mountain ranges of the internal part of with the highest quantity of the precipitation in the Europe, Crkvine, with average year sediment sum of 4.623 mm. Thanks to the mainly karst ground, permanent currents almost don’t exist, so the atmospheric water, except of the surface runoff, discharge by the underground way, cracked and compressed groundwater and springs

on the sea bottom, among which is this Bay, mostly its internal part known. Fluvial-graphic regime temporary significantly influence the decrease of water salinity in internal part of the bay. Except this natural factor on the sea environment decisive influence have the human activities: communal waste waters, shipyards, distribution of petroleum derivates.

Adriatic shipyard Bijela includes around 350 km2 of sea area. The length of the operative coast is 1.200 m. It has a possibility for ship repairing up to 120.000 t portability, like and servicing of the ship engines, turbines, regulators etc. The shipyard has two tugboats of 450 KS and 250 KS and necessary infrastructure: trafostation, aqueducts network, tank for used oil, storages, workshops etc.

The consumption of the water in the Shipyard is around 136.800 m3/year. During 2003. year in technological procedure is produced the following quantity of the waste: 8.000 t (waste in the process of rifling of old paint from the ships), 1.000 t of old iron, 5.000 t of oiled water from the ships, 200 t of the mud from the ships, 150 t of grease waters. Oiled waters, mud and grease waters are disposed into separator station PP "Hemosan" from Bar, from where is transported out of the country. Scrap iron is sold. “Grit” from 13 treatment of ships is disposed on the local non-covered waste dump. It is not a rare occasion that about remont of the ships, ballast waters, fuel and grease, oiled waters are uncontrolled and non-allowed discharge into the sea. Other waste: gum, glass, paper, wood, concrete, plastic, isolation material, is disposed on the local waste disposal.

“Grit” contents the large amount of heavy metals (Cr, Zn, B and other), than PAH. Ground on the local disposal of the grit is because of that contaminated by the heavy metals (Pb, Cr, Ni, Zn, B) and PAH. By the emission from the Shipyard, is contaminated by the heavy metals, mineral oils and PAH, the sub sea and the sea living world in the vicinity (sediment and shells). Shipyard occupy the main part of the coast of the settlement Bijela.

Metal industry "Daido" is placed into industrial zone of Kotor in Grbalj field. The basic technological process is the galvanic processing of the metal. The industry has ownself, bordered, temporary disposal for the liquid and solid waste, from where is done its transfer. Consumption of the water is around 12.000 m3/year. In its technological work produce the highly toxical waste. Galvanic mud which production is 700 l for month, contents heavy metals Sn, Pb, Cu, Fe and resin. It is postponed in the barrels, placed into ensured disposal. There is produced around 5.000 kg for month.

Degradation of sea water is evident in Boka Kotorska Bay, then near Shipyard in Bijela and Tivat. In tourist season along the coast the changes of the sea water quality have been identified because of the influence of the organic substances, nutrients and fecal bacteria from non-refined communal waste waters, which are discharged directly in the sea. This is the most serious problem, and its solution is primary priority on the coast. In coastal sea are evident alohton species, like alga *Caulerpa racemosa,* Near Budva and in Boka Bay identified, for which removing some basic activities are undertaken (Institute for marine biology from Kotor).

A key environmental issue on the coast remains construction of appropriate sea outfalls. Out of 75 major outfalls along the coast of Montenegro, only 10 have suitable length offshore. Elsewhere sewage is discharged directly to the sea. This is especially the case in Boka Kotorska where the bathing water quality has shifted in last several years from "very good" to "good". The long-term aim is to provide all settlements along the Boka Kotorska Bay with piped sewerage by the year 2028 with sewage treated and discharged into the sea in an environmentally acceptable way. Eutrophication is evident in the inner bays of Boka Kotorska (phytoplankton bloom in Kotor and Risan Bays) while the middle bay (Tivat City beach and Igalo-Topla in Herceg Novi) is under threat.

Master plan for drainage and refining of the waste water of Montenegro coast and municipality Cetinje and Master plan for solid waste management in Montenegro set out the priority for waste management at national level including the coastal area as the priority one in respect to tourism development as the leading vector of national economy.

Both of these documents recognized the Boka Kotorska as the " very sensitive waters" where is necessary to reduce the quantity of the nutrients influence. Because of such a sensitiveness of the

coastal water of the Boka Bay even the small settlements will be connected on the sewerage network.

For the municipalities Kotor, Tivat and Budva are done the intermunicipality provisory sanitary landfill on the locality Lovanja, in vicinity of the main traffic road Budva-Tivat and runway for the airport Tivat. The landfill is built in 2004. year. Surrounding ground is protected with impermeable ground and foil. Waste is filled into formed cells and comprised, and then covers with the ground. The leak out is collected and then is lead away.

All these define this area as the one of special care where appropriate measures of sustainable integrated management must be applied on. National Strategy on Sustainable Development and the draft of National Strategy for Integrated Coastal Zone Management define this area as the high sensitivity zone where urgent action is needed. This is specially important taking into account the fact that medieval architecture and numerous monuments of cultural heritage have made Kotor an UNESCO listed “World Natural and Historical Heritage Site". Old town of Kotor is at the list of UNESCO World Culture Heritage since 1979. Such the unique town with extraordinary valuable Bay in its surrounding does not belong only to national treasure but the entire Adriatic and Mediterranean. This classified the Boka Kotorska area as the priority one in the framework of the Strategic Partnership for Mediterranean large Marine ecosystem.

For the purpose of the pilot phase of the Project for integrated management of the Transboundary demonstration area at Boka Kotorska, the following measures should be realized:

A) Preparation of the Management Plan for Tivatska Solila

Institutions devoted to management of existing and proposed protected areas on Coastal zone are missing as well as separate Management plans for each of them. Protected Areas are poorly managed without any Management Plan. Inventories for each particular Protected Area should be innovated and completed.

Adequate model of Management Plan is missing for pilot Protected Area that can be replicated on other sites. PE Coastal Zone Management Agency and other institutions is faced with the problem.

Tivat Saltpans is already recognized in SAP/BIO National report as the pilot site for introduction of adequate Management Plan Model. This is valuable coastal wetland area placed in a very attractive zone for tourism development. In such a situation local population rather decides for economic valorization of this area then to save it out of building activities. The alternative plan must be offered enough attractive to raise awareness of the local population on the importance of the protection of the rare biodiversity of the Saltpans offering the possibilities for economic valorization of such a worth biodiversity area at the same time. Although this is specific area with special and attractive surrounding, some similar experience can be used on.

The experiences and results achieved in this area can be disseminated to all relevant stakeholders and used in creation of the management plans for other locations at Montenegrin coast. As the results of the pilot phase:

- A Feasibility study for protected area Tivatska Saltpans is prepared,
- A draft new management plan (in accordance with the IUCN recommendations) is prepared.
- The managers of protected area are developed and put in place.
- Training for managers of protected area and other stakeholders are realized.

B) Tourism development in the coastal region calls for significant changes in the space, thus creating ever higher pressures on the coastline. The development of new tourism facilities creates the need for the construction and remodelling of the coast in order to create more beach space. Together with **urbanisation**, which apart from inevitable planned expansion of towns also involves a great deal of unplanned (illegal) construction, the uncontrolled development of tourism and increase of beach areas

are the key causes of coast devastation, disturbance of landscapes and the change of natural characteristics which all threaten habitats, biodiversity and natural balance in general.

On the other hand, the natural coast is the most attractive environment for tourists. Preservation of its features and appearance is therefore a precondition not only for the preservation of natural balance but also for the long-term tourism development. The *Tourism Master Plan* for the coastal region envisages 100,000 hotel beds and a total number of more than 200,000 beds in all the types of tourist facilities by the year 2020. The spatial planning documents also envisage a significant increase of tourist capacities, the increase of beach space and the development of nautical tourism facilities in the area of *morsko dobro*. The adequate control of pressures from tourism development and urbanisation is one of the main challenges in the process of implementing these plans.

Although the SPSPAMD will mitigate pressures from unplanned development in the area of *morsko dobro*, provide for quality development of tourism and nautical facilities and to a large extent provide for the protection of natural landscape and ecologically valuable areas, it is necessary to emphasise that tourism development plans and spatial plans regulating the use of space and development orientation of the coastal region have not yet been subjected to "sustainability tests", neither through the carrying capacity assessments (i.e. the assessment of the capacity of an area to receive a certain number of visitors) nor through strategic environmental assessment (SEA). The application of these and similar mechanisms (including a good quality environmental impact assessment at the project level) is a key priority in further development and implementation of planning documents and in development decision making in the coastal region.

The revision of the Master plan for tourism development is under way in order to harmonize it with the principles of sustainable development contained in UNWTO directions. In parallel with this carrying capacity assessment is going to be realized for northern part of Montenegro under UNDP coordination. Taking into account the growing pressure of the investments in south part of Montenegro the similar activities should be realized in this region as the indicator of the capacities of this area for sustainable development.

Boka Kotorska Bay which presents the national and world treasure is the most attractive area for foreign investments. Because of that our responsibility to create its sustainable future is bigger. **CC assessment of this area should result with establishment of this instrument as the necessary one in realization of all the future tourism activities**.. In such a way direct contribution for sustainable development of this area will be put in place.

C) Tourism, maritime activities and to a smaller extent agriculture and fishery, as well as extraction of mineral raw materials (sand and stone; research of oil and natural gas reserves) comprise the main economic activities in the coastal region. In the past, these activities led to a more or less unsustainable exploitation of non-renewable natural resources of the coastal region (primarily of the space and landscape values). Today we may say that to a large extent, the **space on the coast** as a unique and specific value of Montenegro, has already been "used up" for diverse economic and other human activities, since it has undergone a significant change of natural and landscape values.

An important source of pressures on resources and quality of marine and coastal environment are unresolved issues of waste disposal and wastewater treatment, while other sources of pressures also include ports and other maritime infrastructure, and to a lesser extent, fishery, mariculture, agriculture and industry.

In order to monitor the state of the sea and the coastal zone, it is necessary to provide for comprehensive, continuous and integral monitoring of oceanographic, physical, chemical, biological and other parameters and to keep an integral database of the sea and the coastal zone.

For such a reason we propose to realize the integrated water management of Boka Kotorska Bay as the important component of integrated management of this area. As the result of such a project should be realized the following activities:

- The water courses of Montenegro and Croatia impacts on integrated water management in transboundary area; the coastal flows impact on the coastal sea waters; the human activities impact on the coastal sea waters;
- Underground water impact on sea water quality is determined:
- Models for water supplying system are defined taking into account existing problems in this transboundary area as well as the agreement of Montenegrin and Croatian authority to solve these problems on the pleasure of both side:
- Models for waste water treatment as the precondition for sustainable tourism development of the region is proposed;
- Comprehensive monitoring system of sea water quality as the precondition for high quality tourism development is defined.
- All pollution sources and the level of pollution are identified:

The signing of the agreement on water management between Montenegro and Croatia is under procedure. The steering body which will be formed for realization of the bilateral cooperation should be in charge with realization of this demo project.

The coastal water resources and the fresh- saltwater interface and exchange in the Boka Kotorska Bay area are dominated by large, and local karstic hydrogeologic systems that have their own biodiversity and that are in part transboundary and make part of the water resources shared between Croatia and Monte Negro. As a consequence, the drinking water supplies and the inflows, with LBS pollution and nutrient inflows and the sensitive fresh-saltwater interface and balance in the aquifers and in the Bay and local wetlands and ecosystems depend to a large extent on the dynamics and the management for sustainable use of the karst coastal aquifers. Introduction and integration of coastal aquifer and groundwater management and protection measures under ICZM represents a critical element to sustain the Bay ecosystem, reflected in carrying capacity assessment and sustainable coastal development planning instruments, related to the urban, agriculture and tourism development sectors. With the dominant dependence on groundwater the management and protection of the coastal karts aquifer is a principal strategy approach resource for the adaptation to Climatic Change to secure domestic water supplies.

The coastal groundwater management and planning activities under the Boka Kotorska Bay demonstration will address the following issues to be incorporated under the ICZM planning and also support water use planning under the parallel IWRM activity. It will be based on a solid information and assessment comprehensive coastal groundwater vulnerability mapping including intrinsic and integrated groundwater risk and uncertainty and quantity and quality of the Boka Kotorska pilot area. It will also draw from and benefit from the pilot area in Monte Negro for the groundwater activity on hydrogeological management of coastal wetlands, base on the recent experience and technology used in the coastal wetlands in Spain and on the sustainable land management activity including land use and degradation with coastal nutrient accumulation, erosion and sedimentation. These factors, together with legal and institutional provisions for groundwater management measures, including groundwater use rights and pollution protection and restrictions, will be merged under a coastal groundwater management plan as a sub-component of ICZM planning of the Boka Kotorska Bay area.

Sub-Component 1.2: Integrated Coastal Zone Management

Implementing Agencies

UNEP-MAP Priority Actions Programme Regional Activity Centre (PAP/RAC), Mediterranean Environmental Technical Assistance Program (METAP), with support from Global Water Partnership-Mediterranean (GWP-MED) and UN Educational, Scientific and Cultural Organization International Hydrological Program (UNESCO/HP).

Background/Context/Rationale

The coastal zone is an area of interchange within and between physical, biological, social, cultural and economic processes. It is composed of multiple interacting systems: maritime, terrestrial and riverine. Changes, at any point in any part of the systems, can generate chain reactions far from their point of origin and possibly in a totally different system whose environmental conditions will be subsequently altered. Managing such complex systems requires an integrated approach capable of bringing together the multiple, interwoven, overlapping interests of the coastal area in a co-ordinated and rational manner, harnessing coastal resources for optimum social and economic benefit without prejudicing the resource base itself and maintaining the ecological processes.

Integrated Coastal Zone Management (ICZM) is such continuous, proactive and adaptive process of resource management for sustainable development in coastal areas. It is a process of achieving goals and objectives of sustainable development in coastal areas, within the constraints of physical, social and economic conditions, and within the constraints of legal, financial and administrative systems and institutions. It is not a substitute for sectoral planning, but focuses on the linkages between sectoral activities to achieve more comprehensive goals.

As coastal resources are used simultaneously by different economic and social sectors, integrated management can only be accomplished when all these uses, users and relationships are clearly known. It is therefore far wider than static land-use planning, requiring an inter-disciplinary approach to the management of dynamic processes in the terrestrial and marine environments. Such integrated approach in managing coastal environment is in line with the GEF efforts to support integrated approaches to natural resource management.

ICZM as concept and methodology to address complex coastal/marine management and protection issues was developed in early 1960s in the US. Within the Mediterranean Region, integrated coastal zone management was introduced by the Mediterranean Action Plan (MAP) / UNEP in mid 1980s as a major response to tackling the growing development pressure witnessed in coastal areas. A series of policy documents, recommendations, programmes and projects (such as Coastal Area Management Programmes - CAMPs), tools and instruments have been developed and implemented.

The **Mediterranean Strategy for Sustainable Development (MSSD)** calls for action to move the region towards sustainable development so as to strengthen peace, stability and prosperity, taking into account its weaknesses and the threats it faces but also strengths and opportunities.

One of seven essential issues MSSD attempts to achieve progress on is "Promoting sustainable management of the sea and the littoral and urgently stopping the degradation of coastal zones".

Progress on this issue calls for launching several pilot actions:

i. Preventing and reducing pollution from ships and the risks of accidents;
ii. Reducing pollution from land-based sources;
iii. Promoting sustainable fisheries and aquaculture;
iv. Protecting marine and coastal biodiversity; and
v. Promoting more integrated development and management of coastal areas and prevention of risks.

Pilot action under (v) calls for the following:

- Adoption, by 2007, a Mediterranean protocol for integrated coastal zone management;
- Adoption, before 2012, of coastal zone laws by countries that do not have theme; the promotion of specialised jurisdictions empowered to enforce respect; and the creation, by 2012, in countries that do not have them, of mechanisms and instruments for coastal management;
- Promotion of integrated management approaches and projects in all Mediterranean countries, involving local authorities, enterprises and NGOs;
- Defining geo-morphologically the coast area, assessing the vulnerability to natural and technological risks, banning construction in high-risk areas and integrating risk-prevention into urban development plans;
- Promotion of the role of islands as laboratories for coastal management (subsidiary and innovation);
- Support at the Euro-Mediterranean level to capacity building for coastal management, mobilising public opinion, and considering the establishment of a fund to enable private sources and local communities to finance the conservation and sustainable management of the Mediterranean coast.

Protocol on ICZM in the Mediterranean

The Working Group of experts for the drafting of the Protocol on ICZM in the Mediterranean (ICZM Protocol) was established in November 2005 by the decision of the 14th Ordinary Meeting of the Contracting Parties to the Barcelona Convention and its Protocols. By November 2007, the Working Group is expected to present the final text, to be, hopefully, adopted by the Contracting Parties in 2007. Currently, the experts are continuing their work on reviewing and drafting the final version of the Protocol. At the meeting in Loutraki, February 2007, the last third of the document will be discussed and some articles from the previous chapters still pending the final wording.

The intention of the ICZM Protocol is to establish a common framework for the integrated management of the Mediterranean coastal zone. The ICZM Component will investigate implications of adopting and ratifying the regional protocol on national institutional arrangements, national legislation and national coastal strategies, policies and plans. The Component will also contribute to methodological and juridical capacity in eligible countries to harmonise the national ICZM legislation with the Protocol.

The ICZM Strategy for the Mediterranean highlighted a set of strategic objectives, defining future programme orientations. Namely, among its objectives, it stressed the need to:

- Promote the mainstreaming of coastal management activities and a significant change in level of activities;
- Promote application of ICZM approaches at eco-regional level;
- Continue to identify and address emerging ICZM thematic priorities;
- Continue to develop ICZM methodology and best practices for the Mediterranean;
- Build capacity to implement existing laws and future ICZM protocol for the Mediterranean;
- Work at local level, e.g. making best use of CAMP projects and improve them.

As a result of the implementation of several CAMPs in the region, it appeared evident that the Mediterranean region needed to have a binding ICZM Protocol. The ICZM Protocol would help in strengthening regional and national policies, strategies and actions aiming at protection and prevention of degradation of the coastal areas in the Northern Mediterranean countries and offer a model of coastal development to the countries of the South.

In order to achieve objectives identified within the Strategy and to ensure successful development and implementation of ICZM Protocol, ICZM component was included in the GEF Strategic Partnership (SP) for the Mediterranean Large Marine Ecosystem. In order to provide the needed C/M specific broader framework for on the ground implementation of two key MAP Strategic Action Programmes (i.e., The Strategic Action Program to Address Pollution from Land-Based Activities - SAP MED,

and The Strategic Action Program for the Conservation of Mediterranean Marine and Coastal Biological Diversity - SAP BIO),

The ICZM Project component within the GEF SP will strengthen the enforcement, assessment and monitoring capabilities of the national and local institutions; and establish technical mechanisms for supporting transboundary pollution prevention and abatement originating in the coastal areas of the Mediterranean Sea. This is in line with the Environmental Quality Objectives (EQO's) identified in the Mediterranean TDA, which broadly are: i) reducing the impacts of LBS of pollution on the Mediterranean marine environment and human health; ii) reaching sustainable productivity from fisheries; and iii) preserving the coastal and marine biodiversity (i.e. habitats, ecosystems, biological taxa and genetic resources.

The ICZM component will ensure integration across focal areas (notably IW and BD), at the various levels (basin, ecosystem, country, and region), assisting to the GEF role as catalyst and facilitator of global environmental sustainability.

Objectives

The overall objective of the ICZM project component is to ensure sustainable management of Mediterranean coastal zones, with particular reference to international waters and biodiversity. The objective will be met by providing assistance to national governments of the Mediterranean countries to manage their coastal resources in an integrated manner and in accordance with priority needs identified by ICZM Protocol now in preparation

The main objectives of the ICZM Sub-Component are:

a) To facilitate strengthening of legal, institutional and policy framework for integrated coastal zone management of the Mediterranean countries, with specific reference to water resources management (WRM) and biodiversity (BD) protection and the action on adoption of the ICZM Protocol;
b) To contribute several eligible countries in preparing national ICZM strategies and plans; and
c) To provide assistance to countries in introducing / strengthening the use of ICZM methodology, practices and tools, notably through capacity building and implementation of replicable pilot / demonstration actions, based on an interactive participatory and focused at IW and BD.

Such ICZM related initiatives, focused at objectives of GEF IW and BD focal areas, would contribute to:

- Triggering countries' initiatives for adopting the regional ICZM Protocol and national ICAM regulation, institutional and management frameworks well focussed at WRM and BD aspects;
- Improving capacity building at regional level and national/local levels, supported by broad stakeholder participation, in order to ensure its proper implementation;
- Justifying resources allocation for developing ICZM Strategies and NAPs with particular attention to WRM and BD aspects;
- Use of ICZM plans for solving WRM- and BD-related key problems identified in the ICZM Protocol for the Mediterranean;
- Demonstrate alternative management approaches, tools and techniques, such as Integrated Coastal and River Basin Management, marine spatial planning, COED, SEA, CCA and conflict resolution techniques.

Description of activities, including demonstration and pilot projects

The objective of the ICZM component of the project is creation of a favourable environment for the ICZM protocol, yet to be finalised. The ICZM component makes an integral part of Component I and Component III, Sub-category 6 of the Project. The following is the envisaged set of ICZM-related activities of the full size project.

1.2.1 Support activities in preparation of National ICZM Strategies and National Action Plans

The aim of this activity is to address the specific needs identified in project countries related to lack of national ICZM strategies and their implementation, at regional, national and local level. The project countries will be supported in preparation of ICZM Strategies and National Action Plans (NAPs). This project activity will promote comprehensive stakeholder participation through organisation of workshops and extensive consultation process.

The activity is in line with broad objectives of the Components 2 and 3 of overall Project in order:

- To develop and implement policies and legislation aimed at addressing transboundary causes of environmental degradation of the Mediterranean Sea, as established in the SAP MED and SAP BIO;
- To develop adequate capacity in the countries for legal/institutional set up, reforms and harmonisation of policies needed to reverse degradation trends and living resources depletion, by following the priorities established by the SAP MED and SAP BIO;
- Fostering the regional action on the adoption of ICZM Protocol.

Under the activity METAP will assist interested countries in strengthening/developing national coastal legislation with special emphasis on systematic inclusion of WRM and BD protection concerns in the legislation. Also, METAP will conduct COED assessment in two selected countries.

The project will demonstrate that ICZM may be an efficient tool for co-ordinating various policy actions towards sustainable management of coastal areas. The activity will promote adoption of new ICZM legislation and better enforcement of the existing legislation. Capacity of national, sub-national and local ICZM institutions will be improved.

1.2.1.1 Strengthening the role of ICZM as a policy framework for water resources management and biodiversity protection on the regional level

Although none of the countries has full coastal management framework (legal, institutional, planning, technical) in place, in each one of them some elements of the system could be found. However, the coastal management practices still lack integration and sustainability. Furthermore, the integration between marine and terrestrial domains is practically non-existent. This situation is coupled by the overall predominance of the land use planning while, at the same time, coastal management is neither widely known nor practised. Even when plans are developed, two root causes of their ineffectiveness are present: the lack of respect for the institution of planning, and the lack of the implementation instruments. There is a widespread lack of confidence in the institutions to govern equitably and efficiently. Transboundary environmental problems, often present in the sub-region, are getting higher on the political agenda but the non-existence of an effective management system, such as Integrated Coastal Area and River Basin Management (ICARM), is one of the root causes why the transboundary environmental problems are still persistent. Even in cases when national legislation on ICZM exists, the issues of water resources management and biodiversity protection were not given adequate treatment within the overall ICZM framework.

This activity will include awareness raising and capacity building of national and local level responsible on ICZM approach in support of water resources management and biodiversity protection. An outline for preparation of ICZM strategy and NAP will be finalised in co-operation with national authorities of all eligible countries. A regional workshop will be organised to discuss the outline and to screen possible country candidates for preparation of ICZM NAPs. Experiences and results achieved will be disseminated to all other participating countries.

Expected results: on-the-job training will provide relevant national and local institutions responsible for coastal resources management with knowledge on how to take into account WRM and BD protection issues into coastal planning process. An outline for preparation of ICZM strategy and NAP

will be finalised and discussed at a regional workshop. Joint activities with GWP-MED and UNESCO within the ICZM demo projects will strengthen aquifer and IWRM components of the overall project.

PAP/RAC prepares, manages and executes the activity with technical support of MAP/UNEP, MEDPOL, SPA/RAC, INFO/RAC, METAP, GWP-MED and UNESCO in designing training materials and in disseminating and communicating the results of the activity.

1.2.1.2 Support to preparation of ICZM NAPs in four-selected countries

Many decision makers have not yet know ICZM benefits, although they do not shy away from them when an initiative emerges, particularly if it is driven by the foreign donors. Unfortunately, the implementation is the weak point. Today, ICZM practice varies from country to country. Some have placed emphasis on the spatial planning, some have developed the regulatory and institutional framework, some have prepared coastal plans, but in none of the countries a complete ICZM framework is in place. ICZM NAPs could improve participation in the coastal resources' management decision-making, increase level of internal financing of coastal management initiatives, prompt coastal local administrative units to prepare and adopt coastal management plans, help introduce new integrated coastal management tools and techniques and increase public awareness on the coastal areas problems.

Within this activity four ICZM NAPs will be drafted and agreed upon and presented to national authorities and other relevant stakeholders for adoption. National conferences on draft NAPs will secure broad involvement of stakeholders in building a consensus on ICZM NAPs. Experience gained will be distributed to other participating countries for information and replication. The activity will build upon preceding activities, notably CAMPs implemented and other specific ones concerning NAPs and ICZM Protocol for the Mediterranean. Furthermore, an even regional distribution of countries involved will be secured.

Results: Draft ICZM NAPs in three to four selected countries. National conferences on ICZM NAPs. Interactive Participatory Process in consensus building on national ICZM NAPs.

PAP/RAC prepares, manages and executes the activity, GWP-MED and SPA/RAC provide technical support on WRM and BD protection issues; INFO/RAC secures visibility and replicability of the action. National and local NGOs will be involved in support of facilitating multi-stakeholder meetings.

1.2.1.3 Harmonising national institutional arrangements and legislation with ICZM Protocol for the Mediterranean

Forthcoming adoption of ICZM Protocol for the Mediterranean by the Contracting Parties (scheduled for November 2007) will pose new challenges to and give ample opportunities for an efficient coastal management of the region. The Protocol will represent an important outside push for strengthening of coast-related legislation. Primarily, a need will arise for harmonising national institutional arrangements and legislation with the Protocol.

This activity will strive to build capacity of eligible countries for a smooth adapting of national coastal legislation with the ICZM Protocol. A case study will be prepared to show implications of ratification of ICZM Protocol. The study will be presented at a workshop with the aim of exchanging relevant experience among coastal zone managers as well as juridical practitioners.

Results: A case study on adapting national legislation to the provisions of the ICZM Protocol; 15 juridical practitioners trained on implications of national ratification of the Protocol.

Identified responsible institutions: PAP/RAC will commission an international and a national expert for preparation of the case study. WB will provide technical expertise to PAP/RAC. National authorities of one eligible country and PAP/RAC will co-organise the workshop.

1.2.1.4 Developing/strengthening of coastal legislation in the Mediterranean

Lack of respect for law, as well as lack of specialised coastal laws, has greatly reduced the effectiveness of environmental resources management in coastal areas of several Mediterranean countries. The "regulatory split" between the coastal marine and terrestrial domains is evident, too. While the land resources are being managed in a relatively integrated manner, mainly thanks to the spatial planning laws that have been in place in most of the eligible countries, on the other, marine side of the coastline, resource management has been and still is almost exclusively sectoral.

The purpose of this activity is to facilitate the development and strengthening of coastal legislation by exchange of experience and best practices between Mediterranean countries. The assistance to countries will build upon WB and UNEP experience in promoting Integrated Coastal Zone Management as an essential approach and framework for all policies and interventions affecting coasts. Again, special emphasis will be given to inclusion of water- and biodiversity-related aspects into national ICZM legislation.

Results: Three to four selected countries assisted in developing/strengthening their coastal legislation.

METAP will prepare and manage the activity and PAP/RAC will assist METAP in providing state-of-art analysis on ICZM legislation, institutions and policies in Mediterranean countries. SPA/RAC and GWP-MED will provide specialised inputs related to inclusion of WRM and BD protection into coastal legislation.

1.2.1.5 Use of Cost of Environmental Degradation (COED) as an ICZM tool

Human activities located on the coast and in the adjacent river basins are having strong impact on the state of the coastal terrestrial and marine environment. Biodiversity loss is rapidly emerging phenomenon in the region. Although tourism is considered as a growth sector, the deteriorating environmental situation is degrading its ability to act as a development generator. Unregulated, and often haphazard and illegal, coastal linear urbanization is reducing the quality of coastal landscape as well as the capacity of future generations to make use of the coast at the level enjoyed by the current generation. Cost of coastal degradation, i.e. reduction of the capacity of national economies to generate satisfactory income could be assessed as being relatively high, particularly in some, less developed, countries of the region.

This activity will include capacity building and creation of network of experts, exchange of best practices and undertaking pilot COED assessment in selected coastal areas. The activity will build upon experience of METAP in assessing (sectoral) COED in countries of the Mediterranean and other regions.

Results: COED assessments in two selected countries.

METAP will prepare and manage the activity and PAP/RAC will provide METAP with existing national reports on ICZM and other information related to assessing the cost of environmental degradation of Mediterranean coast.

1.2.2 Application of ICZM approach, tools and techniques in demonstration areas

The ICZM objective of this component relates to implementation of demonstration projects for effective management of coastal areas and identification and management of coastal habitats and marine protected areas (MPAs). Furthermore, ICZM approach, tools and techniques will be demonstrated in selected countries through preparation of ICZM plans.

In section C of Supplementary information to the project presents a set of criteria for selection of demonstration sites under the project.
Section E presents Description of sites/areas in the region, which are proposed as demonstration projects based on experience of PAP/RAC in its Coastal Area Management Programme and on preliminary consultations with relevant national authorities and the Project partners.

Outcome. Two ICZM plans for selected demo areas with institutional systems in place aimed at their implementation.

The following sub-activities of Activity 2. will be developed:

1.2.2.1 ICZM Plans to demonstrate ICZM approach, tools and techniques in selected areas

Coastal ICZM plans represent a step forward toward putting ICZM approach and strategies into practice. They stimulate the integration of major stakeholders in the decision-making process through an improved participation process. Coastal plans also help bringing the coastal issues at the top of national/local political agenda and help shape the national/local approach to coastal area management. ICZM plans also help increasing the number of coastal projects, many of them having a demonstration character. It is probable that the national financing of ICZM plans and projects will also increase, this being an indicator of the willingness to implement solutions proposed.

This activity will be developed through:

- Drafting ICZM Plans in two selected areas, one of them of transboundary nature, the other to include coastal lake, wetlands and identification of MPA; both important for their WRM- and BD-related features, including programme and tools for its implementation;
- Organisation of joint / harmonisation meetings to ensure consensus building and broad stakeholder involvement in ICZM Plan preparation and implementation;
- Final presentation conferences to present draft ICZM plans;
- Finalising ICZM plans with implementation instruments included;
- Identification of priority investments in protection and rehabilitation of valuable coastal areas.

Final ICZM plans for two selected areas prepared, one of them notably to include identification and establishment of a MPA. The plans will include the list of priority investments needed with short prefeasibility outlines.

The activity will be developed through joint meetings, two national workshops, and a workshop reference document.

1.2.2.2 Capacity building for effective implementation and sustainable financing of pilot ICZM projects

Often is the case that important long-term ICZM interventions fail due to their unsustainable funding, especially in developing countries. It is therefore important to conceive and plan these interventions bearing in mind from the beginning all possible means of financing and inherent financial risks. Inability to mobilise resources domestically is also troubling although some regional experience (South China Sea for example) prove that pilot projects can be entirely funded by the country involved. Uninterrupted financing of project is just one of their sustainability aspects. Strong political commitment at all levels is essential to the preparation and implementation of initiatives. Participation of stakeholders and end-users from the design phase through project implementation should be encouraged.

The sub-activity will contribute to capacity building of national officials to identify, select, implement and seek sustainable funding of pilot ICZM projects. Information on potential national funding sources, including national and international donors, development banks, etc. in the region will be presented. Also, examples of promotional activities for demo projects, the most effective means of

gaining political support to the projects, good practices in yielding public support for ICZM interventions and successful cases will be discussed.

Results: A workshop will be organised to present methodology for selection, implementation and sustainable financing of pilot ICZM projects. A compendium will be distributed containing lists of funding regulations, programmes and financial institutions in the region relevant to environmental and ICZM projects.

Identified responsible institutions: PAP/RAC will prepare, manage and execute the activity. The workshop will be co-organised with national authorities of an eligible country.

1.2.2.3 Co-ordination and harmonisation of ICZM component with other components' activities in demo projects

Establishing effective linkages among various Project components is crucial for its success. ICZM component demo areas and relevant activities should be selected in concert with other implementing institutions, primarily with GWP Med and UNESCO. And vice versa, ICZM should be used as an overall framework for harmonising all sectoral interventions in demo projects prepared by other implementing institutions, including ICZM methodological and programmatic aspects.

An international expert will be engaged by PAP/RAC to co-ordinate implementation of activities in ICZM demo areas with other implementing institutions' activities, notably with activities on IWRM and coastal aquifers. Participation of the expert at three harmonisation meetings is envisaged.

Results: Concerted activities of all implementing agencies in ICZM and other demo areas. Harmonisation meetings organised.

Identified responsible institutions: PAP/RAC will prepare, manage and execute the activity. The harmonisation meetings will be co-organised with national authorities of eligible countries.

Risks and sustainability

Risks. In the coastal areas of the Mediterranean there is a widespread need for effective water resources management, biodiversity protection and coherent spatial planning. Unfortunately, in many instances exclusive sectoral approach to achieving these issues exist, instead of a comprehensive institutional, legal and management framework. ICZM brings this much needed inter-sectoral and spatial perspective, supporting for example further screening of initiatives pointing to their overlaps, gaps and potential conflict. However, at present in many countries ICZM institutional, legal and management frameworks are incomplete and therefore have not fully demonstrated their expected efficiency in addressing users conflicts and cumulative development and environmental impacts in coastal areas. The risk is therefore that *sectoral management will remain dominant form of coastal resources utilization*. However, ICZM activities of the project have been designed so as to improve the situation and minimise this risk.

A further risk might be *limited willingness of national / sub-national / local authorities to participate in the project*, as well as use and share project results and findings. Namely, there is a risk that instruments for the implementation of coastal strategies and plans will not be used and prevailing negative coastal trends will continue. However, involvement of the appropriate governmental and non-governmental stakeholders throughout the whole project, and the development of co-ordinating mechanisms addressing sectoral concerns within the ICZM framework is designed to minimise this risks.

Due to complexity of the project, there is a risk of *ineffective co-ordination* between the project implementation unit, project-executing agencies, national and local authorities, GEF Focal Points, IFIs, etc. Elaborated project implementation arrangements at the very start of the project and its regular monitoring and evaluation should significantly limit this risk.

Inability of co-financiers to meet their commitments due to developments not anticipated at project design stage is the major project risk from the financial point of view. In order to minimise this risk, the project-executing agency will continuously monitor the co-financing, report to key project stakeholders, identify likely problems in advance, and react as appropriate. Also, formal agreements between responsible institutions and the agency prior to the beginning of project activities would limit this risk.

Finally, level of risk associated with execution of ICZM component with the project is relatively low, considering the great interest of the countries; institutions and organisations involved as well as the existing expected interest at the international level. The inclusion of institutional strengthening and ICZM capacity building elements within this project component reduces the overall project risk by ensuring that the beneficiary countries will have at least a basic ability to prepare and implement the Strategies and ICZM Plans identified and to strengthen their legal, institutional and policy framework for ICZM.

Sustainability. Sustainability is integrated into each of the project Outcomes of the ICZM component. All relevant Outcomes and Outputs are designed to ensure that the achievements under the ICZM component will be sustained after the project completion. PAP/RAC will focus its activities in strengthening national institutions and capacities in coastal management, as the most important objective to ensure sustainability of the project interventions. Development of legal and institutional actions, as well as strengthening operational potentials to work within an integrated vision among the Mediterranean institutions, will facilitate development of effective ICZM tools and instruments and will create favourable climate for civil participation.

Active participation of civil organisations in the project activities is a key element for the social sustainability. The Public Participation Strategy of the Component focuses at building a bottom-up pressure aiming to support effective project execution. The proposed Small Grants Programme would initiate a large number of small, popular activities. This would contribute to sustainability by building broad support for biodiversity conservation and demonstrating its usefulness.

Appropriate project implementation arrangements will also facilitate sustainability of the interventions beyond the life span of the project. Forming a project-related co-ordination units (committees) within the countries involved might enable the integration and involvement of the different Ministries and governmental institutions.

Finally, with regard to the financial sustainability, it might be safely stated that there are substantial funds in the region for sustainable development activities. The challenge is to channel a part of these funds into ICZM promoting activities and to ensure they are well managed. This project component addresses this twin challenge head on. Lack of finances for follow-up should not be an obstacle. The high-levels of co-financing and baseline financing demonstrate this.

Linkages with other programmes and initiatives

The Transboundary Diagnostic Analysis (TDA), UNEP/MAP/MEDPOL, 2005, presents experts opinion, based on best available data, on the state of the environment and priority problems in the Mediterranean. The TDA provided the list of actions, which is designated to address the major transboundary issues of interest of the GEF International Waters (IW) focal area. The TDA outcome was use of Environmental Quality Objectives adopted in the SAP MED, SAP BIO and the FAO Code of conduct for sustainable fisheries. This led to specific targets to be met within a desired time frame, and specific interventions and actions that can be considered in the framework of National ICZM Action Plans (NAPs).

Other UNEP/MAP projects have been taken into account when preparing ICZM based activities of this project, like preparation of the Mediterranean Strategy for Sustainable Development and consensus building on future MAP ICZM Protocol.

In addition to the above mentioned, this project involves UNESCO, METAP, WWF MedPO, and other significant partners to jointly contribute to a more sustainable management of Mediterranean coastal areas, with specific reference to combating land-based pollution and biodiversity degradation and loss.

Some of the active GEF and non-GEF funded projects in the Mediterranean include:

- *SMAP III Integrated Coastal Zone Management plans of action (regional).* Following the launching of SMAP III in 2005, a Technical Assistance office was opened in Cairo and eight projects have been selected for implementation. All projects aim to develop integrated coastal zone management plans for specific regions in the Mediterranean countries (all projects will be implemented in GEF eligible countries). Their total value is € 7.60 million.

- *Promoting Awareness and Enabling a Policy Framework for Environment and Development Integration in the Mediterranean with focus on Integrated Coastal Zone Management (regional*). EC, UNEP/MAP, PAP/RAC, BP/RAC, METAP. The project started in 2005 with the overall objective to improve the advocacy and awareness in policy making at national level in SMAP beneficiary countries to engage them into the path towards the environmentally sustainable development. Also, the project is intended to encourage and support harmonised co-operative efforts at regional level for a common policy framework for ICZM. Total cost: € 1.20 million.

- *Spatial Planning in Coastal Zones - PlanCoast (regional).* EC, PAP/RAC. The project will lead the path towards the completely new spatial development instrument of Sea-Use-Planning for maritime areas and enhance ICZM implementation by linking it with the process of statutory spatial planning. The value of project activities to be implemented in the Adriatic region is estimated at €0.48 million.

- *MAP Coastal Area Management Programme (regional).* UNEP, MAP, BP/RAC, SPA/RAC, Info/RAC, PAP/RAC. Coastal Area Management Programme (CAMP) is oriented at implementation of practical integrated management projects in selected Mediterranean coastal areas, applying ICAM. A number of CAMP projects has been implemented in eligible countries, from the standpoint of MED SP of relevance are in particular those implemented in Algeria and Lebanon, both completed in 2005. In addition, CAMP projects are in preparation for Morocco and Serbia and Montenegro.

- *Regional Solid Waste Management Project in METAP Mashreq and Maghreb Countries (regional).* METAP, WB. The project was approved in 2002 and is being carried out in, Algeria, Egypt, Jordan, Morocco, Lebanon, Palestine, Syria and Tunisia. The project addresses Solid Waste Management (SWM) as one of the most serious environmental concerns, especially in the Mashreq and Maghreb countries. The objective of the project is to promote the adoption of sustainable integrated waste management practices in the METAP beneficiary countries. Total cost: € 6.00 M.

- *Capacity building for an early assessment system of drought in three countries of the south shore of the Mediterranean Sea: Algeria, Morocco and Tunisia (regional).* EC, LIFE05 TCY/TN/000150. The project was approved in 2006. The overall objective of the project is to improve the capacities in Algeria, Morocco and Tunisia to deal with and adapt to drought periods. To this end, the project will identify the regions that are most sensitive to drought and reinforce capacities for regular monitoring in order to predict the level of risk of drought occurrence. Total cost: € 0.80 M.

- *Lake Shkoder Integrated Ecosystem Management (Albania and Serbia and Montenegro).* GEF, IBRD, WB. The project is in the GEF pipeline. It is supposed to be carried out in Albania and Serbia and Montenegro. The overall objective of the project is to assist the Governments of Albania and Montenegro in achieving a more sustainable use of the natural resources of the Lake Shkoder and its watershed. The global environmental objective of the project is to reduce

pollution and conserve the lake and its biodiversity as an internationally important nature habitat for different flora and fauna species, especially for waterfowl birds. Total Cost: US$ 27.45 M.

- *Integrated Water and Ecosystems Management Project (Albania).* GEF, IBRD, WB. The project was approved and implementation started in 2003. The main objective of the project is to assist the Government of Albania in improving the management of uncontrolled wastewater discharging into international waters, which is threatening the global significant ecosystems along the coastline of Albania. Total Cost: US$ 12.58 M.

- *Integrated Ecosystem Management of the Neretva and Trebisnjica River Basin (Bosnia and Herzegovina and Croatia).* GEF, IBRD, WB. The project will be implemented under Investment Fund for the Mediterranean Sea LME Partnership. It is in the GEF pipeline and is supposed to be carried out in Bosnia-Herzegovina and Croatia. The goal of the project would be to ensure an effective and environmentally sound management of the transboundary Neretva River Basin. The general project objective is to catalyse a more integrated approach to water resource management in the Neretva River Basin in order to improve the integrity of the ecosystem. The global environmental objective is to conserve the water and land resources, and biodiversity of a globally important watershed. Total Cost: US$ 17.13 M.
- *Conservation and Sustainable Use of Biodiversity in the Dalmatian Coast through Greening Coastal Development (Croatia).* GEF, UNDP. PDF-B phase of the project completed. The full project proposal aims at making development "greener" across a key area of the Croatian coastal zone by creating an enabling environment. The project also seeks to change the behaviour of economic actors within the area so that key mosaic of habitats and species are secured and they're needs incorporated into economic development of the area. Total Cost: US$ 31.64 M.

- *Plan of Action for an Integrated Coastal Zone Management in the area of Port Said (Egypt).* EC, NRD (Nucleo di Ricerca sulla Desertificazione dell'Università degli Studi di Sassari, Italy). Project was approved in 2006 and is being carried out in Egypt, Coastal zone of Port Said. Its aim is to prepare an Integrated Coastal Zone Management Plan for the area and to create the basis for its successive concrete implementation through an integrated and interdisciplinary approach and with the direct involvement of the relevant stakeholders. Total Cost: €1.87 M.

- *Integrated Management of Cedar Forests in Lebanon in Co-operation with other Mediterranean Countries (Lebanon).* GEF, UNEP. The project approved in 2003 will contribute to the management of cedar forests and their protection from serious insect pests. The primary focus of this project will be on determining the causes of appearance of Cephalcia tannourinensis in the Tannourine-Hadath el-Jebbeh Cedars Forest and determining means to prevent its spread to other countries in the region. Project Cost: US$ 1.21 M.

- *Reducing conflicts of coastal natural resources use in the Nador area of Morocco (Morocco).* EU, EUCC. The project approved in 2006 is being carried out in the Morocco's province of Nador. The overall goal of the project is to promote sustainable development in the coastal area of the province of Nador through the establishment of an ICZM Plan with civil society participation. Total cost: € 0.73 M.

- *The Fara'a and Jerash Integrated Watershed Management Project (Palestine and Jordan).* EC, SMAP. The project was approved in 2003. The overall project objective is to create sustainable development conditions for the rural population in the Jordan River Basin. The watersheds have the highest potential for agricultural development in the area. Total Budget: € 4.95 M.

- *Integrated Sustainable Land Management in the Eastern Region (Syria).* GEF, UNDP. The project is in the GEF pipeline. Its goal is to reduce and reverse the process of land degradation and improve human livelihoods in the Eastern Region of Syria through ensuring co-ordination and upscaling of land management activities. The project will focus on piloting and adapting models for SLM, by reinforcing the enabling environment, and by mainstreaming SLM into the wider economic development of the region. Total Cost: US$ 22.76 M.

- *Gulf of Gabes Marine and Coastal Resources Protection Project (Tunisia).* GEF, IBRD, WB. The overall objective of the project, approved in 2005, is to contribute to the protection of important Mediterranean and international biodiversity and promote economic development by sustainable managing marine and coastal natural resources. Project Cost: US$ 9.81 M.

- *Biodiversity and Natural Resources Management Project (Turkey).* GEF. The project started in 2000 with the global objective to conserve the biological diversity and ecological integrity of selected ecosystems in a sustainable manner. The ecosystems include forest, wetland, steppe and alpine ecosystems that are representative of Turkey's four major bio geographical zones, which include the Black Sea and Caucasian mountain region, the Central Anatolian plateau, and the European and Mediterranean regions. Project Cost: US$ 11.54 M.

Supplementary information

A. Status of ICZM policy in the region
B. Status of ICZM Legislation, Institutions, Strategy and plans in GEF eligible countries of the Region
C. Criteria for selection of demonstration sites under the project
D. Preliminary list of stakeholders
E. Description of selected demonstration areas/projects

A. Status of ICZM policy in the region

It should be noted that Integrated Coastal Planning and Management (the MAP initial title for ICZM) has been identified from MAP inception in 1975 as one of its four basic components. PAP/RAC has been entrusted with its introducing and development in practice of Mediterranean coastal states. Gradually, ICZM methodologies and tools were developed and tested, primarily through the implementation of CAMP projects and ICZM tools such as EIA, SEA, CCA, and marine spatial planning. These actions were supported by various METAP, WB, and EC projects, all within their respective institutional and programmatic framework.

The assessment of ICZM status and implementation has been widely elaborated in a number of relevant recent documents (e.g. "Assessment of ICAM Initiatives in the Mediterranean: Experiences from METAP and MAP (1988-1996)", "White Paper on Coastal Zone Management in the Mediterranean", "Coastal Area Management Programmes: Improving the Implementation"). For the need of this project, National ICZM overviews for eligible countries and sub-regional ICZM Policy Briefs were prepared. The ICA Baseline and GEF Alternative analyses were prepared taking fully into account the findings of these documents including ICZM related findings in SAP MED and SAP BIO, as well as the results of the Expert Meeting on ICZM held in Split on 23-25 April 2006.

Among barriers for further strengthening of ICZM as a framework and tool for water resources management (WRM) and biodiversity (BD) protection the following might be mentioned:

- Poor enforcement of relevant laws and regulation;
- Inadequate legal framework and management structure in most countries;
- Still prevailing dominance of sectoral land use planning; and
- Low capacity for integration and application of ICZM methodology and tools, in particular related to WRM and BD protection.

However, in all the countries important elements of integrated coastal zone management are already established. Although none of them has a fully integrated coastal zone management framework (legal, institutional, planning, technical) in place, in each one of them some elements of the system could be found. The awareness of the need for a strengthened and better-focused ICZM, in this case on WRM

and BD protection, is proved by the fact that all Mediterranean countries support the forthcoming ICZM Protocol of the Barcelona Convention. In addition, the civil sector emerging in all eligible countries indicates a high interest and potential of wide public to play a role in integrated coastal zone management.

The broad development/environmental goal of the ICZM project Sub-Component is to ensure sustainable management of Mediterranean coastal zones, by providing assistance to national governments of the Mediterranean countries to manage their coastal resources in an integrated manner. The main objective of the ICZM project component is to facilitate strengthening of legal, institutional and policy framework for integrated coastal zone management of the Mediterranean countries, and build capacity for implementation of ICZM focused at WRM and BD protection. In this way, the component would support the achievement of the targets established by SAP MED and SAP BIO.

B. Status of ICZM Legislation, Institutions, Strategy and plans in GEF eligible countries of the Region

Country	ICZM Body	ICZM Law	ICZM Strategy	ICZM Plans
Albania	No	No	National coastal plan (prepared in 1995, adopted in 2002)	In preparation
Algeria	National Coastal Council proposed	Yes (2002)	No	CAMP SAP Wetland management
Bosnia and Herzegovina	No	No	No	No
Croatia	Office for the Adriatic (no decision making power)	Decree on the Protection of the Coastal Area (2004)	No, but a special plan for the Adriatic in preparation	No, only county spatial plans with some sea use plans
Egypt	No	No	No	National plan in preparation
Lebanon	Proposed	Draft prepared	Yes, waiting endorsement by parliament	No
Libya	No	No	No	No
Morocco	Steering committee & national agency proposed	In preparation	In preparation	In preparation in Nador
Serbia and Montenegro	Yes, public institution with weak legal mandate	Yes	In preparation	No
Syria				National plan in preparation
Tunisia	APAL (no legal mandate)	No	No	No
Turkey	Committee since 1993 but no coordination role	No, only shore law to give boundaries		

C. Criteria for selection of demonstration sites under the project

The selection of the Demonstration Projects will be guided *inter alia* by the following:

1. Conformity with GEF programme: Demonstration projects should address at least one of the following GEF Operational Programs Focal Areas – Biodiversity or International Waters. Higher

relevance of interventions proposed under the projects for both focal areas would be an advantage.

2. Conformity with MAP programme and programme of other regional institutions: Priority should be given to projects which promote well advanced activities of existing regional institutions. Notable example would be projects that demonstrate possible benefits of adopting an ICZM Protocol for Mediterranean and / or advantages of use of ICZM tools and techniques.

3. Multi-faceted nature of projects: Projects should aim as far as possible at demonstrating how ICZM may serve as a framework for integrating water resources management and/or biodiversity issues into an overall planning system.

4. Global / regional / sub-regional / transboundary nature of projects: Projects should clearly respond to the environmental benefits in the region and contribute to overall global environmental benefits. In this respect Projects selected may have a sub-regional outlook or be of a transboundary nature.

5. Hot spot targeting: Projects must target relevant hot spots identified by the countries. The Strategic Overviews prepared for each country could serve as a starting point for identifying the hot spots.

6. Sustainability: Projects, which demonstrate possibility for economic development and/or poverty alleviation, would have an advantage in the selection process. Also, the Projects, which deliver benefits beyond the life cycle of the interventions, would be preferred.

7. Favourable political environment: Clearly expressed willingness of national / local authorities to support implementation of a demonstration project is a strong sign in favour of the project.

8. Acceptability by local population: Demonstration projects are meant to have an overall positive effect on relevant local population. They could, however, negatively affect some society groups. It is imperative that expected outcomes of a project be introduced to local population prior to its implementation and their support to the project obtained.

9. Co-Financing: Only projects likely to attract adequate domestic funding and/or external support shall be considered. Projects demonstrating strong co-financing shall be given priority.

10. Cost-effectiveness: For a given budgetary limit, demonstration projects should yield a set of well-structured and tangible activities which contribute to success of an overall objective of the intervention.

11. Replicability: Projects' principles should be replicable in other countries of the region. They should promote sharing of experiences, enhancing regional co-operation and collective learning.

12. Performance criteria: Projects should achieve measurable concrete preliminary results in a designated time.

13. Capacity Building: Projects should be selected taking into account relevant national / local capacities for their implementation. Capacity building should be an integral part of the planned project activities.

14. Availability of data: Implementability of a demonstration project is positively related to existence of relevant data and its availability.

15. Participatory approach: Project outcomes should demonstrate a direct causal connection between increased participation and increased sustainability of proposed interventions. Projects should yield strong ownership with all partners including the government, the private sector, civil society including NGOs and the scientific community.

16. Maximisation of use of regional expertise: Projects should aim at maximising the utilisation of national/local experts and institutions.

17. Geographical balance: Balance between GEF eligible countries in the region should be sought.

D. Preliminary list of stakeholders

ALBANIA

Public Institutions (Ministers)
- The Ministry of Agriculture and Food and its Directorates for Forestry and Fisheries
- The Ministry of Public Works, Land-use Planning and Tourism
- Ministry of environment, national environmental agency (NEA)
- Ministry of public economy and privatisation

Scientific Institutions (NEA) (1996)
- ISPU – The National Urban Planning Institute

ALGERIA

Public Istitutions
National level (Ministers)
- Ministère de l'Aménagement du Territoire et de l'Environnement - MATE
- Ministère de la Pêche et des Ressources Halieutiques
- Ministère des ressources eu eau
- Ministère de l'agriculture et du développement rural
- Ministère de la Santé, de la Population et de la Réforme Hospitalière
- Algerian Coastal Protection and Promotion (APPL)
- Office National de l'Assainissement - ONA
- National Water Agency (ADE)
- Conservatoire National du Littoral (CNL)
- Agence nationale d'aménagement du (ANAT)
- Centre National d'Etudes et de Recherches Appliquées en Urbanisme (CNERU)
- Centre National des opérations de surveillance et de sauvetage en mer
- Centre National des Technologies de Production plus Propre (CNTPP)
- National Centre for the Development of Biological Resources (CDRB)
- Office National pour la Statistique (ONS)

Regional and Local Level Institutions
- Wilaya assemblies

Specialized Committee
- Le Conseil National de l'Aménagement et de Développement Durable du Territoire
- Conseil National de l'Eau
- Le Conseil National de l'Information Géographique (CNIG)
- Comité National des ONG algériennes pour la lutte contre la désertification (CNOA)

Scientific Institutions
- Ecole Nationale Polytechnique - Département Génie de l'Environnement
- Institut des Sciences de la Mer et de l'Aménagement du Littoral (ISMAL)
- Institut National de Santé Publique (INSP)

Civil Society Organizations

- Mouvement Écologique Algérien (Algerian Ecological Movement)
- Association pour la Recherche sur le Climat et l'Environnement (ARCE)
- Association de réflexion d'échanges et d'action pour l'environnement et le développement (AREAED)
- Le Centre National d'Etudes et d'Analyses pour la Population et le Développement (CENEAP)
- Societe algerienne pour le droit de l'environnement (SADE)
- United Nations Development Programme (UNDP) - Algeria
- Judicial expertise in international environmental rights and desertification

BOSNIA AND HERZEGOVINA

Public Istitutions
National level (Ministries)
- Ministry of Foreign Affairs
- Ministry of Foreign Trade and Economic Relations
- Federal Ministry of Physical Planning and Environment
- Federal Ministry of Agriculture, Water Management and Forestry
- Federal Ministry of Transport and Communications
- Federal Ministry of Health
- Ministry of town planning, housing-communal (municipal) services, civil engineering and ecology RS
- Ministry of Agriculture, Water Management and Forestry RS
- Ministry of industry and technology RS
- Ministry of Health and Social Protection RS

Regional and Local Level Institutions
- Cantonal Authorities
- Water Management Companies
- The Directorate for Water RS

Inter Regional Level Institutions
- Communal service department

Specialized Committee
- Committee for Management of Environment, not specialise for coastal zones

Civil Society Organizations
- Environmental Steering Committee of BIH
- Commission for co-ordination of water management issues
- Public Enterprise for “Watershed Area of Adriatic Sea Basin”
- Public Enterprise for “Watershed Area of the Sava river basins”
- Public Company for Water in the Adriatic

CROATIA

Public Istitutions
National level (Ministries)
- The Ministry of Environmental Protection, Physical Planning and Construction
- Ministry of Agriculture, Forestry and Water Management
- Ministry of the Sea, Tourism, Transport and Development
- Ministry of the Economy, Labour and Entrepreneurship
- Ministry of Culture
- Ministry of Health
- Ministry of the Interior
- Ministry of Foreign Affairs and European Integration

Regional and Local Institutions
- Counties and municipal departments for land-use planning

Inter Regional Institutions
- Croatian Chamber of Commerce
- Croatian Waters
- Croatian Environment Agency
- State Institute for Nature Protection
- Central Bureau of Statistics of the Republic of Croatia

Scientific institutions
- Rudjer Boskovic Institute
- Institute of Oceanography and Fisheries

Civil Society Organizations
- State Institute for Nature Protection
- UNDP – Croatia
- Environmental Protection and Energy Efficiency Fund
- Fund for Regional Development
- NGOs active in environmental protection and nature conservation in Croatia

EGYPT

Public Istitutions
National level (Ministries)
- The Cabinet of Ministers
- Ministry of State for Environmental Affairs
- The Ministry of Water Resources and Irrigation
- Ministry of Tourism
- Ministry of Foreign Affairs
- Ministry of Agriculture and Land reclamation
- Egypt State information Service

Regional and Local Institutions
- Local departments of the Ministry of the Environment
- Regional branches of EEAA

Specialized Committee
- National Committee for ICZM

Scientific Institutions
- Egyptian Academy of Scientific research and Technology
- National research Centre
- Agriculture Research Centre (under Ministry of Agriculture and Land reclamation)
- National water Research Centre (under Ministry of Water Resources and Irrigation)
- Climate Change and Environmental Institute
- University of Alexandria
- American University in Cairo

Civil Society Orgai\nizations
- Hurghada Environmental Protection and Conservation Association
- CEDARE - Centre for Environment & Development for Arab Region and Europe

LEBANON

Public Istitutions
National level (Ministries)
- Ministry of the Environment
- Council for Development and Reconstruction (CDR)
- Ministry of Tourism
- Ministry of Agriculture
- Ministry of Public works and Transport
- Higher Council for Urban Planning (HCUP)
- Investment Development Authority of Lebanon (IDAL).

Regional and Local Institutions
- Directorate General for Urban Planning (DGUP)

Scientific institutions
- American University of Beirut
- Balamand University
- National Council for Scientific Research (CNSR)
- Industrial Research Institute

Civil Society Orgai\nizations
- AFDC (Association for Forest Development and Conservation)
- UNDP- Lebanon Country Office.
- Society for the Protection of Nature in Lebanon

International Organizations
- Economic and Social Commission for Western Asia
- ONU in Lebanon
- UNESCO in Lebanon
- United Nations Program for the development
- USAID in Lebanon
- Delegation of the European Union in Lebanon
- METAP, Unit of Planning and Programming (UPP).

LIBYA

Public Istitutions
National level (Ministries)

- Ministry of Planning
- Ministry of Agriculture
- Ministry of Transport
- Ministry of Defence
- Marine Research Agency
- Technical Centre for the Protection of the Environmental
- Environmental General Authority of Libya
- Marine biology Research Centre (MBRC), establishment in (1981)

MOROCCO

Public Istitutions
National level (Ministries)
- Secretariat General du Gouvernement
- Ministere de'l Interieur et Communes

- Ministere de l'Amenagement du Territoire, de l'Eau et de l'Environnement
- Ministere des Affaires etrangeres et de la cooperation
- Ministere de l'Equipment et des Transports
- Ministère de l'Agriculture, du Développement Rurale et des Pêches Maritimes – MADRPM
- Haut Commissariat aux Eaux et Forêts et à la Lutte Contre la Désertification
- Ministère du Tourisme, de l'Artisanat et de l'Economie Sociale
- Ministere de la Sante Publique
- Centre Royal de Télédection Spaciale (CRTS)- Rabat

Regional and Local institutions
- Prefectorial or provincial assemblies
- Communal assemblies

Specialized Committee
- Conseil National de l'Environnement
- Conseil Supérieur pour la Sauvegarde et l'Exploitation du Patrimoine Halieutique
- Conseil Supérieur de l'Eau et du Climat
- Conseil Supérieur de l'Aménagement du Territoire
- Commission nationale des études d'impact sur l'environnement
- Commission du Littoral
- Comité National de la Biodiversité
- Comité National des Zones Humides

Scientific Institutions
- Institut National des Recherches Halieutiques (INRH)- Casablanca
- Institut Scientifique – Rabat
- Institut National d'Aménagement et d'Urbanisme (INAU)- Rabat
- Institut National de Statistiques et de l'Economie Appliquée - Rabat
- Institut Agronomique et Vétérinaire Hassan II
- Institut Supérieur des Pêches Maritimes (ISPM)- Casablanca
- Faculté des Sciences de Tétouan
- Universite Ibnou Zohr – Agadir

Civil Society organizations
- Fondation Mohammed VI pour la protection de l'environnement
- Societe Marocaine pour le Droit de l'Environnement (SOMADE)
- Forum Maghrebin pour l'Environnement et le Développement
- The MED Forum (Forum of Mediterranean NGOs for Ecology and Sustainable Development)
- WWF MEDPO, Morocco Office
- Association AZIR pour la protection De l'environnement Al-Hoceima

SERBIA AND MONTENEGRO

Public Istitutions
National level (Ministries)
- Ministry of environmental protection and urban planning
- Ministry of agriculture, forestry and water management
- Ministry of Maritime affairs and transportation

Regional and Local institutions
- Maritime Safety Department
- Port Authorities

Inter Regional Institutions

- Public institute Center for Ecotoxicologic Research
- Public Enterprise for Coastal zone management (Javno preduzeće za upravljanje morskim dobrom Crne Gore)

Specialized Committee
- National Council for Sustainable Development

Scientific Institutions
- Republic Hydrometeorologic Institute
- Republic Nature Protection Institute
- Republic Cultural Heritage Institute
- Institute for Marine Biology
- Regional Cultural heritage Institute

SYRIA

Public Istitutions
National level (Ministries)
- Prime Minister's Office
- Ministry of Environment
- Ministry of Local Administration
- Higher Council for Environmental Safety (HCES)
- General Commission for Environmental Affairs (GCEA)
- The Ministry of Irrigation

Regional and Local institutions
- Local level, General Environment Directorates

Specialized Committee
- Committee established under MoE (2003?) to consider the adoption of ISO 14000

Scientific Institutions
- Center of Environmental Researches
- Centre of Scientific Studies and Researches
- University of Damascus
- Scientific Environmental Researches Centre (SERC)
- Teshrin University

Civil Society organizations
- Syrian Environment Association
- Environment Protection & Sustainable Development
- Environment Protection Society
- Syrian society for Wildlife Conservation
- Society of Coastal area for protection of health and environment
- Chamber of Tourism

TUNISIA

Public Istitutions
National level (Ministries)
- Ministry of Environment and Sustainable Development
- Ministère de l'Equipement, de l'habitat et de l'Aménagement du territoire
- Ministry of Tourism
- Ministry of Agriculture and hydraulic resources
- Ministry of Public Health

Regional and Local institutions
- Governorate assemblies
- Commune

Specialized Committee
- The National Sustainable Development Committee

Scientific Institutions
- Centre International des Technologies de l'Environnement de Tunis (CITET), under Ministry of Environment and Sustainable Development
- Institut National des Sciences et Technologies de l'Océanographie et de la Pêche (INSTOP)

Civil Society organizations
- Association Tunisienne pour la Protection de la Nature et de l'Environ (ATPNE; Friends of the Earth Tunisia)
- Association Les Amis des Oiseaux
- Association nationale tunisienne de la protection de la faune sauvage
- APNEK Association pour la Protection de la Nature et de l'Environnement de Kairouan
- WWF MEDPO,
- Tunisia Project Office

TURKEY

Public Istitutions
- *National level (Ministries)*Prime Minister's Office
- State Planning Organisation
- Ministry of Environment and Forestry
- Ministry Public Works and Settlements
- Ministry of Culture and Tourism
- Agriculture and Rural Affairs
- Ministry of Energy and Natural Resources

Regional and Local institutions
- General Directorates for different sectors (hydraulics, water work, construction of harbours, railways and airports, National Parks)
- Governing provinces and municipalities
- Authority for the Specially Protected Areas (Under Ministry of Environment and Forestry)
- Regional Development Agency (to be; proposed by the new law called Public Administration Law)

Inter Regional Institutions
- Regional Directorate for governmental hydraulic works

Specialized Committee
- National Committee for planning of Turkish coastal zones

Scientific Institutions
- Middle East Technical University (METU)
- Department of Civil Engineering
- Department of geological engineering, Remote Sensing and GIS Laboratory
- University of Mugla

Civil Society organizations
- MEDCOAST

- Association for Preserving the Natural Life (DHKD)
- WWF-Turkey (Foundation for Preserving the Natural Life)
- Greenpeace Mediterranean Campaign Office
- Foundation for Preserving the Environmental and Cultural Values (ÇEKÜL
- Foundation for Forestation and Combating with Erosion in Turkey and (TEMA
- Turkish Marine Environment Protection Association (TURMEPA)
- Turkish Marine Research Foundation (TÜDAV)
- Underwater Research Association (SAD)
- Mediterranean Seal Research Group (AFAG)
- Bird Research Association (KAD)
- Foundation for Preserving Environment and Recycling of Package Wastes (ÇEVKO)
- Buğday Association of Fostering the Ecological Life
- KORDON Association (Urban and Environmental Culture Association)
- Akyaka Lovers Association
- ÇevGön - Diyarbakır Environment Volunteers Association
- Pamukkale Association for Search-Rescue & Natural Sports
- Istanbul Water Initiative
- Turkish Foundation for Preserving Environment and Green Development

E. Description of selected demonstration areas/projects

1. Transboundary demonstration area at Boka Kotorska (Montenegro)

General description of the coast

The Government of Montenegro undertook in the late 1990s a process of assessing the current coastal management situation in the country in order to ensure appropriate mid- to long-term planning for its most rapidly developing narrow zone right on the coastline. The Montenegrin coast stretches over 90 km in a straight line, between Croatia and Albania. Entire length of the coast including small islands is 300 km. The coast occupies a narrow land strip sharply separated from the rest of the country by a high mountain range parallel to nearly the entire length of the shoreline.

The coastal region consists of 6 municipalities and their settlements. Three municipalities - Herceg Novi (235 km^2), Kotor (335 km^2) and Tivat (46 km^2) are settled in Boka Kotorska Bay. The Bay is a rare fjord-like geomorphological feature (by its shape but not by its morphogenesis).

Physical and ecological conditions

Mediterranean climate prevails in the Bay, characterised by long, hot and dry summers and relatively mild and rainy winters. While the coast records very high quantity of precipitation, it experiences unfavourable seasonal oscillations. In addition, rain water penetrates quickly into the soil and is evacuated by underground water karst networks. The water balance is therefore problematic since it is when water is needed the most by vegetation and tourists, that it is least available. The coast is made of large karst aquifer in which several ground water tables are found. However, the groundwater regime is still not fully understood, especially for karst aquifers. Water resources offer multiple potential uses in the coastal region, such as drinking water supply and thermal mineral springs. At present available quantities of underground waters much exceed existing needs. This means that any long-term water supply strategy should rely almost exclusively on underground waters. The majority of consumption is for domestic use, tourism accounting for slightly less than a quarter of the total consumption and industry twice less than tourism. Nevertheless, good quality water supply to coastal settlements remains a critical issue. Among limiting natural factors are salt intrusion in some springs in the coastal karst zone and long distance from large springs to settlements. This is exacerbated by poor quality of drinking water supply networks. Kotor and Tivat are municipalities in Boka Kotorska Bay that will have to look for new water resources despite some recent improvements in water supply. A co-operation between Montenegro and Croatia regarding efficient water resources management in the area is much needed.

Boka Kotorska physical oceanographic conditions are typical of a very low energy environments and they vary within the different embayments. They depend upon their exposure to wind and the inflow from surrounding surface and submarine freshwater outlets. Erosion processes are in a widespread occurrence along the coast, especially in areas of soft flysch rocks. These processes cause damage to productive land and undermine various structures, such as agriculture terraces.

Due to rapid urbanisation and development of different industrial, commercial and tourist sites, beach equilibrium conditions are disturbed. Coastline retreat is noticed in several beaches. Coastal erosion affects especially flysch and sandy beaches. Given still relatively contained development of Boka Kotorska, especially in its immediate hinterland, the habitat and biodiversity of the area is of high ecological and landscape value. Ecosystems are distributed in mosaics, especially in the hinterland: more than 120 species of plants, about 55 species of invertebrates, about 30 species of amphibians and reptiles, more than 220 species of birds, and more than 37 species of mammals have been registered.

Human uses and activities

As a result of rural migration from the north region of Montenegro to the central and coastal region, population growth in coastal municipalities since 1991 has been 8% which is twice the national population growth. Southern region of Montenegro, which includes its coastal area, accounts for 31,5% of the national GDP. The unemployment rate was 22% in 2004. Poverty remains a critical issue with 10,9% of population living in absolute material poverty (<3.50€/d).

The most economically valuable agriculture land in Montenegro is in the coastal region and is progressively lost to real-estate speculation. 1 ha of land on the coast is worth some 3 ha in any other part of the country. Tourism-related agriculture may not be sufficient for maintaining production at a year-round economically viable level.

The internal market for marine fish is rather shallow because of the low level of domestic consumption (1 kg/pers/year). Some 200 fishing boats operate in Boka Kotorska, catching fish up to 80m depth on the open sea. Current amounts of fishery catch is unclear due to the lack of relevant fishery statistics over the last 15 years despite the legal obligation to produce catch records. Illegal fishing is still a regular practice. Marine fishing and mariculture are overlooked potentials of the country's economy despite their significant potential.

Industries in the area are few although quite diversified. The largest industry is shipbuilding, with two shipyards in Bijela-Herceg Novi and Tivat. Ship-repair activities generate an export income of more than 15 million $ yearly. Boka Kotorska has a central role in the country's maritime economy, with diversified activities in the ports of Kotor, Zelenika and Risan as well as in shipyards in Tivat and Bijela. A major negative impact to maritime industry has been the loss of country's complete commercial fleet (40 ships) in previous decade. There is at present only one maritime company in Montenegro, Barska plovidba.

Tourism is the main economic activity in Montenegro, currently accounting for 14.8% of GDP. Tourists are especially attracted to Boka Kotorska area because of its rich cultural heritage and unique landscape. The area has some 20.000 beds for exclusive vacation, cultural and recreational tourism. Beach tourism (bathing) is a dominant type of tourism. A strong international Blue Flag beaches campaign is currently going on. Major international tourism investors are still waiting for a consolidation of investment conditions.

Spatial and Urban Development

Spatial Plan of the Republic of Montenegro is the main reference document for urban and spatial development, giving the framework for development of the coastal region. The Coastal Area Spatial Plan, soon to be adopted by the Parliament, provides key orientations for priority development zones along the coast. Preliminary National Coastal Management Strategy: Diagnosis prepared in 2005 took stock of the coastal zone characteristics and potentials. The document recognised 7 coastal areas and

produced relevant SWOT analysis. Boka Kotorska figures in the document as a separate coastal area, divided in two sectors. Relevant stakes for the area have been identified.

During the 1990s coastal management was given its most elaborated administrative and legal framework: the Coastal Zone Act was adopted and the Coastal Zone Management Agency (Morsko Dobro) was established in 1992. The coastal zone was given a legal delimitation and Morsko Dobro was given control under the zone. The key mandate of the Agency is to *enlarge the protions of the coast that can be used for different economic and other activities such as managed beaches for tourism and new infrastructure*. Morsko Dobro also monitors beach erosion since 2004 with the help of the Centre for marine and coastal engineering "Adriatic", based in Kotor. The institutions collect data to establish beach profiles, to give evidence of sediment transport and to evaluate beach erosion. The management of the marine side of the coast is much neglected and overlooked.

The analysis of tourism development potential has been prepared within Master plan for tourism development of 2001. Being aware of the importance to harmonize defined measures and proposals with principles of sustainability, its revision is initiated following UNWTO directions and will be finalised in 2007.

Montenegro has not yet fulfilled its obligation to prepare a national Biodiversity Strategy and Action Plan. In expecting this document to be completed, SAP/BIO National report provides main guidelines for coastal and marine biodiversity protection. Real estate development in the coastal area, mainly financed by foreign investors, causes a loss of the valuable agriculture land and biodiversity reach zones. There are no National Parks on the coast proper despite high biodiversity in some coastal areas. Many areas of natural, cultural and landscape value still have to be legally protected. Monitoring capacity on accidental or voluntary introduction of alien species and their actual impact should be enhanced.

Boka Kotorska Bay - endangered marine and coastal area

The Boka Kotorska Bay enters into the land at 15 nautical miles and is directly linked with open seawaters of South Adriatic. The Bay configuration is complex and is composed of external (Herceg Novi Bay), middle (Tivat Bay) and internal (Risan-Morinj and Kotor-Dobrota Bay) part. External and middle parts are linked with Kumbor neck, and middle and internal, with Verige neck, 340 m wide.

Internal part of the Bay is precipitous, with narrow coastal zone. External part of the Bay (Tivat, Mrcevo and Grbalj field and valley Sutorina) is lower. Here the coastal strip is wider, up to 10 km. Mountain ranges of the internal part (Crkvine locality) have the highest quantity of the precipitation in the Europe with the average year sediment of 4.623 mm. Due to the predominant karst ground, permanent currents almost do not exist: Therefore, the atmospheric water, except of the surface runoff, are discharged through the underground. Fluvial regime significantly influences the decrease of water salinity in internal part of the bay. Except for this natural factor human activities have a decisive influence on the sea environment (communal waste waters, shipyards, distribution of petroleum derivatives).

"Adriatic shipyard" occupies the main part of the coast of the settlement Bijela including some 350 km^2 of adjacent sea area. The length of the shipyard's operative coast is 1.200 m. The shipyard repairs ships up to 120.000 t portability and maintains ship engines, turbines, etc. The shipyard has two tugboats of 450 KS and 250 KS and some necessary infrastructure: trafostation, aquaducts network, tank for used oil, storages, workshops etc. The shipyard's consumption of the water is around 136.800 m^3/year. During 2003 the shipyard produced the following quantity of waste: 8.000 t of waste in the process of rifling of old paint from the ships, 1.000 t of old iron, 5.000 t of oiled water from the ships, 200 t of the mud from the ships, 150 t of grease waters. Oiled waters, mud and grease waters are disposed into separator station PP "Hemosan" in Bar and then transported out of the country. Scrap iron is sold. Grit from treatment of ships is disposed on the local non-covered waste dump. Ballast waters, fuel, grease and oiled waters are often discharge into the sea without control. Other types of waste (gum, glass, paper, wood, concrete, plastic, isolation material) are disposed on the local

landfills. Emissions of the shipyard contaminated with heavy metals, mineral oils and PAH, have significantly negative impact on the nearby marine environment.

Metal industry firm "Daido" is placed into industrial zone of the town of Kotor, in Grbalj field. The firm has its own temporary disposal for liquid and solid waste. The basic technological process is galvanic processing of the metal, with water consumption of some 1.000 m^3/year. Residual of the technological process is highly toxic waste. The quantity of galvanic mud is 700 l / month and it contains heavy metals Sn, Pb, Cu, Fe and resin. The mud is disposed into barrels and then placed in secured disposal site.

Degradation of sea water is evident in Boka Kotorska Bay, especially in vicinity of the Bijela Shipyard and in Tivat. Changes of the sea water quality along the coast are evident during the tourist season caused by the influence of organic substances, nutrients and fecal bacteria from untreated municipal waste waters which are discharged directly in the sea. This is the most serious environmental problem in the area and its solving is of the the highest priority. Some alochtonous species have appeared lately in the coastal sea near Budva and in Boka Bay, like *Caulerpa racemosa*. Some basic activities have been undertaken by Institute for marine biology from Kotor for removing the algae.

A key environmental issue on the coast remains construction of appropriate sea outfalls. Out of 75 major outfalls along the coast of Montenegro only 10 have suitable offshore length. Elsewhere along the coast sewage is discharged directly to the sea. This is especially the case in Boka Kotorska where the bathing water quality has shifted in last several years from "very good" to "good". The long-term aim is to provide all settlements along the Boka Kotorska Bay with piped sewerage by the year 2028, with sewage treated and discharged into the sea in an environmentally acceptable way. Eutrophication is evident in the inner bays of Boka Kotorska (phytoplankton bloom in Kotor and Risan Bays) while the middle bay (Tivat City beach and Igalo-Topla in Herceg Novi) is under the threat.

Master plan for drainage and treatment of the waste water along the Montenegrin coast and in Cetinje municipality as well as Master plan for solid waste management in Montenegro have set out the priority actions for waste management at national level. Special emphasis in both master plans was put on the coastal area as being the priority in respect to tourism development as the most probable leading force of national economy. Both of these documents recognized the marine part of Boka Kotorska as "very sensitive waters" with an urgent need to reduce the quantity of the nutrients. Because of such a sensitivity of the coastal water even the small settlements are envisaged to be connected with the sewerage network.

An inter-municipal provisory sanitary landfill has been built in 2004 in Lovanja area, in vicinity of the Budva-Tivat main road and near the runway of the Tivat airport. The landfill serves three municipalities - Kotor, Tivat and Budva. The landfill is protected with impermeable ground and foil. Waste is filled into formed cells and comprised and then covered with the ground. The landfill leak out is collected and then drained.

The above mentioned facts call for specific and appropriate measures for sustainable and integrated management of the Boka Kotorska coastal and marine area. National Strategy on Sustainable Development and draft National Strategy for Integrated Coastal Zone Management define this area as high sensitivity zone with urgent need for action. Another fact to take into account is cultural heritage of the area - medieval architecture and numerous monuments have made Kotor a UNESCO listed “World Natural and Historical Heritage Site". Old town of Kotor is at the list of UNESCO World Culture Heritage since 1979. Such a unique combination of extraordinary cultural and natural values of the Boka Kotorska bay is not only a national heritage, but it also represents the treasure of the entire Adriatic and Mediterranean. This also classifies the Boka Kotorska area as a priority one in the framework of the Strategic Partnership for Mediterranean large Marine ecosystem.

The Montenegro Government therefore proposes the following activities to be realised under the Boka Kotorska demo project of ICZM Component of GEF Strategic Partnership for the Mediterranean Large Marine Ecosystem:

A) ICZM Plan for Boka Kotorska

ICZM Plan will contribute to reconciliation of a number of conflicting and often incompatible demand in the Boka Kotorska area, including:

- facilitating economic development;
- meeting the demands of the tourism and recreation industry;
- protecting areas of scenic, geological or ecological importance.

ICZM Plan would set an overall guiding framework for several sectoral plans which are discussed further on.

B) Preparation of the Management Plan for Tivatska Solila

Institutional and management framework for protected areas in the coastal zone of Montenegro is very week. Consequently, protected areas are poorly managed and relevant management plans do not exist. Inventories for each particular protected area should be revised and completed. An adequate model of the PA management plan is needed that can be replicated in other sites.

Tivat Saltpans is already recognized in SAP/BIO National report as the pilot site for introduction of an adequate PA Management Plan model. This is valuable coastal wetland area placed in a zone very attractive for tourism development. In such a situation local population is inclined to support economic valorisation and development of the area instead of its conservation. An alternative plan should be offered attractive enough to raise awareness of the local population on the importance of the protection of the unique biodiversity of the Saltpans and offering at the same time possibilities for its economic valorisation.

The experiences and results achieved in this area could be disseminated to all relevant stakeholders and used in preparation of the management plans for other locations at Montenegrin coast. The results of the activity would include:

- A feasibility study for Tivatska Saltpans protected area;
- A draft management plan (in accordance with the IUCN recommendations);
- On-the-job training of the managers of the protected area;
- Training of other stakeholders.

C) Carrying Capacity Assessment Study for Boka Kotorska Bay

Tourism development in the coastal region calls for significant changes in the coastal spatial patterns, thus creating ever higher pressures on the coastline. The development of new tourism facilities in turn creates additional demand for more bathing space. Together with urbanisation, which apart from inevitable planned expansion of towns also involves a great deal of unplanned (illegal) construction, the uncontrolled development of tourism and increase of beach areas are the key causes of coast devastation, disturbance of landscapes and the change of natural characteristics which all threaten habitats, biodiversity and natural balance of the Bay.

The natural coast is the most attractive environment for tourists. Preservation of its features is therefore a precondition not only for maintaining the area's natural balance but also for the long-term tourism development itself. The Tourism Master Plan projects capacity of 100,000 hotel beds in the coastal region and a total of more than 200,000 beds in all types of tourist facilities by the year 2020. The spatial planning documents also envisage a significant increase of tourist capacities and increase of bathing space – enlargement of the coastal area classified as beaches. Nautical tourism facilities will also be developed in the area of public maritime domain. The adequate control of pressures from tourism development and urbanisation is one of the main challenges in the process of implementing these plans.

SPSPAMD is supposed to mitigate pressures from unplanned development in the public maritime domain area, to provide for qualitative development of tourism and nautical facilities and to provide for to a large extent the protection of natural landscape and ecologically valuable areas. However, tourism development plans and spatial plans regulating the use of space and development orientation of the coastal region have not yet been subjected to "sustainability tests" or carrying capacity assessment exercises (i.e. the assessment of the capacity of an area to receive a certain number of visitors) or strategic environmental assessment (SEA). The application of these and similar ICZM mechanisms (including environmental impact assessments at the project level) is a key priority in further development and implementation of planning documents and in development decision making in the coastal region.

The revision of the Master plan for tourism development is under way in order to harmonize it with the principles of sustainable development contained in UNWTO directions. In parallel with this carrying capacity assessment is going to be prepared for northern part of Montenegro under UNDP coordination. Taking into account the growing pressure of the investments in the southern part of Montenegro similar activities should be realised in the coastal region.

Boka Kotorska Bay which presents the national and world treasure is the most attractive area for foreign investments. Making its coast development sustainable is extremely challenging. A Carrying Capacity Assessment for Tourism in Boka Kotorska would not only contribute to that goal but could also contribute to use of CCA as a mandatory instrument in a decision-making process regarding all future tourism activities on the coast.

D) Integrated water resources management and coastal aquifer management

Tourism, maritime activities and to a smaller extent agriculture, fishery and mineral extraction (sand and stone exploitation; research of oil and natural gas reserves) represent main economic activities in the coastal region. Exploitation of non-renewable natural resources of the coastal region (primarily of the space and landscape values) in the past has been more or less unsustainable. The unique and specific value of Montenegrin coastal space has already been "used up" for diverse economic and other human activities, resulting in a significant change of natural and landscape values.

An important source of pressures on resources and quality of marine and coastal environment are unresolved issues of waste disposal and wastewater treatment. Other sources of pressures include ports' activities and impact of other maritime infrastructure and to a lesser extent fishery, mariculture, agriculture and industry. In order to monitor the state of the sea and the coastal zone, it is necessary to provide for comprehensive, continuous and integral monitoring of oceanographic, physical, chemical, biological and other parameters and to keep an integral database of the sea and the coastal zone features.

The coastal water resources and the fresh- saltwater interface and exchange in the Boka Kotorska Bay area are dominated by large, and local karstic hydrogeologic systems that have their own biodiversity and that are in part transboundary and make part of the water resources shared between Croatia and Montenegro. As a consequence, the dynamics and the management for sustainable use of the karst coastal aquifers defines to a large extent: the drinking water supply and the inflows; LBS pollution and nutrient inflows; sensitive fresh-saltwater interface; and balance in the aquifers in the Bay, local wetlands and ecosystems. Introduction and integration of coastal aquifer and groundwater management and protection measures under ICZM represents a critical element to sustain the Bay ecosystem, reflected in carrying capacity assessment and sustainable coastal development planning instruments, related to the urban, agriculture and tourism development sectors. With the dominant dependence on groundwater the management and protection of the coastal karts aquifer is a principal strategy approach for the adaptation to Climatic Change to secure domestic water supplies.

The coastal groundwater management and planning activities under the Boka Kotorska Bay demo project will address the issues to be incorporated under the ICZM planning and also support water use planning under the parallel IWRM activity. It will be based on a solid information and assessment through a comprehensive coastal groundwater vulnerability mapping. The mapping will include

intrinsic and integrated groundwater risk and uncertainty and quantity and quality of the Boka Kotorska demo area. It will also draw and benefit from the pilot area in Monte Negro for the groundwater activity on hydrogeological management of coastal wetlands, based on the recent experience and technology used in the coastal wetlands in Spain and on the sustainable land management activity including land use and degradation with coastal nutrient accumulation, erosion and sedimentation. These factors, together with legal and institutional provisions for groundwater management measures, including groundwater use rights and pollution protection and restrictions, will be merged under a coastal groundwater management plan as a sub-component of ICZM planning of the Boka Kotorska Bay area.

Integrated water resources management of Boka Kotorska Bay is therefore an important component of the overall integrated management of this area. IWRM component might include some of the following activities:

- Investigation of impact of the water courses of Montenegro and Croatia on integrated water management in transboundary area; investigation of impact of the coastal flows on the coastal sea waters; investigation of the human activities impact on the coastal sea waters;
- Investigation of the underground water impact on sea water quality;
- Proposal for water supply management system taking into account existing problems in this transboundary area as well as the agreement of Montenegrin and Croatian authority to solve these problems in the mutual interest;
- Proposal for waste water treatment system as the precondition for sustainable tourism development of the region;
- Proposal for comprehensive monitoring system of sea water quality as the precondition for high quality tourism development;
- Identification of pollution sources and level of pollution.

The signing of the transboundary water management agreement between Montenegro and Croatia is under procedure. The steering body in charge of the bilateral cooperation should also be in charge of this activity of the Boka Kotorska demo project.

2. The Algerian demonstration area

<u>"The Reghaia wetlands, lake and coastal area"</u>

The recently implemented MAP CAMP "The Algiers Coastal Area Project" identified among others the Reghaia area as one of high priorities for an ICZM pilot project to be implemented building on CAMP findings and results. The major expected output is an ICZM plan for the area, to include biodiversity protection, improvement of lake freshwater quality and identification of a MPA in the coastal/marine zone to include the Agueli island. In-depth consultations were made with responsible national and local authorities, the scientific community and NGOs, and an agreement in principle reached on the essential lines of project formulation and implementation, once the needed conditions are met.

The Reghaia lake is located 30 km east of the city of Algiers, being a natural outlet of the Mitidja high plains. The lake and the surrounding wetland area presently have the legal status of PA - National Reserve. The area is under the administrative jurisdiction of the Reghaia and Heraoua municipalities. The lake surface counts for 75 ha, surrounded with 416 ha of agricultural lands, 24 ha of forest and uncultivated lands, and 10 ha of built areas.

The marine part counts for an aquatory of 863 ha, including the Agueli island of utmost biodiversity importance, being the sanctuary and nesting area for migratory birds (including the Big Cormoran - *Phalacrocora carbo* and the Goeland Laucophee - *Larus cahinnans*).

The coastal strip consists of sandy beaches and the system of dunes dividing the wetland area and the coastline, the vegetation including *Pancratium maritimum, Lotus Creticus, Amophila Arenaria,*

Chamaerop Humilis, Tamarix Africana, Plantago Cronopus, etc.

The wetlands area counts for 206 bird species, out of which more than 100 waterfowls, 57 species protected under the national legislation, 30 ones protected under intentional conventions and lists, among them the most rare *Marmaronetta angustrirostris, Porphyrio porphyrio, Anthya nyroca, and Oxyra leucocephala*. The area counts also for 21 mammal species, 3 of them listed in the CITES Annexes, 1 in the IUCN Red list. In addition out of 3 protected reptile species 1 is on the CITEX Annex list.

The entire coastal habitat is degrading and endangered, due to uncontrolled and increasing pollution by urban and agricultural waste water and uncontrolled expansion of urban areas and tourism facilities, needing urgent comprehensive integrated planning and rehabilitation programme. Actual negative impacts and potential very serious threats are caused by the nearby Reghaia Industrial Zone and communities of Reghaia and Heraoua. These impacts are characterised by (i) disappearance of faunal biodiversity, (ii) loss and degradation of agricultural and forest areas, and (iii) pollution of Reghaia lake, wetlands and aquifers.

The CAMP Algiers project outlines in general the needed pilot programme for the area, to include an ICZM plan, wastewater treatment and control, controlled and sustainable fisheries and forestry, as well as identification and establishment of a MPA to include the Agueli island.

The ICZM SP action intends to build on CAMP results, preparing an ICZM plan to be adopted by the national and local authorities, identification and establishment of the Agueli MPA, and development in parallel of the National ICZM strategy, to be adopted by the national authorities. Preliminary approval and support has been provided by the responsible national representatives, with an adequate co-financing in cash and kind to be expected, on the lines and approach applied for the CAMP Algiers project.

The major stakeholders will be the national authorities responsible for environment protection, fisheries, tourism, agriculture and forestry, as well as the local authorities and the two Municipalities. In addition to PAP/RAC, as major partners from the SP side, SPA/RAC, UNESCO and GWP MED will be included.

Sub-Component 1.3: Integrated Water Resource Management

Implementing Agency

Global Water Partnership – Mediterranean (GWP-MED) with support from Priority Actions Programme (PAP/RAC) and United Nations Educational, Scientific and Cultural Organization International Hydrological Program (UNESCO/HP)

Background/Context/Rationale

As of the 1990s, most countries started to realize that the 'business as usual' scenario of dealing with water management and water security issues was no longer suitable to cope with future challenges. Following a series of international, regional and national fora, and particularly after the 2nd World Water Forum (The Hague, 2000), there is consensus that IWRM is a means towards achieving sustainable development and that it can contribute significantly towards achieving several of the Millennium Development Goals (MDGs, 2000). Key concepts of an IWRM approach are presented in Annex I.

At the World Summit on Sustainable Development (WSSD) held in Johannesburg in 2002, the international community took an important step towards more sustainable patterns of water management by including, in the WSSD Plan of Implementation, a call for all countries to "develop integrated water resource management (IWRM) and water efficiency plans by 2005, with support to developing countries". The WSSD Plan of Implementation describes the actions leading to the development of the integrated water resource management and water efficiency.

The Mediterranean region is among the most water-stressed areas of the world. Apart from varying degrees of water scarcity, the Mediterranean countries face considerable water challenges. Many of them still suffer from lack of effective operational strategies; fragmentation of responsibilities between authorities; weak policy implementation; weak monitoring and assessment at the national and local level; limited technical, management and enforcement capabilities to address water resource issues; and financial constraints including lack of financial resources at affordable levels.

On a worldwide scale and in the Mediterranean region, many countries are currently in a stage of institutional reform, orienting priorities and practices towards an IWRM approach. In the north of the Mediterranean (EU Member States, EU Accession Countries and other Balkan countries), the EU Water Framework Directive (WFD) provides the main policy frame for water management. In the south and east of the Mediterranean, countries are taking steps towards IWRM. Until now (2005), only a very few countries have completed their national IWRM plans or their very close to and even attempt to gradually move in the implementation phase. Many countries are in the process of developing their national IWRM plans while a smaller group of countries are still in the very initial phase of preparation (see Supplementary information).

Regardless of the level of progress achieved until now it is important to encourage and assist, as appropriate, all the countries of the region in their processes towards integrated management of water resources. Addressing, in particular, environmental and biodiversity concerns in the process of IWRM planning and implementation is of major importance for achieving sustainable development in the countries of the Mediterranean.

It is recognized that there is no 'one-solution-for-all' as regards sustainable water management at national level; this is mostly due to country particularities, the large number of sectors involved and the complexity of managing and balancing diverse needs and often competing interests. Nevertheless, it is widely recognized that there is a wealth of valuable experiences to share at the regional, sub-regional and national levels and ground for a needed common strategic planning.

The situation gets even more complex when it comes to effective management of shared water resources, particularly since it often involves national sovereignties.

Description of activities, including demonstration and pilot projects

Within the general objective to supplement and support the achievement of the targets established by SAP MED and SAP BIO, the immediate objective of Sub-Component 1.3 is to facilitate action to promote IWRM planning at the national, transboundary and regional levels as a mean to reduce pollution from land based sources into the Mediterranean.

To achieve this objective, Sub-Component 1.3 on IWRM will:

- Promote policy dialogue with stakeholder participation including the private sector and support catalytic actions, at the national transboundary and regional levels, assisting countries to meet water-related MDGs and WSSD targets with an emphasis on IWRM including related environmental concerns.
- Support demonstration projects and capacity building at local, national and transboundary levels, aiming amongst others in maintaining environmental flows and functioning of water related coastal ecosystems and habitats/sensitive areas.
- Address biodiversity concerns and issues related to vulnerable habitats in national IWRM planning processes through consultation and assessment.
- Identify investment needs related to IWRM, taking into account biodiversity and water quality concerns.

Sub-Category 1.3 will implement activities for IWRM planning and application at the transboundary, national and local Levels.

At the regional and national levels it is recognized that, by its very nature, introduction of IWRM is highly context-specific and context-sensitive. The natural hydrological conditions provide the basis, but equally important is the political, legal, institutional, socio-economic and cultural setting. Therefore, the basic approach should account for the fact that the different countries are at various stages in their economic, political and social development. Accordingly, effective promotion and support of IWRM must take into account the local concerns and priorities and be based on national and possibly sub-regional approaches.

Though there is no “one size fits all”, it is recognized that commonly agreed principles and operational guidelines will assist countries and their administrations for a common understanding and for enhancing synergies with the stakeholders as well as the international community. Roadmaps for IWRM planning and application are needed in countries that are lagging behind process while targeted support could be provided in countries that are in a more advanced stage. Capacity building is critical if targets are to be met while pilot actions at the catchment level can present tangible results serving as demonstration of good practice. Activities at the national level will be implemented in close cooperation with the Mediterranean Component of the European Union Water Initiative as well as its Joint Process with the EU Water Framework Directive.

At the same time, many of the major rivers, lakes and aquifers in the region are shared between two or more neighboring countries. Inadequate cooperation between the riparian countries may threaten the effective IWRM planning and implementation at a river basin level risking also effectively addressing environmental and biodiversity concerns downstream, at the coastal zone of the Mediterranean sea. Furthermore, inadequate cooperation in the management of shared waters, in combination with incidents of degradation of water quality and/or water scarcity increase the potential for international conflicts thus posing a risk to stability and economic development in the region. Differences among the countries sharing the resource in socio-economic conditions, laws and institutions, managerial approaches as well as strong positions over issues such as historical rights, cultural values and political persuasions often present a rather complex situation. There is an important need for identification, design and application of solutions through which these shared water resources can become a catalyst for cooperation instead of a source of conflict.

Allowing these transboundary water resources to present an opportunity rather than a constraint to development, has led countries and the international community to undertake a series of initiatives. Among such initiative, the joint Petersburg Process Phase II / Athens Declaration Process support actions for capacity building and local IWRM planning. The Process is supported by Germany, Greece, GEF IW:LEARN, World Bank and other key partners in the region (UNECE, UNESCO/INWEB, UNDP, etc) and the countries (particularly of Mediterranean Balkans) of the region. Activities at the transboundary level will be implemented in close cooperation with the joint Petersburg Process Phase II / Athens Declaration Process and its partners.

Activities at the national and local levels will be closely coordinated, where applicable, with the activities of the GEF SPMM components on ICZM and Coastal Aquifers.

Main Outcome: Countries have increased capacity to manage their water resources effectively based on IWRM principles, including response to environmental concerns.

Main Output: Progressive adoption of IWRM policies, implementation of IWRM practices in pilot areas and building of capacity, including address of environmental challenges.

Activity 1.3.1. Develop Action Plan for Integrated Water Resources Management in the Mediterranean

Water is a defined priority in regional policy frameworks like the Barcelona Convention and its Mediterranean Commission for Sustainable Development (MSSD), the Euro-Mediterranean Partnership etc. Moreover, action plans on a range of water issues have been prepared and agreed under different formal and informal frameworks in the Mediterranean over the last 15 years. Among key reference documents are the Turin Plan of Action on Local Water Management (Euro-Mediterranean context, 1999), the recommendations of the Working Group on Water Demand Management of the MSSD (1997, 2002), the Framework for Action for Water in the Mediterranean developed through a multi-stakeholder consultative process by GWP (2000), etc. The IWRM concept has been introduced and developed mainly over the last 5 years and particularly after WSSD (2002). The Mediterranean Strategy for Sustainable Development (MSSD, 2005) has a chapter on water resources management and includes IWRM among its priorities. However, at the moment, in the Mediterranean there is no commonly agreed set of guidelines or a plan of action for addressing integrated management of water resources.
Based on international and regional experiences, an Action Plan for IWRM will be elaborated linking key challenges faced by the Mediterranean countries with the needed priority interventions for meeting water-related MDGs and WSSD Targets, including address of related environmental challenges. The Action Plan will be elaborated as a common regional Mediterranean plan, recognizing and addressing sub-regional challenges, including considerations for shared water resources.

The Action Plan will describe priority types of interventions like IWRM policy development and planning; institutional strengthening and law enforcement; management measures; investments; capacity building and training; education; etc. Recommendations for actions will be linked with potential donors' priorities. The Action Plan will make reference to on-going and planned regional and sub-regional initiatives undertaken by international organizations, agencies as well as countries.

The Action Plan will be discussed and agreed at a Regional Conference of high-level country representatives. Representatives of key international and regional organizations and stakeholder networks will participate as observers. The Conference will be properly invited and be hosted by a Mediterranean country. Coordination with MAP/UNEP and the related GEF SP action planning activities on ICZM and Aquifers will be secured.

Activity 1.3.2. Catalyze Action and Build Capacity on National IWRM Planning

IWRM planning contributes in the sustainable management of the resource by creating an operational framework for building an enabling environment, establishing institutional roles, enhancing financing strategies and applying management instruments. Countries that have not developed yet IWRM plans

or they are in need for revisiting their existing plans or strategies will be assisted through catalytic actions and capacity building on national IWRM planning.

The activity will provide technical support through focused policy workshops and training courses for the preparation of IWRM Roadmaps and elaboration of strategic parts of the full-scale IWRM plans. Depending on specific country needs agreed with the governments of the countries where the project will be implemented, activities will have a focus on:

- Policy instruments,
- Legal and regulatory frameworks,
- Mechanisms for consultation and participation,
- Role of management agencies (including river basin or hydrographic organizations),
- Mechanisms to achieve financial sustainability,
- Environmental issues in IWRM planning.

Moreover, the activity will enhance stakeholders' involvement by building their capacities in core IWRM competencies such as participatory approaches, conflict resolution, fundraising, local action planning and management.

Policy workshops and targeted training courses (the exact number is pending on conditions per country) will be implemented in two (2) countries.

GWP-Med and UNEP UCC will prepare and manage the activity. National authorities will have a key role in the project and a wide range of stakeholders will be involved. Co-ordination will be established with PAP/RAC and UNESCO in the countries where activities will be implemented.

Activity 1.3.3. Develop IRBM plans in globally important river basin(s) and adjacent coastal area

Development plans and plans for the protection of the environment, in particular those concerning enhancement of the use and protection of watersheds and their adjacent coastal areas should be considered simultaneously. The protection of waters and the sea, either as an integral part of water management or as part of integrated land-use management, should follow the principles of integrated planning, development and management of environment and space. The interactive and functional relationships between the coastal areas and river basin areas have been accentuated by the growth of economic, urbanisation and tourism activities, changes within the infrastructure systems, and needs to supply coastal settlements and tourist facilities with fresh water, energy and food among other necessities.

The activity will build on the principles of UNEP-PAP/RAC "Conceptual Framework and Planning Guidelines for Integrated Coastal Area and River Basin Management" and the experience on IWRM planning developed by international organizations including GWP as well as related demonstration projects implemented in the region. The activity will be supported with broad stakeholder involvement through meetings and workshops organised.

Actions will also be developed in close cooperation with the MED-EUWI/WFD Joint Process, coordinated by the European Commission, DG Environment. Within the Joint Process, non-EU Pilot Basins are identified to play the role of front-runners for the implementation of the IWRM and WFD principles and good practices. These may include testing of recommendations produced by the Mediterranean Working Groups on Water Scarcity, Agriculture and Groundwater Management that are active within the Joint Process.

The activity will include:
- Joint drafting of Integrated River Basin Management Plan (IRBM);
- Organisation of national and local workshops to ensure broad stakeholder involvement in IRBM Plan preparation and implementation;
- Finalising IRBM plan with implementation instruments included;

- Identification of priority investments in protection and rehabilitation of valuable coastal areas.

IRBM Plans will be prepared in two (2) selected area of importance for IWRM and biodiversity protection, including programme and tools for its implementation. The plans will include the list of priority investments needed with short pre-feasibility outlines. One related national workshop and a number of local consultation meetings would be organised for each area. The activity will provide opportunity to test on real cases and with an integrated approach ICZM and IWRM principles and parameters, which have enough similarities but often present differences in the focus of approaches and themes tackled.

GWP-Med and PAP/RAC will prepare and manage the activity. Details of involvement are to be discussed with UNESCO and SPA/RAC. National institutions of selected countries will be engaged as stakeholders and partners in the activity.

Activity 1.3.4. Prepare Short List of Transboundary Basins and Water Issues suitable for interventions and the implementation of pilot projects

Building on work done in the region by GEF, World Bank and other organizations, an assessment will provide a short list and analysis of shared water bodies in the region where concrete interventions and strategic investment can be undertaken by international donors responding to priority local needs and producing results of high visibility and replicability (e.g. improved governance and institutional settings, local infrastructure, joint measures for biodiversity conservation, etc). The assessment will contribute and benefit from the on-going work of the Petersburg Phase II / Athens Declaration Process.

The assessment will cover approximately 15 transboundary water bodies (see Annex in Supplementary Information paragraph for a “Possible format for a profile of a shared water body”).

GWP-Med will prepare and manage the activity. Cooperation with PAP/RAC and UNESCO will be secured and links will be made with related SP activities. Donor agencies will be consulted on the process. The consultations foreseen to be organized within Activity 1.3.2 and 1.3.3 will provide opportunity to consult with countries and stakeholders on the findings and to implement strategic follow up actions including raising of political and approaching donor agencies. The activity may also provide background for the development of the Project Investment Fund.

Demonstration Projects

1. Transboundary Montenegro-Albanian demonstration area

<u>Skadar (Alb.: Shkodra) lake - Bojana (Buna) river and estuary</u>

The "Skadar lake-Bojana" demonstration area is shared by Montenegro and Albania, the border line dividing the lake, the border also going along a part of the Bojana river. The lake surface counts for 370 km sq., out of which 221 km sq. belong to Montenegro. The lake is predominantly shallow (4-7 m depth) with some deeper underwater springs (8-44 m depth). The influx of freshwater is provided by 6 relatively short rivers, 3 in Montenegro and 3 in the Albanian area.

Bojana is the offspring river, 41 km long, out of which 24 km are the borderline, with a large estuary in the lower Adriatic, nearby the coastal city of Ulcinj. In a distance of 1,3 Km from its spring, Bojana is connected with Drin river through a man-made channel. Bojana receives water input from a very complex hydrographical net which lies almost in the 1/5 of the Balkan peninsula in Albania, Monenegro, Serbia / Kosovo, FYR Macedonia and Greece (Lakes Skadar, Ohrid and Prespa as well as Drin river). This hydrographical network determines the hydrologic regime of Skadar Lake, Bojuna River and their tributaries in the catchment area and has an important impact on the morphology and pressures in the Bojana delta.

The major economic activities in the area are industry, fisheries, tourism, sustainable agriculture and maritime transport and harbour activities.

Both the lake and the river are rather strongly polluted, the major sources of pollution being: urban and industrial untreated or only partially treated wastewaters; partly agriculture; and growing but uncontrolled development of tourism facilities. High levels of eutrophication were monitored in the Bojana estuary affecting the marine environment, biodiversity, also tourism, in particular the Ulcinj Great Beach area. Valuable landscape and habitats are endangered and affected by uncontrolled or poorly regulated changes in land-use. In 2003 the Regulatory Concept for the Ulcinj Great Beach area has been adopted, including provisions for biodiversity protection and pollution abatement, with one EIA prepared, but the implementation of the rehabilitation process still waiting comprehensive planning and funding. Problems related to erosion and sedimentation are encountered in Bojana river because of its connection with Drin particularly during high discharge periods.

The Skadar lake area is of particular biodiversity importance, included in the RAMSAR List. The Montenegro part of the lake area has the status of a nature park, with regulation concerning controlled and sustainable fishing, protection of forest areas, valuable habitats and nesting/migratory birds areas. Nevertheless, the park does not include the Bojana River and its delta. Moreover, so far the Albanian part has no protected status. As a consequence, fishing is uncontrolled and together with illegal fishing in the Montenegro area resulting with serious depletion of fish stocks. The designation of a Ramsar site in the greater area of the lake and the river are under discussion.

The lake is extremely rich in biodiversity; with total BD SA index of 0,8752, with biogenetic resources of European importance, rich in relict species and endemic ones. The information on biodiversity in the area is rather abundant. Inventories identify: 257 invertebrate species; 56 fish species (out of which 14 autochthonous and 15 endemic); 51 species of amphibians and reptiles, predominantly endemic; 271 bird species (90% migratory); 50 mammals species; 726 algal ones. The forest areas are abundant with *Salicetum albae*, *Quercus robur ssp scutariensis*, degraded chestnut and Turkey oak, Oriental hornbeam, most degraded.

The ICZM and IWRM SP demonstration action is envisaged as a joint Montenegro-Albanian one, aiming at preparation of a joint comprehensive transboundary ICZM and IWRM planning document, and initiatives for harmonisation of protection level and practices, to be liaised with actions concerning the formulation and adoption of respective National Strategies and plans. The action will build on results and experiences from preceding ICZM and IWRM activities at transboundary, national and local levels, including experiences of implemented MAP CAMP projects, one of them bordering the lake and the Bojana estuary area. Operational links will be secured with the on-going GEF project (PDF-B phase) for the Skadar Lake Integrated Ecosystem Management.

The major stakeholders in each country will be the national authorities responsible for: nature protection; water management; development and land use planning; fisheries; tourism; agriculture, forestry; maritime transport; the Montenegro Public Agency for ICZM; scientific institutes; local authorities and qualified NGOs. In addition to PAP/RAC and GWP-Med, the major SP partners will be SPA/RAC and possibly UNESCO, to provide for respective professional support and guidance.

2. The Lebanese demonstration area

<u>"The Litani (Qasmieh) river watershed"</u>

Water resource management is one of key problems of natural resource management in Lebanon, due first of all to non-uniformity in precipitation distribution. About 80% of total precipitation occur in 3-months period when water, for irrigation in particular, is least needed. Secondly, difficulties in storing water are due to geological (karstic formation) and geomorphologic (narrow and steep valleys) conditions in the coastal area.

The coastal rivers have relatively small catchment areas (averaging 200 km2), as well as small running water length (less than 50 km). The main sources which replenish these rivers are rainfalls.

During the last thirty years, a dramatic decrease in the discharge of these rivers occurred and, in fact, some are becoming dried except in the heavy wet seasons. The inner rivers are almost all shared rivers with neighboring countries, but all are discharging from the Lebanese territory.

An important percentage of water supply in the Southern Lebanese coastal area is derived from groundwater through wells or springs, the Sannine aquifer being the major aquifer, other minor ones being the Eocene, the Quaternary, and the Kessrouane one. The ground water is exploited through a large number of wells, out of which more than 200 functioning as public water supply wells. The ground water aquifers are heavily exploited, inducing saltwater intrusion phenomena. The negative discharge/recharge balance for the Sannine aquifer only has been calculated as between 64 and 127 Mm.cu/y.

The water supply infrastructure is old and inadequately maintained (loss in distribution network exceeding 50%). Industrial and urban waste treatment is insufficient, resulting with surface and groundwater pollution. Uncontrolled industrial and urban waste dumping and/or discharge in the marine environment results with marine pollution and high negative impacts on marine biodiversity and habitats.

The relevant legal framework is outdated and with gaps and overlapping of responsibilities. A re-organisation of the water administration is underway while a shift towards a watershed management is envisaged. Within on-going reforms, the past 21 water authorities were merged into 4 public water establishments (Beirut and Mount Lebanon, North Lebanon, Bekaa, South Lebanon). An Investment and Planning Programme supported by the EU is supporting the process. It is recognised that this is a critical moment for Lebanon efforts for progressing with IWRM.

The Lebanese coastal area is rich in biodiversity of high national and international values. Inventorying, although incomplete and with large gaps in knowledge, reports on hundreds of species of phytoplankton, algae, lichens, mushrooms, phanerogames, zooplankton and benthos. In addition, 357 fish species are reported, 21 species of cephalopods, 4 species of turtles and 6 species of marine mammals. All this richness of biodiversity is heavily affected by increasing pollution and degradation of the respective habitats, as well as by over-fishing and unfriendly exploitation practices.

It should be noted that the recently implemented MAP CAMP "Lebanon" project, analysing the overall situation in the Southern Lebanese coastal area elaborated an outline for the national one strategy, including water resource management, biodiversity protection and integrated planning and management. As high priority needs identified were: (i) preparation of ICZM NAP and Strategy, (ii) introduction and applying on watershed based IRBM methodology and tools, and (iii) radical improvement of waste management system and practices. In addition the project outputs provided a solid base for respective further actions and projects to be implemented.

Explicitly, due to the natural characteristics and problems related with the pollution of the river basin and adjacent marine area, the CAMP Final Report identified among top priorities the need for the preparation of a detailed IWRM plan, to include also the adjacent marine area, integrating all relevant economic and social aspects of the basin.[3]

Within the actions of LME MED SPA project, both the ICZM and IWRM components envisaged the implementation of a demonstration watershed based integrated water resource management project, to be implemented in Lebanon, to build upon results and findings of the MAP CAMP "Lebanon" project. Furthermore, among the SAP BIO activities to be implemented by SPA RAC, the action on the establishment of the National Park for the nearby Lebanese Palm island provides the opportunity for a cost efficient assistance related to biodiversity aspects relevant to the river basin. Finally, Litani river basin was identified by the two SP components as a good demonstration site for an IWRM project.

[3] For in-depth information, refer to documents: "MAP CAMP Project: Lebanon, Final Integrated Report", MAP Technical Series No. 160, UNEP/MAP, Athens 2005, and "MAP CAMP Project: Lebanon - Integrated Water resources management in CAMP area with demonstrations in Damour, Sarafand and Naqoura Municipalities" - Final Report, PAP/RAC and Ministry of Environment, Lebanon, Split-Antelias, 2003.

The Litani River is the longest river originated and flowing entirely in Lebanon. It rises in the Bekaa valley from karstic springs, in its lower sector receiving affluent of Ouadi Qasmieh, flowing in the Mediterranean Sea north of the city of Tyre. The river has a catchment area of about 2500 km2. Its average annual flow at the river mouth is 13 m.cu./sec, while the annual yield for 2001/2002 has been evaluated at 63 Mm.cu./y; 96% of it during the December-April period. During the last decade a sensible decrease of river water yield were reported, presumably due to over exploitation and perhaps due to impacts of climate change.

The joint demonstration action will include the inputs related to integration of all components in a joint ICZM and IWRM comprehensive plan, to involve all relevant national and local responsible and stakeholders.

In addition, the ICZM component of the Lebanese action will include the preparation, final drafting and submission for approval the draft version of the Lebanese National ICZM Strategy and plan, already drafted and discussed as preliminary within the CAMP Lebanon project.

The major partners to implement this activity will be PAP/RAC and GWP MED in collaboration with SPA/RAC and possibly UNESCO, while the final list of national counterparts and stakeholders will be jointly finalised by the MED SP partners involved. This will include the national authorities responsible for water and energy; environment; public works and transpost; agriculture; public health; social affairs; the South Lebanon Water Establishment; the Litani River Authority; local communities; user association; civil society organisation; research institutes, etc.

Actions will also be developed in close cooperation with the MED-EUWI/WFD Joint Process, coordinated by the European Commission, DG Environment. Within the Joint Process, non-EU Pilot Basins are identified to play the role of front runners for the implementation of the IWRM and WFD principles and good practices. These may include testing of recommendations produced by the Mediterranean Working Groups on Water Scarcity, Agriculture and Groundwater Management that are active within the Joint Process.

Risk and Sustainability

Risks for the successful implementation of activities and related responses include:
Risk: Sectoral water resources management remains dominant and integration is limited or fragmented at the level of projects.
Response: Over recent years and particularly after WSSD, countries have recognized the necessity of IWRM and have committed to its promotion and application through the WSSD Plan of Implementation. Support, implementation and monitoring mechanisms are developed in the majority of the countries of the region and would act complementary to and, where possible, in synergy with the activities described in the project.

Risk: Limited political will and commitment to action
Response: Engagement of responsible water authorities through inclusive coordination mechanisms will assist for increased level of commitment. Particularly at the government level, pro-active engagement of national authorities further to the agency where the GEF Focal Points seats (if and where relevant) will assist towards this end. At the level of stakeholders' participation, the design of activities foresees their active involvement form the outset.

Risk: Conflict situations and lack of political commitment to cooperate on transboundary water resources management
Response: Project actions are targeted to areas where some form of cooperation exists and willingness for joint action has been demonstrated. Nevertheless, if such situations emerge, mitigation strategies involve awareness creation and dialogue.

Risk: Inadequate implementation of activities

Response: Institutions involved in the implementation of activities have established capacities and expertise to appropriately respond and deliver the objectives. Activities are demand driven proving the interest by countries and stakeholders to cooperate.

Risk: Ineffective coordination due to the wide range of activities
Response: Project implementation arrangements and coordination mechanisms are an integral part of the project design.

Risk: Inability to meet co-financing commitments
Response: Being a major financing risk for the smooth implementation of the project, the coordination unit will pro-actively monitor the co-financing aiming to identify likely problems in advance, report to committees established through the project as well as to competent agencies and respond as appropriate.

Based on these, the level of project risk is considered reasonably limited, particularly since no heavy investments are involved.

Through related activities, all components of the project are designed to ensure that achievements will be sustained after completion. The project will develop operational links with major on-going processes and initiatives providing opportunities for concrete follow up actions.

A significant proportion of the project activities are designed to strengthen national and local capacities for IWRM. It is anticipated that the project activities will strengthen engagement of government authorities and stakeholders and will enhance opportunities for follow up actions. Therefore, a sustainability of components and activities can be expected beyond the life of the project.

Linkages with other programmes and initiatives

The Sub-Component 1.3 will be linked and cooperate with on-going key processes and initiatives at the regional and national levels, including:

- National Action Plans (NAPs),
- GEF initiatives and projects addressing IWRM issues at the regional, national and transboundary levels,
- Mediterranean Commission on Sustainable Development (MCSD) and its Working Group on water as well as its work for the implementation of the Mediterranean Strategy for Sustainable Development,
- Horizon 2020 Initiative to De-pollute the Mediterranean, launched by the European Commission and supported by various partners,
- European Neighborhood Policy and its National Action Plans,
- Mediterranean Component of the EU Water Initiative (MED EUWI) and the Joint Process between the Water Framework Directive (WFD) and MED EUWI. MED EUWI is led by Greece and is supported also by the European Commission. The Joint Process is led by the European Commission.
- African Water Facility (AWF). AWF is an Initiative of the Africa Ministers Council on Water (AMCOW) and a major outcome of the effort of implementing the African Water Vision and Framework for Action. The initiative supports water actions in Africa and is designed to mobilize investment for the water sector. It is hosted by the African Development Bank Group on behalf of the AMCOW.
- Petersburg Process Phase II / Athens Declaration Process on Transboundary Water Resources Management, led by Germany, Greece, GEF IW:LEARN and World Bank.
- Mediterranean Technical and Assistance Programme (METAP) and its work on water quality,
- On-going work and support of UNEP for achieving the 'IWRM 2005 Target' in North Africa countries, coordinated by UCC-Water.
- UN ESCWA, UN ECE, UN ECA, UNDP and their programmes on water resources management,
- UNESCO Regional Office in Cairo and its programme on water resources management,
- Arab Water Council and its work on IWRM planning and implementation,
- UNEP-GPA and its work on innovative financing for the environment,

- UNESCO and Sub-Category 4 on coastal aquifers,
- PAP/RAC and Sub-Category 6 on ICZM,
- CapNet and its network on capacity building for IWRM planning,
- GWPO and its Technical Advisory Committee (TAC).

Supplementary information

A. Concepts of the IWRM approach
B. Status of IWRM Plans in developing Mediterranean Countries
C. Description interventions to catalyze IWRM planning in selected countries
D. Criteria for demonstrations sites under the projects
E.Format for a basic profile of a shared water body
F. Note on MED EUWI Dialogues
G. World Summit on sustainable development plan of implementation (Paragraphs 25 & 26)

A. Concepts of the IWRM approach

IWRM approach[4]

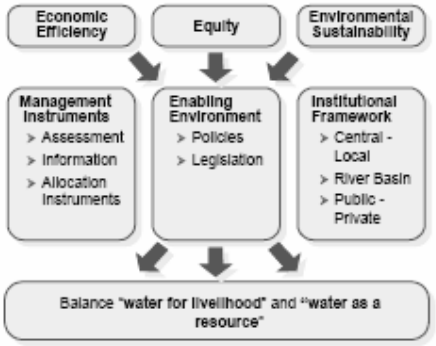
IWRM is defined as a process that promotes the coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems. This approach promotes more coordinated development and management of:
- land and water,
- surface water and groundwater,
- the river basin and its adjacent coastal and marine environment, and
- upstream and downstream interests.

IWRM is also about reforming human systems to enable people to obtain sustainable and equitable benefits from those resources. For policy-making and planning, taking an IWRM approach requires that:
- water development and management takes into account the various uses of water and the range of people's water needs
- stakeholders are given a voice in water planning and management, with particular attention to securing the involvement of women and the poor;
- policies and priorities consider water resources implications, including the two-way relationship between macroeconomic policies and water development, management, and use;
- water-related decisions made at local and basin levels are along the lines of, or at least do not conflict with, the achievement of broader national objectives; and
- water planning and strategies are incorporated into broader social, economic, and environmental goals.

The "3 pillars"

An IWRM approach focuses on three basic pillars and explicitly aims at avoiding a fragmented approach of water resources management by considering the following aspects:
1) an *enabling environment* of suitable policies, strategies and legislation for sustainable water resources development and management
2) putting in place the *institutional framework* through which to put into practice the policies, strategies and legislation
3) and setting up the *management instruments* required by these institutions to do their job.

[4] Policy Brief (TEC): Unlocking the door to social development and economic growth: how a more integrated approach to water can help.

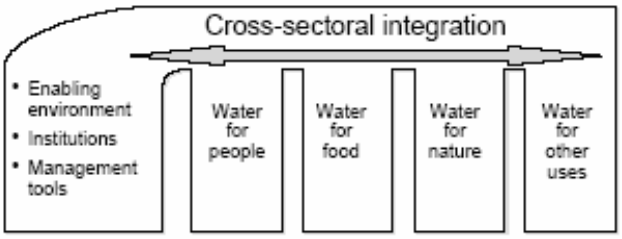


The "three pillars" of Integrated Water Resources Management

Integration[5]

A fundamental aspect of IWRM is the integration of different sectoral views and interests in the development and implementation of the IWRM framework. Integration should take place both horizontally – i.e. across sectors, and vertically – i.e. across different tiers of authority. Integration within the natural system concerns for instance the integration of land and water management, surface and groundwater, upstream and downstream water related interests, recognizing the full hydrologic cycle. Integration within the human system relates especially to cross-sectoral integration of policies and strategies and participation of all relevant stakeholders in the decision-making processes.

To secure the co-ordination of water management efforts across water related sectors, and throughout entire water basins, formal mechanisms and ways of co-operation and information exchange need to be established. This should be done at the highest political level and established in all relevant levels of water management. It is additionally essential that IWRM harmonize with and shows consistency with government policies and national or sectoral development plans. Thus, it is important to be aware of the links of IWRM with plans and processes at the national and sectoral level and take these into account during the planning process.



IWRM and its relation to sub sectors[6]

IWRM – a "process"

IWRM is a long and systematic "process" where water is considered as a finite and vulnerable resource for which policy should be expressed in a cross-sectoral process, which guarantee that participation of representatives of sectors and stakeholder groups is provided for in the policy processes. Water as a resource along with its management and development is unique to the social, cultural, economic, geographical and historical reality/context of each country. This is why the IWRM approach has to be contextualized to be effective. The required process leading towards Integrated Water Resources Management is illustrated below in the Integrated Water Resources Management process cycle.

[5] Source figure: "IWRM & WE Plans by 2005" – Why, What and How?
[6] Source figure: GWP (TAC) Background Papers No. 4, IWRM

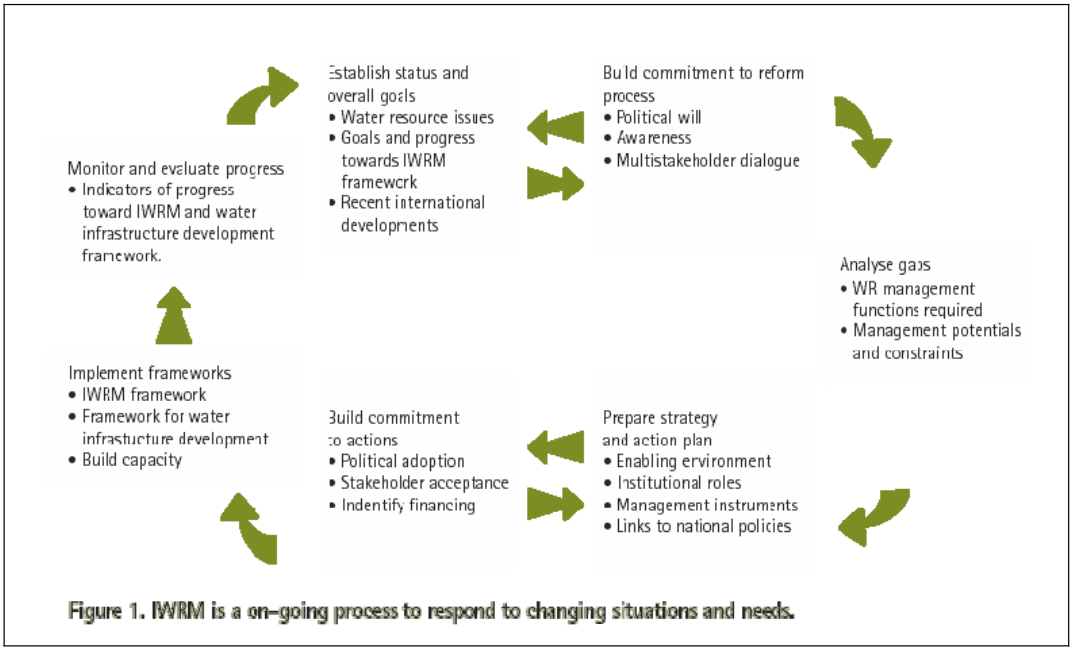


Figure 1. IWRM is a on-going process to respond to changing situations and needs.

The Integrated Water Resources Management Cycle

IWRM & WE Strategies/Plans[7]

The IWRM and WE plans provide the context and prerequisite for safe water supplies for domestic and other areas and basic sanitation for the population in order to guarantee sustainability. The IWRM and WE plans should aspire to institutionalize long term changes that will improve decision-making on a permanent basis. They should address specific objectives and goals for the national interest of the people and the environment in a holistic way - looking at water as a resource and means that all uses of water resources are considered together. Some countries have already initiated or been through the kind of development required by WSSD and have engaged in IWRM planning processes during several years, resulting in new national policies, strategies and laws for their water resources development and management. A number of national institutions in the water sector in different regions have taken holistic and integrated planning and management of water on board, making them IWRM friendly. In other countries, the legislative framework and policy directives remain highly sectoral and fragmented and many mandates and responsibilities are badly defined and/or duplicated.

Creating an IWRM strategy or plan[8]

Involvement from various sectors:
While a traditional water plan is usually designed and implemented exclusively by a water agency, an IWRM strategy/plan requires input and buy-in from all sectors that impact and are impacted by water development and management – for example, health, energy, tourism, industry, agriculture, and environment.

Broad focus:
Whereas traditional water plans tend to be concerned exclusively with water supply and demand issues, an IWRM strategy looks at water in relation to other ingredients needed to achieve larger development goals.

Dynamic rather than static:

[7] Source figure: "…Integrated Water Resources Management (IWRM) and Water Efficiency Plans by 2005" – Why, What and How? By Torkil Jønch-Clausen (2004).
[8] Catalyzing Change: a Handbook for developing integrated water resources management and water efficiency

Unlike a traditional water plan, an IWRM strategy/plan aims at laying down a framework for a continuing and adaptive process of strategic and coordinated action.

Stakeholder participation:
Because it calls for change – and therefore buy-in-at multiple levels, IWRM strategy/plan development calls for far broader and more extensive participation from stakeholders than a traditional planning process.

B. Status of IWRM Plans in developing Mediterranean Countries

Albania has a Water Strategy (2004). Albania has signed the Stabilization and Association Agreement with the EU (2006), is a Potential EU Candidate Country and gradually abides to principles and conditions of the EU Water Framework Directive.

Algeria has a National Plan for Water (2005) and is preparing an Action Plan for implementing an IWRM framework. The Action Plan is expected to be finalized in 2006.

Bosnia and Herzegovina has an outdated Water Management Master Plan (1994) and is in progress of drafting a Water Protection Strategy. Bosnia and Herzegovina has started negotiations for Stabilization and Association Agreement with the EU (2005), is a Potential EU Candidate Country and gradually abides to principles and conditions of the EU Water Framework Directive.

Croatia has a National Water Protection Plan (1999) and is preparing a Water Management Master Plan. Croatia has signed the Stabilization and Association Agreement with the EU (2005), is an EU Candidate Country and gradually abides to principles and conditions of the EU Water Framework Directive.

Egypt's National Water Resources Plan (NWRP, 2005) corresponds to an IWRM Plan. The NWRP is a comprehensive plan developed over six years with stakeholder involvement. The implementation framework is under preparation.

Jordan has a Water Strategy and Water Policy (2003) and a National Water Master Plan (2003) that corresponds to an IWRM Plan.

Lebanon has a Work Plan 2000-2009 (for the Ministry of Energy and Water, 1999). The Work Plan includes elements of an IWRM Plan, but it is focused on domestic water supply and is lagging behind in implementation. A re-organisation of the water administration is underway while a shift towards a watershed management is envisaged.

Libya has a National Strategy for Water Resources Management 2000-2025 (1999) which sets the platform for the water policy. The legal framework includes an obligation to elaborate an IWRM Action Plan/Strategy, but this has not yet adequately progressed.

Morocco has Master Plans of Integrated Water Resources Development for River Basins (PDAIRE) and is preparing a National Water Plan to serve as an IWRM Plan. Completion is expected within 2006 and a national consultation process is in progress.

Montenegro shared to a large extent legislation and plans with Serbia. Updated information is not available.

Palestinian Authority has a National Water Plan (2000) and an Integrated Water Management Plan for West Bank and Gaza (2003) that corresponds to an IWRM Plan. Water regulation is under further development.

Serbia has a Water Resources Master Plan (2002). Serbia has started negotiations for Stabilization and Association Agreement with the EU (2005), is a Potential EU Candidate Country and gradually abides to principles and conditions of the EU Water Framework Directive.

Syria has a Water Sector Analysis (Ministry for Irrigation, 2000). There is no evidence of an existing IWRM plan in place or in progress.

Tunisia has a long term Strategy for the Water Sector (2003) and is preparing an IWRM Plan and expects completion within 2006.

Turkey has a number of laws and plans though there is no evidence of an IWRM plan in place. Turkey is an EU Candidate Country and gradually abides to principles and conditions of the EU Water Framework Directive.

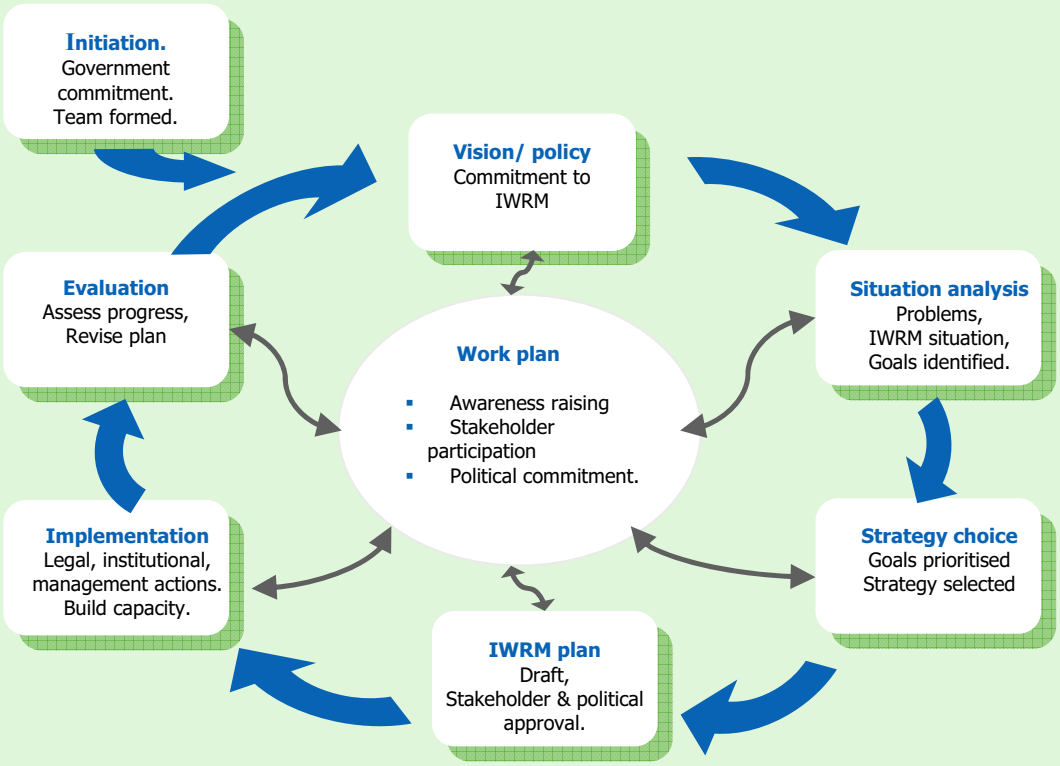
C. Description interventions to catalyze IWRM planning in selected countries

Planning to introduce an IWRM approach to sustainable management and development of water resources may take several forms. The most powerful reason is to address priority water problems affecting society and this may result in focused action gradually progressing towards IWRM. More commonly, the recognition that water problems are symptomatic of a deeper failure of water management systems leads to long term planning with an agenda for more sustainable use of water resources. The identification of water as a key factor in poverty reduction and sustainable development also drives national planning on water.

An ultimum output of the process will be an IWRM plan, endorsed and implemented by government. In the process the stakeholders and politicians will become more informed about water issues, the importance and the benefits from addressing sustainable management and development of the water resources. The plan may be more or less detailed depending upon the present situation in the country but will identify longer term steps that will be required to continue along a path to sustainability, social equity and efficiency of use.

There are ten (10) key elements identified for supporting the making the Plan:

FIGURE. THE CYCLE FOR DEVELOPING AND ADJUSTING AN IWRM PLAN



A. Initiation
1. Raise political will and awareness on IWRM, and build support for the required reform process.
2. Create/strengthen multi-stakeholder platforms for dialogue and knowledge exchange.
3. Prepare detailed work plans, and monitoring and evaluation procedures.

B. Vision/policy
4. Create a framework for broad stakeholder participation.
5. Prepare capacity building activities for implementing the reform process.

C. Situation analysis and strategy choice
6. Identify water resources management challenges and functions.
7. Identify management potential and constraints.
8. Ensure knowledge from past and ongoing activities is fully available as a resource.

D. IWRM plan
9. Prepare the Action Plan and Transition Strategy towards IWRM and ensure adoption at all political levels.
10. Prepare detailed programme and funding strategies for the reform process.

Countries in the Mediterranean are at different stages of IWRM planning development and present a variety of needs. Nevertheless, there are many commonalities per sub-region that favor replication of interventions.

Based on the above steps / interventions, the SP project will implement demand-driven activities in 4 countries:
- In two (2) countries that are lagging behind the IWRM process (Libya and Syria present cases for such interventions in levels A and B); and
- In two (2) countries that have already made progress, though in varying stages, and are in need for assistance in selected parts of the process (Morocco that is advanced and runs a thematic consultation and Lebanon that is in a stage of reforms present cases for such interventions in levels C and D).

D. Criteria for demonstrations sites under the projects

The selection of the Demonstration Projects will be guided *inter alia* by the following:

- *Conformity with GEF programme*: Demonstration projects should address at least one of the following GEF Operational Programs Focal Areas – Biodiversity or International Waters. Higher relevance of interventions proposed under the projects for both focal areas would be an advantage.

- *Conformity with MAP programme and programme of other regional institutions*: Priority should be given to projects which promote well advanced activities of existing regional institutions. Notable example would be projects that demonstrate possible benefits of adopting an ICZM Protocol for Mediterranean and / or advantages of use of ICZM tools and techniques.

- *Multi-faceted nature of projects*: Projects should aim as far as possible at demonstrating how ICZM may serve as a framework for integrating water resources management and/or biodiversity issues into an overall planning system.

- *Global / regional / sub-regional / transboundary nature of projects*: Projects should clearly respond to the environmental benefits in the region and contribute to overall global environmental benefits. In this respect Projects selected may have a sub-regional outlook or be of a transboundary nature.

- *Hot spot targeting*: Projects must target relevant hot spots identified by the countries. The Strategic Overviews prepared for each country could serve as a starting point for identifying the hot spots.

- *Sustainability*: Projects, which demonstrate possibility for economic development and/or poverty alleviation, would have an advantage in the selection process. Also, the Projects, which deliver benefits beyond the life cycle of the interventions, would be preferred.

- *Favourable political environment*: Clearly expressed willingness of national / local authorities to support implementation of a demonstration project is a strong sign in favour of the project.

- *Acceptability by local population*: Demonstration projects are meant to have an overall positive effect on relevant local population. They could, however, negatively affect some society groups. It is imperative that expected outcomes of a project be introduced to local population prior to its implementation and their support to the project obtained.

- *Co-Financing:* Only projects likely to attract adequate domestic funding and/or external support shall be considered. Projects demonstrating strong co-financing shall be given priority.

- *Cost-effectiveness*: For a given budgetary limit, demonstration projects should yield a set of well-structured and tangible activities, which contribute to success of an overall objective of the intervention.

- *Replicability:* Projects' principles should be replicable in other countries of the region. They should promote sharing of experiences, enhancing regional co-operation and collective learning.
- *Performance criteria:* Projects should achieve measurable concrete preliminary results in a designated time.

- *Capacity Building*: Projects should be selected taking into account relevant national / local capacities for their implementation. Capacity building should be an integral part of the planned project activities.

- *Availability of data*: Implementability of a demonstration project is positively related to existence of relevant data and its availability.

- *Participatory approach:* Project outcomes should demonstrate a direct causal connection between increased participation and increased sustainability of proposed interventions. Projects should yield strong ownership with all partners including the government, the private sector, civil society including NGOs and the scientific community.

- *Maximisation of use of regional expertise:* Projects should aim at maximising the utilisation of national/local experts and institutions.

- *Geographical balance:* Balance between GEF eligible countries in the region should be sought.

E.Format for a basic profile of a shared water body

0. NAME OF THE SHARED WATER BODY

1. GENERAL INFORMATION

1.1. Location
Provide information on (i) geographical boundaries, (ii) size and (iii) connection with other water bodies

1.2. Major physical characteristics
Provide key information on (i) topography, (ii) geology, (iii) climate and (iv) land types

1.3. Major socio-economic characteristics
Provide basic information on (i) urban / rural areas, (ii) population, (iii) major economic activities and (iv) cultural background

2. WATER RESOURCES

2.1. Hydrology
Provide information on (i) surface water, (ii) groundwater, (iii) water quality, (iv) variation in time and space, (v) extreme events, (vi) trends though time, etc.

2.2. Human impacts on water resources
Provide information on (i) surface cover / non-point sources, (ii) pollutants /point sources (iii) dams and diversions, (iv) agriculture / aquaculture, etc.

2.3. Data and information on water resources
Provide information on major assessments for the area and on existence of monitoring programmes. Eventually, provide expert judgment on monitoring systems status (adequacy, accuracy, reliability , consistency, deficiencies).

3. USES, NEEDS and DEMANDS
Identify existing uses, needs and demands as relates to water (i) for people, (ii) for food, (iii) for nature / ecosystems, (iv) for industry, (v) for energy, (vi) for other uses.

4. MANAGEMENT SETTING

4.1. International agreements / conventions and national legislation
List and provide information on existing formal international agreements / conventions as well as on national legislation, including participating / enforcement institutes, principal focus themes (e.g. water supply, pollution, environmental protection, navigation, hydropower, industrial uses, flood control, fishing, etc), key regulatory provisions ((including allocation and rights), management provisions and foreseen revision processes (if they exist). Provide similar information on informal agreements. Eventually, provide expert judgment on their enforcement and compliance.

4.2. Institutions / Planning and decision making processes distribution of responsibilities
Provide information on established or foreseen institutional arrangements, planning and decision making processes; indicate whether there is a master plan in place. Eventually, provide expert judgement on the level of efficiency of the existing arrangements.

4.3. Finances

Provide information on financial resources mobilized for running the management system (if exists), including domestic capital, multilateral and donor aid, private capital, private-public partnership. Eventually, provide expert judgement on (i) level of area's integration into current investment policies and priorities –at all levels- and (ii) the scale of funding that would be required for a proper functioning of a management scheme (based on related assessments, if they exist) and actions of immediate priority.

4.4. Past and present major projects (including listing of donors' interest)
List and provide information on major past and current project, including title, main themes tackled, major achievements, major obstacles, financial resources, lead organisation, key partners.

4.5. Stakeholders' Participation
List and provide information on the type and role of stakeholders (local, national and international) with substantial involvement in the area's management as well as the mechanisms for their participation (established or planned). Eventually, provide expert judgment on stakeholders' capacities and level of actual participation, suitability and application of existing mechanisms.

4.6. Awareness / Communication
Assess the level of awareness about the need for management in the area under consideration by the local population and authorities, the national authorities and the international community. Provide information on past and current major awareness-raising projects. In case of established institutional and management schemes, provide information on the existence of a communication strategy and related actions.

5. CONCLUSIONS / RECOMMENDATIONS

5.1. Critical problems and key challenges
Based on the above, prioritise critical problems (i) related to the resource, (ii) associated to uses, needs and demands, (iii) related to institutional, management, financial bottlenecks. Identify key challenges for enabling an effective management of the water body under consideration (e.g. shared vision, sustained commitment, institutions, agreements and regulatory framework, broad based partnerships) – link the latter with facts presented in Chapter 2,3 and 4.

5.2. Main achievements
Prioritise success actions undertaken and achievements accomplished (e.g. agreements ratified, institutions established, monitoring systems in place, management activities undertaken, public participation enhanced, awareness raised, capacity built) – link the latter with facts presented in Chapter 4.

5.3. Donor's interest
Assess the overall ability to mobilize domestic and private capital and ODA for running the management scheme and priority projects in the area. Recommend important players to be approached.

5.4. Recommended priority actions
List priority actions (on the short, medium and long term) for progressing with institutional, regulatory and management requirements. The latter could for example include specific recommendations on establishment of cooperative processes, partnerships formation, awareness activities, knowledge sharing and sound programmes of action.

For example programmes of action could entail river regulation, water harvesting and conservation, watershed management and soil erosion control, wastewater treatment, pollution control and water quality management, water use efficiency improvement, irrigated food production, environmental

protection, fisheries development, hydropower generation, transport and navigation development, eco-tourism development, etc.

6. MAIN REFERENCES, BACKGROUND DOCUMENTS, MAPS

F. Note on MED EUWI Dialogues

The Mediterranean Component of the EU Water Initiative

The Mediterranean Component of the EU Water Initiative (MED EUWI) aims:
- to assist design of better, demand driven and result oriented programmes,
- to facilitate better coordination of water programmes and projects, aiming at a more effective use of existing funds, and the mobilization of new financial resources, where this is required, based on an analysis of gaps, and,
- to enhance cooperation for the proper implementation of these programmes and projects, based on peer review and strategic assessment.

MED EUWI, is giving particular emphasis to Mediterranean and South-eastern Europe priorities and focuses on the following themes:
- Water supply and sanitation, with emphasis on the poorest part of the societies
- Integrated water resources management, with emphasis on management of transboundary water bodies
- Water, food and environment interaction, with emphasis on fragile ecosystems
- Non-conventional water resources and
- Cross cutting issues such as transfer of technology, transfer of know how, capacity building and training and education.

The following partner countries are involved in MED EUWI:
- In the Mediterranean – Algeria, Egypt, Jordan, Israel, Lebanon, Libya, Morocco, Palestinian Authority, Syria, Turkey, Tunisia.
- In the South East Europe – Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Former Yugoslav Republic of Macedonia (FYROM), Romania, Serbia and Montenegro.

Therefore, the Component encompasses overall 18 countries.

MED EUWI aims to serve as a platform for promoting strategic partnerships between the EU and the Mediterranean and South-Eastern European countries as well as between government, civil society and the private sector. Non-EU donors and international organizations (including the UN family and the IFIs) are also contributing to the component through the promotion of synergies and development of activities at sub-regional level. GEF SP is envisaged as a strategic partner in the process. MED EUWI is led by Greece that chairs a multi-stakeholder Working Group. MED EUWI Secretariat is facilitated by the Global Water Partnership – Mediterranean (GWP-Med).

1. Content

Though progress has been made in the Mediterranean, many countries in the region still suffer from lack of effective operational strategies; fragmentation of responsibilities between authorities; weak policy implementation; weak monitoring and assessment at the national and local level; limited technical, management and enforcement capabilities to address water resource issues; and financial constraints and lack of financial resources at affordable levels.

It is vitally important that vision and planning in the water sector are based on a good understanding of the costs of achieving the targets set and that are supported by feasible financing strategies that would mobilise adequate resources where and when needed. It is evident that the cost of achieving the water related MDGs/WSSD targets in the Mediterranean far exceeds current levels of financing. Financing will not materialise without enabling legal and institutional reforms. National and local

programs must be ambitious in order to focus attention on the scale of the problem and the urgent need for action. At the same time, the overwhelming scale of the challenge should not induce apathy and a mentality of subsidy dependence.

Though in some countries of the region there is advancement in preparing assessments of needs and financial strategies for water-related MDGs/WSSD targets, in the majority of cases progress is slow. MED EUWI aims to facilitate coordinated action and effective synergies between competent partners at country and regional level, assisting in effectively mobilizing ODA, in order to meet WSS and IWRM targets in the Mediterranean in the coming years.

To assist meeting the targets, MED EUWI aims to facilitate Country Dialogues
- to identify the priority actions to be undertaken,
- to assist in estimating the related costs and
- to facilitate reinforced EU donors' coordination, attracting new financial resources where needed.

MED EUWI Country Dialogues focus at national level on the following:
- Analysis of needs and gaps for achieving MDGs and WSSD targets at the country level,
- Identification of priority actions to achieve the targets
- Elaboration of financial assessment on cost for achieving targets and potential sources of finance as well as enhancement of donors' coordination
- Elaboration, discussion and agreement among a multi-stakeholder forum on a roadmap for achieving the targets at the country level

Through these, MED EUWI seeks to develop operational links and contribute, among others, to the European Neighbourhood Policy, the Joint Process of the EU Water Framework Directive with MED EUWI and the MEDA Water Programme.

2. Main Outputs

Main outputs foreseen through the Country Dialogues include:
- Output 1. Structured country dialogues processes implemented through national multi-stakeholder workshops and bilateral consultations with key stakeholders.
- Output 2. Country status assessments, including key water policies and status of water reform, basic country WSS and IWRM profile, governance and institutional capacities, gaps, emerging deficiencies and bottlenecks, major on-going water programmes, mapping of stakeholders and information on national investment and bilateral / multilateral water aid and identification of MED EUWI intervention.
- Output 3. Estimates of the expenditure needed to achieve the MDG/WSSD targets for WSS and IWRM and adequately maintain existing infrastructure
- Output 4 Estimates of already available finance and realistic forecasts of the future supply of finance under different conditions (policy measures) and assessment of country readiness to meet MDGs/WSSD targets for WSS and IWRM.
- Output 5. Financing strategies to meet MDGs/WSSD targets for WSS and IWRM, including simulations of financial leverage effects of different policy measures and recommendations on specific legal and institutional reforms needed to achieve the targets.
- Output 6. Country Roadmap to achieve MDGs / WSSD targets, including: targets and indicators, types of interventions and national framework programmes, roles and responsibilities of different stakeholders, modalities of coordination, monitoring and reporting system.

3. Main Tasks

To deliver Outputs, the following Tasks are foreseen:

Task 1. Organize Country Dialogues Processes

MED EUWI Country Dialogues will be organised in selected countries in the Mediterranean aiming to:

- identify gaps and emerging deficiencies in current national priorities and implementation process to achieve MDGs/WSSD targets on WSS and IWRM,
- identify insufficiencies and bottlenecks in key prerequisites posed by donors for national investments on the water sector,
- identify types of interventions and concrete national framework programmes to meet targets,
- elaborate, discuss and agree on a roadmap for achieving targets at country level,
- assist the establishment of a permanent platform for cooperation between key involved partners at the national level including donor agencies.

The Country Dialogues involve water stakeholders including government authorities and agencies, local authorities, water users associations, civil society, academia, the private sector as well as international and national donors.

A set of criteria for selecting countries for detailed analysis and country dialogues may include physical conditions, socio-economic status, state of water policies and infrastructure, current level of water investment and aid, data availability, expression of interest and of willingness to cooperate by the host country and to provide local support etc.

Country Dialogues involve the following main steps:
- Inaugural Workshop,
- Country visits for bilateral and multilateral consultations,
- Workshop to present and endorse the Roadmap (see Task 5),
- Follow up visits.

Country Inaugural Workshops will launch the Country Dialogues. The purpose of the Inaugural Workshops would be to:
- inform on MED EUWI and the process of the Country Dialogue,
- elaborate on key actions taken in the country to meet water challenges,
- inform on achievements and orientation of bilateral and multilateral aid in the water sector in the country,
- inform on priority EU processes like the European Neighbourhood Policy, the MEDA Water Programme, the Joint Process of WFD/MED EUWI and their possible contribution to efforts to achieve water targets,
- discuss a process for establishing a strategic collaboration among water stakeholders and with donor agencies.

Country visits will be linked with data collection activities. Consultations would take place in bilateral with government and key stakeholders as well as with small groups of stakeholders per theme or linked with specific products.

Workshops to present, discuss and hopefully endorse the Roadmap and monitoring indicators will be conducted at the end phase of Country Dialogues. The country's government will be expected to act as convenor for the inaugural and final workshop and to ensure an anchorage of the process within their national institutional structure. Effort will be made to promote and eventually establish a system through which the multi-stakeholder fora would be repeated annually to monitor progress, review and update the Roadmap.

Task 2. Country status assessment on WSS and IWRM

Status assessments will be conducted in the countries of the region where Dialogues will be facilitated. Giving emphasis on issues pertaining to MDGs / WSSD Targets on WSS and IWRM, the status assessments will present a country profile and an overview on:

- status of water sector reform, with an emphasis on WSS and IWRM,
- governance and institutional capacities,
- mechanisms of coordination (within government institutions, with stakeholders, with and within donors)
- major on-going activities
- key financing mechanisms
- mapping of stakeholders

- gaps and deficiencies on the above
- identification of possible EUWI intervention.

The reviews will be conducted in close collaboration with the EU Delegations in the MEDA countries and the competent national authorities. The status assessments will provide background for Country Dialogues (see Task 1).

Task 3. Detailed case studies on current expenditure and needed financing to meet MDG/WSSD targets for WSS and IWRM

Collection, verification and analysis of data on existing financing for WSS and IWRM will be undertaken in the countries where a Dialogue is taking place. Financing sources that would be analysed include public budgets, public environmental and other special funds, user charges, private sector investments, foreign grants, foreign debt, etc. This may include data consistency check and expert judgements if some data is not available. It is expected that national authorities (ministries of water, economy, finance, agriculture, public health, urban development, environment, etc. as well as statistical agency) will assist providing available data on WSS and IWRM economic parameters, as well as all available necessary socio-economic and financial data. Based on these, readiness of country to meet MDG/WSSD targets for WSS and IWRM will be assessed.

Based on data collected, expenditure needs and financial deficits or surpluses to meet MDG/WSSD targets will be calculated applying transparent and tested modelling tools developed by OECD. The cost estimates would be divided by expenditure needs (O&M, capital investments, etc) and sector (water supply, sanitation, IWRM)

Task 4. Financing strategies for achieving MDG/WSSD targets for IWRM and WSS

Based on results of Task 3, scenarios of achieving targets and bridging financial deficits will be developed. Recommended policy measures and enabling legal and regulatory reforms to bridge gaps will be specified including those which can increase efficiency of the use of available resources, and those which could attract additional funds. Affordability analysis of alternative financing measures will be also provided. Feasible package(s) of policy measures will be presented and discussed through the Country Dialogue process.

Specific opportunities and targets for international partnerships in the selected MEDA countries to promote these financing strategies will be identified. Potential roles of different national stakeholders as well as the role of donors will be analysed. Quantitative estimates of the level of effort that would be required from various stakeholders to make partnerships effective in reaching specified targets would be conducted.

Task 5. Country Roadmap to achieve MDGs / WSSD targets on WSS and IWRM

A Roadmap by country to achieve the water related MDGs/WSSD targets will be elaborated based on deliverables of Tasks 2, 3 and 4. The Roadmap should also assist in guiding further donor planning. The Roadmap will describe:

- targets and indicators,
- identify roles and responsibilities of different stakeholders including donors,
- types of interventions to be undertaken and related national framework programmes to be developed and
- modalities of a coordination, monitoring and reporting system.

Roadmaps should achieve as wide as possible ownership and buy-in national water policies. Roadmaps will be discussed and agreed through the Country Dialogue process.

<u>4. Duration</u>

Depending on data availability, political will, progress already achieved on MDGs/WSSD target, stakeholders involvement available resources to support the progress, etc., the time needed for the implementation of the steps described above could be from 8 to 14 months. Nevertheless, the process of a National Dialogue goes beyond the finalization of studies and organisation of meetings foreseen in this process. The National Dialogues should be able to provide a set of critical tools and assist in establishing for a long-term process that will carry on, at the national level involving national and international partners, until targets will be achieved.

G. World Summit on sustainable development plan of implementation (Paragraphs 25 & 26)

Para 25. Develop integrated water resources management and water efficiency plans by 2005, with support to developing countries, through actions at all levels to:

(a) Develop and implement national/regional strategies, plans and programmes with regard to integrated river basin, watershed and groundwater management, and introduce measures to improve the efficiency of water infrastructure to reduce losses and increase recycling of water;

(b) Employ the full range of policy instruments, including regulation, monitoring, voluntary measures, market and information-based tools, land-use management and cost recovery of water services, without cost recovery objectives becoming a barrier to access to safe water by poor people, and adopt an integrated water basin approach;

(c) Improve the efficient use of water resources and promote their allocation among competing uses in a way that gives priority to the satisfaction of basic human needs and balances the requirement of preserving or restoring ecosystems and their functions, in particular in fragile environments, with human domestic, industrial and agriculture needs, including safeguarding drinking water quality;

(d) Develop programmes for mitigating the effects of extreme water-related events;

(e) Support the diffusion of technology and capacity-building for non-conventional water resources and conservation technologies, to developing countries and regions facing water scarcity conditions or subject to drought and desertification, through technical and financial support and capacity-building;

(f) Support, where appropriate, efforts and programmes for energy-efficient, sustainable and cost-effective desalination of seawater, water recycling and water harvesting from coastal fogs in developing countries, through such measures as technological, technical and financial assistance and other modalities;

(g) Facilitate the establishment of public-private partnerships and other forms of partnership that give priority to the needs of the poor, within stable and transparent national regulatory frameworks provided by Governments, while respecting local conditions, involving all concerned stakeholders, and monitoring the performance and improving accountability of public institutions and private companies.

Para 26. Support developing countries and countries with economies in transition in their efforts to monitor and assess the quantity and quality of water resources, including through the establishment and/or further development of national monitoring networks and water resources databases and the development of relevant national indicators.

Component 2. Pollution from land based activities, including Persistent Organic Pollutants: implementation of SAP MED and related NAPs

Sub-component 2.1: Facilitation of policy and legislation reforms for pollution control 2.1a Industrial Pollution Pilot Projects

Implementing Agency
The UN Programme for the Assessment and the Control of Pollution in the Mediterranean Region (MEDPOL)

Background/Context/Rationale

In the NAPs, the countries presented specific action to reduce pollution from designated sources, until the year 2010. Actions included "hard" actions (example: construction of treatment plants) as well as "soft" actions (example: improvement of legislation and institutional framework). However, many countries acknowledged gaps and shortcomings on legal, institutional, financial and technical means to successfully implement the NAPs.

In order to assist the countries in their effort to implement their NAPs, it is necessary to facilitate the up grading of legal and institutional capacities, as well as to facilitate the horizontal know-how and technology transfer in the Mediterranean region. Know-how could be transferred directly between Government agencies or wholly within vertically integrated firms, but also through the coordination of multiple organizations such as network of information service providers, business consultants and financial firms. Although stakeholders play different roles, there is a need in the Mediterranean Region for partnership among stakeholders to create successful transfers. Governments with the assistance of MEDPOL can facilitate such partnerships.

Based on the analysis of the NAPs prepared by all Mediterranean Countries, specific activities are proposed to improve the legislative and institutional framework in the Region, as well as to implement actions which will protect the Mediterranean marine environment from land based pollution sources.

Description of activities, including demonstration and pilot projects

Mediterranean countries have already identified their priorities for action in their NDAs and have proposed a number of specific actions in the NAPs. Based on these priorities, the following six projects have been identified to prepare the ground for the proper implementation of the priorities actions. It is expected that their implementation will provoke policy and institutional changes at local, national and regional levels and will greatly improve the quality of the marine ecosystem of the Mediterranean Sea.

2.1.1 Pilot Project on the management of Phosphogypsum produced from the phosphate fertilizers production process

The Pilot Project on management of Phosphogypsum will be carried out in three eligible countries: Lebanon, Tunisia and Syria, in according of specific actions in the NAPs.
Phosphogypsum is a by-product of the phosphate fertilizer industry, which is dumped into the sea or/and deposited in stockpiles at the coastal zone. Once dumped into the marine environment, Phosphogypsum deposits will alter the sediment structure at the vicinity of the dumping area leading thus to a serious degradation of the benthic ecosystem. Also, because Phosphogypsum may contain high concentrations of the toxic metal Cadmium (Cd), these deposits may have a toxic impact on the marine biota.

In2006, Tunisia , in the framework of the implementation of its NAPs to address LBS of pollution launched a management project to reduce the quantity of phosphogypsum released into the marine environment and consequently curb the input of its associated metals.

The objectives of the project is to facilitate the transfer of know how related to environmental management of phosphogypsum from Tunisia to Syria and Lebanon in issues related to the improvement of legislative and institutional framework to manage the disposal of phosphogypsum slurry in Lebanon; the preparation and implementation of a management scheme for the phospogypsum slurry in Lebanon; to trigger the cooperation with phosphate fertilizer companies and relevant national authorities from Lebanon, Tunisia and Syria.

The expected results of the Project are: the improvement of legislative and institutional framework in order to review of existing legal instruments, stakeholders mobilization, improvement of coordination between responsible public authorities and private companies, and develop standards for safe disposal; environmentally sound management of the Phosphogypsum slurry at Lebanon; guidelines for the management of Phosphogypsum slurry; capacity building in Lebanon, Tunisia and Syria on management of phosphogypsum slurry and relative problems of the phosphate fertilizer companies.

2.1.2 Pilot Project on Chromium and (BOD) control of tanneries effluent

The project on Chromium and Biochemical Oxygen Demand (BOD) control in tanneries will be developed in Turkey, Albania, Algeria and Egypt in according with action on tanneries in their respective NAPs.
Leather tanning is a widespread industrial activity in the Mediterranean region, which is often practiced by small industrial units. Tannery effluents have high organic matter load and are considered as a major source for Chromium (Cr) releases. In the most of the eligible countries, there is a need to propose a legal, institutional and technical management scheme to control the effluent quality of tanneries.

The specific objectives of the projects are: to improve the legislative and institutional framework for the control of Cr and BOD releases from tanneries in Turkey**;** to prepare and to implement a pilot project on Cr and BOD control in a group of medium size tanneries in Turkey; to prepare and to implement Guidelines on Cr and BOD control in tannery's effluents with the collaboration of all concerned countries (including Albania, Algeria, Egypt and Turkey).

The expected results will be:

- Protection of coastal marine ecosystem from eutrophication and Cr contamination in areas where tanneries are operating
- Positive impact on coastal fisheries by improving the quality of the marine coastal ecosystem
- Protection of human health, which may be threatened from consumption of Cr-contaminated seafood in coastal areas and possible reduction of healthcare cost for residents
- Increase of the recreational value of the coastal zone at the vicinity of tanneries
- Strengthening of the national monitoring and research capacity on eutrophication, Cr and other heavy metals in the marine environment
- Strengthening of the national cooperation capacity between public authorities and private companies for the protection of the coastal marine environment from industrial releases

2.1.3. Project on recycling and regeneration of lubricating oil

The Pilot Project on management of Recycling and regeneration of lub oil will be carried out in the following eligible countries: Albania, Algeria, Croatia, Egypt, Libya, Morocco, Montenegro, Syria and Palestinian Authority, in according of specific actions in the NAPs.

Very few countries in the Mediterranean have an effective system for used lub-oil management, and in their NAPs they include actions to deal with this specific problem. Needless to mention that in the absence of effective management system, lub oil would reach the marine environment through the

urban sewer system. Therefore, a project on recycling and regeneration of lubricating oil will benefit the Mediterranean region. The project will also take into consideration the important know-how of Tunisia and Bosnia-Herzegovina, which have developed a very promising system for the management of used lub-oil and oil filters.

The objectives are: to improve the legislative and institutional framework for the recycling and regeneration of used lub oil in Algeria; to prepare and to implement a Pilot Project on organizing a system for recycling and regeneration of lub oil in Algeria; to transfer the know-how and the expertise of the Tunisian and Bosnia-Herzegovina authorities on the organization of the lub oil recycling and regeneration system to Algeria and other concerned countries (Albania, Croatia, Egypt, Morocco, Montenegro, Palestinian Authority and Syria).

The expected results:
- Protection of coastal marine ecosystem from lub oil releases at the vicinity of coastal cities and industrial areas
- Positive impact on coastal fisheries by improving the quality of the marine coastal ecosystem
- Increase of the recreational value of the coastal zone at the vicinity of cities and industrial areas
- Strengthening of the national monitoring and research capacity on petroleum products in the marine environment
- Strengthening of the national cooperation capacity between public authorities and lub oil recycling private companies for the protection of the coastal marine environment.

2.1.1.4 Project on lead batteries recycling

The Pilot Project on management of Recycling of lead batteries will be carried out in the following eligible countries: Albania, Algeria, Croatia, Egypt, Libya, Morocco, Montenegro, Syria, Tunisia, Turkey and Palestinian Authority, in according of specific actions in the NAPs.
Most Mediterranean countries face environmental problems with used lead car batteries, which are considered an important source of lead emissions from waste dumps and air deposition. Some countries have already established recycling systems, while others propose such actions in their NAPs. Lead batteries are considered as important source of lead (Pb) into the marine coastal environment. Therefore a project is proposed for the environmental safe recycling of lead batteries.

The objectives are: to improve the legislative and institutional framework for the recycling pf lead batteries in Syria; to prepare and implement a project on organizing a system for recycling lead batteries in Syria; to transfer the gained know-how and the expertise on the lead batteries recycling to Albania, Algeria, Croatia, Egypt, Libya, Morocco, Montenegro, Palestinian Authority, Tunisia and Turkey.

The expected results:
- Improvement of the legislative and institutional framework for the recycling of lead batteries in Syria (review of existing legal instruments, stakeholders mobilization, improve of coordination between responsible public authorities and private companies, develop standards for lead batteries recycling)
- Initiation of a lead batteries recycling system in Syria
- Creation of a market for recycled Pb and creation of work positions for local people.

2.1.5 Assessment of the magnitude of riverine inputs of nutrients into the Mediterranean Sea

Harmful Algal Bloom (HAB) ,eutrophication process are the direct results of the enrichment of marine ecosystem with nutrients , namely nitrogen and phosphorus , from land based sources and from diffuse sources. Rivers in the Mediterranean are considered as major diffuse sources of nutrients into the sea.

Satellite imaging showed that eutrophication process is always associated with the river mouths such as the Rhone, Po, Nile and other river in the Aegean Sea as well as high nutrients inputs from land based sources.

Objectives:

- Collect quantitative information of the riverine inputs of water, sediments, nutrients a to the Mediterranean Sea in a spatially and temporally explicit manner.
- Establish a geographical scale of inputs which should be distinguished at least at the scale of the major Mediterranean sub-basin (Alboran, North-Western, South-Western, Tyrrhenian, Adriatic, Ionian, Central, Aegean, North-Levantine and South-Levantine seas
- Establish nutrients budgets associated to specific time periods (e.g., decades) to which they correspond.

Expected outputs:

- Develop a data base on Mediterranean rivers. This data base has already been started in the framework of the MAP project of MEDPOL and will be further enlarged.

- Develop of more sophisticated models for the prediction of riverine nutrient fluxes in relation with land use practices and changes. This type of models might be adapted for certain large Mediterranean rivers where the data coverage is good, both with respect to the water chemistry data and with respect to the potential controlling factors (fertilizer use, population density etc)

2.1.6 Project on setting Emission Limit Values (ELV) in industrial effluents and Environmental Quality Standards (EQS)

This Pilot Project will be carried out in most of the eligible countries. Many countries lack appropriate ELV for their industrial effluents, as well as Environmental Quality Standards (EQS) for the receiving water bodies. In order to implement a control on industrial emissions, ELV and EQS should be introduced in the legislation of all Mediterranean countries. To that purpose a horizontal project including all GEF-eligible Mediterranean countries will be implemented to introduce ELV and EQS in their legislation and to propose changes in their institutional framework.

The objectives are: to introduce ELV and EQS in the legislation of Albania, Algeria, Bosnia-Herzegovina, Croatia, Egypt, Libya, Morocco, Montenegro, Tunisia and Turkey, for all substances include in the SAP targets for the protection of the Mediterranean marine ecosystem; to propose changes in the institutional framework of the GEF-eligible countries to ensure the proper use of the ELV and EQS for the protection of the Mediterranean Sea.

The expected results:

- Protection of coastal marine ecosystem from industrial effluents and improvement of its quality
- Positive impact on coastal fisheries, through improving the quality of the marine coastal ecosystem, by removing stressful pollutants, which may affect negatively the survival and reproduction of marine organisms
- Protection of human health, which may be threatened from consumption of contaminated seafood in coastal areas and possible reduction of healthcare cost for residents
- Creation of a market for national consulting companies, which will ensure the industries' compliance to ELV and EQS, and creation of work positions on national level
- Strengthening of the national monitoring and research capacity on industry-related pollutants in the marine environment
- Strengthening of the national cooperation capacity between public authorities, industries and private consulting companies for the protection of the coastal marine environment

Linkages with other programmes and initiatives

The Contracting Parties of the Barcelona Convention adopted in 1997 a Strategic Action Plan (SAP) for the Mediterranean Sea, as a follow-up of the signing the LBS protocol, aiming at reducing pollution loads released into the Mediterranean Sea. Reduction targets have been set for different categories of pollutants and each country prepared a National Diagnostic Analysis (NDA), a National Baseline Budget (NBB) for the emission of SAP designated pollutants, as well as a National Action Plan (NAP) to reduce emission of pollutants from LBS.

In the NDAs, all Mediterranean countries analysed the environmental characteristics of their coastal areas and highlighted the major pollution threats, which could affect the quality of the marine ecosystem. The legal and institutional framework of each country was also presented, along with assessments on existing gaps. The NDAs were prepared with active participation of public and private stakeholders, in an attempt to enhance public participation in the prioritisation of environmental issues in each country. The final NDA Reports represent therefore, not only the countries' perception for the environmental priorities in the coastal area, but also an initial assessment of capacity building needs and priorities.

In the NBBs, a quantitative evaluation was made on measured or estimated pollutants' emissions from LBS in all Mediterranean countries. These Reports gave for the first time a comparative regional estimation on the loads of pollutants that are discharged into the Mediterranean Sea. This is very important information, especially when planning pollutant's emissions reduction on a regional base, because it is possible to assess the relative importance of emitted pollution on regional, national or sectoral (industrial sector) level.

In the NAPs, the countries presented specific action to reduce pollution from designated sources, until the year 2010. Actions included "hard" actions (example: construction of treatment plants) as well as "soft" actions (example: improvement of legislation and institutional framework). However, many countries acknowledged gaps and shortcomings on legal, institutional, financial and technical means to successfully implement the NAPs.

In order to assist the countries in their effort to implement their NAPs, it is necessary to facilitate the up grading of legal and institutional capacities, as well as to facilitate the horizontal know-how and technology transfer in the Mediterranean region. Know-how could be transferred directly between government agencies or wholly within vertically integrated firms, but also through the coordination of multiple organizations such as network of information service providers, business consultants and financial firms. Although stakeholders play different roles, there is a need in the Mediterranean region for partnership among stakeholders to create successful transfers. Governments with the assistance of MEDPOL can facilitate such partnerships.

Based on the analysis of the NAPs prepared by all Mediterranean countries, specific activities are proposed to improve the legislative and institutional framework in the region, as well as to implement actions which will protect the Mediterranean marine environment from land based pollution sources.

Sub-component 2.1: Facilitation of policy and legislation reforms for pollution control

2.1 b Permit, Inspections and Compliance Systems

Implementing Agency:
The UN Programme for the Assessment and the Control of Pollution in the Mediterranean Region (MEDPOL)

Background/Context/Rationale

The activities related to the preparation of the NAPs have shown a number of gaps in the Mediterranean. One of these gaps is strictly linked with the compliance and enforcement of control measures and, more precisely, the system, which will control measures for pollution reduction, and compliance, i.e. the inspectorates.

Taking into account all the above, a review was made, based on existing data and information, of the status of permit, inspection and compliance systems in all Mediterranean countries including policy and legislative gaps. The review identified the basic subjects needing a more in depth study..

The implementation of the LBS Protocol priority actions and in particular of the SAP MED, include, *inter alia*, the introduction of new environmental tools including appropriate implementation of regulatory, economic and voluntary instruments, but it focuses on the reduction of certain pollutants from industries and various facilities. Following this, and in line with the above-mentioned strategy and taking into consideration the outcome of the above-mentioned review, the need to implement capacity building activities so as to enhance the inspectorate system will also complement the activity. Therefore, the major objective is to enhance and update the inspectorates in the following countries: Albania, Bosnia and Herzegovina, Croatia, Lebanon, Morocco, Montenegro, Syria and Turkey.

All concerned countries for the control of facilities including also industrial, have regular or non-regular activities regarding inspections, which are usually based on complaints reported and on specific needs. In addition, there is a considerable number of inspectors who although they possess the scientific background, they are not trained to inspect several facilities and they operate based on personal judgements. If action is to be taken, this could include the training of the inspectors and the planning of inspection based on needs and in an organized manner. As a result, all the countries will operate following the regulatory cycle that is well established widely accepted and followed by a considerable number of countries including those of the EU.

Description of activities, including demonstration and pilot projects

In order to strengthen the existing mechanism in the Mediterranean countries regarding environmental inspection activities, there is a need to provide a number of activities. This set of activities would include meetings among agencies responsible for permitting, inspections and enforcement in order to set up the procedure, as it is indicated in the regulatory cycle. Following the first meeting, a training workshop will be held in order to provide practical information on inspecting the most commonly polluting and industrial facilities of the country. It will also serve as guidance for the uniformity of the inspections.

Objectives: to strengthen the existing mechanism in the Mediterranean countries regarding environmental inspection activities, there is a need to tackle the issue in an integrated manner. The set of activities would include meetings among agencies responsible for permitting, inspections and enforcement in order to set up the procedure, as it is indicated in the regulatory cycle, as well as a training workshop.

An initial meeting will consider the existing legislation and will possibly set the objectives and policy planning, along with the improvement of the system for permitting, compliance control and compliance promotion, which will result in the preparation of a plan of actions. During the meeting, the responsible authorities will consider the issue of reporting using also indicators and they will set

up agreed indicators in the plan of action to be used for reporting and feedback. Furthermore, a training workshop will be held in order to provide practical information on inspecting the most commonly polluting and industrial facilities of the country. It will also serve as guidance for the uniformity of the inspections. The training workshop will be held in the national language or in any other language proposed by the country and will be based on the training material already prepared for this specific purpose. It is expected that at least 30 inspectors will be trained to inspect several, yet common, industrial facilities.

The training workshop, and the practical experience within one year time, will provide all the information for an assessment and feedback for: (a) the operation of the whole system, (b) the knowledge acquired and used by the inspectors and (c) an estimation if the targets set during the first meeting were met or not. All above will be discussed during a final meeting, and solutions will be proposed to all difficulties faced during the period under review and will be used for the formulation of amendments to the existing legislation.

The expected results are:

- Formulation of plans of action for permitting, compliance and control
- Experts in national centre capable to coordinate and implement national inspection systems
- Enhanced inspectorate systems
- Proposals for amending the legislation for compliance with LBS Protocol in relation to inspection

Linkages with other programmes and initiatives

- The European Union Network for the *Implementation and Enforcement of Environmental Law (IMPEL)***.**
- NECEMA – Network of Environmental Compliance and Enforcement in the Magreb
- INECE – International Network for Environmental Compliance and Enforcement

Sub-component 2.2: Transfer of Environmentally Sound Technology (TEST)

Implementing Agencies:
United Nation Industrial Development Organization (UNIDO) and UN Regional Activity Centre for Cleaner Production (CP/RAC)

Background/Context/Rationale

In April 2001, UNIDO launched the TEST programme on Transfer of Environmentally Sound Technology (TEST), which aims at reducing the barriers perceived by enterprises to compliance with environmental norms. The Programme, concentrates on building capacity in industrial service institutions to undertake seven analytical assessments, which together identify the least costly option for environmental compliance. The environmental management tools applied include: cleaner production; environmental management systems and accounting; and environmentally sound technology selection.

The TEST-MED component has been designed to address pollution from land-based activities of priority industrial pollution hot spots that are identified in the Strategic Action Plan (SAP) as part of the implementation of the Mediterranean Action Plan (MAP). The component will primarily address industrial hot spots generating and/or utilizing *Persistent Toxic Compounds (PTS)* that have severe transboundary effects on the marine environment and will serve as a demonstration component for the introduction of an integrated approach (TEST approach) for the adoption of best available techniques (BAT/EST), cleaner production and environmental management practices.

Pollution from land-based sources and activities has long been recognized as a major problem in the marine environment. It has been estimated that approximately 80% of the total pollution of the Mediterranean Sea is generated by land-based sources and activities. Under the framework of the Barcelona convention, the responses of the Mediterranean countries to this problem was the adoption of the Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources (LBS Protocol), which came into force in 1983, and the launching of the MEDPOL programme.

In the framework of the development of a Strategic Action Plan (SAP) for the Mediterranean Sea, as a follow-up of the signing the LBS protocol, the MAP Secretariat was given the responsibility of collecting, analysing and processing the data and information related to the "Identification of priority pollution hot spots and sensitive areas in the Mediterranean basin. Some 101 priority hot spots were identified as impacting public health, drinking water quality, recreation and other beneficial uses, aquatic life (including biodiversity), as well as economy and welfare (including marine resources of economic value) in the Mediterranean Countries.

Description of activities, including demonstration and pilot projects

The UNIDO TEST-MED component will support national governments in effectively implementing national strategies for reducing industrial discharges and in particular it will contribute to the activities, as follows:

- To give priority to small and medium-size companies, favouring the creation of associations in order to minimize waste generation;
- Reduce discharges and emission of pollutants as much as possible and in order to do so, to promote the implementation of environmental audits and apply BEP and BAT in industrial installations that are sources of pollutants.

In particular it will provide mechanism to meet the objectives and targets set by the SAP. Project activities will include the promotion and introduction of environmental standards (such as ISO14000) and environmental management tools within the industrial sector as well as the transfer of Environmentally Sound Technology and their adaptation through partnership and twinning programs. The effectiveness of the TEST integrated approach will be demonstrated at a number of pilot

enterprises[9], which will be identified during the first stage of the project within the selected priority hotspots in four Mediterranean countries (Tunisia, Morocco, Lebanon and Egypt).

The objective of the TEST-MED component is to build national capacities in South Mediterranean countries; to apply the UNIDO-TEST integrated approach to facilitate the transfer of Environmentally Sound Technology (EST) that will improve the environmental performance and the productivity of priority industrial pollution hot spots of the South Mediterranean region. The project will have a demonstration component at pilot enterprises to be selected among the priority industrial sectors (among others releasing significant amounts of PTS are tanneries and derivates, cement works, metallurgy, agro-industries, organic and inorganic chemical industry) that are significantly contributing to transboundary pollution by releasing particularly PTS into the Mediterranean basin.

The enhanced national capacities would then be made available through the dissemination of project results to assist other enterprises of concern in the participating countries as well as in other South Mediterranean countries.

The TEST-MED component acts at three levels:

2. It addresses the need to enhance the existing expertise within a country with respect to industrial environmental management skills, thereby enabling local institutions to offer enterprises an integrated package of technical, managerial and strategic services best tailored to their needs;
3. It demonstrates the effectiveness of the integrated TEST approach at demonstration industrial sites;
4. It supports the dissemination of the application of the TEST approach at the demonstration sites at national and regional level.

The first stage of the TEST-MED project consists of the following activities:

1. Set up of national focal points (national advisory boards and national counterparts). The National Project Advisory Board is a platform, which includes all the major country's stakeholders (e.g. representatives from the Ministries of Industry, Environment MAP-MEDPOL's and CP/RAC focal points, academia, industrial associations, chambers of commerce and NGOs) that are relevant for the project, established to assure that the implementation will focus on national/local priorities and that the results are properly disseminated throughout the country. The National Project Advisory Boards will be set up in each country at the start-up of the TEST-MED project including: national and local authorities.

[9] *The number of enterprises will vary from one country to another, depending on their size. However at a minimum 4 enterprises will be selected in each country.*

2. Introduction of the TEST integrated approach at national counterparts and set-up of the information management system. The National TEST counterpart plays one of the most important roles during the implementation of the project, being responsible for coordinating the local activities and the work of the local experts. The National counterparts will be an operating entity within a UNIDO/UNEP National Cleaner Production Center, (Morocco, Lebanon, Tunisia and Egypt), or their equivalent. All of these centers in fact have a track record in providing cleaner production services (in-plant demonstrations, training, information and policy advice) to industry. However final selection of the most suitable national counterparts will be done by UNIDO on the basis of the results of the initial assessment of country conditions[10]. Once the national counterparts are finally selected a team leader/national coordinator of the TEST project, and the core team of experts will be appointed in each country, an information management system will be set up that would enable local team to access relevant database on case studies and international standards. The national counterparts will be then introduced to the UNIDO TEST integrated approach through ad hoc training seminars.

3. Identification and selection of demonstration enterprises and preparation of initial review at demonstration enterprises including market and financial viability and initial environmental review. A number of demonstration enterprises[11], will be identified within the selected priority hotspots of Tunisia, Morocco, Lebanon and Egypt in close cooperation with the MAP coordinating unit in Athens and will serve as a pilot to demonstrate the effectiveness of the TEST integrated approach. A core principle of the TEST approach is that it will only work if enterprise participation in the project is voluntary; importance is therefore given to "marketing" the TEST-MED component through on-site visits and seminars. Enterprises are selected on the basis of a multi-criteria approach. The selection criteria will be developed by consensus amongst UNIDO and its partners within the TEST project advisory Board. The main criteria for selection must include, but are not limited to, enterprises that are:
   - Located within, and 'contributing' to, priority pollution hot spots
   - Financially viable
   - Interested in participating in the project and committed to environmental improvements.

   One of the main selection criteria for enterprises is the viability pre-assessment, which determines if the enterprise has the potential to remain in business for more than five years given its market position and costs of production. Company environmental aspects and legal gaps will be also identified in order to define the focus areas of each TEST tools to be introduced (EMS, CPA, ESTA, EMA, SES). At the end of the initial review demonstration enterprises are finally selected. The work-plan of activities of the TEST approach will be finalized for each demonstration enterprise and the local counterpart will have signed letters of commitment/contracts the with selected enterprises to start-up demonstration activities.

The second Stage of the TEST-MED project occurs when the demonstration enterprises are chosen and the initial reviews are completed and it consists of applying the integrated TEST approach at the selected demonstration enterprises through the following activities:

1. Implementation of Cleaner Production Assessment (CPA) at demonstration enterprises;
2. Introduction of EMS principles and design of EMS at demonstration enterprises;
3. Introduction of Environmental Management Accounting (EMA) practices and design of EMA systems at demonstration enterprises;
4. Preparation of EST investment project for the demonstration enterprises;
5. Investment promotion of identified EST projects;

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[10] *This initial assessment will take part at the start-up of the project activities with the aim to confirm the suitability of the preliminary identified TEST counterparts (NCPCs) and in order to assess the existing skills and the training needs of local staff.*

[11] *The number of enterprises will vary from one country to another according to private sector conditions. However at a minimum 3 enterprises will be selected in each country.*

6. Introduction of basic principles for preparation of enterprise sustainable strategies (SES).

The introduction of the TEST approach at enterprise level will be done in three phases:

1. The first phase aims at improving the operation of the existing processes and technology by introducing and integrating three different 'soft' and complementary environmental management tools into the company's daily operations: Cleaner Production Assessment (CPA), Environmental Management Systems (EMS) and Environmental Management accounting (EMA). The TEST approach includes a methodology that introduces the tools simultaneously and in an integrated fashion to take advantage of the synergies this creates. Although they can still be quite effective when implemented independently, this streamlining of data flows simplifies the work required and increases the overall effectiveness of the tools by generating more results that are positive. However, depending on the specific situation of the company, a step-by-step implementation may be the best option.

   The Cleaner Production Assessment will be initiated focusing on those priority aspects identified during the initial review (completed at the end of stage I), which revealed to a have a potential in terms of economical savings. In parallel each enterprise will introduce elements of Environmental Management System (EMS) for its operations as most of the preparatory work for setting up the system will have to be integrated with the CP assessment. Only after the Cleaner Production Assessment is completed enterprise moves on to the introduction of an Environmental Management Accounting (EMA) system on a pilot level, for internal organizational calculation and decision-making, CPA, EMA and EMS are environmental management tools that are mutually beneficial and combining their introduction will result in a substantive long-term improvement of the company's environmental performance and its competitiveness. National experts will be trained in how to integrate CPA with EMS and EMA and will initiate the in plant CPA assessment at the selected enterprises providing training of employees and the necessary assistance during the identification and selection of cleaner production measures. National experts will also be trained on how to design EMS and EMA systems and will be assisting the demonstration enterprises in implementing those management systems on a pilot scale.

   At the end of this phase, good management practices will have been identified and implemented and processes optimized. The results of this phase will generate the first tangible environmental and economic benefits that the company achieves from the project.[12] This is very important, since it allows the demonstration enterprises to see results, quite quickly and can give them the added impetus and enthusiasm to go on to the next phase.

2. The second phase starts with an Environmentally Sound Technology Assessment (ESTA). At the end of the CPA module, the company will have collected a large amount of information about its production processes and on opportunities for improvements, some of which will require little-to-no finances to implement and others that will require some capital investment. Traditional CP projects assume that companies will perform a technology assessment using their own resources. This has normally resulted in very general pre-feasibility studies of investments needs. In addition, these projects usually do not provide any assistance with respect to evaluating or choosing end-of-pipe solutions; these are often still needed (although to a lesser degree) in order to meet specific environmental standards, regardless of the improvements achieved implementing the CP recommendations. The ESTA module continues where the CPA ends, to broaden the scope to include both large cleaner technology investments (technology change) and end-of-pipe solutions. ESTA modules can build on information supplied from the CPA and EMA modules generated during phase I of the stage II. Practical experience shows that separating CP assessments and EST assessments into two steps has very positive results. This approach demonstrates the importance of providing sufficient resources for the financial appraisal of large investments to address both issues in an integrated way. The scope of the second phase is to identify the higher capital investment

[12] *CP/EST measures identified in this phase that require a higher capital investment are forwarded to Phase II for further investigation.*

requirements for environmentally sound technologies (EST) - cleaner technologies and end-of-pipe solutions. The ESTA module primarily consists of technical and economic evaluations of potential EST investment projects, which take into account long-term environmental savings and benefits. To do this, computational tools are used and the following activities are undertaken:

- Preparation of a pre-feasibility study;
- Preliminary identification of possible suppliers;
- Preliminary identification of affordable sources of capital for the technology investment.

National experts will be trained in the UNIDO COMFAR software for investment appraisal, and each national counterpart will be provided with software package and license. Sectorial international experts will assist national experts during the technical assessment that will identify potential combinations of advanced process and pollution control technologies that would bring plants into compliance with major environmental norms and at the same time contribute to the extent possible to improved productivity.
Once the pre-feasibility studies will be completed for the identified EST solutions, possible sources of cheap capital at country level will be identified (including bilateral credit lines as well as put forward to multilateral funding groups, World Bank, ADB, GEF and EU). A portfolio of investment project proposals will be prepared for promotion within the existing UNIDO Network of Investment Promotion Offices (IPOs) and units (IPUs) in the Mediterranean countries that will help to explore and identify opportunities for direct foreign investment in the identified EST projects.

3. The third phase aims at ensuring the continued use of the test approach at the pilot facilities. For the approach to be continued, the experience must be reflected in a facility's strategic level (e.g. business plan development), which should in turn also lead to new insights and desired changes in the enterprise's values and strategies. The sustainable enterprise strategy (SES) is the module, in the integrated TEST, aimed at accomplishing this integration of environmental and social dimensions into the enterprise's culture. In principle, the objective of the SES module is two-fold: 1. To integrate the TEST approach into the enterprise's strategies (business and functional) and formalize its principles within these strategies. 2. To provide a platform from which to evaluate and communicate the enterprise's performance, as it relates to processes and products, to the stakeholders (shareholders, employees, local authorities, civil society, customers, etc.) and establish a baseline from which to initiate and build ongoing dialogue. This will provide valuable feedback on company values and strategy.

   This phase of the component builds on:

   - Project indicators, which should be selected to best reflect the results of TEST approach implementation at each enterprise
   - An effective management system, which will ensure continued measurement and evaluation of enterprise performance against the selected project indicators, and
   - Relaying the experience that was gained on how to bridge the gaps between the old and new values, goals and strategies; how the experience was integrated into their business; and how any related challenges were overcome.

During this phase, the performance indicators set up at project's start and during the project's implementation should be measured, evaluated and the results analyzed, interpreted and reflected upon.

Project evaluation and reflection can be done both internally and externally. Reporting plays a role in both. In order to gain from TEST's real-life learning experience, the reporting cannot be just a one-way or one-time transfer of information. It has to be followed by dialogue and further reflection. This stage presents an opportunity to improve the company's relationship with the stakeholders and to learn more of their expectations. It is also an opportunity to educate the stakeholders about the experience and lessons learned, which may in turn alter their opinions and expectations. All this is crucial to further improve company performance.

The third stage of the TEST-MED is related to the Dissemination of the results of the projects
And consists of the following activities:

- Preparation of national publications on the application of the TEST approach at the demonstration enterprises;
- Organization of national seminars in each country;
- Organization of introductory seminars on TEST approach at other enterprises in each country; Organization of a Regional workshop to present the results of the TEST-MED component to other countries of the Mediterranean Region;
- Initiation of networking activities between the TEST counterparts and other institutions/national experts from the Mediterranean Region.

This third phase will facilitate and will improve the sharing and the dissemination of information on industrial best environmental practises for national and local governments, environmental management practitioners, NGOs and other stakeholders. Furthermore, a newly educated and motivated cadre of professionals from developing countries will engage in networking to promote the outcomes of trainings and hands on experience to extend the lessons learned from the project to other national experts from the Mediterranean Region.

This component will be carried out with the support of INFO/RAC's Replication and Communication Strategy.

The TEST-Med Projects will select approximately 15 demonstration enterprises in the selected South Mediterranean countries: Tunisia, Morocco, Lebanon and Egypt. In order to address Transboundary issues the project will concentrate its actions in demonstration enterprises that are significantly contributing to the discharge of Persistent Toxic Compounds (PTS) in the Mediterranean basin. The main industrial sectors that are contributing to the "hot spots" Transboundary pollution (among others releasing significant amounts of PTS) are tanneries and derivatives, cement works, metallurgy, agro-industries, and organic and inorganic chemical industry.

Five of the eligible South Mediterranean countries, in which the MEDPOL Programme identified industrial hot spots significantly contributing to pollution of the Mediterranean Sea have an established National Cleaner Production Center or its equivalent (Tunisia, Morocco, Lebanon, Egypt and Croatia). Croatia has already participated in the UNIDO-TEST project in the Danube River Basin, thus national capacities in the UNIDO-TEST integrated approach have been already created. Priority was given to the remaining four countries (Tunisia, Morocco, Lebanon, Egypt).
Justification.

Risk and Sustainability

The Sub-Component faces the risks identified below. Those will generally be manageable.

There is the risk that due to limited enforcement of the environmental norms, there may not be sufficient incentives for enterprises to participate on a voluntary base in the TEST-MED component. However this risk is acceptable because countries that signed the Euro-Med Partnership Agreement, in order to access to the EU markets will have to increase the efficiency of their production. This will be an additional incentive for companies to implement environmentally sound technology that allows for higher productivity and better environmental performances at the same time.

There is the risk that some of the participating enterprises may drop out of the TEST-MED project, diminishing the number of plant demonstrations undertaken during the project. To minimize the probability of occurrence of this risk UNIDO and the national counterparts will: i) apply sound selection procedures to select demonstration facilities based on the project criteria, ii) will sign letter of commitments and contracts with the enterprises to assure their engagement, iii) will maintain a continuous dialogue with the enterprises about their concerns and iv) will provide all the necessary technical assistance during implementation of project activities.

The EST options (combined process and pollution control technologies) identified for some of the demonstration plants may be too costly. If implemented by some enterprises, they could no longer be profitable operations. This risk is acceptable because based on the UNIDO experience of applying the TEST approach in the enterprises of the Danube river basin investments in EST are often profitable on the medium-long term. Additionally there is considerable evidence that the costs for compliance with environmental regulations are not excessive.

Financing may not be available for the enterprises to implement the identified EST option. This risk is also acceptable both because there are a number of programmes providing financial support for environmental investments and the enterprises themselves must begin to address environmental problems with their own resources if they are to stay in operation.

As a result of training courses provided by international experts, hands on experience will be gained working with international experts during the introduction of the TEST approach and its tools at the demonstration enterprises, while capacity will be built in networks of national institutions. One of the key aspects of the TEST-MED component is that existing national institutions dealing with industrial environmental management will be used to convey the acquired know-how at country level. Technical cooperation projects like TEST-MED that enhance capacity within an existing institution rather than create a new institution have a greater chance of being sustained.

The technical assistance provided to help the participating countries to enhance their capacity and to strengthen their institutions, through better education, training, and dissemination of best practices in industrial environmental management, will improve the chances of a long-term sustainable performance of the industrial sector. Sustainability of the TEST-MED project will be assured by two mechanisms:

(a) by building stronger national institutions able to provide integrated environmental services that will be made available to the remaining enterprises in the participating countries and in the Mediterranean Region.

(b) by developing the demand at enterprise level through peer pressure. The successful results that will be achieved through the introduction of the TEST approach in the selected industrial sites will serve as demonstration for other industries, thus generate demand for environmental services.

Linkages with other programmes and initiatives

The Component provides an important link to the overall MEDPOL program to improve the Mediterranean environment. The activities described in this project will complement the efforts of national governments by providing them with relevant inputs on how to implement EST solutions needed to reach selected SAP objectives and targets as well as with a broad range of management experiences and instruments.

The selected industrial priority hotspots generating and utilizing Persistent Toxic Compounds (PTS) in 4 Mediterranean Countries: Tunisia, Morocco, Lebanon and Egypt. However the remaining South Mediterranean Countries that would be eligible for technical assistance will be involved in the dissemination of project results.

Five of the eligible South Mediterranean countries, in which the MED POL Programme identified industrial hot spots significantly contributing to pollution of the Mediterranean Sea have an established National Cleaner Production Center or its equivalent (Tunisia, Morocco, Lebanon, Egypt and Croatia). Croatia has already participated in the UNIDO-TEST project in the Danube River Basin, thus national capacities in the UNIDO-TEST integrated approach have been already created. Priority was given to the remaining four countries (Tunisia, Morocco, Lebanon, Egypt).

With concern to industrial hot spots discharges and their impact on the Mediterranean, it has to be mentioned that the selected four countries are responsible of respectively 63% and 66% of the total BOD and COD loads arising from mixed and industrial hot spots of the Mediterranean countries that

are eligible for technical cooperation[13]. Additionally the hot spots of the four selected countries have a significant number of chemical, petrochemical, textile, cement industries that are also highly contributing to PTS discharges thus primary contributing to Transboundary pollution issues of the Mediterranean Basin.

Supplementary information

A. Results of the TEST project in the Danube river basin
B. Main pollution loads in the Mediterranean Basin (Table)
C. Confirmation letter of the Italian Co-Financing to the TEST-MED project

A. Results of the TEST project in the Danube River Basin

Overview

In April 2001 within the framework of the UNDP-GEF "Pollution Reduction Programme for the Danube River Basin", UNIDO started the implementation of the TEST project in five Danubian countries (Bulgaria, Croatia, Hungary, Romania and Slovakia) with the aim to effectively demonstrate that it is possible enhance the environmental performance of industrial hot spots of concern and still maintain, or even enhance their competitive position.

The main programme objective was to build capacity of the national counterparts in the five Danubian countries, to apply the TEST integrated approach for industrial environmental management developed by UNIDO so that they will, in turn, pass on the acquired expertise to assist enterprises and institutions in their own countries and throughout the Danube River Basin.

The project's national partners (counterparts) were the National Cleaner Production Centres (NCPCs) of Croatia, Hungary, and Slovakia (members of the UNIDO/UNEP network of NCPCs), the Institute for Industrial Ecology (ECOIND) in Romania, and the Technical University of Sofia in Bulgaria.
The UNIDO-TEST project in the Danube River basin targeted 17 hot spots of industrial pollution, from various industrial sectors (chemical, food, machinery, textile, pulp and paper). The list of enterprises is provided in table 1.

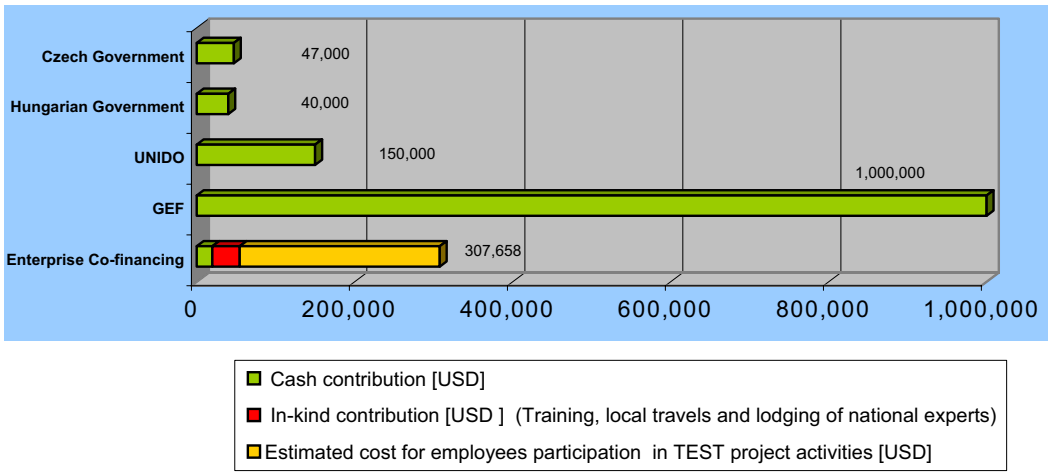
Table 1 – List of enterprises participating in the TEST project

	Country	Selected Enterprise	Industrial Sector
1	Croatia	Agroproteinka	Meat Rendering
2		Gavrilovic d.o.o.	Integrated meat processing
3		Herbos	Pesticides- Atrazine plant
4		IPK Tvornica Secera Osijek	Sugar
5	Romania	ASTRA Romana	Petrochemical - refinery
6		Rulmentul	Machinery – bearing production
7		Chimcomplex	Intermediate Chemicals -Isopropyl-amine
8		SOMEŞ	Pulp and paper
9	Slovakia	AssiDoman Sturov	Pulp and paper
10		Zos Trnava	Machinery - repair railway wagons
11	Hungary	Gunter – Tata Kft.	Machinery – Heat exchanger manufacturing
12		Indukcios es Vedogazos	Steel heat treatment
13		VIDEOTON Audio Company	Electronic products, plastic and wood processing
14		Nitrokemia 2000	Intermediates Chemicals
15	Bulgaria	Yuta JSC	Textile
16		Slavianka JSC	Fish processing
17		Zaharni Zavodi AD	Sugar - Alchool production

[13] *This calculation has been made on the basis of the data provided in table 1 in annex I of this project document – source: UNEP/WHO: Identification of Priority Pollution Hot Spots and Sensitive Areas in the Mediterranean. MAP Technical Reports Series No.124. UNEP, Athens, 1999*

The TEST project's primary financial supporter was GEF, with some participation from UNIDO and other donors (the Hungarian and Czech Governments). However, apart from the direct financial contributions to project activities, significant co-financing was provided by the 17 participating enterprises in terms of cash and in-kind. Figure 1 provides a breakdown of the total TEST project financial contributions, including the total co-financing provided by the 17 Danubian companies (labor cost estimated by the total number of man days of labor force involved in TEST-related activities, including training, multiplied by the average daily salary).

Fig. 1 – TEST project in the Danube river basin: financial contributions



Results of the project

Through the project the participating industrial polluters have been introduced to the **TEST integrated approach** having the opportunity to learn how to use environmentally sound technologies to reach continuous improvement of their economic and environmental profiles.
Tangible results were achieved, both in terms of increased productivity and in terms of improved environmental performance. The threats identified in the business environment, often perceived by the companies as survival threats connected with environmental compliance issues and production costs were reduced and new opportunities were identified.

Increased productivity was achieved through the implementation of identified **CP/EST measures**, leading to a reduction of specific production inputs costs (increase of profit margins), increased production capacity, better control of production costs related to process inefficiencies and better labour conditions. In many of the participating companies, the identified measures also resulted in improved quality of the final product.

Better management of environmental aspects was achieved through introduction of EMS elements. By December 2003 **4 enterprises obtained ISO 14001 certification,** while the remaining companies have adopted the main EMS procedures, prepared an environmental policy and an environmental management programme. In 9 of the 17 enterprises the EMS was fully integrated into the existing quality management system (QMS). Furthermore, as a direct result of the EMS component of the TEST projects, several organizational changes occurred in the environmental function of the companies such as the creation of an environmental department or the increase of its staff, appointment of the environmental manager.

EMA principles were also introduced in the participating companies to increase cost transparency by allocating environmental costs to production steps and products. Environmental costs were calculated and pulled out of the overheads accounts, new environmental accounts were created within the accounting department for environmental expenditures and internal procedures were put in place to

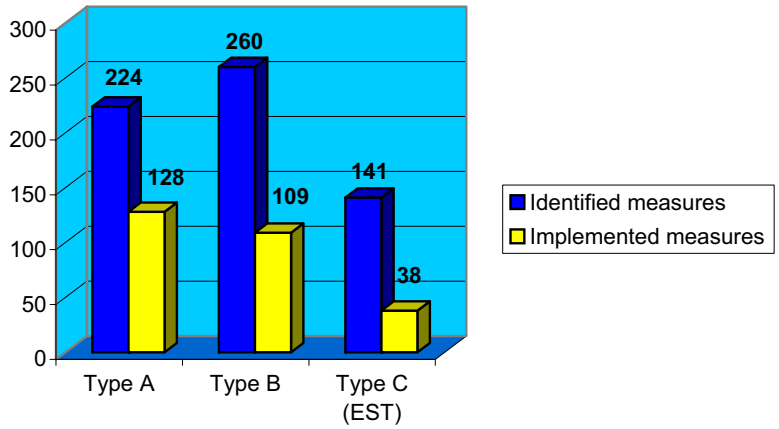
monitor the environmental costs of the company on a periodic basis and for allocation to product costs.

Other less tangible benefits, like improved relationships with stakeholders leading to the projection of a better image towards local authorities and customers were also achieved. This was especially true in those companies that introduced a full EMS and obtained the ISO 14001 certification.

Both the tangible and less tangible benefits contributed to strengthen the position of the enterprises and their competitive advantages, thus reducing the existing barriers to access to both local and foreign markets (especially the EU market).

Figure 2 summarizes the total number of **CP/EST measures** that were identified vs. the number that were implemented. The end of the project, comprising good-housekeeping measures (type A) and low cost measures with short payback periods (type B) implemented a total of 230 CP measures. The total investment entered into by the 17 enterprises to implement the 109 type B measures was approximately 1.7 MUSD, while the total estimated financial savings were approximately 1.3 MUSD per year.

Fig. 2 –total number of measures identified vs. those implemented at the 17 enterprises.



A number of **CP/EST** measures requiring high investment (type C) were also identified at each company. These investments include both new cleaner technologies (requiring large investments) and some end-of-pipe technology. These measures were evaluated technically and financially within the scope of the TEST project and approved (by the top management) for implementation. Table 2 provides a summary of the investments required, the related financial benefits, the value of the related financial indicators (IRR, NPV), and the expected implementation for each company. The total investments required for the 17 enterprises are approximately 47 MUSD.

Table 2: EST investments at the 17 enterprises

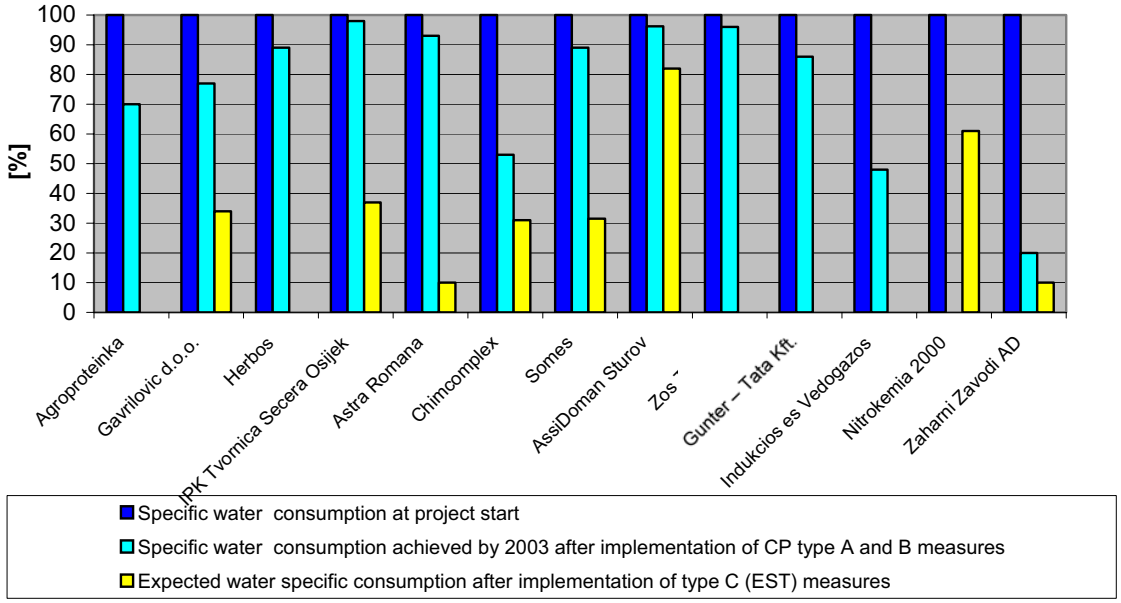
Country	Enterprise	Total Investments [USD]	Total Yearly Savings [USD]	Financial Indicators (IRR, NPV, PBP)	Expected Date of Implementation
Croatia	Agroproteinka	7,500,000	1,500,000	**IRR:** 33%	April 2007
	Gavrilovic d.o.o.	3,500,000	440,000	**IRR:** 26%	September 2006
	Herbos	800,000	0 (end-of-pipe)	-	Mid-2006
	IPK Tvornica Secera Osijek	800,000	400,000	**IRR:** 110%	September 2004
Romania	Astra Romana	3,162,000	1% reduction of product cost	**NPV:** 319 - 943. Eur **IRR**: 10.45-11.2%	2004/2007
	Rulmentul	400,000	2,500,000	**NPV:** 2.4 Mill Eur **IRR:** 1002%	2003
	Chimcomplex	270,000	220,000	**NPV:** positive after 4 yrs. **IRR:** positive after 6 yrs.	Under negotiation
	Somes	11,500,000	1,370,000	**NPV:** Mill. Eur: 3.3-4.4 **IRR:** 14-18%	2004 - 2006
Slovakia	AssiDoman Sturov	4,050,000	2,293,000	**NPV:** 0.228 - 4.725 Mill. EUR **IRR:** 38.42% - 60.85%	2005
	Zos Trnava	7,167,500	75,000 only for penalties, 4 times increased production	**NPV:** 40 - 626 kUSD **IRR:** 4% - 17%	2009
Hungary	Gunter – Tata Kft.	898,828	0 (end-of-pipe)	-	2007
	Indukcios es Vedogazos	18,560	0 (end-of-pipe)	**PBP:** 6.8 yrs.	2004
	VIDEOTON Audio Company	35,783	0 (end-of-pipe)	-	2007
	Nitrokemia 2000	265,500	171,817	**PBP:** 1.54 yrs. **NPV:** 206,749 USD	2006
Bulgaria	Yuta JSC	2,500,000	Not available	min. **PBP:** 4 yrs. max. **PBP:** 5.3 yrs.	2003-2005
	Slavianka JSC			Not available	2005
	Zaharni Zavodi AD	4,700,000	350,000	min. **PBP:** 3.5 yrs. Max. **PBP:** > 5 yrs.	2004-2005
TOTAL		**47,568,171**	**5,361,817**		

The environmental benefits were significant in terms of reduced consumption of natural resources (including fresh water consumption and energy), reduced wastewater discharges and pollution loads[14] into the Danube River and its tributaries, as well as reduction of waste generation and air emissions[15]. Figure 3 provides a summary of the reductions in specific water consumption at each TEST enterprise after implementation of the identified CP/EST measures. As of the end of 2003, the range of reduction varied between 2 and 89 percent of the initial value, leading to an impressive total reduction in wastewater discharges, into the Danube River basin, of 4,590,104 m^3/year. It is expected additional reductions in wastewater discharges, after full implementation of the large EST investments, would be 7,862,563 m^3/year.

[14] Pollution loads in the wastewaters were reduced in most of the companies, including COD, BOD, oily products, TSS, heavy metals, toxic chemicals (e.g. PCE), herbicides (Atrazine) and nutrients.
[15] Significant reductions were achieved in terms of VOC and H_2S emissions as well as CO_2.

Fig 3: specific water consumption at the enterprises at project start, in December 2003 and after implementation of large EST investments

Total reduction of wastewater discharge in the Danube river basin achieved by 2003: **4,590,104 m3/year**
Expected additional reduction of wastewater discharge after implementation of EST: **7,862,563 m3/year**



Additional information on the results of the TEST project (at each enterprise) can be found in the UNIDO-TEST publications "Increasing productivity and environmental performance: an integrated approach –Know-how and experience from the UNIDO-TEST project in the Danube river Basin" and in the national publications, available from UNIDO upon request.

Besides the tangible economic and environmental benefits achieved at the 17 pilot enterprises, other important results need to be mentioned, especially in relation to capacity building and awareness raising, both at the national counterpart level and at the level of the participating enterprises. A total number of 90 trainees from the national counterparts and more then 600 from the 17 enterprises were trained in the TEST approach and its tools for approximately 2000 man/days of training.

In terms of the capacity built in the national counterpart institutions, it should be mentioned that one of the major benefits of the TEST programme for them, was besides the training, the hands-on experience they gained in new environmental management tools (such as EMA or EMS). The TEST programme presented a great opportunity to reinforce the skills of the national counterparts and the possibility of expanding the range of technical services they could offer to local enterprises.

The capacity built at the enterprise level and the increased awareness among the employees and mangers led to the following improvements:

- Empowerment and reorganization of the environmental function within the company
- Improved internal communication between top managers/middle management and employees
- Improved external communication with local authorities and the ability to communicate the environmental performance of the company to all its stakeholders
- Environmental considerations taken into account during investment decision making processes (increased bargaining power of the environmental function)
- Adoption and continued use of CPA, EMS, EMA as evidenced by the fact that several companies replicated the use of these tools in other production units, at their own expense (using the skills developed during the TEST project).

- Integration of environmental considerations at the level of individual companies' business strategies Lessons learned

One of the major challenges implementing the TEST programme in the Danube River basin was the identification and selection of demonstration enterprises. Finding industrial hot spots was not difficult, given the previous UNDP project, but being in a hot spot was not a sufficient reason to be considered for the project.

The challenge was to identify good pilot sites that would participate effectively in the project and that were financially viable. Only financially viable companies will undertake the necessary investment and upgrades in EST and will really be interested in having a long-term sustainable strategy. One of the major principles of a TEST project is that involvement as demonstration enterprise is voluntary. Therefore, as enterprises in the Danube River basin had to be convinced that they would achieve significant benefits (economical in the first place and environmental) from their participation in the project, marketing the programme was a crucial activity for its successful start-up. Considerable effort was required, since it was particularly important to find enterprises with a strong commitment to avoid the possibility that they would withdraw during project.

The identification of the correct drivers existing in the business environment was very important, not only during the first stage when the project was being marketed and pilot sites were being selected, but also during the overall implementation of the programme, to maintain the commitment of the managers. For instance, the possibility of achieving potential savings through the introduction of CP measures was difficult to explain to managers (although they were convinced by the end of Phase I of the second stage). This resistance was mainly due to the fact the costs in this part of the world, for utilities and many raw materials, are low as are wastewater and solid waste disposal fees and penalties.

Low stakeholders interest in a companies' environmental performance, low awareness of stakeholder interests at the companies and limited external motivating factors to improve the environmental performance of the companies, represented serious impediments to persuading companies to participate in the programme. What the project implementation showed was that usually economic drivers[16] are much stronger than environmental ones and it is these economic drivers that are pushing companies to improve the efficiency of their operations and to acquire EMS certification.

Even though their participation was mostly subsidized by funds from the programme itself the demonstration enterprises were required to make a small (token) financial contribution. This proved to be an effective strategy to strengthen their commitment and active participation in the project.

The results achieved by each of the 17 enterprises varied because of a number of different factors such as level of commitment of the top management, company's position on the market and internal communication issues. The net result was that some enterprises were more successful in implementing soft management tools (CPA, EMS, EMA), while others achieved significant results in the implementation of new EST. However in all cases the utilization of an integrated approach (TEST) that introduces the tools simultaneously and in an integrated fashion has generated significant synergies. Streamlining of data flows simplified the work required and increased the overall effectiveness of the tools by generating more results.

It should be noted that none of the selected enterprises withdrew from the project and even though there were different levels of success in each of the enterprises, all of them achieved measurable results by implementing the integrated TEST approach. The primary reason for this is because the project was able to confirm one of the basic theses of the TEST approach, namely that improving environmental performance does not have to be at the expense of competitiveness. The most financially feasible measures, both organizational and technical, were identified and partially

[16] *The pre-accession process to the European Union undertaken by many countries in the Central and Eastern Europe has created a very favourable condition for the development of economic drivers in the direction of a more sustainable industrial development.*

implemented to bring the enterprises into compliance with the environmental norms of the Danube River Protection Convention and the EU's IPPC Directive, while also accommodating their need to remain competitive.

B. Main pollution loads in the Mediterranean Basin (Table)

(*source: UNEP/WHO: Identification of Priority Pollution Hot Spots and Sensitive Areas in the Mediterranean. MAP Technical Reports Series No.124. UNEP, Athens, 1999)*

Country	Hot Spot	Source of pollution[17]	Population	BOD t/yr	COD t/yr	Total-N t/yr	Total-P t/yr	TSS t/yr
Albania	Durres	D	120,000	2,864	-	477	96	4,300
Albania	Vlore	D	110,000	2,628	-	438	88	3,942
Albania	Vlore (PVC Factory)	I	-	-	-	-	-	-
Algeria	Oran Ville	I	1,230,000	26,937	44,895	6,734	2,693	40,405
Algeria	Rouiba	M	120,000	2,628	4,380	657	262	3,942
Algeria	Ghazaouet	M	120,000	2,628	4,380	657	262	3,942
Algeria	Alger	M	1,957,334	42,865	71,442	10,716	4,286	64,298
Algeria	Mostaganem	M	631,000	13,818	23,031	3,454	1,381	20,728
Algeria	Bejaia	M	859,000	18,812	31,353	4,703	1,881	28,218
Algeria	Annaba	M	890,000	19,491	32,485	4,872	1,949	29,236
Algeria	Skikda	M	747,000	16,359	27,265	4,089	1,635	24,538
Bosnia and Herzegovina	Neum	D	-	-	-	-	-	-
Croatia	Kastela Bay + indust. zone	M	See Split	5,006	11,095	594	129	8,481
Croatia	Split	M	350000+	1,643	3,286	411	115	1,232
Croatia	Sibenik	M	60000+	201	410	89	20	240
Croatia	Zadar + indust. Zone	M	85000+	1,056	3,940	154	26	1,410
Croatia	Pula	M	63979+	329	513	-	4	259
Croatia	Rijeka + Kvarner Bay	M	-	32	121	-	-	25
Croatia	Bakar (ex Cokery)	I	-	-	-	-	-	-
Croatia	Dubrovnik	D	50000+	160	310	79	19	139
Cyprus	Limassol	M	130,000	1,181	2,185	39	15	336
Egypt	El-Manzala	M	-	-	-	-	-	-
Egypt	Abu-Qir Bay	M	-	91,701	575,490	4,966	8,248	120,035
Egypt	El-Mex Bay	M	-	219,498	175,654	2,081	2,628	286,645
Egypt	Alexandria	D	4,000,000	1,632	-	1,520	2,266	8,831
France	Marseille	D	900,000	13,700	24,800	4,700	300	3,100
France	Gardanne	I	-	-	-	-	-	31,600
France	Toulon	D	310,000	1,300	5,000	1,500	150	1,000
France	Cannes	D	144,000	1,900	3,800	600	150	1,000
France	Frejus	D	175,000	650	1,700	400	40	400
Greece	Thermaikos Gulf	M		297	1,043	-	15	142
Greece	Inner Saronic Gulf	M	3,345,000	59,386	118,735	-	-	42,815
Greece	Patraikos Gulf	M	155,180	127	473	110	29	110
Greece	Pagasitikos Gulf	M	77,907	657	1,095	-	-	-

[17] *I = industrial; D = Domestic ; M= mixed*

Country	Hot Spot	Source of pollution[17]	Population	BOD t/yr	COD t/yr	Total-N t/yr	Total-P t/yr	TSS t/yr
Greece	Heraklio Gulf	M	117,167	84	141	-	-	29
Greece	Elefsis Bay	I	-	61	446	-	-	70
Greece	NW Saronic Gulf	I	-	22	22	-	-	5
Greece	Larymna Bay	I	-	-	7,516	-	-	2,505
Greece	Nea Karvali Bay	I	-	295	739	625	126	-
Israel	Haifa Bay	M	-	5,300	20,000	11,055	1,272	7,200
Israel	Naharaiya	D	37,500	2,900	6,200	122	86	2,250
Israel	Akko	D	46,000	2,000	4,400	330	53	2,200
Israel	Gush Dan	M	1,100,000	-	-	2,900	1,200	44,000
Israel	Ashdod	I	-	2,630	12,150	600	7	258
Italy	Porto Marghera (VE)	M	309,422	9,988	39,953	3,746	2,497	19,977
Italy	Genova	M	678,771	15,796	63,184	5,923	3,949	31,592
Italy	Augusta-Melilli-Priolo	M	57,311	1,808	7,232	678	452	3,616
Italy	Brindisi	M	95,383	2,077	8,308	779	519	4,154
Italy	Gela	M	72,535	2,144	8,578	804	536	4,289
Italy	La Spezia	M	101,422	3,949	15,796	1,450	940	7,346
Italy	Milazzo	M	31,541	616	2,464	231	154	1,232
Italy	Golfo di Napoli	M	1,540,814	16,251	65,005	6,094	4,063	32,502
Italy	Ravenna	I	135,844	6,363	25,453	2,386	1,591	12,727
Italy	Taranto	M	232,334	2,484	9,937	932	621	4,968
Italy	Rosignano Solvay (Marritimo)	I	30,021	187	747	70	47	373
Italy	Bari-Barletta (Global)	D	1,200,000	7,707	30,827	2,890	1,927	15,413
Italy	Livorno	I	167,512	2,698	10,792	1,012	674	5,396
Italy	Manfredonia	M	58,318	1,272	5,087	477	318	2,543
Italy	Ancona-Falc	I	131,390	2,990	11,959	1,121	747	5,979
Lebanon	Gt Beirut Area	M	-	29,235	-	-	-	14
Lebanon	Jounieh	M	200,000	4,280	-	-	-	80
Lebanon	Saida-Ghaziye	M	205,000	5,134	-	-	-	293
Lebanon	Tripoli	M	353,000	7,446	-	-	-	-
Lebanon	Batroun Selaata	M	51,000	1077+	-	-	-	-
Libya	Zanzur	I	-	-	-	-	-	-
Libya	Tripoli	D	1,200,000	3,100	4,650	740	-	4,300
Libya	Benghazi	D	750,000	2	2,100	306	-	1,226
Libya	Zawwia	D	-	-	-	-	-	-
Libya	Tobruk	D	-	-	-	-	-	-
Malta	Weid Ghammieq	M	270,085	10,250	16,021	135,415	12,447	124,538
Malta	Cumnija	M	59,224	2,412	3,599	1,914	1,495	14,240
Malta	Ras il-Hobz	M	25,957	1,273	3,318	1,777	2,233	28,165
Morocco	Tangier	M	526,215	9,401	22,076	928	150	9,651
Morocco	Tetouan	M	367,349	6,861	15,304	723	114	7,143
Morocco	Nador	M	246,113	1,888	4,435	83	100	1,433
Slovenia	Koper (incl. Rizana River)	M	46,221	485	5,111	76	8	250
Slovenia	Izola	M	13,770	1,092	-	90	21	414
Slovenia	Delamaris	I	(See Izola)					
Slovenia	Piran Submarine Outfall	D	17,000	125	290	23	26	116
Spain	Barcelona	M	4,680,000	-	-	-	-	-
Spain	Tarragona	M	110,000	-	-	-	-	-

Country	Hot Spot	Source of pollution[17]	Population	BOD t/yr	COD t/yr	Total-N t/yr	Total-P t/yr	TSS t/yr
Spain	Valencia	M	2,143,000	-	-	-	-	-
Spain	Cartagena	D	168,000	-	-	-	-	-
Spain	Algeciras	D	85,000	-	-	-	-	-
Syria	Tartous	M	319,152	18.5+	-	73.5+	34.3+	-
Syria	Lattakia	M	746,851	530	-	-	-	168
Syria	Banias	M	142,564	163	316	-	-	-
Syria	Jableh	M	166,779	542	-	-	-	225
Tunisia	Gabes	M	150,000	1,732	-	320	724	4,860
Tunisia	Lake of Tunis	I	400,000	2,243	4,384	300	26	1,210
Tunisia	Lake of Bizerte	I	250,000	2,687	-	476	118	2,329
Tunisia	Sfax-South	I	395,277	843	1,900	100	40	345
Turkey	Icel area	M	897,813	19,659	32,768	4,916	1,967	29,491
Turkey	Antalya area	D	707,209	15,487	25,812	3,872	1,549	23,232
Turkey	Adana area	M	1,198,285	26,242	43,737	6,561	2,624	39,333
Turkey	Antakya area	D	434,084	9,504	15,842	2,376	950	14,258
Turkey	Bodrum area	D	65,061	1,424	2,373	356	142	2,136

C. Confirmation letter of the Italian Co-Financing to the TEST-MED project

The Permanent Representative of Italy
to the International Organizations
Hohe Markt 8-9
1010 Vienna

1787 INA Italy/Fie

Vienna, September 10, 2003

Office of the Managing Director
PROGRAMME COORDINATION AND FIELD OPERATIONS DIVISION (PCF)
16 SEP 2003
Log no.:
Action: HA FOR INFO → FKM

Subject: Voluntary contributions for the year 2003.

Dear Mrs. Hirose, and dear friend

with reference to the Italian voluntary contribution for the year 2003 (amounting to 4 million €, as per our former communication), we are pleased to confirm the proposals contained in the agreed minutes signed in Vienna on 30.4.03 by the representatives of both Italy and UNIDO (a copy of which I attach for your convenience).

With regard to the utilization of the remaining balance of around 1 million US $, the Italian Ministry for Foreign Affairs intends to allocate it to the ITPO Office in Italy against its 2004 budget.

With my best regards,

Yours sincerely

(Claudio Moreno)

Mrs. Haruko Hirose
Managing Director
Programme Coordination and
Field Operations Division
UNIDO
V.I.C
A- 1400 V I E N N A

Sub-component 2.3: Environmentally Sound Management of equipment, stocks and wastes containing or contaminated by PCBs in national electricity companies of Mediterranean countries

Implementing Agencies:
The Programme for the Assessment and the Control of Pollution in the Mediterranean Region (MEDPOL)

Background/Context/Rationale

Background

Persistent organic pollutants (POPs) including PCBs are chemicals that remain intact in the environment for long periods, become widely distributed geographically, accumulate in the fatty tissue of living organisms and are toxic to humans and wildlife. Recognizing the dangers of POPs, countries began in the 1980s to limit their production, use and release, first individually, then on a regional basis.

In the frame of the Strategic Action Plan (SAP) to address Land Based pollution sources, adopted in 1997 under Art. 15 of the LBS Protocol to the Barcelona Convention, POPs including PCBs are covered by the list of substances that have to be eliminated from effluent and emissions flows discharged directly or indirectly into the Mediterranean Sea according to a well defined timeframe ending in 2025. Problems related to POPs have been identified in the National Diagnostic Analysis (NDAs) of most Mediterranean countries, mainly related to pesticides and PCBs. As a result, Contracting Parties to the Barcelona Convention prepared and endorsed in 2005 specific National Action Plans (NAPs) in which they describe the specific interventions planned to be implemented to reduce pollution inputs according to the targets and deadlines of the SAP. The pollution reductions refer to a baseline budget of emissions and releases that was prepared country by country in relation to the year 2003. Reduction and elimination of PCBs is included in the NAPs that were prepared.

At the same time, all Parties to the Stockholm Convention have the obligation, under the provision of Article 7 of the Convention, to prepare National Implementation Plans (NIPs) setting out how they will implement the obligations under the Convention. The Convention obliges Parties to transmit these plans to the Conference of the Parties within two years of the entry into force of the Convention for that Party. Developing countries and countries with economies in transition are eligible to support from the financial mechanism of the Convention for the development of their national plans. In this context, the GEF has approved grants for enabling activities in Albania, Algeria, Bosnia-Herzegovina, Croatia, Egypt, Lebanon, Morocco, Serbia & Montenegro, Syria, Tunisia and Turkey. Egypt, Lebanon, Albania and Morocco have transmitted their NIPs to the Secretariat for the Conference of the Parties. NIP development is well advanced in all the other states. Several states have already commenced the preparation of projects to implement the priorities set out in their NIPs. Morocco, Tunisia and Algeria are participating with other francophone West African Parties to the Stockholm Convention in the GEF-funded project 'Demonstration of a Regional Approach to Environmentally Sound Management of PCB liquid wastes and transformers and capacitors containing PCBs18. Project development work under a PDF-B grant will commence in Autumn 2006. Morocco is also involved in a UNDP-GEF Project recently approved for the establishment of waste disposal capacity for PCBs. Similarly, Algeria is being assisted by the IBRD to develop a project that aims to use environmentally sound practices to manage and dispose of PCBs stocked and in use in equipment throughout Algeria; as well as to develop a sound legislative and regulatory framework for POPs and hazardous wastes management and build capacity for its implementation and enforcement.

Considering the international context and the similar obligations and activities, this project is considered a milestone in the process of reducing and eliminating PCBs as it will facilitate the

[18] GEFSEC project ID 2770, implemented jointly by UNEP and the Secretariat of the Basel Convention and executed by the Basel Convention Regional Centre in Dakar, Senegal

implementation of NAPs and NIPs in the targeted countries (Albania, Egypt, Lebanon, Libya and Syria). It will enable the national authorities to acquire capacity and capability to manage the stocks of oils and equipment contaminated by PCBs through an effective demonstration project.

In 1996, the IFCS concluded that available information was sufficient to demonstrate the need for international action, including the preparation of a global, legally-binding instrument, to reduce the risks to human health and the environment arising from releases of an initial list of 12 POPs. Intergovernmental negotiations culminated in the adoption of the Convention text and its opening for signature at a Conference of Plenipotentiaries held in Stockholm in May, 2001. The Stockholm Convention entered into force in May 2004, and now (August 2006) has 128 Parties.

Of the countries of the Mediterranean Basin, the European Community is a Party to the Stockholm Convention as are Albania, Egypt, Lebanon, Libya, Morocco, Syria, and Tunisia, Algeria, Bosnia-Herzegovina, Croatia, Israel, Montenegro, Serbia and Turkey. Only Albania, Egypt, Lebanon, Libya and Syria are targeted by this project since they ratified the Stockholm Convention and have not so far joined any regional project unlike Morocco and Tunisia.

PCBs management is an issue of concern for most Mediterranean countries and relative actions have been included in their respective SAP/ NAPs and NIPs. Priority actions are likely to focus on the introduction of legal and regulatory frameworks requiring environmentally sound management, agreeing and implementing phase-out programmes for PCB equipment, disposing of PCB oils and contaminated oils and equipment, identifying and restoring land contaminated by PCBs.

As a result of the preparation of NDAs and NAPs, country-based assessments and action planning, all Mediterranean countries have identified PCB equipment that continues in service; stockpiles of PCBs-containing electrical equipment; and quantities of discarded equipment and quantities of oil that consist of or are contaminated by PCBs. In the NIPs, national electric companies are identified as the principal holders of this equipment; stocks and waste and so represent the initial focus for work to eliminate PCBs.

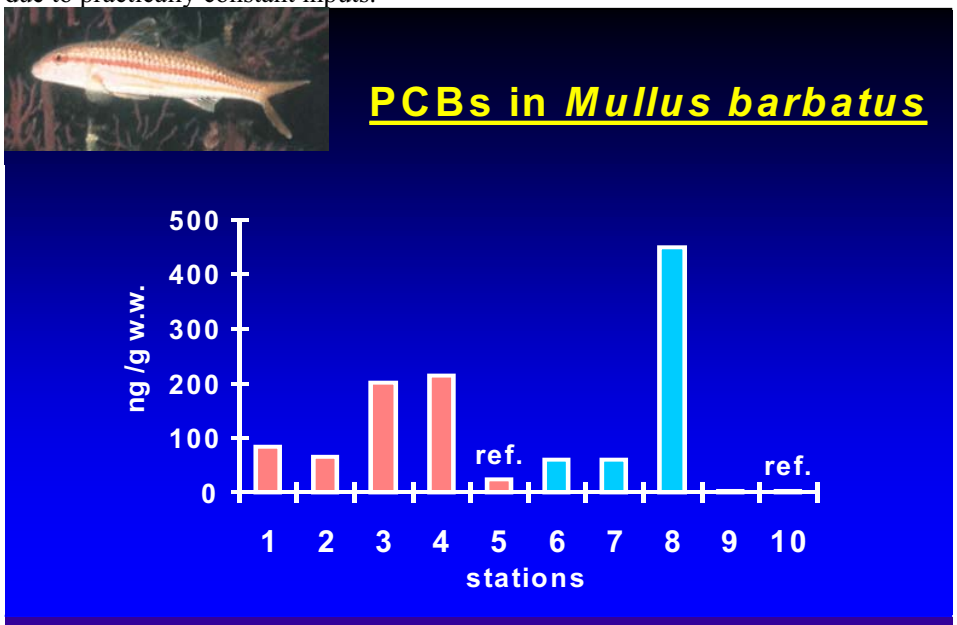
Assessment of PCB in the Mediterranean region

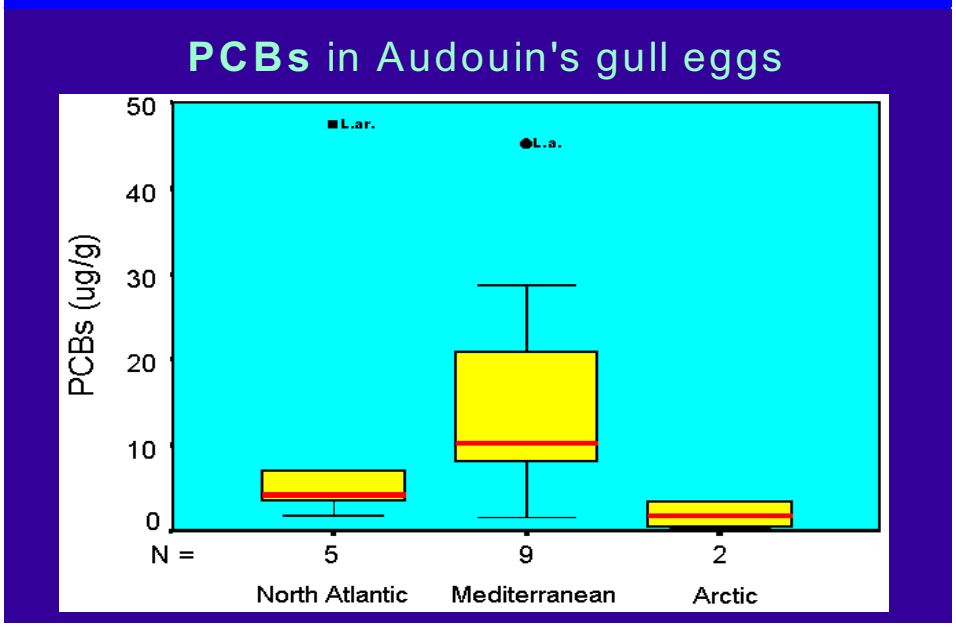
According to the assessment report on PTS in the Mediterranean region prepared in 2002 in the framework of UNEP Chemicals, PCB containing equipment has been largely used. Total PCB production in some of the European countries (France, Italy and Spain) was in the range of 300,000 tonnes, for the period 1954-84. There is a lack of quantitative information concerning the amount and status of remaining stocks of PCB containing equipment. Most of the PCB destruction capacity of the Region is located in France. PCB emissions show a decreasing trend with time in the EMEP countries of the Region. Some hot spots have arisen from the stockage of electrical equipment containing PCBs oils and the destruction of electrical and military equipment during regional conflicts, such as the Balkans and the Israel-Lebanon wars.

A recent environmental assessment entitled “ASSESSMENT OF THE MEDITERRANEAN SEDIMENTS CONTAMINATION BY PERSISTENT ORGANIC POLLUTANTS” published by Albaiges et al (to be published) concluded that the contamination in the Mediterranean Sea by PCBs, using sediment concentrations as environmental indicators, demonstrated both noticeable trends and gaps of knowledge. However, in spite of this, the analysis conducted with the available data seems to indicate that chemical contamination of sediments by PCBs in the Mediterranean is more a local problem, associated with urban/industrial and riverine discharges, as well as coastal enclosures (harbours and lagoons) than a widespread issue across the region. In this respect, a number of areas of concern, particularly along the Northern coast, have been identified.In this context , though regional assessment are being rare , the transboundary movement of PCBs throughout the region and at global level via food chain and wet deposition should be highly considered .
Furthermore, the analysis of the temporal variation of concentrations indicates a steady input of PCBs in the Mediterranean Sea and the need for an improved management of their potential sources.

The Environmental Risk Assessment (ERA) concludes that a general low toxicity risk for the benthic community by PCbs contamination is expected outside the continental shelf of the Mediterranean. However, some areas of concern were identified in the vicinity of certain industrial locations and in the mouths of major rivers, spotting the need of further ecotoxicological research in these zones in a detailed ERA.

Moreover, few long-term temporal trend monitoring in fish (Mullus Barbatus), mussels and seabird eggs (Audouin gull) has been carried out in the Northern Mediterranean. . Results also suggest that atmospheric concentrations of PCBs have remained approximately constant during the past decade due to practically constant inputs.





MEDPOL assessment

In 2001 MEDPOL, in the framework of MAP-GEF project entitled "Determination of priority actions for the further elaboration and implementation of the Strategic Action Programme for the Mediterranean Sea" prepared an inventory of PCBs in the region.

A number of statements could be drawn from the inventory:

- For many Mediterranean countries no detailed information exists on the releases of PCBs and nine pesticides from point sources (industry and urban centres). This could be the result of the lack of monitoring programmes.

- Due to the fact that most of the PCBs have been banned in the majority of the countries of the region, their main sources consist of stockpiles due to import. and, more importantly, of the compounds present in the main environmental vectors and reservoirs due to previous chronic usage and accidental spills.

- PCB-containing equipment has been largely used in the region.

- The first regulation on PCBs applied by the EEC is dated 1976, when their use was restricted to closed circuits; the second one, in 1985, when the use of PCB as a raw material or chemical intermediate was banned. Finally, in 1987, PCB was totally banned for use in new closed circuits.

- In spite of the legislation in force, there are still large amounts of PCB in use. This is because in many countries there are exemptions for devices in use for a long period. Moreover, there are stockpiled amounts waiting to be eliminated.

- There is general agreement that the disposal of equipment with PCB containing oils is the main source of PCBs in the region. PCB production and use has been linked to economic development before the use of the substance was banned. Hence, the main stockpiles of PCB equipment will reside in the northern parts of the region, where appropriate management of the PCB wastes has not been fully implemented.

- There is no uniform information regarding the statistics on actual uses and stocks of PCB's for the countries of the region.

State of the art of the implementation of ESM of PCBs in the targeted countries

Albania

Albania ratified the Stockholm Convention on 4 October 2004 and submitted its NIP on 12 February 2007. The NIP addresses PCBs. In order to respect its commitments vis-a vis PCBs, Albania proposes the following management options in the 2007-2020 time frame:

1. To elaborate and implement regulation regarding to management, handling, monitoring, phase out and disposal of oil and equipments contaminated with PCBs;
2. To elaborate and implement internal KESH guideline on transformer management, handling and phase out;
3. To train the employees responsible for transformer handling and maintenance;
4. Establish laboratory capacity for analysis of PCBs in transformer oils;
5. Implement awareness raising activities for the concerned public;
6. Gradual rehabilitation of the PCBs contaminated sites;
7. Disposal of mineral oil contaminated by PCBs;
8. Design and put in place a national PCBs monitoring program.

The NIP mentions the following conclusions :
o Low quantity of PCBs oil transformers;
o Most part of them are mineral oil transformers;
o About 5, 3 % of all tested transformers and 6 % of distribution transformers are suspected to be PCBs contaminated;
o Number of transformers manufactured before 1990: 6000 units
o Average weight of distribution transformers (150 of them are substations transformers and 5 850 are electric cabins transformers): 1.5 tons

o Number of transformers suspected to be contaminated: about 320
o Total weight of transformers: 1 100 tons
o Total weight of dielectric: 300 tons
o Total weight of drained transformers: 800 tons

It is estimated that the cost of the implementation of PCBs management options is worth 2.559.350 US$

Egypt

Egypt ratified Stackholm Convention on 2 may 2003 and submitted its NIP on 16 March 2006. In order to respect its commitments vis-a vis PCBs, Egypt developed the following activities as part of its NIP:
a. Disposal of PCBs
b. Checking transformers manufactured during the period 1955-1977 estimated to contain almost 20,490 kg of oil of PCBs, for the purpose of disposal as well as the number of condensers, manufactured before 1970, which contain PCBs oils.
c. Disposal of equipment polluted with PCBs
d. Disposing of the 3,666 condensers and 26 transformers, that were manufactured during the period from 1955-1977
e. Completing the PCB Inventory (contaminated areas, old loads, including the volume of contaminated soil) at the regional and local levels.
f. Resolving the issue of waste containing PCBs in a comprehensive manner with the goal of establishing a collection system and ensuring safe disposal until an acceptable method of liquidation becomes available.

According to the NIP of Egypt, data received from the Ministry of Electricity and Energy, indicates that no PCBs exist in Egypt so far. However, the results of the preliminary inventory show that the condensers and transformers manufactured during the period from 1955 to 1977 could possibly contain PCBs as shown in the following table.

Number	Type	Description
3666	Condensers	Big condensers manufactured in 1970 with a capacity of 2.5 F / 275 V and 300 F/ 400 V that may contain PCBs.It is estimated(MEDPOL expert) that , in average, each of the condensers contain 20 kg of contaminated oil .Thus the total amount of PCbs contaminated oil is expectected to be 74000 kg
26	Transformers	Big transformers manufactured during the period form 1955 to 1977 that totally contain 20490 Kg. of oil that possibly contains PCBs.

Accordingly the total amount of PCBs contaminated oil is around 94490 kg or 94.5 tons.

Lebanon

Lebanon ratified the Stockholm Convention on 3 January 2003 and submitted its NIP on 17 May 2006. In order to respect its commitments vis-a vis PCBs, Lebanon developed the following activities as part of its NIP:

_ - Prepare a comprehensive Inventory of PCBs
- Develop a plan to phase out PCBs transformers

- Develop and implement a plan for the disposal of PCBs oils and equipments
- Develop and implement an awareness and information programme
- Develop and implement a stakeholders involvement plan

The preliminary inventory indicated that PCBs is present in oils and equipments as follows:

Two old electricity power plants have PCB equipment (estimate of total OIL = 42tons)

Distribution: 16,000 distribution transformers of which many containing PCBs, gradually being phased out. Investigations is needed for 13 tons of PCBs oil which were imported in 2002.

The Bauchrieh repair shop (EDL) revealed that 14 out of 84 samples proved to contains >>50ppm of PCBs

Libya

Libya ratified the Stockholm Convention on 14 June 2005 and it is expected to submit its NIP on 12 September 2007. No comprehensive inventory of PCBs has been so far prepared. Libya is willing to develop its inventory with the assistance of international organizations.

Syria

Syria ratified the Stockholm Convention 0n 5 August 2005 and it is expected to finalize its NIP by 3 November 2007. An Action Plan is expected to include:

- Public awareness
- Development of a national laboratory for PCBs analysis
- Confinement and disposal of contaminated oils and equipments
- Capacity building programme
- Development of national regulations
- Implementation of a pilot project in a hot spot where 2500 transformers are contaminated.

The total number of the transformer containing PCBs is 1724 and the total quantity of the oil contaminated by PCBs is 1384.25 tons
The total number of transformers (19,604) and the total quantity of the oil (2,990 kg) need verification (national inventory of PCBs –Syria 2005)

Project rationale

This proposal seeks to build on priorities established in the NAPs and the NIPs, and on existing initiatives in some Mediterranean states, to provide a first, harmonized initiative on PCBs that meets the obligations of the Stockholm and Barcelona Conventions and is compatible with requirements under the Basel Convention to which all the Mediterranean states are Party.

There is a need to continue and enhance work begun during national implementation planning and to implement Regulatory and institutional frameworks to ensure the introduction and sustainability of environmentally sound management of equipment that contains or is contaminated by PCBs throughout its 'life-cycle';

Detailed inventory, national registration and labelling schemes to ensure that equipment containing, or contaminated by, PCBs can be identified and tracked throughout its 'life-cycle';
Improved maintenance, servicing and storage operations in order to provide differentiated and environmentally sound treatment and handling of equipment containing, or contaminated by, PCBs;
Plans for the phase-out of in-service equipment containing, or are contaminated by, PCBs that meet target dates set in the Stockholm Convention or more stringent national legislation or regional agreements;

Disposal operations for equipment already out-of-service and discarded equipment and other wastes containing, or contaminated by, PCBs.

- Programmes of awareness raising and capacity building in sound management principles and requirements for technical staff handling PCB equipment and oils; their managers and industry decision makers; holders of PCB containing and contaminated equipment outside of the national electrical company, including Government; and members of the Public vulnerable to PCB risks;
- Assessment of sites contaminated by PCBs

The development objective or goal of the proposal is to reduce risks to human health and the environment from releases of PCBs.
The purpose of this project is to introduce environmentally sound management (ESM) to all stages of the 'life-cycle' of electrical equipment containing or contaminated by PCBs.

Objectives/Outputs

The outputs of the project are:

1. Institutional and legal frameworks for implementation of ESM of PCBs;
2. Improved maintenance, servicing and storage operations;
3. Phase-out plans for equipment containing or contaminated by PCBs;
4. Disposal of obsolete equipment in demonstration projects carried out according to Stockholm convention guidelines to ensure environmental safeguards;
5. Technical capacity for ESM of PCBs equipment;
6. Awareness of importance of ESM of PCBs equipment;
7. National capacity to implement PCBs phase-out and disposal programmes.

The project will ensure the environmentally safe disposal of the following quantities of PCBs contaminated oils and equipments:

Lebanon	42 tons	approximately 100%
Albania	280 tons	approximately 25%
Egypt	280 tons	approximately 3%
Libya	280 tons	No data available on the total quantity available
Syria	280 tons	approximately 9%

Description of activities, including demonstration and pilot projects

2.3.1 Legislative and institutional framework for implementation of ESM of PCBs(cost 950.000 $)

This component will review existing institutional, legal, regulatory and administrative frameworks and technical norms and standards, recommending, as necessary, revised arrangements meeting national, regional and international requirements. Wherever possible, these arrangements will be harmonised on a regional basis to strengthen cooperation and joint working. The component will build close coordination between public regulatory authorities and entities holding or handling equipment containing or contaminated with PCBs in order to secure PCBs and prevent their environmental release.

- Review and improve existing legal, regulatory and administrative instruments;
- Agree on technical standards for reporting, analysis and labelling;
- Develop or upgrade reporting and registration schemes and national databases;
- Agree on ESM standards for PCB equipment in use and in storage awaiting disposal;
- Develop and agree on norms and standards for the assessment and environmentally sound remediation of sites contaminated by PCBs.

2.3.2 Demonstration projects to improve the management programme of PCBs and facilitate the implementation of NIPs and SAP-MED(Cost 2100.000$)

The projects will be developed through the implementation of three different activities based on the Stockholm Convention guidelines (**PCB Transformers and Capacitors From Management to Reclassification and Disposal (2002)**
:

2.3.2.1 Improve maintenance, servicing and storage operations

This activity will review existing maintenance, servicing and storage facilities available in participating states. Improvements will be planned and implemented in selected pilot demonstration projects. Consultation with owners will be undertaken to develop plans for improvements or revised arrangements compatible with environmentally sound practices.

Activity:

- Select sites and establish pilot facilities demonstrating environmentally sound handling and treatment of PCBs equipment.

2.3.2.2 Phase-out plans for equipment containing or contaminated by PCBs

This activity will be carried out with national electrical company officials to review or develop phase-out plans for equipment containing or contaminated with PCBs, to ensure that they meet the target dates set in the Stockholm Convention or more stringent national or regional agreements. The activity will use criteria set out in the Stockholm Convention as well as available risk management approaches, such as that provided as guidance by the Secretariat of the Basel Convention, to undertake risk-based assessments of in-service equipment containing or contaminated by PCBs. This work will also define likely costs associated with PCB phase out and identify incremental costs over and above normal capital replacement costs. Phase-out planning will then be extended to customers of the national electrical company to ensure that quantities of PCBs held by them can also be secured and disposed properly. Activities will include:

- Conducting risk-based assessment of in-service equipment containing or contaminated by PCBs;
- Developing precautionary phase-out plans that manage risks from equipment and that are compatible with national regulationsand with international convention requirements.
- Defining costs and incremental costs associated with the phase out plan

2.3.2.3 Disposal of obsolete equipment

This subcomponent will provide detailed inventories of obsolete equipment already off-line and awaiting disposal in order to provide specifications for environmentally sound disposal operations. The component will use existing guidance, such as that prepared by the Secretariat of the Basel Convention, to examine cost-effective disposal alternatives and contract, via open tender procedures, appropriate measures at selected demonstration sites. Cost-effectiveness evaluation will consider, in particular, opportunities to undertake all or part of operations on a national or sub-regional basis in order to build sustainable capacity and retain value from potentially recyclable metal components, minimizing international disposal costs.
Activities will include:

1. Assessment according to UNEP guidelines
   - 1a Assessment of PCBs transformers
   - 1b Assessment of capacitors containing PCB

2. Request of proposal from final disposal company (ies) of PCBs, (issuing net weight of PCBs, PCB contamination)
3. Request for proposal from shipping company (ies).
4. Request for proposal to ensure the road transport to disposal sites.
5. Preparing the application file according the Regulation 259/93 “Transfrontier shipments of waste in EU and between EU and OECD or their countries and according to Basel Convention (notification process).
6. Setting plan to remove the contaminated units.

7. Providing to the export country all necessary equipment and packaging, material (pumps, drums UN Labels etc…)
8. Getting the import license from import country (30-45 days after to the application date).
9. Performing the emptying of transformers, confinment, labeling and marking of PCBs packs.
10. Getting empty ISO sea containers in demonstration sites, loading the sea container and labeling of packages and containers.
11. Notifying the movement of load to the import authorities as well as the treatment facility.
12. Shipping of containers.
13. Road trasportation to the facility of PCB final disposal.
14. The final disposal company treats all PCBs and after, issues a certificate of disposal.

Any demonstrations within the project (e.g. servicing, maintenance, storage and disposal operations) would be required to meet appropriate local and international environmental standards and incorporate suitable safeguards. The project will take advice on these from local and international authorities (for example follow country procedures on Environmental Impact Assessment) and also seek advice from other similar GEF supported projects. Suitable conditions, specifications and safeguards will be incorporated in any commercial tendering exercises. International transboundary movements of PCB wastes as part of disposal operations will be required to be compliant with relevant international rules, standards and guidelines for such hazardous wastes.

2.3.3 Awareness of importance of ESM of PCBs equipment (cost 300.000$)

This activity will provide more general raising of awareness of the need for, and principles of, the environmentally sound management of PCBs equipment. Target audiences will be public and private sector actors likely to be engaged in policy and capital investment decision making – particularly in sectors outside of the electrical utility, where electrical equipment is not 'core business'; the waste and recycling sector; as well as civil society, particularly those likely to be vulnerable to PCB risks.
Activities will include:

- Developing communications strategies and materials appropriate to target audience groups;
- Promoting awareness and involvement in phase-out and disposal of PCBs equipment amongst key target groups

2.3.4 Technical capacity for ESM of PCBs equipment(cost 950.000$)

This component will provide technical training and capacity building in the environmentally sound management of PCBs to the personnel directly engaged in the management of electrical equipment that might contain or be contaminated with PCBs. In the first instance, this component will concentrate on personnel of national electrical companies and the public regulatory authorities but will be extended during the project to include waste and metal recyclers engaged in the reclamation, recycling and disposal of PCBs equipment, and customers of the national electrical company, to ensure that quantities of PCBs held by them can also be properly managed.

Guidance for the implementation of this component has already been developed by the Secretariat of the Basel Convention.

Activities will include:

- Providing training opportunities for maintenance and servicing personnel in best-practices for environmentally sound maintenance and servicing;
- Providing training in risk assessment and precautionary planning for the phase-out of in-service equipment containing or contaminated with PCBs;
- Providing training in the management of disposal operations.

2.3.5 National capacity to implement PCBs phase-out and disposal programmes(cost 700.000$)

This activity will establish the profiles of the functional groups responsible for the execution of the project, for its supervision, and its monitoring and evaluation.

2.3.5.1 Establish and execute project management

Establish terms of reference and responsibilities of project personnel; recruit contract staff and form regional and national project teams to undertake administrative, financial and technical management of the project and to report progress to the implementing agency.

2.3.5.2 Monitor and evaluate the project

Prepare and lead an inception workshop and prepare (i) a detailed implementation plan suitable for use in progress monitoring; and (ii) an M&E plan compatible with national, regional and agency requirements; agree and implement mechanisms to provide annual joint project implementation reviews and independent management and financial reviews according to GEF M&E procedures; conduct project M&E according to the plan established at project inception, conduct independent terminal evaluation of the project.

Expected outcomes

- Legislative, regulatory and institutional frameworks for the environmentally sound management of PCBs of participating countries improved and compatible with national, regional and international obligations and targets;
- Maintenance and servicing of equipment containing or contaminated with PCBs managed by national electricity companies in an environmentally sound manner with reduced environmental releases;
- National electricity companies implementing risk-based phase-out plans for in-service equipment containing or contaminated with PCBs; other entities using equipment containing or contaminated with PCBs developing risk-based phase-out plans;
- Cost-effective disposal of out-of-service equipment and PCBs contaminated oils demonstrated at selected sites; replication facilitated through capacity building;
- Technical capacity for the environmentally sound life-cycle management of equipment containing or contaminated with PCBs enhanced in all participating countries;
- Awareness of risks to human and environmental health from PCBs risen amongst key decision makers and vulnerable groups

Strategy for Implementation

Demonstration projects will be implemented by national electrical companies in cooperation with national environmental authorities, MED POL and CP/RAC Cleaner production centers.

Since the targeted countries are at different levels of preparation and implementation of NIPs in the framework of Stockholm Convention, the activities included in the demonstration projects will be launched according to different country schedules, i.e. in parallel or after appropriate capacity building or preparatory activities. The demonstration projects will be for Egypt an in important step forward in the implementation of NIP and a contribution for the preparation of the ground for the preparation of a realistic NIP in Albania, Syria and Libya . As for Lebanon, the demonstration project will ensure the management of the full quantity of PCBs so far inventoried.

Moreover, considering that the cleaner production dimension in the demonstration projects is crucial, MED POL will work closely with CP/RAC which is the Regional Activity Centre of MAP related to the application of cleaner production. The Center, that possesses long-dated direct working experience with the industrial sector on capacity building, will actively participate in the organization of the capacity building and awareness programmes targeting the relevant public and the private sectors.

The management and disposal of PCBs in demonstration sites will comprise 5 steps:

-Pre implementation review of the status of the sites vis-a –vis the characteristics and quantity of contaminated oils and equipments

-preparation of the necessary authorizations and shipments and contacts with disposal companies
- Confinement of the targeted quantities
- Shipment of containers
-disposal outside the targeted countries (in EU countries).

The activities will be directly carried out by the selected electrical companies with the attentive supervision of MED POL through international experts who will monitor and follow up their implementation and report to MED POL on achievements and bottlenecks.

The plan for implementation will be differentiated according to the level of preparedness of NIPs. The activities included in the current proposal comprise:

- Review of of regulatory and institutional set ups (activity 1): it will start in all targeted countries in the first year.

Demonstration projects and related capacity building programme (activity 2 and 5): it targets the relevant personnel in the demonstration project site and future potential sites. It will start in Lebanon and Albania in the first year. As for Egypt there is a need to review the inventory to define the demonstration project site and caracterisics. Syria has finalized its inventory but not its NIP. A review of the draft NIP would be necessary before the implementation of the demonstration project. Finally, a comprehensive review of the preliminary inventory should be made in Libya to decide on the implementation of the demonstration project.

Capacity building programme is targeting the general staff of electrical companies, public and private industries, stakeholders and civil society. It will start in all targeted countries in the first year and will be accomplished throughout the project life. It might be finalized before the end of the project.

Risk and Sustainability

The sustainability prospects of the project's technical and policy objectives are excellent. MED POL will ensure through its biannual programme of activities the follow up and the development of additional programmes to address the issues of phasing out PCBs from the region in the framework of the LBS Protocol. In addition MED POL is currently coordinating with the European Union the implementation of the EU initiative to depollute the Mediterranean by 2020 in the framework of EU neighborhood policy which, on the medium and long-term, will directly contribute to the achievement of the project's objectives.

At national level, once NIPs are finalized and approved, GEF eligible Mediterranean Countries, on the basis of the achievements of the present project, would have more chance to access to national and international funds to ensure the phase out process.

The Sustainable finance mechanism for the long term implementation of NAPs which is proposed as a major activities in the framework of the Strategic Partnership will help bring strategic financial planning and management into the NAP project cycle and overcome the present difficulties of implementation.

The capacities of governments and institutions of the targeted countries will be enhanced through training workshops and the exchange of knowledge and skills thus providing a framework of knowledge and expertise to promote further initiatives in favor of ESM of PCBs and implementation of NIPs

Active participation of civil society in project activities is a key element towards sustainability. The Public Participation Strategy of this component focuses on building a firm foundation for effective intervention in the region.

Stakeholder involvement

Preparatory activities will include a stakeholder analysis to ensure all necessary stakeholder involvement in the project. Relevant ministries, local administrations, private sector and stakeholders will be engaged in project activities through a participatory approach developed for the overall partnership project.

The participatory approach would be extended to cover regional stakeholders, which have already gained experiences in the matter.

The participation of civil society organizations (with a focus on national and regional NGO networks) is expected to be a key element in achieving greater awareness of the processes and results of the project, greater acceptance and ownership of the processes and their products, increased quality of the outputs (policy documents, project results, products and outcomes), strengthened stakeholder participation and partnership in the implementation of the project and increased potential for the replication of the partnership and activities.

Project relevance within GEF Operational Program OP14

The project is consistent with the Operational Principles of the GEF's Instrument and Operational Strategy, to be used for the development and implementation of projects.

These principles include, among others, that the project:

a) is country-driven and supports government's efforts to promote sustainable development; and

b) demonstrates cost effective methods, in this case for the phase-out and disposal of POPs.

More specifically, the objectives of the project are consistent with the Draft Elements of an Operational Program for Reducing and Eliminating Releases of Persistent Organic Pollutants into the Environment (2000). In particular, the project:

a) focuses on the disposal of PCBs and disposal and treatment of PCB-contaminated equipment as outlined in Annex B of the Stockholm convention ;

b) strengthens the capacity of developing countries to deal with the threat posed by POPs and other hazardous wastes to human and environmental health; and

c) facilitates the development of cost-effective and environmentally-sound strategies for the disposal PCBs and potentially other hazardous wastes.

Baseline without GEF intervention

A peer review of the NAPs and NIPs of the targeted countries shows that the action plans described are, by far, over their regulatory ,institutional and technical capacities and the capabilities.
Without GEF's financial support, the region would probably witness the current practice of long term storage of PCBs contaminated oils and equipments without any environmental protection and inappropriate disposal of contaminated metals and oils.

Postponing the establishment of an harmonized management plan for the treatment of contaminated equipment increases the risks of new environmental contamination and of human exposure. PCBs still in use in electrical equipment are at risk of release through fires in electrical equipment; those off-line can release PCBs through leaks and spills. Stocks that are not well protected can be accessed by

people wishing to utilize the oils; cases have been documented in various countries of PCB-contaminated oils being used as an "industrial hand cleaner" and for cooking. Repeated exposure to even small quantities of PCBs can cause damage to the liver and neurological and immune systems.

Inadequate handling of PCBs can also lead to emissions of other toxic substances, including dioxins and furans, that are POPs regulated under the Stockholm Convention.

Even if the use and manufacture of POPs is banned, the existence of these types of sources results in continuous releases of contaminants.

Finally, without the contribution that the project will provide, releases of PCBs and its by products into the environment and specially the Mediterranean Sea will continue, taking also into consideration that used oil including oil containing PCBs reach the Mediterranean Sea through the sewage network system and wet deposition.

The baseline cost of the project was estimated as 2.200.000 US $ which is equivalent to 88.000 US$ per year /per country over the whole life of the project (5years). This baseline represents the minimum cost of:

- confinement process which aims at the reduction of the exposure to PCBs contaminated oils and equipments .
- storage of equipment in old mines
- Emptying the PCBs liquid for reuse and metal recycling.
- Immobilization in concrete structure.

These practices, in the absence of ESM plan for PCBs, are very common to most of the Mediterranean Countries and their cost of 88.000$/year was estimated on the basis of on going national programmes of activities to reduce the exposure of human to hazardous waste. As a result of the preparation of NIPs countries have to completely review their policy and strategy for the management and disposal of PCBs in order to meet their commitments in the framework of Stockholm Convention. Therefore , the project will pave the road for the proper implementation of the NIPs and reduce the health and environment impacts of a non environmental and unsustaibnable practices.

Institutional coordination and support

Core commitments and linkages

All Participating Countries are Parties to the Barcelona Convention and are actively engaged in the implementation of the LBS Protocol, the SAP and the NAPs.

All participating countries are Parties to the Basel Convention on the control of transboundary movements of hazardous wastes and their disposal.

All participating countries and the European Commission are Parties to the Stockholm Convention.

The replication strategy adopted in the frame of the overall regional project will ensure the replicability to other GEF eligible Mediterranean countries.

The Barcelona Convention/Mediterranean Action Plan Secretariat-MED POL, responsible for the coordination and follow up of the implementation of the LBS Protocol, the SAP and the NAPs, will execute the project. The appropriate management of POPs is one of the important issues of the SAP to which countries are committed. Management of POPs is also included as a priority action in many NAPs prepared and endorsed by the countries. MED POL is in charge of the follow up to the implementation of the SAP and the NAPs and CP/RAC is also involved as to the management of hazardous wastes. The execution of this component by MED POL in cooperation with CP/RAC will therefore facilitate the implementation of the countries' commitments under the Barcelona Convention and, indirectly, the Stockholm Convention.

The Secretariat is committed through its biannual programme of activities adopted by the CPs meeting to provide assistance to Mediterranean countries to implement the legal instruments which are in force or expected to be in force very soon. The Barcelona Convention with its amendments entered into force in 2004. 13 Mediterranean Countries have already ratified the LBS Protocol. The implementation of the project falls under the framework of the implementation of this Protocol and its SAP to address Land Based Sources of Pollution.

UNEP is committed to assist its developing country Member States in regard to the Stockholm Convention and to the other chemicals and wastes agreements. It provides support to and houses the secretariats for the Barcelona, Stockholm, Rotterdam and Basel Convention as well for SAICM. The last three secretariats are supported by a technical branch of the UNEP's Division of Trade, Industry and Economics dedicated to addressing the sound management of chemicals globally.

UNEP is also one the GEF implementing agencies fully engaged in work to support OP14 of the GEF. The GEF has approved Enabling Activities proposals submitted by UNEP for 58 countries, including the pilot project of work in 12 countries. In addition, proposals for Brazil and the Russian Federation that have opted to undertake NIP development via the GEF full project cycle have been approved.

UNEP is also implementing or developing a range of demonstration and capacity building projects geared to support Convention implementation. Many of these are regional or global initiatives that take up common problems of implementation or take advantage of regional working to ensure cost-effective actions and enhanced and harmonised take-up and replication potential. This proposal follows this regional approach and takes advantage of existing and well-established structures under the MAP.

UNEP has committed considerable effort to build its assistance programme for POPs. This commitment is based on a clear understanding that these activities are compatible with UNEP's mandate and corporate strategy and assist towards the Millennium Development Goals.

Continuous consultation and coordination between implementing agencies is foreseen in the framework of the overall partnership project.

Monitoring and Evaluation Programme

Monitoring and evaluation will be achieved through a process based on the performance indicators identified for each of the sub components.

Monitoring and evaluation of the implementation of the activities described under the component and subcomponents will be ensured by a two-step combined procedure.

First, the MED POL reporting obligations to the CPs in which MED POL should prepare half yearly report to be presented to the bureau meeting of Barcelona Convention in addition to the progress report which will be prepared every two years for revision, evaluation by MED POL Focal Points and approval by the meeting of the CPs.

Secondly, MED POL will establish an individual performance evaluation for each of the activities outlined in the project. It will be based on individual questionnaire, which will be distributed to the participants to training courses, workshops and manager of activities at the end of the implementation of each of the activity. Statistical analysis of data and information which will be provided by the questionnaires would facilitate the monitoring and evaluation process and would provide consistent and reliable information for on the spot tuning to increase the prospect of success of the implementation of the project.

Moreover monitoring will be achieved through the overall reporting and monitoring systems which will be established throughout the project management and according to procedures and requirements of the GEF.

Reduction of releases will be monitored through the regular updating of the National Baseline Budget of emissions and releases, included in the MED POL work programme.

Finally, monitoring and evaluation will be achieved at national level through MED POL and CP/RAC focal points and their regional experts. They will provide oversight of the implementation of the activities and will review and approve the reports on the implementation of activities before their submission to MED POL and CP/RAC Secretariats.

Component 3. Conservation of biological diversity: Implementation of SAP BIO and related NAPs

Sub-component 3.1: Conservation of Coastal and Marine Diversity through Development of a Mediterranean MPA Network

Implementing Agencies:
- United Nation Environment Program - the Mediterranean Action Plan, UNEP-MAP
- Regional Activity Centre for Specially Protected Areas, RAC-SPA
- Food and Agriculture Organization, FAO in collaboration with the Secretariat of General Fisheries Commission for the Mediterranean (GFCM), World Wildlife Fund (WWF)-MEDPO - the Mediterranean Programme Office

Background/Context/Rationale

The 1995 Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (the 'Barcelona Convention') combats pollution in the Mediterranean Sea. A consequence of the Barcelona Convention has been the development of two Strategic Action Programs (SAPs):

- The Strategic Action Program to Address Pollution from Land-Based Activities (**SAP MED**) – adopted by the Contracting Parties in 1997, related to the Protocol on the Protection of the Mediterranean against Pollution from Land-Based Sources Sea; and

- The Strategic Action Program for the Conservation of Mediterranean Marine and Coastal Biological Diversity (**SAP BIO**) – adopted in 2003, related to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean (SPA Protocol).

In particular SAP BIO has provided a mechanism for the Barcelona Convention for the national, transboundary and regional level conservation of the Mediterranean marine and coastal biodiversity, identifying a series of priorities. Despite the successful preparation of SAP BIO, including the preparation of some 63 National Action Plans (NAPs) in 13 countries[19], little has been subsequently implemented at national or regional level. This, together with the experience of the SAP preparation and other related interventions, provides important lessons learned for this project which is designed to assist the country partners implement the prioritised elements of the SAP BIO through the provision of a series of enabling activities at national, sub-regional and regional levels. The main lessons learned include:

- Ecosystem-based management of biodiversity conservation and sustainable use requires a transboundary approach that frequently ranks lower than immediate national priorities. This reduces the political will and funding commitment to what are considered long-term and more defuse actions, irrespective of the global and lasting benefits they might bring.

- An overall Mediterranean-wide regional approach may only be achieved through focusing on homogenous sub-regional areas with similar natural and cultural values. However inequalities in capacity are not so important in area selection, as this presents opportunities for capacity-building from *within* regional sub-units rather than imposing this from *outside*;

[19] In alphabetical order: Albania, Algeria, Bosnia & Herzegovina, Croatia, Egypt, Lebanon, Libya, Morocco, Montenegro, Syria, Tunisia and Turkey. The Palestinian Authority will also participate in this new project.

- In order to be effective, project demonstration activities need to targeted at definable recipient communities within or adjacent to MPA boundaries and buffer zones where there is a higher chance of success and potential replicability.

- The SAP BIO 'provisions for follow-up' identify the importance of establishing national focal points for the key implementation themes (e.g. (i) critical area conservation and (ii) sustainable use), together with clear responsibilities for both project level and thematic monitoring and evaluation. The preparation of 'National Investment Portfolios' is recognised as a clear precursor for effective country-level support to the project and this is being facilitated by RAC/SPA over 2006/2007.

The overall development objective of this project is to '*maintain the long-term function of the Mediterranean LME through the use of an ecologically-coherent network of protected areas combined with the sustainable use of renewable marine resources*' (see Logical Framework Analysis in Annex B). This will effectively expand the current MEDPAN MPA management 'network' to include the rest of the Mediterranean in a process that will provide a spatial management tool to prioritise biodiversity conservation and ensure maintenance and enhancement of environmental goods and services, which are essential objectives of integrated coastal and ocean management (ICOM)[20].

Priority action will depend upon a number of short-term measures that will be developed and disseminated through replicable demonstration activities in representative areas of the Mediterranean. Longer-term sustainability will be ensured through (i) a series of targeted capacity-building and enabling activities that will focus on both national and sub-regional levels to improve capacity for policy development and its subsequent transfer into recurrent management, as well as (ii) ensuring the financial and legislative support that underpins their implementation.

To satisfy the overall development objective, the project has two components that are designed to complement the twin thrust of the GEF Biodiversity Focus Area OP2 Program objectives:

Biodiversity Sub-Component 3.1: Conservation of coastal and marine diversity through development of a Mediterranean MPA Network.
Biodiversity Sub-Component 3.2: Promote the sustainable use of fisheries resources in the Mediterranean through ecosystem-based management approaches.

The major expected results expected from the implementation of these two components include:

- The strengthening of the effective conservation of regionally important coastal and marine biodiversity through the creation of an ecologically coherent MPA network in the Mediterranean region; and
- Increasing the ability of coastal nations to utilise coastal and high seas resources through the adoption of the ecosystem approach to fisheries management and the application of targeted interventions to reduce bycatch and other unsustainable fishing practices.

In achieving these results, it is expected that the project will also result in:

- Implementation of the actions prioritised by the SAP BIO project.
- Existing and proposed MPAs will coalesce to form part of a coherent network that exists at both institutional and ecological levels.
- Greater representation of the Mediterranean's vulnerable and critical coastal and marine habitats brought under statutory protection.
- Tools and capacity for the management of recognised Mediterranean coastal and marine bio-diversity sites improved.
- Mainstreaming of the ecosystem approach into national and sub-regional fisheries management policies and activities.

[20] Planning of individual MPAs should be participatory and integrated within broader spatial management and economic and social development frameworks to ensure their sustainability and promote creation of functionally-connected networks of MPAs. IUCN Principle 6 (Ehler *et al*, 2004).

- Bycatch of iconic and vulnerable species reduced through improved fishing practises and awareness.
- Unsustainable fishing practises reduced or eliminated in regionally prioritised sites.
- The permanent coordination, monitoring, evaluation and support mechanisms for regional marine biodiversity conservation.
- Innovative approaches to the funding of regionally important existing and future marine biodiversity conservation initiatives in place.
- A robust and practical legislative governance structure that supports the ecosystem approach to conservation and sustainable use in the Mediterranean.

Description of activities, including demonstration and pilot projects

3.1 Conservation of Coastal and Marine Diversity through development of a Mediterranean MPA network

The SAP BIO identified, through development of the NAPs, a series of problems that are of regional relevance:

- Management of marine conservation in Mediterranean countries is a matter for the state, with no or poor participation by the local and sub-national administrations.
- Insufficient legal system, lack of adequate legislation
- Confusion of competency, or fragmentation of responsibility (leading to problems of implementation of the existing laws)
- Lack of coordination between administrations, competencies overlap
- Interference with other human activities occurring in the coastal zone, mainly tourism
- Low or no participation of stakeholders and other agents in the decision-making process
- Poor effort to improve public awareness on marine conservation issues
- Lack of effective enforcement measures in some cases
- Lack of effective scientific monitoring
- Lack of sufficient economic resources to achieve the protection measures, so that a number of MPAs receive only nominal management and protection ("paper MPAs")
- Problems of mismanagement and deterioration caused by the limited experience of the people administrating the MPAs
- Lack of effective conservation measures to protect particular species (monk seal, sea turtles, cetaceans, etc.) and/or communities (e.g. seagrass meadows)
- Need to set up a network of MPAs, and therefore define of goals, mechanisms and management organization for such a network
- Need for integrated coastal zone planning and management.

Other identifiable general problems that affect the selection, installation, management and evaluation of Mediterranean MPAs are the following:

- The need to clearly establish the specific goals of each MPA
- Lack of scientific basis for the selection (location, habitats included, depth range, etc.) and design (size, shape, number, proportion of total surface protected, etc.) of MPAs
- Need for appropriate monitoring and evaluation of the effectiveness of MPAs, based on sound sampling designs (e.g. BACIPS, beyond-BACI…)
- Lack of empirical evidence for potentially complex effects of MPAs, e.g. spillover, indirect effect on ecosystems ("cascade" effects), effects on larval replenishment of commercially and/or ecologically important species, genetic effects, socio-economic results, etc.
- Need to ascertain the relationship of MPAs with other management tools.

Within SAP BIO, the setting up of protected areas offshore (including the high seas) to protect pelagic ecosystem and sensitive species and important yet partially unknown benthic areas such as the "white coral community", seamounts and submarine canyons were acknowledged to be a priority.

3.2 Sustainable Use of fisheries resources in the Mediterranean through ecosystem – based management approaches

Fishing in the Mediterranean typically involves high numbers of small-scale coastal vessels using trawls, seine, long-line and banned drift nets. Fishing on the high seas targets a more restricted number of resources, particularly straddling and often highly migratory stocks such as tunas and swordfish. Two key issues are attached to fisheries, these being (i) direct over-exploitation of commercial species and (ii) indirect ecosystem effects of fishing.

The direct effects of over-fishing on the target species: the increasing demand for seafood products from Europe in particular has resulted in over-fishing of a number of key commercial species. Many fish species are overexploited (*Anguilla anguilla*, *Epinephelus marginatus*, *Sciaena umbra*, *Thunnus thynnus, Xiphius gladius*, etc.). Those also regularly cited are the cartilaginous fishes, particularly sharks due to their low fecundity and longevity as well as invertebrates species such as sponges, red coral (*Corallium rubrum*) and some crustacean species (such as *Homarus gammarus*, *Palinurus elephas*). However the task for target stock management is considered to be a key baseline activity and is thus not considered as a priority for this project. The only exception to this is where species are considered particularly vulnerable or represent ecological keystone species as considered by the CBD or the SPA Protocol.

Indirect effects of fishing: fishing can impact both target and non-target species through:

- Incidental capture (by-catch), discarding, of ghost fishing by lost gear, etc;
- Increased effort on less valuable resources at lower trophic levels, due to a decrease in the abundance of valuable species higher in the food chain;
- Cascade effects on the trophic structure of the marine ecosystem by the harvesting of top predators, either pelagic (tuna, etc.) or demersal (groupers, sea bass, etc.) species; and
- Habitat disturbance or destruction (with special emphasis on particular habitats, such as *Posidonia oceanica* meadows and maërl beds).

The project's overall development objective is to '*maintain the long-term function of the Mediterranean LME through the use of an ecologically-coherent network of protected areas combined with the sustainable use of renewable marine resources*'. This will effectively expand the current MEDPAN MPA management 'network' to include the rest of the Mediterranean in a process that will provide a spatial management tool to prioritise biodiversity conservation and ensure maintenance and enhancement of environmental goods and services, which are essential objectives of integrated coastal and ocean management (ICOM).

Priority action will depend upon a number of short-term measures that will be developed and disseminated through replicable demonstration activities in representative areas of the Mediterranean. Longer-term sustainability will be ensured through (i) a series of targeted capacity-building and enabling activities that will focus on both national and sub-regional levels to improve capacity for policy development its subsequent transfer into recurrent management, as well as (ii) ensuring the financial and legislative support that underpins their implementation.

As In order to address these two broad problem areas, the component 2 is to be divided into two Sub-Components that are coherent with the GEF Operational Policy OP#2:

Sub-Component 3.1: Conservation of Coastal and Marine Diversity through Development of a Mediterranean MPA Network

3.1.1: Establishment of coordination mechanism for regional MPA management
3.1.2: Identification and planning of new MPAs to extend the regional network and enhance its ecological representiveness
3.1.3: Improved management of marine protected areas
3.1.4: Establishment of a regional MPA network monitoring capacity
3.1.5: Ensure the financial sustainability of regional and national MPA networks
3.1.6: Improve the legal governance frameworks of marine protected areas

Sub-Component 3.2: Promote the Sustainable Use of Fisheries Resources in the Mediterranean through Ecosystem-based Management Approaches

3.2.1: Establishment of the ecosystem approach to fisheries management at regional and sub-regional levels
3.2.2: Reduction of bycatch of regionally important species at a fleet level
3.2.3: Identification and addressing of unsustainable fishing practices at regionally representative MPA sites

3.1 Conservation of Coastal and Marine Diversity through Development of a Mediterranean MPA Network

The objective of the component is to strengthen the conservation of regionally important coastal and marine biodiversity through the creation of an ecologically coherent MPA network in the Mediterranean region. Building upon the existing MedPAN network, a functional network of MPAs, with an active participation of all the categories of stakeholders, established in the 13 Mediterranean GEF eligible countries. (Box 1)

What is a network of MPAs ***BOX 1***

A "network of MPAs is a grouping of protected areas that are linked, either physically through the movement of organisms and/or water or through common management institutions and personnel"
An MPA network is a group of MPAs that, when consider collectively:
Fulfil ecological aims more effectively and comprehensively than individual MPAs can achieve on their own;
Provides for the effective protection of large-scale ecological processes and patterns and;
Effectively enhances the management effects and the social and economic benefits over a broader area.

Why there is a need for a network of MPAs in the Mediterranean

A network of MPAs in the Mediterranean may participate in developing the regional economy and protecting the landscape and biological diversity, but under the following conditions:
- to be representative of the full range of diversity, landscapes, species and habitats;
- to be designed so that the natural processes are respected and the ecosystems services are ensured in the long term;
- to be large enough to ensure the long term preservation of the landscapes, species and habitats;
- to be sustainability managed with proper institutional, financial and technical means at the MPAs level.

Existing networks of MPAs in the Mediterranean

In 1990, the Mediterranean Technical Assistance Programme (METAP) of the World Bank funded the creation of the first Mediterranean Protected Areas Network (MEDPAN). MEDPAN was conceived as a network aimed at promoting the implementation of major priority conservation activities on the ground (marine protected areas), the exchange of experiences among the managers of marine protected areas, and the development of management tools.
The MedPAN network operated from 1990 to 1996, with one thematic seminar and four publications each year focusing on the following themes:
- Analysis, assessment and monitoring of the natural resources at each site; - Public awareness and education;
- Frequentation management; - Development of methodological standards for data exchanges;
- Evaluation of the economic impact of the protected areas.

The lack of human and financial resources has left the network in a dormant state since 1996, but its value was reaffirmed by the United Nations in the spring of 1999, via the Regional Activity Center for Specially Protected Areas (RAC/SPA), based in Tunis.

The Port Cros National Park applied for a new statute for MedPAN in 1999, making MedPAN into a "Loi 1901 association" (recognized non-profit organization under French law) whose administrative offices are in the Port Cros National Park buildings. The RAC/SPA provides secretarial services for the association, and the executive responsibilities of the network are filled by the Port Cros National Park and the Federation of French Regional Natural Parks.

The statutes of the new association clearly state the vocation of the MedPAN network:

- Enhance the contacts and experience exchanges among the managers of coastal and marine protected areas;
- Assist in the training of managers
- Make the know-how acquired by each manager available to other managers, with the vision of sustainable development
- Develop and support concrete actions for the planning, management and public awareness of a protected area or a group of protected areas
- Enhance the development of coastal and marine MPA's, depending on the skills of each MPA.

In 2001 the Port Cros National Park proposed that the WWF-France Ocean and Coasts Mission take on establishing and raising funds for the MedPAN network.

In 2005, thanks to grant of the EU INTERREG IIIC programme (which funds transboundary cooperation programmes), MEDPAN was reactivated by WWF-France to ensure its original strategic mandate. WWF-France has taken over the Secretariat of MEDPAN, previously provided by the Parc National de Port Cros, France.

As an EU INTERREG Project, though, MEDPAN is currently able to finance activities exclusively in countries of the European Union: managers and practitioners of marine protected areas from non-EU countries are formally excluded from the project.

The revived MEDPAN network, albeit extremely active and successful, is therefore falling short of one of its key mandates: that is to ensure the exchange of knowledge, know-how and good practices on marine protected areas, both for biodiversity conservation and fisheries management, among those areas that are more advanced towards those in greater need for capacity building and training.

The necessity for a network of managers and practitioners from the non-EU countries has been reaffirmed within the current MEDPAN network. Moreover, the opportunity for expanding the network of managers to the south and east Mediterranean is also integrated in the perspective of creating a global network of marine protected areas, evoked in the Convention on Biodiversity (1992) and formally reaffirmed in the Action Plan of the Earth Summit on Sustainable Development in Johannesburg (2002), as well as in the SAP BIO whose implementation is the main objective of the GEF Strategic Partnership project.

The GEF Strategic Partnership project offers thus the unique opportunity to expand the MEDPAN network to include the south and east Mediterranean MPAs, to enhance their establishment and improve their management.

Structure and rational of the sub components

Each sub-component is made up of sections that include activities compatible to the overall project timeframe. The activities identified cover a wide scope of MPAs management issues related to methodological, technical and financial aspects, which make them particularly relevant for the improvement of MPAs network in the region. Emphasis has been laid on training, exchange and regional tools, which appear to be the most essential and useful activities to be performed by the three years of duration of the project. It has also been taken into account the limited human capacity available in each country and the limited time that the managers can allocate to such activities.

As the incorporation of innovative methods for the management of MPAs at local level is of high value for all the MPAs in the region, the project encompasses a number of demonstration projects at local level, which have strong regional interest and are easily replicable in other countries of the Mediterranean region (see INFO RAC "Replication strategy"). It is also important to note that <u>common replication, communication and dissemination methodologies</u> will be developed for the entire biodiversity component through Component IV: (Project Management and Coordination).

So far, the following criteria have been applied, as much as possible, in order to select a preliminary list of adequate MPAs, at the country level, to enhance the regional benefit of the activities:

- Regional: SPAMI status of the MPA; transboundary benefit; sub-regional equilibrium; historical heritage interest;
- National: SAP BIO and NAPs priorities, willingness expressed in implementing them; local national and local interest and context (absence of conflict, low risks, synergies with NGO and other organization activities); absence of previous GEF support to the MPA (considering only the marine part);
- Ecological: Scientific interest; biogeographical complementarities to the region; ecological representativeness;
- Replicability in other MPAs: demonstration value for other countries, sub-regions and regions.

Activity 3.1.1: Establishment of coordination mechanism for regional MPA management

The Regional coordination of MPAs within the Mediterranean LME continues to operate through a resourced and functional unit.

The coordination mechanism coordinates all the activities of the Sub-Component, including joint inception, mid-term, Advisory Committee meetings and final coordination and evaluation activities: overall goal of the project is met through adequate cross-component coordination and linkages.

3.1.1.1 Inception activities and final results dissemination

This activity aims at ensuring the coordination, the dissemination of results and the replication mechanism of the network. It will encompass two meetings: an inception meeting will be organised at the beginning of the project (it will involve all projects' participants, about 40 people, over 3 days); a final regional conference will be organised at the end of the project, in one of the 13 Mediterranean countries involved in the project, in order to present the results of the activities (80-100 participants including-decision makers, MPA managers, scientists, NGOs, stakeholders) over 3 days + 1 field day.

3.1.1.2 Development of communication and information tools supporting the Mediterranean MPA network

To strengthen the MPAs network in the 13 GEF eligible countries, to make it better known and to develop exchanges between the relevant stakeholders in the region: a communication plan will be designed to support the networking of MPAs, a mix of communication and information tools will then be developed, and may include the creation of a new website or strengthening of an existing website, including an Extranet, the edition of an electronic newsletter on MPA management, the development of a MPA document database or clearing house mechanism, the publication of the Directory of Mediterranean MPAs and Management Contacts. The role of the website will be especially emphasized. A Webmaster will be hired. These documents will be designed to meet the needs of the various stakeholder categories (politicians, wide public, scientists and researchers, tourists, fishermen and other users…) and will be easily accessible.

This activity has synergies and linkages with MedWet, IUCN/WCPA, Conservatoire du Littoral, Tour du Valat, Plan Bleu, Ramsar Convention, Emerald Network/Council of Europe, ACCOBAMS,

3.1.1.3 Development of long-term management arrangements

A feasibility study will be contracted to an external consultant to characterize and evaluate the different options available to strengthen the institutional and financial durability of the network. This study will contribute to identify potential partners and include a roadmap to implement the conclusions and a 5-year business plan (and action plan). Two meetings involving a representative of each country are organized during the inception meeting and the final meeting. A minimum coordination unit in charge of starts the implementation of the 5-year business plan (and action plan).

The feasibility study will be completed by the end of year 1. The roadmap to implement the conclusions / best option of the study will be implemented in year 2 and 3. 5-year business plan (and action plan) for the network is developed in year 3. At the end of year 3, a minimum coordination arrangement is up and running and the business plan (and action plan) are under implementation.

3.1.1.4 Activities follow up Advisory Committee meetings

The development of the MPA network receives proper advice and inputs by the Parties to the Barcelona Convention and relevant international institutions within the region. Two meetings of the Advisory Committee will be implemented each year and a meeting of the National Correspondents will follow one of them.

Activity 3.1.2: Identification and planning of new MPAs to extend the regional network and enhance its ecological representiveness

It enhanced representation of Mediterranean vulnerable and critical habitats brought under statutory protection and integrated within a broader Mediterranean MPAs network.
In order to identify and plan new MPAs the following activities will be carried out:

3.1.2.1 Establishment of priority activities needed to create MPAs: the actual needs and demands of countries concerning the creation of MPAs taken into account and a precise set of activities to be implemented in each country agreed and planned.

A rapid preliminary assessment is needed in order to elaborate an Implementation Strategy, in which priority activities and actions to be developed are to be decided, in agreement with national policies. International consultant(s) will visit each of the 8 considered countries to:

- Examine, at a preliminary stage, the present national situation to create new MPAs (starting from NAPs and National Reports within SAP BIO), regarding:
    - Institutional and stakeholder / partnership aspects
    - Environmental available knowledge
    - Financial potentiality
- Visit to each of 8 eligible countries by international consultant(s team), to survey (based on interviews to institutions, and local technical workshops) national demands and needs
- Elaborate together with national officers a needs diagnosis for each of the countries

3.1.2.2 Identification of stakeholder groups and potential partnerships

A technical expertise is to be developed to identify Users Groups (organised stakeholders), at the national and sub-national level, likely to participate in integrated management schemes (e.g. Fishermen Brotherhoods, Diver Associations, Tourism Associations, Agricultural Organizations, etc.); to identify possible partnership at the international and national level, to provide an adequate institutional framework to the participatory mechanisms

3.1.2.3 Characterization of priority marine sites suitable to become MPAs: valuation of marine areas, in order to select the best areas to become MPA taking into account fisheries communities.

Technical assistance by international consulting teams, in collaboration with local teams, will be in charge of achieving environmental studies, whose overall objective is to provide criteria to selecting a marine site to become a MPA with regard to other less significant ones, at the same time that achieving on-job training of the local participants (activity linked with activities to increase technical capacity). The following actions (translated into reports) are proposed:

<u>A. Ecological survey</u>

- Reviewing and summarizing (at national or sub-national level) the existing biophysical and ecological (benthic habitats, fish and invertebrates, ecological processes important for conservation purposes, main threats and impacts to biodiversity) information in the area.
- Ecological study (at national or sub-national level) to fill gaps in environmental knowledge-establishing a preliminary description of marine areas; for all important aspects, this study will provide:
    - Large-scale (low resolution), GIS-based mapping;
    - Ecological sectoring of national (or sub-national) marine areas, in function of agreed, international criteria.

The Standard Data-entry Form for national inventories of natural sites of conservation interest (SDF), prepared by RAC/SPA and adopted by the Contracting Parties in June 2000, will be used systematically for data recording, using the reference list of marine habitats, also prepared by RAC/SPA.

B. Small scale fishery survey

- Reviewing and summarizing (at national or sub-national level) the existing information on small-scale fisheries in the area (fleet and boat characteristics, spatial and temporal distribution of fishing effort- main characteristics of fishing grounds by gear/métier, historical fishing statistics, characteristics of marine resources, onboard sampling, marketing structure and mechanisms, etc.)
- Fishery study (at national or sub-national level) to fill gaps in fisheries knowledge - establishing a preliminary description of small scale fishery, by assessing in the field all (or part of) the aspects above.

C. Advice to MPA-site selection

From the above information, a report will be produced on the (prioritised) list of sites worthy of being protected at the national (or sub-national) level, and their main environmental characteristics (in a standardised form), including size, taking into account:

- Previously stated MPA objectives and goals (including economic, social, cultural, and/or practical considerations, as well as political judgements);
- Linkage with existing or planned conservation policies;
- Emphasizing the international or national significance for being designed –or potentially included because of reaching relevant criteria, in a list of important zones (SPAMIs etc.);
- Emphasizing the possible influence of events located outside the proposed MPA (e.g. land-based pollution activities) but which might affect the MPA;
- Their adequacy to belong to a regional MPA network, based on clear and concise inclusion criteria

3.1.2.4 Ecological quantification of new demonstration MPAs ecosystems and fisheries: inception, planning, zoning and development (management, monitoring and evaluation) of newly created MPAs within three beneficiary countries to be based on sound scientific knowledge.

Technical assistance by international consulting teams, in collaboration with local teams, will be in charge of achieving environmental studies, whose objective is to quantitatively survey the marine site used as demonstration area to become a MPA, as well as surrounding areas, while providing on-job training to the local teams to rise their capacity for their autonomous national future actions (activity linked with activities to increase technical capacity). The following actions (translated into reports) are proposed:

Ecological study (in three demonstration areas) to fill gaps in environmental knowledge - establishing a quantitative description of the marine area to be protected, as well as surrounding areas, by assessing:

- Shoreline geomorphology and land use (by boat-paths along the coast)
- Bathymetry (echo-sounder survey)
- Main seafloor substrate types (underwater aquaplane, skin-diving and SCUBA visual survey)
- Inventory and spatial distribution of benthic habitats (aquaplane surveys, semi-quantitative sampling by underwater visual transects and digital photographic quadrats); special attention will be driven to particularly valuable habitats
- Quantitative survey of fish assemblages (underwater visual census on transects)
- Potentiality of zones for supporting ecological processes important for conservation purposes (potential value for spawning, recruitment, nursery, habitat for important species, etc.), based on available knowledge
- Inventory of main sources of threats and impacts
- Fine-scale (high resolution), GIS-based mapping of main geomorphologic features, substrates, benthic habitats, potentially important areas, and main threats

- Design of indicators for ecological monitoring actions

Fishery study (in three demonstration areas) to fill gaps in fisheries knowledge- establishing a preliminary description of small-scale fishery in the area, by assessing in the field all (or part of) the following aspects:

- Fleet and boat characteristics (by field surveys using questionnaires –directly to fishermen, or in brotherhoods, administrations, etc.)
- Spatial and temporal distribution of fishing effort – main characteristics of fishing grounds (by field surveys as above)
- Analysis of historical fishing statistics (if available)
- Characteristics of marine resources (by onboard sampling and/or landing data)
- Marketing structure and mechanisms (by field surveys as above)
- Design of indicators for fisheries monitoring actions.

The activity could have possible synergies with COPEMED, ADRIAMED, EASTMED, MEDSUDMED, MEDFISIS.

3.1.2.5 *Identification of stakeholder participation mechanism: target countries provided with the means to plan participation mechanisms as a desirable part of MPA-creation process*.

A technical expertise is to be developed in the 3 MPA-sites to:

- Identify stakeholders (individuals and organised groups) to participate in the MPA-creation process; Survey needs and demands from stakeholders; Propose participatory mechanisms tailored to each new-MPA demonstration area, considering:
  - Balancing power between partners (stakeholder groups and relevant authorities)
  - Balancing vertical linkages (top-down *vs*. bottom-up) in a nested approach
- Establishing management structures to frame partnership

3.1.2.6 New fisheries-based MPAs in international waters (High Seas): Enhanced collaboration of riparian countries for the creation of up to 3 SPAMIs in international waters

From the existing Fisheries Restricted Areas (FRA), created by the GFCM, develop the procedures to convert them in MPA. So far GFCM has determined three of such areas in international waters where the use of towed gears is forbidden.

Legal framework to create SPAMIs in high seas already exists. International consultants will facilitate the collaboration between experts and international and national institutions of neighboring countries to meet, discuss and eventually propose one or more among these three areas as SPAMI.

3.1.2.7 MPA creation guidelines and teaching packages: practical methodologies to create sustainable MPAs available to managers and practitioners

A considerable number of documents have been already produced worldwide to assist MPA managers and practitioners to favouring, assessing, creating, zoning, planning, evaluating and monitoring MPAs. Nevertheless, it is not the case when approaching the Mediterranean specificity, and even more if we consider existing language obstacles. Capacity building to create new MPAs in the Mediterranean region is to be reached by publishing detailed, practical monographs on relevant topics, authored by well-identified persons and/or teams in the Mediterranean context, through the following actions:

- Review on existing bibliography at the international and Mediterranean level, dealing with MPA issues
- Regional publications are to be produced, and translated into English, French and Arabic, in topics not covered by international / Mediterranean literature, such as: handbook for the management of Mediterranean MPAs; formative kits on MPAs as tools for fisheries management; guidelines for regional coordination – transboundary MPA systems; guidelines to installing material: new systems for enforcement (e.g. satellite tracking,

webcams, etc.); buoys; panels and warns; informative leaflets; etc.); guidelines to organising volunteers staff.

A bibliographic review will be performed during the first 6 months of the project. During the whole duration of the project, 5-10 methodological monographs will be edited and published – and translated to English, French and Arabic (mainly online), by selected well-recognised authors

Activity 3.1.3: Improved management of marine protected areas

In order to establish a functional exchange network of MPAs in the 13 GEF eligible countries, by engaging managers, practitioners, relevant authorities and stakeholders in the MPAs management process, providing them with the knowledge and tools to effectively manage the protected areas and connecting them with MPAs managers and practitioners of the MPAs in European Union countries. Through the following detailed activities:

3.1.3.1 Thematic exchange workshops for MPA managers and other stakeholders of existing MPAs: managers, practitioners and relevant authorities of existing MPAs in the Mediterranean enabled to exchanges experiences and good practices on MPA fisheries management and fishermen and participation of other stakeholders in the management of the MPA.

The two workshops (3 days, 20 participants) are intended to enable exchange of experience among managers of existing MPAs with the final objective to help managers to enhance the participation of stakeholders in the management of the MPA. The topics where this exchange could be most beneficial include MPA fisheries management and fishermen, MPA tourism activities management and tourism operators, local decision makers and local population. These workshops will take place on the site of experienced Mediterranean MPAs where stakeholders are successfully involved in the management of the MPA and include field visits. A facilitator will help deliver the expected outcome. The organization of the thematic workshop will be done in close cooperation with the managers of MPAs of EU countries.

3.1.3.2 Exchange workshops on MPAs relevance and management addressed to managers, practitioners and relevant authorities of new MPAs: managers, practitioners and relevant authorities of existing MPAs in the Mediterranean enabled to exchanges experiences and good practices on key MPA establishment management.

A way to facilitate the acquisition of these knowledge and skills to new-MPA managers and practitioners is through the organisation of exchanges activities at the regional level, to take advantage of the existing experience in already well-functioning MPAs in the Mediterranean. Also, a regional training course is proposed to introduce MPA practitioners to the use of this important management tool. Further to that, another training course will address the important issue of fisheries management and MPAs. The following actions are proposed:

- Two Training visits in existing MPAs: organising visits of management staff and managers of newly created MPAs (3 people from each ongoing MPA, 20 people, 1 week) to already existing and well-managed MPAs, to knowing in situ challenges, problems and solutions in specific case studies
- Staff exchanges (1-2 people from each ongoing MPA or other new MPAs, 1 week)among newly created MPAs at the sub-regional level to share common experiences and challenges
- One regional training course (20 people, 2 weeks), to be celebrated in one of the eligible countries, to introduce MPA managers and practitioners from selected countries on MPA selection, creation and management issues
- One regional training course (20 people, 2 weeks) to specialise managers on fisheries conservation aspects of MPAs management

3.1.3.3 *Training sessions for MPA managers, practitioners and relevant authorities of existing MPAs*.

This activity will start with an assessment (6 month from the beginning) of training needs among MPAs participating in the regional component. On this basis, two training sessions will be organised, if possible at the same time as the thematic exchange workshops. Depending on the training needs assessment, the topics will possibly include: Participatory planning and joint management; Negotiation and conflict resolution; Organization of surveillance; Fisheries management; and Eco-tourism development management.

They will be organized in the premises of one of the participant MPAs, include a field visit to the MPA and be subcontracted to professional training organizations. Training based on demonstration projects provided by participants or from other Mediterranean MPAs would be favoured.

3.1.3.4 *On-job-training for manager, practitioners and relevant authorities in identified demonstration areas, on planning, management and ecological aspects of MPAs.*

The following actions are proposed:

Organising local workshops (with MPA staff, stakeholders, and external advisors) on planning and zoning the MPA to reach the intended specific objectives and goals, to launch: legal establishment of boundaries; zoning (including defining no-take areas); detailed site planning (by zones); regulation of activities (by sectors of activity–professional fishing, recreational fishing, diving, tourism, education, etc.); day-to-day management (including monitoring and sustainability economic aspects); mechanisms to review and revise management.

Technical assistance: starting from existing experience in well-working MPAs around the Mediterranean, and from the results of the above workshop, giving advice to new MPA staff to:

- Define and develop objectives and goals specific to the selected area to become a MPA
- Properly zoning the MPA, following the steps below: initial information gathering and preparation; public participation and/or consultation - prior to the preparation of a plan (see local workshop, action 2 below); preparation of a draft plan; public participation and/or consultation – review of draft plan; finalisation of the zoning plan

3.1.3.5 Development of management tools: 3 basic tools developed or adapted to the Mediterranean context, and translated into English, French and Arabic.

Specific management tools (two tools in year 2 and one tool in year 3) may be necessary to address specific needs of MPA managers. This activity will contribute to publish management tools on topics of interest for MPA managers. The needs for new methodological documents or the translation and/or the adaptation of existing ones assessed. The completion of these methodological documents will be subcontracted

3.1.3.6 Demonstration Project: Concerted management plan for the Kas-Kekova SPA, Turkey (twining programme): guidelines and specific zoning for the management of recreational activities in the Kas-Kekova SPA.

Framework

The Kekova SPA lies in southwest Turkey, in the Antalya province, and is located between the coastal cities of Antalya and Fethiye. Starting from Uluburun located east of the town of Kaş and extending to the plains of Demre, it covers a coastal and marine area of 26,000 ha, comprising many islands. The area has an outstanding archaeological value as it was within the borders of the Lycian civilisation which settled around south-west Turkey in 100 BC before it fell under the control of the Roman Empire around 300 AC. Typical Lycian tombs, some located in the sea and the remnants of a sunken city gives the area an historical value out of the common. Besides its status of SPA established under the jurisdiction of the Authority for Specially Protected Areas, established under the Ministry of Environment and Forestry, the area is protected by First Degree Archaeological SIT and First Degree Natural SIT status established under the newly merged Ministry of Culture and Tourism.

Part of the first comprehensive marine survey was carried out in Turkey by WWF-Turkey along a 300 km coastline. The islands and rocks off the coast of Kas and located west of the Kekova SPA were identified as a marine area of extreme richness. Kas is a village known to be one of the most important centres of diving in Turkey. Consultations, both at the governmental and community level, led WWF Turkey to propose the extension of the Kas area to the Kekova SPA, to APSA. The Authority sent the extension application to 13 different government entity having jurisdiction over the marine realm. Approvals were received from all parties. The application is currently waiting for the Council of Ministers' official approval.

The development of a management plan for Kas-Kekova SPA, including mechanisms to insure its financial sustainability is a priority of APSA. A management plan, developed through a participatory process involving all stakeholder groups, will contribute to the development of the local economy and to the conservation of the landscape and biological diversity of this MPA.

This demonstration project has a special regional interest as it addresses one of the most common issues of MPAs in the Mediterranean: the use of an MPA by scuba divers and other tourists. The project aims to build a partnership among the diving clubs and assist them in developing diving guidelines through a participatory process. The partnership between the diving clubs will be strengthened through a protocol and the establishment of a "Responsible Diver" flag and logo, which will be displayed by all the participating clubs. Once the partnership is established the clubs will develop together the diving guidelines. These guidelines will initiate a management process for the utilization of the area by divers, and will include the design of diving sites, species lists and installation/development of a buoy system. Similar guidelines will be developed to provide a management scheme for daily-tour boats, yachts and artisanal fishermen. A zoning map proposing the limited use of some areas to specific recreational activities will be developed to safeguard some areas.

The project will be supported by a socio-economic analyze highlighting the comparative value of diving in the overall tourism activities of the village. The result will be used to highlight the value of diving for the overall economy and will be used to sensitize the local people for the conservation of the unique marine habitats and biodiversity of the diving sites.

A financial mechanism supported by local stakeholders, involved in various tourism activities, will be developed to ensure the sustainability of the project and create the resources needed for its monitoring.

WWF Turkey is committed to assist the Authority for Protecting Special Areas (APSA) established under the Turkish Ministry of Environment and Forestry, in developing the management plan of the newly extended area (Kas component) of the Kas-Kekova SPA. As the main users of this area are currently scuba divers, major focus will be given to the management of diving activities. The demonstration project is therefore conceived to develop, through participatory process, guidelines and protocols for scuba divers, which will become a component of the overall management plan of the Kas-Kekova SPA. Similar guidelines will be developed for other recreational activities (e.g. recreational boats, yachting, daily-tour boats, artisanal fishing etc.) undertaken in the area. The development of diving and recreational use guidelines will be done with the technical assistance of the managers of other MPAs in EU countries, such as the management teams of the Medas Island National Park in Spain and of the Port-Cros National Park in France (twining programme).
Specifically the activities planned are:

- Marine baseline biodiversity assessment of the area
- A socio-economic analysis of overall tourism's relationship with diving activities in the area
- Development of protocols among the diving clubs for the creation of a "Responsible Diver" flag and logo
- Development of guidelines for scuba diving activities (the design of underwater trails, species lists and establishment of a buoy system) defining the utilization of the area by clubs
- Development of guidelines for other recreational activities, such as recreational boats, yachting, and daily-tour boats
- Development of a zoning map highlighting the different areas open, partly restricted and strictly restricted to recreational activities

3.1.3.7 *Demonstration Project: Concerted management plan for the Banc des Kabyles, Algeria (twining programme): concerted guidelines for the management of artisanal and recreational fisheries activities in the Banc de Kabyles MPA.*

Framework

The marine reserve of the Banc des Kabyles is situated inside the Taza National Park, approximately at 3.4 miles from the nearest coast, and located under national jurisdiction. This MPA include both a land and a marine area. Covering a surface of about 600 ha, the Banc des Kabyles is an underwater mountain hosting all underwater natural habitats, which gives it a primordial scientific interest. Its seascape and biological diversity are outstanding and especially attractive for tourism activities, diving in particular – it has been said that a diving observer feels as though s/he is in a vast aquarium, and essential for fisheries. The Banc des Kabyles is indeed a spawning ground for fish, a nursery for most of them and a refuge area for breeders.

The Banc des Kabyles is included in the List of Specially Protected Areas of Mediterranean Interest (SPAMI List). This list, established under the 1995 Protocol Concerning Mediterranean Specially Protected Areas and Biological Diversity in the Mediterranean, includes sites which 'are of importance for conserving the components of biological diversity in the Mediterranean; contain ecosystems specific to the Mediterranean area or the habitats of endangered species; are of special interest at the scientific, aesthetic, cultural or educational levels'.

The Banc des Kabyles is still in good condition and not placed under major risks of pollution. The area's management problems are linked to fishing, commercial as well as sport fishing and, though this MPA is still spectacular, the seascape and biological richness have lost part of their magical character and interest, as shown by evident signs of local impoverishment.

According to the local authorities (Ministry of Planning and Environment/National Littoral Committee), a conservation approach would consist in the future, in diversifying the role of the Banc des Kabyles, making a wiser use of its outstanding seascape and biological qualities by developing tourism in a sustainable way and avoiding the detrimental effects of mass tourism and unsustainable fisheries exploitation.

This MPA will benefit from the development of a concerted management plan with the local community of users (specifically, the artisanal fishermen) and from the exchange program (twining programme) with the management team of one (or more than one) of the MPAs of the European Union countries.

The twining programme encompasses the following activities:

- To identify an MPA of a EU country (such as Port Cros National Park) whose management team has knowledge and expertise on fisheries management, participatory process and development of management plans for MPAs and is willing to twining with the Banc des Kabyles SPAMI
- To establish the contact between such a management team and the relevant authority and management team/technicians of the Banc des Kabyles SPAMI
- To organize meetings between the two teams
- To assist the relevant authorities/management team and technicians in developing guidelines for the management of fisheries activities in the MPA, by facilitating the exchange of knowledge and technical assistance with the management team and technicians of the selected EU MPA and the organization of workshops with local communities of fishermen.

Activity 3.1.4: Establishment of a regional MPA network monitoring capacity

A monitoring scheme developed for the network of MPAs and implemented in at least one of the countries involved in the project, through:

3.1.4.1 Feasibility and creation of a Mediterranean MPAs' monitoring observatory: a clear framework to implement a Mediterranean MPA database, including a set of integrated indicators.

A feasibility study to develop a Mediterranean MPA observatory will be implemented.

- Look for and develop partnerships with organizations in a position to provide data and/or analysis and potential users (NGOs, decision makers, national and regional organizations…). The opportunity of partnerships with existing databases will be assessed;
- Organize a discussion between technical partners interested and users so as to define objectives and content of the observatory as well as the contributions and responsibilities of each partner, the potential structure and the functioning. This discussion may take place through a workshop with partners;

- Define and create the framework and the operational structure of the observatory, and program of work with partners.

The observatory will aim at:

- Identifying and qualifying changes of MPAs through inventories, monitoring and evaluation programs. This should help to detail the location, surface and main other characteristics of each MPA, analyse the evolution of these parameters to show local and regional trends, evaluate the conservation status of MPAs and establish appropriate conservation priorities, identify missing information in terms of knowledge of the status of each MPA and on their resources;
- To sensitise decision-makers, users and the public on the importance, functions and eco-systemic and socio-economic values among others, by disseminating the results through the MedPAN network tools (Website, newsletter);
- To promote the development, the adoption and the integration of MPAs policies in sector policies to foster a more integrated approach of MPA management.
- The database structure of the observatory will be created.

3.1.4.2 Training MPA managers on site monitoring and evaluation: framework of monitoring & evaluation plan, indicators, guidance and methodology

An important step in a wise MPA management consists for the managers in elaborating a monitoring and evaluation programme to: a) assess the status of the key values (biodiversity and socio-economic aspects) of the MPA; and b) determine whether management is having its intended impact and is effective.

The activity will consist of organizing one regional seminar (3 days, 12 participants) for technical MPA staff, on the methodology to be used in the elaboration and/or improvement of a MPA monitoring & evaluation plan. Technical exercise will be done during the meetings, to enable the participants in progressing to the elaboration and/or the update and improvement of a monitoring & evaluation plan as part of their MPA management plan, including the selection of a set of indicators.

3.1.4.3 Rapid assessment of the effectiveness of MPA management at sub-regional level: the Rapid Assessment and Prioritisation of Protected Areas Management method adapted to MPAs

This activity (one seminar, 3 days, 12 participants) will provide a sub-regional overview of the effectiveness of MPA management, threats, vulnerabilities and degradation. It provides protected areas agencies with follow-up recommendations, and is an important first step in assessing and improving MPA management. It will be based on the RAPPAM (Rapid Assessment and Prioritisation of Protected Areas Management) method. This method is designed for broad-level comparisons among protected areas? This methodology has been developed specifically for forest-protected areas and adapted to dry lands and wetlands. However to date, it has not been applied specifically to marine protected area systems, although it has been applied to some protected areas that include marine ecosystems. This activity will permit to adapt the method to the MPAs together with an ad hoc group of MPA managers and be replicable in a large number of them, in different contexts; from the Mediterranean region and anywhere else in other enclosed seas.

3.1.4.4 Demonstration Project: A monitoring system for the network of MPAs in Croatia: a monitoring and evaluation system for the Croatian MPAs network to improve their effectiveness. Set of indicators to monitor the MPAs tendencies in the country.

Framework

The Croatian marine protected areas have an outstanding biodiversity. But these natural jewels are threatened by increasing tourism development and fisheries.

This activity includes the development and implementation of a monitoring system for the national network of marine and coastal protected areas in Croatia, enabling the continuous systematic process of collecting and analysing information, through the use of indicators, on the ecosystem and biodiversity health and the well-being of local communities dependent on the MPAs. The principal reason for developing a monitoring programme is to assess the status of the key values (biodiversity and socio-economic aspects) of the MPA; and determine whether management is having its intended impact and is effective.

The establishment of a common monitoring system for the Croatian network of MPAs will enable the comparison of collected data and provide a network-wide understanding of marine biodiversity health and well-being of local communities dependant on MPAs, thus supporting an effective management process.

The activities proposed are the following:

- A baseline assessment of ecological and socio-economic characteristics and of the threats based on existing literature;
- The definition of the objectives and the scope of a monitoring system for all Croatian MPAs and the selection of a series of appropriate, simple and cost-effective indicators. These will be developed through a series of workshops involving MPA management and relevant national institutions. The workshops will be facilitated by experts in the field of monitoring, both international and national, as well as managers of MPAs of other Mediterranean countries that could bring their experience on the matter. The indicators chosen will be selected so that the monitoring process may continue easily after the end of the project.
- The development of a simple centralised database where the indicators can be stored and enable a global vision at nation level over the concerned MPAs.

The project will be consistent with:

- The National Action Plan on biodiversity conservation as a part of integral coastal zone management planning which includes the compiling of relevant data on MPAs and marine MPAs;
- Croatian National Monitoring Program – Project Adriatic
- Eastern Adriatic Marine Ecological Network – UNDP Project submitted to the EU Programme on Environment in Developing Countries, Programme on Tropical Forests and other Forests in Developing Countries.

Building up of the national ecological network as a part of the Pan-European ecological network and the Natura 2000 network ongoing activities.

Activity 3.1.5: Ensure the financial sustainability of regional and national MPA networks

In order to secure the financial durability of Mediterranean MPAs through the strengthening of MPAs managers' capacity and skills on financial and institutional issues related to MPA management, the following activities will be carried out:

3.1.5.1 Financial analysis for the establishment of new MPAs: financial sustainability of new MPAs to be created with a better understanding of fund-raising approaches and opportunities.

A technical expertise is to be developed to: Identify financial needs and opportunities to create a new MPA; Analyse existing financial tools to allow sustaining newly created MPAs; Planning alternative (or complementary) financial mechanisms to support new MPAs. It is one-year activity by national consultants and/or external advisors to perform the proposed action.

3.1.5.2 Training of the MPA managers and practitioners in the elaboration of a MPA Business Plan: PA managers trained in elaborating a business plan. This activity will contribute to

harmonize and facilitate a common approach for fund raising at the regional level, and to strengthen networking activities.

A first step in a wise MPA management consists for the managers of elaborating a business plan, which will give them an accurate view of their internal situation. A business plan is essential to determine the capacity and amount of money needed to run MPAs and to set priorities for income and expenditure. Such a plan contributes to makes presentation of need more appealing to investors and donors and can help to entice cooperation and partnerships with the private sector. The activity will consist of organizing one regional seminar (3 days, 12 participants) for administrative and financial clerks, on the methodology to be used in the elaboration and/or improvement of a MPA business plan. Technical exercise will be done during the meetings, to enable the participants in progressing to the elaboration and/or the update and improvement of a business plan as part of their MPA management plan.

3.1.5.3 *Assessment of the MPAs global environment from a financial point of view: recommendations aimed at securing the current and future financial situation of the Mediterranean MPAs.*

A study (6-12 month) is carried out to assess the financing mechanisms for MPAs in the concerned countries and the options available to improve them. It includes an analysis of all the existing financing sources for MPAs (either domestic budgets or international sources), legislation and institutional frameworks providing for the development of additional funding (such as entrance fees, service concessions, green taxes, environmental subsidies, and Environmental Funds), international development assistance Agencies strategies, priorities and willingness to support MPAs and capacity building activities, and non-conventional tools such as market-based sources and collaborative management agreements. It will also include assessing all forces, external (local political commitment, NGO support, economic stability, good opportunities, etc.) and internal (MPA institutions, staff skills and capacities, budget adequacy to investments and operational activities, leadership, etc.). The interest and the possibility of regional financing mechanism are also assessed. Support to countries is given to develop new financing mechanism. Regional financing mechanism is developed if the conclusions are positive.

3.1.5.4 Training of MPA managers in the conservation finance mechanisms: increase MPA management capacity in funding issues. Proven tools and mechanisms adopted to secure the financial status of MPAs in the region by creating a common regional approach.

In general, especially in developing and/or new countries, the utilization of finance mechanisms and tools is not very well known from MPAs managers. This is not an easy subject and the lack of technical expertise is often perceived as a bottleneck in this matter. However, Parties to the Convention on Biological Diversity (CBD) and others Conventions, are required to provide financial support to implement their national biodiversity strategies and action plans and the lack of funding often poses major threats to conservation success. It is the case in the Mediterranean region, where to *"scale-up"* the use of long-term conservation finance MPAs mechanisms is of particular importance.

One training seminar (3 days, 12 participants) will be organized for MPAs managers, in order to make them more sensitive to the crucial necessity of developing various and alternative ways of funding, including national governments, international donor agencies, market-based and private sources, and to improve drastically their skills in this particular and very technical field.

Demonstration projects and very concrete and simple successful examples will be used to give the MPAs managers an overview of the available categories of tools (trust funds, tourist fees, fiscal instruments, foundations, bio prospecting, and biodiversity enterprise funds,).

Recommendations and guidance will be provided to enable them to select the most appropriate tools and mechanisms, in the context where they are, and to implement these mechanisms, in order to sustain the financial resources of the MPAS they manage. This activity will be performed in close cooperation with experts in the line developed by CFA.

3.1.5.5 Demonstration Project: demonstrate long-term financial mechanisms for MPAs, Tunisia: relevant MPA conservation finance mechanism(s) identified. Implementation of at least one mechanism started. Strengthening of the protection of marine habitats of outstanding biological and landscape interests in the region through availability of long-term financing.

Framework
The Agency for the Protection and Management of Coastal Areas (APAL) has the competence for the creation and management of marine protected areas in Tunisia. The creation and management of MPAs is currently mainly financed through projects, whether financed at national or international level. This activity aims at securing long-term financing for the core activities of MPA management of the Agency.

Business Planning Approach will be adopted. This implies the following actions:

- Defining the financial needs of existing and projected MPAs (business plans) in Tunisia
- Identification and presentation of the conservation finance options to the concerned national authorities
- Two-level coarse screening of the options and identify those that are most likely to be viable (Screen for "elimination" criteria, Screen for goods and services connected to "customers")
- To conduct feasibility studies (financial, administrative, social, environmental, etc.) for one or more mechanisms identified
- To establish and implement one or more mechanisms determined to be priorities

3.1.5.6 *Demonstration Project on financial sustainability mechanisms for at least three new MPAs in different areas. Financial sustainability of the specific MPA projects to be strengthened by planning financial issues based on the actual national (or sub-national) as well as local situation and MPA staff trained in financial and management objectives.*

A technical expertise is to be developed to:

- Identifying potential source of financial incomes to create and launch a new MPA: International sources; National, sub-national and local sources; Private sector; NGOs; People groups; Market-based incomes (fees, etc.)
- Establishing a Financial Plan based on the information above, to establish: Foreseen costs (establishment, administration, employment, monitoring, enforcement, indirect, etc.); Sustainability in the long term
- A training course to MPA staff in financial issues, to be held in situ.

Activity 3.1.6: Improve the legal governance frameworks of marine protected areas

In order to provide a single legal governance approach to support the establishment and function of marine protected areas throughout the Mediterranean region that is coherent with regional resolutions and agreements, and in order to provide a framework for legislation development at national level.

3.1.6.1 Analysing existing national (or sub-national) and site-specific (local) laws and rules to protect marine habitats, species and areas – identifying existing gaps in legislation and level of compliance and proposing updates of legislation to fill in identified gaps: national authorities will have information and elements to launch the needed legislative reforms to effectively creating new MPAs.

In those countries where this gap analysis and updating appears to be necessary, in order to launch the process of MPA creation, a technical assistance is to be performed, covering the following aspects: Analysing existing national (or sub-national) and site-specific (local) laws and rules to protect marine habitats, species and areas – identifying existing gaps in legislation and level of compliance; Proposing updates of legislation to fill in identified gaps.

3.1.6.2 Analysing existing national (or sub-national) conservation and/or fisheries policies in which including MPA systems; clarifying competencies at national (and sub-national) level regarding the management of littoral areas; establishing the institutional framework for

managing marine areas at the national and sub-national level, and their capabilities (in terms of budget and opportunities); proposing coordination mechanisms among sectors at the national level (within an ICZM scheme) to ensure appropriate management of ongoing MPAs: the institutional situation at national level clarified and assessed; national authorities receive clues to reforming institutional arrangements and coordination mechanisms in order to facilitate the MPA creation process.

A technical assistance, to be performed by a national team (with external advise where needed), is proposed to:

- Analysing existing national (or sub-national) conservation and/or fisheries policies in which, including MPA systems;
- Clarifying competencies at national (and sub-national) level regarding the management of littoral areas;
- Establishing the institutional framework for managing marine areas at the national and sub-national level, and their capabilities (in terms of budget and opportunities);
- Proposing coordination mechanisms among sectors at the national level (within an ICZM scheme) to ensure appropriate management of ongoing MPAs.

3.1.6.3 Training to support governance of MPAs in the region more effective; training sessions will also facilitate exchange of data and experience between the MPAs managers and national stakeholders: enhancement of the experience and skills among the MPA managers and national points; identification of major gaps in national legislations, recommendations and "guidance" to fill them.

Training is given a particular importance to make the management of the MPAS in the region more effective; training sessions will also facilitate exchange of data and experience between the MPAs managers and national stakeholders. The use of law for protecting sea is a complicated matter due partly to the fact that species and natural habitats belong to nobody in the high sea and that international treaties became more and more numerous in the near past. However these legal instruments have direct effects in the internal law and must be implemented as appropriate at national level. The activity will encompass one (1) training session on the subject of the implementation of the international and European law at national level, in relation to the management of MPAs. It will gather 25 participants, half of them MPAs managers and half national focal points implicated in the MPAs at national level. The session will be organized year 1 of the project and it will benefit from the conclusions of the ongoing study ordered by RAC SPA, on the legal needs to strengthen the management of existing MPAs. The key legal and policy instruments will be presented to the participants with clear indications on their effects on the management of MPAs, at national and at site levels. Representatives from the relevant Conventions and treaties will be invited to intervene at the sessions; 1-2 legal experts from the region will facilitate the discussions. This seminar will (1) facilitate for each country the appraisal of the situation, (2) open a discussion on the main gaps and weaknesses, (3) conclude on recommendations to be assessed and further developed. This activity will contribute to ensure that the measures adopted within the framework of world and regional conventions to which the Mediterranean countries are Parties, are fully and well incorporated in national MPAs legislation.

3.1.6.4 User's guide intended to the MPAs managers, will be published in three languages (English, French and Arabic), on the "Legal aspects of MPAs in the Mediterranean region: improved sharing and dissemination of information on best governance practices in the region, a better regional networking efficiency. Updated legislation to conserve biodiversity and landscape through the MPAs' network. Reinforcement of human resources and skills in administrative management of MPAs. Improvement of management methods.

Based on the results obtained from the conclusions of the study mentioned above, a user's guide intended to the MPAs managers, will be published in three languages (English, French and Arabic), on the "Legal aspects of MPAs in the Mediterranean region". This very basic guide will make the managers sensitive to the international treaties on protection of the landscape and biological diversity in the region, as well as concerning the main uses and socio-economic activities of significant effects

on the MPAs (fisheries, use of natural resources, tourism, diving, hunting). This guide will also be available on the website of MedPAN.

Sub-Component 3.2. Promote the Sustainable Use of Fisheries Resources in the Mediterranean through Ecosystem-based Management Approaches

The objective of the Sub-Component is to increase the ability of coastal nations to utilise coastal and high seas resources through the adoption of the ecosystem approach to fisheries management and the application of targeted interventions to reduce bycatch and other unsustainable fishing practices.

There are three issues of special relevance regarding organization of fisheries research and management: 1) the harmonization of national fisheries policies with regional and international obligations as it concerns the ecosystem impact of fishing, 2) the degree of integration (=coherence) of biodiversity conservation policies and fisheries management policies, affecting policy and decision-making structures, and 3) the degree of effective stakeholder involvement in conservation initiatives related to fishing. These are critical to governance of marine biodiversity conservation, related as they are with the integration of policies, whether horizontally, as in the second case, or vertically as in the first and third ones.

Current research and management structures could be major shortcomings in the integration into national legislation of regional international obligations relative to reduce the impact of fisheries on marine biodiversity and ecosystems. To propose corrective measures for the performance of national research and management structures to deliver on the reduction of the impact of fisheries on marine biodiversity and ecosystems, with especial relevance to the structural and functional features of national fisheries and environmental agencies and the integration of fisheries management and environmental protection policies.

Non-compliance with current fisheries regulations is a major and widespread problem in the region. This is a high level issue underlying many of the problems related to the impact of fishing on biodiversity and critical habitats. Its root causes range from general over fishing and insufficient means for enforcement, to education deficits. Existing legislation is in any case incomplete to ensure the protection of biodiversity and critical habitats. However, it is clear that better legislation alone, without ensuring compliance, will not be an effective deterrent. A multilevel approach to the problem is therefore required. This strategy focuses on improving legislation and compliance-related issues; education being both relevant here, and a major issue, it is specifically addressed by sub component 2.3.2. It must be admitted too that lack of compliance is a general problem in conventional fisheries management, rather than specific to the environmental dimension of fishing. To update legislation and develop mechanisms to ensure its implementation and enforcement in order to protect marine biodiversity and critical habitats from fishing.

This strategy is intimately linked to the conclusions drawn up from the other strategies under other Component 2 activities. If the current strategy is to be implemented effectively, joint working groups addressing this and the other strategies should be created, so that it deals with a specific agenda of relevant problems. These joint working groups should be mandated to identify as well any shortcomings in compliance, enforcement and legislation, preventing the successful implementation of the different strategies. Proposed solutions (including more efficient monitoring, control and surveillance; MCS) should take stakeholders' interests into account and must be designed so as to maximize their active involvement.

Activity 3.2.1: Establishment of the ecosystem approach to fisheries management at regional and sub-regional levels

In order to assist the countries to improve the capacity building and research, management, governance and legislation for ecosystem approach to fisheries, the following activities will be carried out:

3.2.1.1 Identify regional needs and priorities for mainstreaming biodiversity conservation into fisheries research and management in four countries (Tunisia, Turkey, Croatia, Montenegro): practical directions to enhance the full development of EAF-based research supporting the implementation of policies to address the impact of fisheries on marine biodiversity and ecosystems

Consultations with national relevant stakeholders knowlegeable of fisheries assessment and management will be organized to share their information, experiences and views about Ecosystem

Approach to Fisheries (EAF) achivements and needs. These stakeholders include selected focal officials from fisheries, environmental and science national agencies, as well as national scientists and key international experts on EAF. Coverage of biodiversity protection issues by the main national fisheries research programs, as well as integration of environmental protection into management measures in force will be analyzed and major gaps will be identified.

3.2.1.2 Implement biodiversity conservation and ecosystem approach into fisheries research and management in four countries (Tunisia, Turkey, Croatia, Montenegro): integration of ecosystem and environmental considerations in effective fisheries management policy.

Develop approaches and toolkits for replication at national level. FRIs will be assisted to define relevant research needs, approaches and capacity-building needs. Also establish principle of cross-sectoral coordination with Integrated Coastal Zone Management (ICZM) and wider environmental management.

3.2.1.3 Development of legal and management reforms to ensure the long-term limitation of fishing impacts on biodiversity and marine ecosystems in four countries (Tunisia, Turkey, Croatia, Montenegro): Overall fishing impacts on biodiversity and marine ecosystems are greatly reduced over the long-term.

Rapid appraisal compliance analyses will be carried out based on a set of few straightforward indicators, relevant to the effect of fishing on biodiversity and marine ecosystems at the pan-Mediterranean level. These will include, at least and as appropriate, a) the incidence of illegal trawling on *Posidonia* beds or on restricted coastal areas, b) the incidence of illegal driftnet fishing (large scale and/or targeting large pelagic fish), c) the incidence of illegal fishing practices like dynamite and poison fishing, and d) the incidence of by-catch on protected cetaceans and sea turtles (plus any other compliance indicator, as deemed necessary).

Standard root causes analyses will be developed at a national basis to address the ultimate factors leading to non-compliance scenarios identified.

Determine the real shortcomings in legislation at a national level to ensure the conservation of marine biodiversity and habitat integrity related to fishing. Legislation needs will be related to both the improvement (*reform*) of existing legislation and any identified gaps in national legislation, and will be established accounting for (and tailored to) externalities affecting compliance To this end, accompanying measures entailing compensatory measures or incentives to enhance stakeholder compliance will be duly considered as appropriate.

Determine the real shortcomings in monitoring, control and surveillance (MCS) at a national level to ensure compliance with legislation limiting the harmful effects of fishing on biodiversity and marine ecosystems.

Activity 3.2.2: Reduction of bycatch of regionally important species at a fleet level

In order to reduce the levels the by-catch mortality inflicted by fishing fleets on populations of particularly vulnerable species of fish and invertebrates and on marine mammals (including cetaceans and the monk seal), turtles and sea birds.

Fisheries are a major threat for protected and endangered species in the Mediterranean. Currently the goals of the organizations and ministries dealing with fisheries are the assessment and management of fishing resources, usually employing the so-known TROM (target resource-orientated management) approach. Recent developments raise the necessity to generalize this approach to the exploited ecosystem, consequently the EAF (ecosystem approach to fisheries), also known as EBM (ecosystem based management), is being developed and implemented in some very particular areas of the world.
Although some attempts to apply various EAF issues to the Mediterranean (particularly by GFCM), the situation is far from being satisfactory. Furthermore, the mandate of GFCM regards fishing resources, not non-target species,

The direct commercial exploitation of especially vulnerable fish species (such as chondrichthyans in general, dusky grouper *Epinephelus marginatus* or eel *Anguilla anguilla*), causes important conservation problems, as reported in many of the SAP BIO national documents and stressed by IUCN. This is true of other vulnerable species taken as by-catch such as non-target cartilaginous fish, sea horses *Hippocampus* spp., certain gobies of genus *Pomatochistus*, etc. According to the information available, cartilaginous fish deserve priority protection from the effects of both direct fisheries and by-catch. Whilst regional protection under Barcelona Convention has been achieved for the basking shark (*Cethorhinus maximus*), great white shark (*Carcharodon carcharias*) and giant devil Ray (*Mobula mobular*), IUCN highlights particular concern for sawfishes (*Pristis* spp; critically endangered status), sand tiger sharks *(Carcharias taurus* and *Odontaspis ferox*; critically endangered status) and gray skate (*Dipturus batis*; endangered status). The effect of fisheries on eel, dusky grouper and sea horses (listed in annexes II and III of SPA Protocol of Barcelona Convention; the two latter taxons listed in IUCN Red List as well) is also of particular concern.
Vulnerable invertebrates are also subject to commercial exploitation throughout the Mediterranean, as are red coral, some sponges and the endangered mollusks noble pen shell (*Pinna nobilis*) and sea date *Lithophaga lithophaga,* the two latter being already protected under the SPA Protocol of Barcelona Convention (several endangered sponge species are also enlisted in Annex II). In some cases the very survival of individual populations of these species may be at stake. Given that the survival of individual populations is in many cases intimately linked to the conservation of associated critical or vulnerable habitats, the different strategies or Components should be closely interwoven.
Vulnerable, non-target species of cetaceans, turtles and seabirds are victims of unselective fishing practices involving a large array of different fishing gears in the Mediterranean. Marine mammals, sea turtles and seabirds are not harvested commercially in the Mediterranean. Although direct fishing effects (by-catch mortality) are the immediate factors affecting populations of vulnerable non-target species, it is also true that indirect effects, particularly those related to changes in trophic availability, also influence the chances of survival of some groups and species.It is important to mention that fishing effects on cetaceans, sea turtles and sea birds are relevant issues at the pan-Mediterranean level. This is not the case, however, for the monk-seal, for which the fishing-related impacts on its population are a real issue only for Turkey given its restricted current distribution in the Mediterranean.
This component fully addresses the integration of biodiversity conservation and fisheries management policies.

3.2.2.1 3.2.2.1 Risk assessment to prioritise regional threats to vulnerable fish and fisheries interactions with iconic vertebrate species in five countries (Morocco, Tunisia, Egypt, Turkey, Algeria, priority will be given to the 3 countries involved in 3.2.2.2): to assess the scale and drivers for the bycatch on vulnerable species (sharks, certain invertebrates, cetaceans, monk seals, sea turtles and seabird populations). 1 or 2 fishing metiers per country to be identified and targeted.

Hot spots regarding the impact of fishing on chondrichtyans, dusky grouper, sea horses, eel, red coral, sponges and noble pen shell and bycatch on cetacean, monk seal, sea turtle and sea bird populations are identified in all concerned countries.

To identify threats on vulnerable fish and invertebrate populations impacted by commercial fisheries (target fisheries and by-catch) in the Mediterranean, including the identification of geographically defined priority fisheries critically affecting particular stocks/populations. Priority groups/species are: chondrichthyans (with basking shark, great white shark, giant devil ray, sawfishes, sand tiger sharks and grey skate as particular cases), dusky grouper, sea horses, eel, red coral, vulnerable and endangered sponges and the bivalve noble pen shell (Pinna nobilis).

Basic information will be obtained from a field survey to be developed along selected countries' coastal areas concentrating the bulk of accumulated evidences of fishing impacts (considering both target fisheries and by-catch) on the above mentioned species. Quantitative incidence of target fisheries and by-catch and seasonality and geographical location of critical fishing grounds will be obtained through a 1-year survey based on information regularly supplied by the fishing sector, through agreements with fishermen organizations and selected fishermen, supplemented with regular field monitoring. Specific questionnaires will be distributed among fishermen. Supplementary information on the status of populations of the selected species from available studies and monitoring programs will also be analyzed.

To assess the level of risk on cetacean, monk seal, sea turtle and sea bird populations related to the identified fishing impacts and prioritize the most unsustainable situations (=hot spots), deserving the implementation of immediate remedial action.

The significance of each by-catch situation i will be analysed with respect to the viability of impacted populations; this analysis will be based on information obtained at the national level. Prioritization of the different impacting scenarios at national level will be done according to 1) the total estimated annual by-catch, 2) the information available on the size of the impacted population, 3) the protection status of the impacted species both at national level and internationally (IUCN Red List, Barcelona Convention), 4) the biological vulnerability of the impacted species.

3.2.2.2 Develop and implement demonstrable solutions to bycatch mitigation for protected / endangered species of fish and invertebrates and for iconic vertebrate species in two countries (Morocco, Algeria and Turkey): by-catch mortality on sharks, marine mammals, sea turtles and sea birds is significantly reduced.

Site-based demonstration projects covering priority fisheries identified through Activity 3.2.2.1 relevant for Priority groups/species are: chondrichthyans (with basking shark, great white shark, giant devil ray, sawfishes, sand tiger sharks and grey skate as particular cases), dusky grouper, sea horses, eel, red coral, vulnerable and endangered sponges and the bivalve noble pen shell (*Pinna nobilis*) will be designed and implemented. Spatial and temporal fishing restrictions in critical areas will be particularly considered.

To design and implement a site-based demonstration projects on by-catch mortality mitigation on cetacean, monk seal, sea turtle and sea bird populations.

The demonstration project will be implemented through an adaptive approach with a full responsible involvement of concerned stakeholders, including compensatory measures for affected fishermen if necessary.

Activity 3.2.3: Identification and addressing of unsustainable fishing practices at regionally representative MPA sites

In order to eliminate harmful fishing practices still existing in some areas of the Mediterranean and to raise fishing stakeholders' awareness on the harmful effects of fishing on biodiversity and ecosystems and enhance their capacity to participate in environmental protection activities.

Many SAP BIO National Reports rank some particularly destructive or harmful fishing practices (the eradication of which is the subject of general international consensus) among the most relevant threats to biodiversity in their national waters. The clearest examples are dynamite and poison fishing, commonly thought to be limited to certain tropical developing countries, but reportedly occurring in Algeria, Croatia, Morocco, and Turkey (dynamite fishing) and Albania, Lebanon, Libya and Syria (both dynamite and poison fishing). The use of dynamite in small scale 'artisanal' fisheries has a deleterious effect on both biodiversity at large and the integrity of rocky habitats, and has even been reported to damage the hearing abilities of cetaceans. Another harmful practice is the destruction of rocky habitats and benthic communities by the extraction of the sea date (in some cases, involving the use of pneumatic drills). This practice is forbidden in parts of the region (EU countries) and the species (*Lithophaga lithophaga*) is protected under the Bern and Barcelona Conventions as well as listed in Appendix II of CITES; this issue is relevant for, at least, Albania and Croatia. Similarly, the use of the 'Saint Andrew Cross' fishing gear to harvest red coral is an issue at least in Morocco.
A further problem is the use of illegal driftnets, with scientific studies reporting them as inflicting strong by-catch mortality on vulnerable groups such as marine mammals, turtles, birds and sharks in the region. This fishing practice is totally banned in large pelagic fisheries in the Mediterranean by legally binding Recommendation 03-04 of the International Commission for the Conservation of Atlantic Tuna (ICCAT) and Resolution GFCM/2005/3 (A) of the General Fisheries Commission for the Mediterranean.
All these fishing practices are already banned in most Mediterranean waters, and even under international legislation. Their continued use is clearly related to the lack of compliance and enforcement.

Promoting stakeholder commitment to sustainable, environmentally friendly fishing practices through education (focused on increasing awareness and enhancing capacity and participation) is a major crosscutting issue proposed in several national SAP BIO documents to address very different problems related to biodiversity conservation. This Component should be closely linked to the previous ones dealing with more specific problems; educational shortcomings hindering the successful implementation of the different strategies should become the specific contents of region-specific education programmes.
Apart from specific education contents, this strategy should deal with educational approaches tailored to the shared social and cultural features of fishing stakeholders (especially fishermen) in the Mediterranean. A critical and socially and culturally sensitive analysis of the effectiveness of previous attempts to engage stakeholders in good practices in the field of fisheries is essential.
Stakeholder involvement in fisheries-related 'good practices' is not only an issue of environmental protection but also an element of conventional rational fisheries management. Deficits in awareness and capacity extend to wider aspects of relevance to target-resources fisheries management too.

3.2.3.1 Identification of significant fishing impacts in areas of particular vulnerability in five countries (Morocco, Tunisia, Egypt, Turkey, Algeria). The impact of towed gears on critical bottom habitats, forbidden fishing practices and protected species significant by-catch identified and mitigation approaches develolped with the support of stakeholders.

Hot spots regarding the impact of towed gears on critical bottom habitats, forbidden fishing practices and protected species significant by-catch are identified.

Gathering information from different sources will be used to develop a Geographic Information System addressed to locate hot spots o fishing impacts for further management issues.
The sources of information will be: (i) Knowledge of stakeholders (including scientists and fishermen), (ii) Surveys. In two selected countries.

Risk and Sustainability

Risks
The long-term durability of regional scale MPA network programmes depends on the political willingness of participating countries to cooperate and to continue activity programmes and approaches after the life of the GEF intervention.

The situation will be appraised regarding three aspects:

Financial aspects: The overall management of the biodiversity activities will be assumed by WWF MedPO, (which is part of WWF International), as well as by RAC/SPA and FAO/GFCM. These organizations have the capacity and the skills to manage project activities in order to reduce risk to the donors. Their internal systems of finance management, budget control and accountability are fully transparent and have shown a high professionalism over the years.
Institutional aspects: WWF MedPO RAC/SPA and FAO/GFCM are committed in the activities embedded in SAP-BIO and regularly cooperate with the Mediterranean countries, the three have a solid institutional core which guarantees a high standard of administrative organization.

Technical aspects: The links between the three institutions and the national partners in this project are very close and have a long history of mutual cooperation. Moreover, RAC/SPA and WWF-MedPO show a high level of expertise in PA management at international level, the former at Mediterranean scale, which is the focus of this component, the latter also elsewhere in the world. The activities proposed will certainly take benefit of the scientific and technical experience of the WWF network, the RAC/SPA and FAO roster of international consultants and partner scientific institutions. Lastly, this project help to enlarge the existing cooperation between the same partners, on the subject of MPAs, as well as with the other international organizations working in the field of MPA management in the Mediterranean region;

Moreover, each participating country has developed a legal and institutional framework for nature conservation and is Parties to various international conventions (See Section 1.2) to protect

biodiversity, sea sources, international waters and wetlands, among others. Their commitments are reflected in national policies and legal arrangements.

The MPA activities will focus on developing capacity at the regional level from which other ongoing activities can be launched and will nurture existing frameworks. It will also concentrate on the development of sustainable financing mechanisms, economic instruments, and the possible creation of innovative financing tools to help achieve sustainability of the MPAs financial needs in the selected countries and consequently keep the level of the risks as low as possible.

The success of the application of the ecosystem approach to fisheries strongly relies on the real political willingness of national governments to perform an internal critical assessment of the efficacy of national management structures (both dealing with fisheries and environment protection) in the limitation of the impact of fisheries on marine biodiversity and ecosystems. This includes the always-sensible issue of internal coordination among different governmental structures. The major risk is clearly political reluctance to such a genuine internal assessment. The same applies to the effective involvement of stakeholders, a major risk being a poor interest of national governments on sharing policy and management responsibilities with civil society.

The actual level of compliance with fisheries regulations and the identification of major shortcomings in monitoring, control and surveillance (MCS) mechanisms are also key aspects to the success of the activities.

The effective involvement of fishermen is essential to the success of bycatch reduction, including for the initial identification of the priority metiers requiring immediate remedial action. A successful stakeholder engagement approach is critical. The adequate design of mitigatory and diversification measures for affected fishermen are also a crucial element. Besides, the fishing performance (with respect to target fish species) of technically improved fishing gears to reduce by-catch of vulnerable species will also be key to the success of the approach.

For the effective reduction of harmful fishing practises, the full engagement of fishermen is essential. This is key to identify main hot spots regarding the use of particularly harmful fishing practices and also to understand the main socioeconomic elements necessary to implement a successful remedial intervention (phase out plans, etc.). The success of phase out policies will depend on the adequate use of MCS mechanisms, at least during the initial implementation phase of the strategy, and on the adequacy of phase out plans from the point of view of the socioeconomic reality of the target coastal communities (i.e. including livelihood diversification measures for an interim transitional period as necessary).

The approach developed for the identification of priority areas is critical for the successful development of this action. In this sense, the involvement and full cooperation of stakeholders (fishermen) and the adoption of a rapid appraisal approach (adapted to a data-poor situation) for the cartography of hot spots regarding the impact of towed gears on critical habitats is particularly crucial. The latter is particularly important to ensure a cost-effective and practical low risk approach.

Furthermore, GEF financing for the full sized project will facilitate to reach a “critical mass”, facilitating the engagement of countries and other donors to contribute to the implementation of priority SAP BIO activities, which had not been yet financed after the adoption of that SAP back in 2003.

A strong indicator of the regional commitment is also based on the contribution of the other regional programs and initiatives to the MPAs promotion (MedMPA, MedWet, IUCN Mediterranean programmes, etc). Contacts and exchange have been taken with most of them during the preparatory phase and synergies have been sought so as to avoid duplications and to optimize the results.

In conclusion, the level of risk of this GEF-initiated program and activities related to it’s ending after the life of the project is also seen as low.

Sustainability

Sustainability of MPAs networking will be enhanced by a progressive transfer of project leadership, overall project management and outcome production directly to the MedPan coordination unit which will be designed to exist and running at the end of the project with wide stakeholders' participation. Stakeholder participation has been recognized as an integral part of the project preparatory phase and will continue to be emphasized during the development phase of it. Most of the activities will need the close participation of the managers and other stakeholders committed directly or indirectly in the MPAs management. In addition, the following comments can be made:

- A substantial proportion of the proposed project activities on MPAs are designed to raise national and local capacities for MPA management.

- It is anticipated that the project activities will strengthen the influence of the involved ministries and hence encourage great opportunities to increase budgets and the concern of the departments in the future. So, it can be reasonably expected from the project, a sustainability of activities and components beyond the life of it.

- Each of the participating countries has developed a legal and institutional framework for nature conservation, and is signatory of international conventions to protect biodiversity, international waters and wetlands, among others. These international commitments are reflected in national policies and legal arrangements. All have adopted the SAP BIO programme.

- The Project falls under the broad policy guidance of the Barcelona Convention through the MAP. It coordinates its objectives and activities with the mandated institutions in place (e.g. the Ministries of Environment).

- Subcomponent 1.1 is focused specifically on setting up a regional MPA coordination and facilitation centre that is self sufficient once the project inputs cease.
- The project activities will not try to substitute the national and local capacities, but to identify these opportunities and mobilise these capacities towards the achievement of the project objectives. A substantial proportion of the proposed project activities themselves are designed to raise national and local capacities for MPA management. It is anticipated that the project activities will strengthen the influence of the involved ministries and hence encourage substantial opportunities to increase budgets and the concerned departments in the future.

With regard to fisheries, sustainability of improvement in governance at a national level will always depend on political willingness, as it concerns high-level political issues such as internal coordination among agencies. However, once the resulting legal and managerial reforms envisaged in this strategy are adopted they will likely last in the long-term.

The socioeconomic sustainability of by-catch reduction plans in the hot spots will be crucial for the long-term sustainability of the project, as it will be the degree of environmental awareness of fishermen and the firm commitment of the national authorities (including the adequate implementation of MCS actions as appropriate) to avoid the return of the undesirable impacts. The legal protection status of many of the species covered by this strategy and the international requirement (under FAO IPOA-SHARKS) to develop national action plans to protect sharks will no doubt contribute to keep the commitment of national government to the sustainability of this strategy.

The sustainability of the strategy to address harmful fishing practises relies on the adequate completion of phase out plans, especially vis-à-vis the consolidation of alternative income sources, as well as on the degree of engagement of stakeholders in the process. At a higher level, it depends on the political willingness of national governments to comply with international legislation; the

consolidation and strengthening of GFCM and Barcelona Convention will no doubt contribute reinforcing this commitment.

Sustainability of improvements in governance at national level will always depend on political willingness, as it concerns high-level political issues such as internal coordination among agencies.

Regarding financial sustainability, although the annual financing needs for MPAs in the 13 selected countries have been estimated at around USD 300 million, the existing allocations cover around 20-30 million a year, roughly 10-15 million from national budgets and other 9-15 million from international donations (see details in Annex C). However this situation may seem weak, ODA Agencies may be particularly interested in matching more long-term, programmatic and networking proposals as SAP BIO, particularly when highlighting the ecosystem services and linking to sustainable development and poverty alleviation targets on coastal zones. On their side, market-related sources are also a major opportunity in this region, with over 120 million annual visitors to its coastal areas, being coastal/marine PAs a highly valuated asset; most particularly the recreational diving is showing successful self-financing examples from Egypt and from southern EU countries.

A substantial proportion of the expected co-financing by governments is derived from the existing staff and recurrent budgets of the involved ministries, mainly the Ministries of Environment, and other governmental departments. All in all, the chances for matching this Project needs and for sustainable financing must be considered high given the total GEF Full Project contribution for MPAs is much less than what the 13 beneficiary countries are already spending through their recurrent allocations to protected areas. The main funding opportunities are national budgets from the Ministries of Environment in the beneficiary countries. National governments may tap on their national Environmental Funds.

On the other hand, each country can produce proposals to either the Governmental biodiversity foundations in France *(Conservatoire du Littoral)*, Italy *(Federparchi)* and Spain *(Fundación Biodiversidad)* or to the ODA Agencies traditionally supporting the biodiversity conservation in the Mediterranean (France, Germany, Greece, Italy, Spain, Switzerland and the EU).

Linkages with other programmes and initiatives

There are already a wide number of activities at both national and regional levels to promote the conservation and sustainable use of marine and coastal biodiversity. These include, in no particular order, the following initiatives:

EC Natura 2000: European ecological network composed of sites hosting (i) natural habitat types listed in Annex I of the Habitats Directive and (ii) the species listed in Annex II. This is currently limited to coastal sites but is expected to be expanded offshore in the near future.
Emerald Network: a *de facto* extension of Natura 2000 to non-Community eastern Mediterranean counties, designs 'areas of special conservation interest' (ASCIs) and was launched by the Council of Europe as part of its work under the Bern Convention.

EuroParc: is the umbrella organisation of Europe's protected areas. It unites national parks, regional parks, nature parks and biosphere reserves in 38 countries, with the common aim of protecting Europe's unique variety of wildlife, habitats and landscapes.

Pan-European Ecological Network: PEEN essentially links core Natura 2000 and Emerald Network areas physically through the restoration or preservation of corridors.

Network of Managers of Marine Protected Areas in the Mediterranean: MedPan is an EU Programme Interreg programme (2005–2007) co-ordinated by WWF-France. It brings together 23 partners from 11 countries around the shores of the Mediterranean, of which 14 partners are European (from France, Italy, Greece, Malta, Slovenia, and Spain) and 9 partners from non-European countries (Morocco, Tunisia, Algeria, Croatia, and Turkey) to manage more than 20 marine protected areas and are working towards the creation of several new sites. The basic aim of the network is to facilitate

exchange between Mediterranean marine protected areas in order to improve the efficiency of the management of these areas.

Fisheries management is also essentially a recurrent baseline activity. At national level, fisheries administrations seek to manage their fisheries through basic single stock management, effort control and technical measures with varying degrees of enforcement. Fisheries research echoes this, with a focus on the basic biological parameters of key commercial stocks, but rarely widens this to the ecosystem level. On a regional basis, the **General Fisheries Commission for the Mediterranean** (GFCM) seeks to (i) promote the development, conservation and management of living marine resources, (ii) formulate conservation measures, (iii) and encourages training cooperative projects. The GFCM regularly organises workshops and working groups within four sub-committees on (i) stock assessment, (ii) ecology and environment, (iii) socio-economics and (iv) statistics. There is no direct budget for scientific research by the GFCM coordinates and facilitates work conducted by research the institutes belonging to member states, who will allocate their won funds to programmes of mutual interest. Within the Mediterranean, various sub-fisheries management projects have been implemented with FAO technical support, including **COPEMED** (Morocco, Algeria, Tunisia[21]), **EastMed** (Egypt, Lebanon, Syria, Turkey, Israel), **AdriaMed** (Albania, Bosnia, Croatia, Serbia & Montenegro, Slovenia) and **MedSudMed** (Libya, Tunisia). Activities being carried out through these organisations are typically aimed at improving fisheries statistics (catch, effort & landings), some biological investigations and capacity-building efforts at national and sub-regional levels.
It is important to note that whilst standard catch/effort and biological investigations are recurrent activities being undertaken by the coastal nations, they rarely include the wider ecosystem approach to fisheries management. Having formulated the *Code of Conduct for Responsible Fisheries*, FAO is a global leader in the development of the ecosystem-approach to fisheries management and – together with its sub-regional projects and partnership arrangements - is ideally placed to provide technical and institutional assistance to the project. GFCM will provide a coordination mechanism of these activities, which will largely be implemented through the activities of the sub-regional fisheries projects with co-funding from GEF.

[21] Non-eligible countries excluded from listing

Component 4: Project Co-ordination, Replication and Communication Strategies, Management and M&E

Sub-Component 4.1: Project Co-ordination, Management and M&E

This sub-component includes activities related to the SP project coordination and management, M&E activities and the involvement of stakeholders in project activities and demonstrations. It will establish effective project implementation and coordination at both regional and national levels to ensure that the projected outputs are delivered and the overall objectives achieved. It will also include mechanisms and activities designed to:

- facilitate and foster synergies between the two components of the project and ensure that the Strategic Partnership as a whole is implemented in parallel;
- ensure country ownership of partnership processes;
- ensure policy reforms in participating countries, through the use of existing and well established Barcelona Convention and MAP structures and mechanisms;
- ensure that a resource mobilization strategy/financing mechanism is developed;
- ensure effective monitoring and evaluation throughout the lifespan of the project; and
- make use of Information/Communication and Replication Strategies as well as Knowledge Management products to influence policy changes in participating countries.

Three basic management and coordination structures will be created for the duration of the project: a Project Management Unit (PMU), a Strategic Partnership Project Steering Committee (SPSC), and a Coordination Group (SPCG). All three structures have specific responsibilities and tasks within the project with important linkages between them. A brief, but more specific, description of the activities in this sub-component is provided in the following sub-sections.

4.1.1: Program Management Unit (PMU)

A Program Management Unit (PMU) will be established and personnel will be recruited by UNEP/MAP as defined in the **Implementation Arrangements** (see below). The PMU will comprise a Project Manager, an Assistant to the Project Manager and one financial assistant.

Activities of the PMU will include the following:

- to closely follow the implementation of project activities, handle day-to-day project issues and requirements, coordinate them and ensure a high degree of transnational and inter-institutional collaboration (international and regional organizations and donors).
- to organize of SPSC, SPCG and interagency meetings, and any other ad-hoc meetings that may be required,
- to finalize project and meeting reports i.e. annual project reports, half-yearly progress reports and expense reports. It will also assist the GEF Independent Office of Evaluation in preparing the mid-term and final evaluations of the project. The PMU will report to the other three management and co-ordination structures set up within the project, namely the SPSC, and the CG;
- to ensure that through the numerous M&E related activities (see Annex E for full details) an adaptive management approach is adopted to the implementation of the project.
- the development of environmental status indicators, in collaboration with all executing and co-executing agencies, reflecting SAP targets and agreements, which will be identified at the beginning of the project along with specific arrangements for their long-term monitoring during and beyond the lifespan of the project (with the support of MAP).

The lifetime of the PMU will extend for a period of six months beyond project life to enable finalization and closure of all outstanding issues, including financial matters under the various MOUs.

4.1.2: Strategic Partnership Project Steering Committee (SPSC)

The Strategic Partnership Project Steering Committee (SPSC) will act as the main policy body overseeing project execution and will meet annually. The SPSC will comprise SP national focal points from all GEF-eligible countries, representatives of the implementing agencies (UNEP and the WB), representatives of the executing agency (UNEP/MAP), the GEF Secretariat, FAO and UNIDO, the co-executing agencies (FAO/GFCM, UNESCO, MEDPOL, METAP, SPA/RAC, PAP/RAC, INFO/RAC, CP-RAC, WWF, MIO-ECSDE) and the EU, the Project Manager, the President of the Bureau of Contracting Parties to the Barcelona Convention, major donors (France, Italy, Spain) and one NGO representing a network of NGOs in the Mediterranean. The SPSC will be co-chaired by the President of the Bureau of the Barcelona Convention and the Coordinator of UNEP/MAP.

The presence of SP Focal Points from the participating countries will ensure continuous ownership and national level support. The SP Focal Points will be identified by the respective governments and will bring to the SPSC the perspectives of each country and views of the GEF and MAP Focal Points respectively.[22]

The participation of the EU in the SC is important because it will represent the non GEF-eligible Mediterranean countries while ensuring links and coordination with existing EU initiatives such as the "*2020 Initiative for de-polluting the Mediterranean*" adopted in the framework of the Euro-Mediterranean Partnership.

The presence in the SPSC of the President of the Barcelona Convention Contracting Parties and the UNEP/MAP Coordinator will ensure that both the Barcelona Convention and MAP are at the heart of the Strategic Partnership. It will also ensure that Contracting Parties are the beneficiaries of all the activities in the same way that these Contracting Parties have benefited from previous GEF initiatives in the area.

Specific functions of the Project Steering Committee will include:

- Review of the recommendations of the Investment Fund Advancement Report, including project ideas identified by the World Bank and the Coordination Group (see below) and the review of the status of Investment Fund Demonstration Projects that will include results indicators and the status of replication activities at national level.
- Annual reviews of status reports submitted by each partner to the regional project and the summary status report of the regional project prepared by the PMU. The latter will focus specifically on progress in achieving: replication at the regional level; the use of targets and indicators; satisfactory overall coordination of activities in the Mediterranean region; and measures adopted in response to previous recommendations of the SPSC.

The SPSC will be responsible for the periodic review of the partnership project's performance, assisted by an independent evaluator (TOR to be defined) who will carry out an annual assessment of progress in the Strategic Partnership and report to the SPSC. The SPSC is responsible for endorsing any changes to the work plan or budget that are deemed necessary and is also responsible for ensuring that the Strategic Partnership remains on target with respect to projected outputs.

While UNEP and the WB will be fully accountable to the GEF for all project activities and related matters, the Strategic Partnership will require a strong coordination mechanism. This will be engendered through the SPSC.

[22] During the present PDF-B Phase of the project, letters have been sent to all GEF Operational Focal Points asking them to appoint national Focal Points for the SP. A complete list of SP focal points for all participating countries is now available.

4.1.3: Strategic Partnership Coordination Group (SPCG)

The Coordination Group will be responsible for the overall coordination of the Strategic Partnership, in particular ensuring effective exchanges and synergy between the regional component and the investment fund. Its membership will comprise:

- The MAP Coordinator (chair);
- Representatives of the GEF Secretariat (IW and POPs);
- The Project Manager of the regional project of the SP;
- Representatives from the FAO and UNIDO
- A representative of INFO/RAC responsible for the Replication and Communication Strategy
- A representative of the UNEP/GEF Coordination Office;
- World Bank-GEF Regional Coordinators (ECA and MENA); and
- World Bank Task Managers.

In addition to the World Bank Task Managers responsible for Fund projects, project personnel and representatives of participating countries, external experts and co-executing agency representatives will be invited to attend meetings depending on the matters under consideration.

The Coordination Group will monitor the linkages between the two components, so that potential synergies can be exploited. It will also ensure that consistency with agreed rules, targets, and indicators is achieved. It will oversee the design and implementation of replication strategies and provide advice on the IF pipeline.

One of the main tasks of the CG will be the review of ideas and opportunities for projects under the IF. Exchanges on project ideas will occur informally among agencies, particularly the World Bank and UNEP MAP. The results of these exchanges will then be consolidated and the recommendations presented annually to the CG by the World Bank, including priorities based on replication potential and the eligibility criteria established for the IF. The CG will discuss, and make its recommendations regarding IF pre-pipeline and project concepts. Such recommendations, as well as the minutes of exchanges at partnership level, will be attached as a mandatory annex to the proposal (concept) submitted to the GEF for approval together with the WB response.

Another key role of the CG will be the review of the regional replication strategies of IF projects and the monitoring of the basin-wide replication activities. In this context, the CG will be particularly supported by INFO-RAC[23], the partner responsible for the design and organization of regional replication activities. INFO-RAC will prepare, in consultation with the World Bank, reports on replication to be presented to CG meetings. The CG will be expected to provide relevant feedback and guidance.

In addition, the CG will review, and approve for submission to the SC, the following advancement reports:

- Advancement Reports of the Investment Fund and the status report of demonstration projects under implementation;
- Status reports submitted by each partner in the regional project; and
- Annual Project (APR) and Half-yearly progress reports (HPR) of the regional project.

[23] INFO-RAC will be responsible, among others, for the design and implementation of the Partnership website, in collaboration with IW LEARN's tools and web based resources relating to IW Strategic Partnerships (Black Sea, African Fisheries, East Asian Seas Pollution , and the Mediterranean, see also below Sub-component 4.2)

The CG will meet at least once a year at the MAP office in Athens, preferably in conjunction with regular MAP meetings of the parties but in advance of annual SPSC meetings. The CG will maintain regular communication via teleconference, and meet on an ad-hoc basis wherever required.

Strong co-ordination between the two components of the Strategic Partnership is essential to the success of the Partnership, and has been noted to be inadequate in previous partnerships. Therefore to ensure the WB involvement in the partnership, a budget is allocated to the WB for personnel and expenses for their participation in SPSC, SPCG and M&E activities and in particular their contribution to the Replication and Communication Strategy of the SP[24]

Activity 4.1.4: Sustainable financing mechanism for the long term implementation of NAPs

Implementing Agencies:

The Programme for the Assessment and the Control of Pollution in the Mediterranean Region (MED POL) of UNEP/MAP and the UN Environmental Programme/Mediterranean Action Plan (UNEP/MAP) with support from Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (UNEP-GPA), METAP and World Bank

Background/Context/Rationale

The implementation of the NAPs is the main vehicle for the reduction of pollution from land-based sources in the countries of the Mediterranean as set by the targets of the SAP. Following the preparation and the formal endorsement of the NAPs by the national authorities, the task is now to confront the challenge of implementation through which to achieve concrete, and hopefully lasting, results on the ground. Attention must now be directed towards the establishment and strengthening of the framework necessary to support the implementation of the NAPs. Central in this framework is the issue of environmental finance.

Although the need for financial resources and the importance of including an Investment Portfolio have been stressed to various degrees in the NAPs, the creation of the supporting institutional and legislative conditions to facilitate and realize the flow of the required amount and type of finance most suitable for the actions envisaged by the NAPs remains a major and specialized challenge within the whole process of ensuring the reduction of the land based sources of sea pollution in the Mediterranean.

The protection of the marine environment from pollution from land based sources entails complex objectives and combined actions. These objectives cannot be achieved with conventional assumptions that investment resources will be made available to match the estimated costs at current or even increased availability of finance. In order to match the financial needs detailed investment planning is needed to show the particular nature, duration and operational characteristics of the environmental asset, infrastructure or intervention called for to reduce pollution over the next 20 or so years. Particular type of finance is required according not only to the type, size and risk of environmental investment considered but also to the administrative, legal and social context within which the investment will be undertaken, operated and utilized.

In short, environmental finance is a mixture of finance corresponding to the diversity and timeframe of environmental problems and the institutional structure responsible for their prevention, management, and solution and monitoring.

[24] See the budget for further details

A straightforward interpretation of the NAPs prepared reveals several issues of concern from the environmental finance point of view. Primary among them is the sheer size of the implied financial requirement presented as needs corresponding to the problems at hand. There is very little prospect that such amounts will be forthcoming. As stressed in the MED POL Guidelines used by the countries for the preparation of the NAPs, the pollution reduction interventions were to be identified within the context of a wider national development plan. There are however some cases where the NAPs present a listing of financing needs which has been done outside the context of a sound strategic financial strategy. Whenever this occurs, this approach combined with the enormous amount of reported financing needs is in fact a recipe for inaction and a course towards the continuation of pollution to the detriment of national and regional sea and marine resources. This approach is unsuitable as an implementation vision and has to change.

In the few cases when Inter-Ministry Committees were not established, the observed separation of the financial needs presented in the SAP and the NAPs and the hard reality of the implementation process is the fact that the preparation of the NAPs reflected the work of specialists within the responsible Environmental Departments or Ministries, or within specific units in those agencies. Collaboration with, and exposure to, Finance or Economic Ministries necessary to tackle implementation related issues was not always achieved. In some cases, the concentration of the NAPs on the 'science' of pollution overshadowed the equally important concern for the 'economics' of tackling pollution.

The effective implementation of the NAPs assumes the full integration of both tracks such that would highlight more sharply the priorities for action and the adjustment of the reported financing needs in terms of financial demand and financial supply considerations. While finance experts do not always grasp the environmental pollution risks, equally environmental experts may not by themselves appreciate the process of activating financial resources tailored to the needs of what they describe.

The role of MAP as part of the UN System with strong and active links with all countries of the region has a comparative advantage in networking, as part of its mandate, on behalf of the countries with International Lending Institutions and other financing sources whose orientation or programme outreach might otherwise exclude or limit access to particular countries, national economic ministries or nationally prioritised environmental investments. MAP with its established legitimacy as a centre for the environment in the Mediterranean and ease of communication and access to all stakeholders in the region can give added value to the effort required for the mobilization of financial resources over and above the already on-going programmes.

Description of activities

The enabling policy framework for sustainable environmental finance, focusing on capacity strengthening and knowledge transfer necessary to support the activities of countries towards the implementation of SAP and NAPs, should be put in place and operate within the following programme activities:

- Over the life of the project: Recruit one mid-level staff at MAP to serve as resource person and networking focal point for NAPs' finance. The staff would compile and maintain data on funding sources and also compile data from the World Bank, UNIDO, METAP and other co-executing agencies and other sources that s/he would identify. The staff would also be responsible for the preparation of policy briefs and guidelines described below. MAP will develop capacity to support SAP implementation post-project, thus helping to ensure the long-term sustainability of the program. (MAP, $ 200,000).

- Over the life of the project: Highlight NAP priorities in ongoing country dialogue with Ministries of Finance, encourage inclusion of selected NAP actions in national development plans and Country Assistance Strategies (CASes) or Poverty Reduction Strategy Programs (PRSPs). (World Bank, $20,000)

- During the first 2 ½ years: Through the preparation of policy briefs and guidelines for public sector investments and privates sector participation, review existing financial resources and

programmes currently in use from official budgets, committed donor funds, sub-regional assistance funds, etc., identify and quantify possibilities for increased financing from existing tax sources or charges related to the environment, identify and quantify possibilities for transferring funds from other programmes or from projects delayed or redesigned, identify and quantify possibilities of forthcoming reductions in subsidies which may release funds for the NAP. (MAP and World Bank, $30,000)

- During the first 2 ½ years: Select 3 NAPs, one each from an advanced, medium and low capacity country (criteria for selection will include countries/projects not covered by other international financing mechanisms) for prioritization of interventions based on a "do-ability" assessment done in cooperation w/the key national counterparts and stakeholders. Develop a prioritization matrix to evaluate the following factors for each NAP: SAP relevance, transboundary aspects as relates to TDA; cost; environmental impact; health impact; urgency; cost-benefit assessment; "do-ability" factors; replication potential; availability of financing (including partial and in-kind co-financing); etc. Do-ability includes ease of implementation – aspects such as capacity, political/stakeholder support, and institutional, legal and technical feasibility. Based on prioritization, assist each country to secure financing for implementation of the top-ranked project. ($100,000, of which MAP $65,000, WB $35,000)

- During the second 2 ½ years: Focussing on evaluating lessons learned, convene 2-3 national and regional workshops to increase countries' capacity to prepare financial strategies. ($50,000, of which MAP $35,000, WB $15,000).

Objective
To ensure strategic financial planning and management within the NAPs execution cycle and overcome the present difficulties of implementation.

Expected results:
- Collation and diffusion of information on available and currently used financial practices diffused in all countries
- Collation and diffusion of information on private sector environmental investments and interface with public sector
- Existing trends in environmental expenditures, sources and investment methods (domestic funds) assessed
- Key problems identified and reform actions proposed
- Increased capacity of country environmental finance experts/officers
- Current sources of international and regional environmental finance assessed
- Sustainable financing mechanism/ platform established in the region
- Priority interventions of selected NAPs identified and assistance to secure their financing provided to countries

Linkages with other programmes and initiatives

Almost all NAPs addressed the issue of the financial aspects. Many countries consider the availability of financial tools to cover the cost of NAPs as very critical to the overall process of the implementation of NAPs. The implementation of this project component will necessary link with other regional and international initiatives having the same objectives such as the EC Horizon 2020 initiative and the related involvement of EIB.

4.1.5: Long term Sustainability of Activities Beyond the Lifetime of the SP.

It is important that the activities initiated and undertaken by the SP will live on after the end of the 5 year period of the GEF intervention. The institutional framework for such a target, is obviously the Mediterranean Action Plan and the Barcelona Convention. It is proposed that the Steering Committee

and the Co-ordination Group of the SP, in close co-operation with MAP and the Barcelona Convention system, will set up the basis of a framework that will ensure the continuation and sustainability of the SP activities in the years to come. To that end, MAP will bring together all partners/donors/countries working in the Mediterranean, and ensure that there is a common vision and direction of efforts in present and future projects.

Note: This activity has no budget allocation since it will be executed within activities 4.1.2, 4.1.3. and 4.1.4.

4.1.6 Inter-agency meetings

The project involves a large number of co-executing agencies and in order to effectively co-ordinate their activities and demonstrations there is a need to communicate on a regular basis. In additional to regular emails and conference calls, all the co-executing agencies (UNESCO, GWP-MED, METAP, MIO-ECSDE, WWF, GFCM, SPA/RAC, PAP/RAC, INFO/RAC and CP/RAC) and representatives from GEF and UNEP/DGEF, FAO, UNIDO, MAP and the Project manager will meet annually, most likely in conjunction with the Steering Committee meeting to discuss all technical issues related to project activities and demonstrations, linkages with the IF, replication and communication and M&E. The purpose of these technical meetings is to maximize interagency collaboration and to prepare consolidated information regarding the RC to assist the work of the Co-ordination Group and present to the Steering Committee.

4.1.7: Mid-Term Stocktaking Meeting

A mid-term stocktaking meeting will take place in the second or third year of implementation. of It will be convened a few months prior to a Barcelona Convention COP. Participants will include: all Steering Committee members; representatives of the Executing Agencies, co-financing agencies and appropriate GEF focal areas; and the managers of all Investment Fund projects both ongoing and in preparation. The GEF Independent Office of Evaluation will also participate and present the independent mid-term evaluation of the project. The Regional Project and the Investment Fund will prepare and submit a consolidated progress report, describing the results achieved in the context of established indicators, and containing recommendations for any mid term project revisions. This meeting will provide an opportunity to bring project progress to the attention of the Barcelona Convention COP.

4.1.8: Monitoring, Evaluation, Auditing and Reporting

As described earlier the Strategic Partnership consists of the Regional Component and the Investment Fund. Both components will be monitored and evaluated throughout project implementation. The M&E Plan for the RC is described in the current document under 'Monitoring Evaluation and dissemination' and details of all indicators, reports and budgets are given in Annex E. Environmental status indicators will be identified at the beginning of the project which reflect SAP targets and agreements. The targets related to these indicators will most likely be achieved beyond the life-span of the project and therefore will require specific arrangements for their long-term monitoring. MAP will be responsible for the long-term monitoring of these indicators which will be developed by the PMU with the executing/co-executing agencies and will be presented and reviewed by the Steering Committee during the Inception Meeting. The M&E plan for the IF is described in a separate Project Brief submitted by the WB. The Project Management will be responsible for the monitoring and evaluation of the overall outcomes/outputs for the combined IF and RC, the Strategic Partnership. The outcomes/outputs and indicators for the SP are presented in the Log-frame Matrix (Annex B1) details of the monitoring of indicators and reporting are given in Annex E.

4.1.9: Country Support Programme (SPCSP)

Full country participation and ownership is crucial to the success of the SP. The participation of country representatives in the SPSC is essential but not, in itself, sufficient.

To further increase support to participating countries and enhance country ownership, the PMU will develop a **Country Support Programme** (SPCSP) along the lines of the GEF Country Support Program to Focal Points (CSP). Limited funds will be available to strengthen the capacity of the SP focal points to carry out their mandates for the support of SP activities effectively in their respective countries. One of the major and most important tasks of the country representatives (SP Focal Points) will be the establishment and functioning of inter-ministerial committees.

An amount of up to US$ 4,000 will be provided annually to each country for the purposes of the SPCSP for the total duration of the Strategic Partnership (*i.e.,* up to US$ 20,000 in total).

Memoranda of agreement between UNEP/MAP and each country will be prepared and signed to facilitate the transfer of funds to an appropriate national agency.

SP Focal Points will submit to the SPSC for approval an annual workplan outlining activities to be undertaken. At the end of each year, the SP Focal Points will submit an annual expenditure report and an annual progress report together with the workplan for the following year.

Activity 4.1.10: NGO mobilization

Implementing Agency

- The Mediterranean Information Office for Environment Culture and Sustainable Development, MIO-ECSDE
- Non Governmental Organizations, NGOs
- Community Based Organizations CBOs

Background/Context/Rationale

The key role of civil society involvement in building successful projects has been acknowledged and documented in many countries and contexts around the globe. NGO and CBO involvement in GEF regional projects (e.g. on pollution reduction measures, awareness raising, education, training, management and monitoring) has increased over time and has in the past few years evolved and grown more versatile. Meanwhile, both SAP MED and SAP BIO clearly identify access to information, public awareness and public participation as essential components for the sustainable development of the region and for the reversal of current environmental degradation trends and therefore as key elements for the achievement of their targets. The governments participating in the SAPs have also committed themselves to promoting meaningful citizen participation.

The activities foreseen within this project component are expected to significantly contribute to the overall transparency of the implementation of the SAPs and to the enhancement of the level of commitment of civil society and of other stakeholders, while promoting effective public access to environmental information and public participation in environmental decision making in the Mediterranean region. The participation of civil society organisations (with focus on NGO networks) in the "Strategic Partnership" is expected to be a key element in achieving a higher awareness level of the processes and results of the project; higher acceptance and ownership of the processes and their products; increased quality of the outputs (policy documents, projects, products, etc.); strengthened stakeholder participation and partnership building in the implementation of the project; increased possibilities of the replication of the partnership and its results.

Description of activities, including demonstration and pilot projects

Within the scope of contributing to the achievement of the targets established by SAP MED and SAP BIO, this component aims for: the effective involvement of Civil Society in the "Strategic Partnership" through the enhanced NGO role in the decision making, implementation, monitoring and evaluation.

The activities will:
o Ensure effective NGO involvement in the project itself on the basis of the NGO Involvement Plan (final draft version attached in annex)
o Feed into and complement the Communication Strategy designed by INFO/RAC with NGO specific elements, deliverables, etc.
o Propose NGO/CBO related modalities that may eventually contribute to the effective implementation of the NAPs and achieve the targets of the SAP-MED and SAP-BIO.

The NGO Involvement Plan will contribute to achieving the above objectives by way of:
1. identifying obstacles and challenges for public participation in the region
2. identifying potential NGO involvement in the various components and sub-categories of the project;
3. indicating specific types of NGO involvement in the implementation of the project and existing expertise of specific NGOs;
4. presenting guidelines for mobilizing this involvement and mechanisms for consultation, coordination, monitoring and evaluation;

5. ensuring the necessary coordination and synergy with the GEF SGP;
6. indicating how resources can be mobilised through NGO actions within the project.

Outcome 1: Facilitated NGO and CBO participation in all processes of the "Strategic Partnership" components through awareness building among the NGO networks and the public, information sharing, joint decision making, and monitoring and evaluation.

Output 1.1 Increased awareness of stakeholders and the public on the objectives and components of the "Strategic Partnership."

- Support each project component to develop and implement NGO and Public Involvement Plans
- Use existing NGO, Journalism and other Networks effectively
- Coordinate effectively with INFO/RAC

Output 1.2 NGOs and CBOs share their insights and on the ground experience in the consultative and decision making bodies of the "Strategic Partnership."

- Support the components in implementing the related methodologies and guidelines in the "NGO Involvement Plan"

Output 1.3 NGOs and CBOs participate in the decision making processes within the "Strategic Partnership" components.

- Support the components in implementing the related guidelines in the "NGO Involvement Plan"

Output 1.4 NGOs and CBOs are involved in monitoring and evaluation processes of the "Strategic Partnership."

- Support the components in implementing the related guidelines in the "NGO Involvement Plan"

Outcome 2: Enhanced role of NGOs and CBOs in the region through participation in the implementation of the SAPs and NAPs

Output 2.1 NGOs and CBOs are appropriately informed on SAP and NAP implementations, are actively involved and contribute their opinions, concerns and expertise.

- Facilitation of access to related information as well as exchange of experiences among NGOs and CBOs of the region,
- Strengthening NGO and CBO capacity needs and promotion of the measures needed to enhance their involvement in the SAP and NAP implementation,
- Networking

Output 2.2 Small Grant Projects address the environmental concerns of the SAP MED and SAP BIO in Morocco, Tunisia, Egypt, Palestinian Authority, Lebanon, Syria, Turkey and Albania.

- Make strategic contacts with the SGP National Coordinators so that project proposals of NGOs and CBOs aligned with the objectives of the "Strategic Partnership" are forwarded for National Steering Committee (NSC) decision.
- Follow progress of these GEF SGP grantees through the SGP Monitoring and Evaluation System.
- Facilitate a network of these SGP grantees and integrate this network into the wider Mediterranean network.
- Document case studies from projects identifying lessons.

Outcome 3: NGO and CBO involvement in the region strengthened through capacities development, lessons learnt, and best practice knowledge products.

Output 3.1 Knowledge products for enhanced role and involvement of NGOs and CBOs in the region.
Output 3.2 Knowledge products including lessons learnt and best practices based on the implementation of the SP

Risk and Sustainability

The component ensures carefully planned NGO and CBO awareness, involvement and capacity building programmes horizontally linked through all components and sub-categories, aiming to achieve the overall objective of the project while taking into consideration other on-going regional initiatives in the Mediterranean (EMP, ENP, Horizon 2020, MSSD, other GEF and WB projects running in MENA and SEE countries, etc.). Knowledge products, lessons learnt and best practices generated by the project component will be widely disseminated to inform local, national and international sustainable water management actors and policies and larger development processes.

The project component has been designed and will be implemented in synergy and close partnership with the other Strategic Partners, key leading regional and national environmental NGOs in the region. Inclusive efforts will be complemented by substantial outreach toward the wider NGO and CBO community, as well as with other stakeholders. MIO-ECSDE's strong working relationships and collaborative processes with environmental officials and other stakeholders throughout the Mediterranean region combined with a close relationship with the GEF SGP modality will help to ensure that the progress achieved through the project is sustained over the long-term.

There is a risk that NGO and CBO involvement measures developed by the project may encounter political or other obstacles in some countries that may eventually affect implementation. Many Mediterranean countries face significant challenges in developing the legal, institutional and practical infrastructures needed for effective public access to environmental information and public participation in environmental decision making. In addition, differences between the Mediterranean countries' laws, institutional arrangements, and political and social realities may increase the challenges of developing common approaches to public involvement. The project component will work to minimize these risks, which are identified and analysed in the *NGO Involvement Plan*, by carefully considering from the outset the unique circumstances of each country, and the differences between them.

Linkages with other programmes and initiatives

- All the activities are linked with the all Partners project activities, particularly with INFO/RAC
- MIO-ECSDE NGO network, other relevant regional and sub-regional networks and international organizations, national and local NGOs and CBOs
- Networks of journalists working on environmental issues (e.g. COMJES)
- Other stakeholder networks (e.g. Mediterranean Parliamentarians – COMPSUD)
- MCSD
- On-going EuroMed processes (EuroMed NG Platform, RMSU, etc.)
- On-going ENP processes (e.g. National Actional Plans, Regional Med Strategy, Horizon 2020, etc.), EU and GEF SEE processes
- UNEP/MAP activities
- National authorities/focal points related to NAPs implementation
- GEF SGP NCs, NSCs
- SGPMED grantees.

Monitoring and Evaluation

The *NGO Involvement Plan* provides guidelines and mechanisms on how each project component should monitor and measure the effectiveness of NGO involvement throughout the implementation of the component. At the end of each phase of the project components and also mid-way and at the end of the "Strategic Partnership", a qualitative analysis will be conducted on how effective NGO involvement has been, based on how each project component has been strengthened by NGO participation and on how the project component has contributed to the progressive strengthening of the role of civil society in the region. The inclusion of cost assessment parameters of efficient public participation in the various components of the project will be a very useful and innovative exercise as

well. The related to the SP SGP implementation will follow the M&E process of GEF SGP and also "the impact assessment guidelines".

Once the project is concluded a "manual of good participation practices" including a review of all the different techniques and methodologies used for providing information and preparing public participation plans and consensus-building procedures and a brief summary of the obtained results will be produced in various Mediterranean languages, and widely disseminated. The manual will be a case study for other regional transboundary projects in the region and worldwide.

Key performance indicators for evaluating the component's outcomes

For outcome 1: Facilitated NGO and CBO participation in all processes of the "Strategic Partnership" components through awareness building among the NGO networks and the public, information sharing, joint decision making, and monitoring and evaluation:

1. NGOs and CBOs have participated in at least two stakeholder consultation meetings in each component by the end of the "Strategic Partnership."
2. NGOs have one or more members in advisory bodies of the "Strategic Partnership" components.
3. The managing/decision-making bodies of the "Strategic Partnership" have at least one or more NGO seats from year 1 of the "Strategic Partnership".
4. NGOs and CBOs have been involved in at least one monitoring and evaluation activities in each component by the end of the "Strategic Partnership".

For outcome 2: Enhanced role of NGOs and CBOs in the region through participation in the implementation of the SAPs and NAPs:

1. NGOs and CBOs are involved in monitoring and control activities of NAP implementation in all countries.
2. Networking activities are fully developed by end of year 3.
3. GEF SGP NSCs in 7 countries have approved NGO and CBO projects in each country conforming to the SP objectives in every year of the project's duration.
4. Some of the above small grants projects have been visited by MIO-ECSDE or SP partners during their implementation and access to the monitoring reports has been attained.
5. All of related SGP grantees have become part of the Mediterranean wide network and have had interchanges with other networks by the end of year 4.

For outcome 3: NGO and CBO involvement in the region strengthened through capacities development, lessons learnt, and best practice knowledge products:

1. The final NGO involvement plan has been published in paper and electronically and all stakeholders have received a copy 6 months into the "Strategic Partnership."
2. A "Manual of Good Participation Practices" will be published, based on experiences and overall participatory mechanisms adopted by different components of the "Strategic Partnership" and related to the SP GEF SGPs and distributed to 800 stakeholders as well as the Global SGP network by the end of the "Strategic Partnership."
3. At least 2 thematic lessons learnt and best practices publications have been produced in paper and electronic format and distributed to 500 NGOs and CBOs as well as the Global SGP network by the end of the "Strategic Partnership."

Supplementary information

The NGO Involvement Plan as Annex H
The *NGO Involvement Plan* will contribute to achieving the above objectives by way of:
- Identifying obstacles and challenges for public participation in the region
- Identifying potential NGO involvement in the various components and sub-categories of the project;

- Indicating specific types of NGO involvement in the implementation of the project and existing expertise of specific NGOs;
- Presenting guidelines for mobilizing this involvement and mechanisms for consultation, coordination, monitoring and evaluation;
- Executing a Strategic Guidance Paper for the *SGPMED;*
- Indicating how resources can be mobilised though NGO actions within the project.

Sub-component 4.2: Information and Communication Strategies

Implementing Agency
United Nations Information Regional Center, INFO/RAC

Background/Context/Rationale

Pressure exerted by the public opinion on governments and institutional stakeholders, as well as on the business/private sector, represents a considerable added value to achieve a full implementation of international and national legislation and to obtain new and more sustainable rules in the economic development.

Therefore, in order to make the Med. LME Partnership and its deliveries better understood, more widely known and, above all, closer to specific audiences, such as high level decision-makers, particular attention will be devoted to the use and adaptation to the specific context of modern IC approaches, in line with the recent recommendations issued by the World Summit on Information Society.

Together with the work to be carried out with the traditional media, a new approach to reach a wider public and to enhance communication among LME Partners (Intranet) will be implemented through the use of the most advanced ICT techniques, such as web sites, portals, and all other existing electronic information systems. INFO/RAC is in a particularly comfortable position to design and implement such a component of the project communication strategy, as it could benefit of its present central role in the development of a platform (named InfoMAP) for the use and promotion through the internet of the UNEP-MAP information archives and datasets. To this end, a collaboration and exchange of experience is also foreseen with the GEF IW-LEARN team. Main objectives will be to design and conceive the LME Partnership presence on internet making it compatible and in line with IW-LEARN specifics and to participate to main IW-LEARN events (such as the IW Biannual Conference).

Description of activities, including demonstration and pilot projects

Considering the complex nature of the LME, the actions foreseen within this strategy will have to be executed at the Regional, National and Local levels, as appropriate. The following ones are proposed for implementation, noting that some of them should be designed on an initial 'pilot basis' in order to fully assess and measure their efficacy and impact:

- *4.2.1 Design and preparation of IC campaigns, information materials (leaflet, brochures, etc.) for selected audiences*

- *4.2.2 Design, production of an Intranet/Internet site and on-line magazine to create a shared vision and disseminate the partnership's progress and lessons learned. Within this activity, collaboration and exchanges of experience will be established with the GEF IW-LEARN team so that compatibility with IW-LEARN practice is achieved and that benefit is taken of IW-LEARN events (such as the IW Biannual Conference).*

- *4.2.3 Participation to selected national and international environmental events (such as the Environment Day, the EU Green Week, etc.) to present project information to governments, institutions and the media on national and international scales.*

- *4.2.4 Planning of an ad hoc audiovisual campaign for wide media dissemination.*

Sub-component 4.3: Replication Strategy

Implementing Agency

United Nations Information Regional Center, INFO/RAC

Background/Context/Rationale

The Mediterranean region presents a substantial under-performance and negative track record for replication initiatives. This is not only due to technical problems per se but also to inadequate project management and monitoring capacities, given the constraints imposed by variations in local conditions, resources and capabilities.

In addition, the complex challenges associated with creating and maintaining working partnerships – essential for project success – cannot be under-stated.
Within the context of UNEP/MAP (UNEP Mediterranean Action Plan) and the countries of the Mediterranean region, it is clear that for the thirty years of the Barcelona Convention, "partnerships" at many levels have been ad-hoc and rather weak or informal affairs. This has caused loss of common focus and momentum, resource dilution, redundancy of activities, duplication, inefficiency and a general lack of cooperation between key stakeholders. Where cooperation does exist, it is rather localised, transient and on a project-by-project rather than long term, regional and/or on an institutional basis. Clearly, this situation is detrimental to the long-term environmental goals and overall development agenda of the Mediterranean.

This suggests the need for a more innovative approach, specifically tailored to the characteristics of the region and aimed at enhancing the average standard replication potential, therefore increasing the chances of success.

So, differently from past projects where replicability has been addressed as separate element in the project elaboration, the objective of this component is to develop and support as integral part of the project, a specific replication strategy for:

- The successful demonstrations run under the Regional Projects (RPs)
- The lessons learnt and results achieved under the RPs
- The LME Strategic Partnership itself

This strategy will require a high level of flexibility and adaptation to the different LME project components, in particular with respect to the replication mechanisms to be adequately refined and contextualised when used for other initiatives, other countries, other areas/sites.
While maintaining the necessary focus on the technical aspects of environmental project replication, the strategy will build on three main pillars:

- Improved communication and awareness building amongst key partners and stakeholders and the wider community;
- Improved information management at many levels;
- Set up and evolving formal working (multi-sector) partnerships.

These pillars will be progressively built through the set of activities described below. Such activities have been designed taking into account the lessons learned by UNEP/MAP from the implementation of environment protection activities in the Mediterranean as well as elements of the evaluation and monitoring processes of several other GEF projects.

Description of activities, including demonstration and pilot projects

Given the complexity and the wide spectrum of the components of this Mediterranean LME project, a number of different phases and activities have been designed in order to proactively and timely scope, enhance and materialize the replication potential of the project.

4.3.1 Guiding the replication process

4.3.1.1 Creation of a Med-LME Project Replication Team (PRT) and operations

A Project Replication Team (PRT) will be set up and its main tasks will consist of:

a) Ensuring that every RP developed under the LME Partnership has a valid replication component (or strategy) integrated into the project from initial stage of concept design;
b) Contribute to, facilitate, coordinate and guide the replication process in all its development stages, including specific measures of progress, risk assessment and expected impacts; thereby allowing feedback and project adjustments as and when required.

The proposed team would have to be multidisciplinary and able to maximise the benefits of the wider LME Partnership. This means that the level of commitment of the members of the PRT should be high and that a pool of experts in all disciplines required should be identified and involved according to the needs.
In this respect, representatives of key regional entities with different specialisations, ranging from pollution reduction to biodiversity conservation will be involved. For operational reasons, the core team is expected to be composed of:

- One PRT Coordinator (INFO/RAC)
- One Expert on pollution reduction issues/monitoring (MEDPOL);
- One Expert on marine biodiversity conservation (SPA/RAC, WWF MedPO);
- One Expert in project development and socio-economic aspects (WB-METAP);
- One Expert in multi-sector partnership building; integrated information and communication management (INFO/RAC).

The role and modus operandi of the PRT will be specified in the terms of reference (TORs), which will be compiled at project start. It is suggested that the PRT meets regularly - at least 2 times a year - to fine tune, agree, coordinate and evaluate the replication actions, but also to be ready for contributing when required to ensure its support to the design and implementation phases of the RPs.
Once a year, the PRT is expected to actively participate to the Annual Replication Meeting (ARM), to be conducted in parallel to the Steering Committee Meetings, as planned under Phase 3 below.

4.3.2 Collecting information

4.3.2.1 Developing an ICT Platform, data collection, database, monitoring and updating

Following up the principles and guidelines outlined by IW LEARN, a practical baseline methodology will be developed by the PRT to effectively collate, record and manage information in a common web based "platform" (web portal).

INFO/RAC is developing at present a similar system for UNEP/MAP named *Info*MAP. The opportunity to work in parallel for a similar system for the Med. LME will offer greater chances for increasing synergies maximize quality, completion and integration of information and avoid duplications.

The ICT platform will cover information related to activities carried out under the regional component of the project.

The type and level of information collected will be extremely varied and range from spatial/GIS datasets related to the replication context of each demonstration, to legal and policy reform promotion strategies, financing modalities, training and dissemination programs and techniques, etc. For replication purposes, other elements of the project(s) will be considered, including but not limited to:

- Project operational and financial management;
- Project nature, type, geographical area and size;
- Overall design and structure;
- Financing and support mechanisms;

- Sustainability strategy;
- Actors/stakeholders and sectors involved;
- Management approach;
- Governance structure,

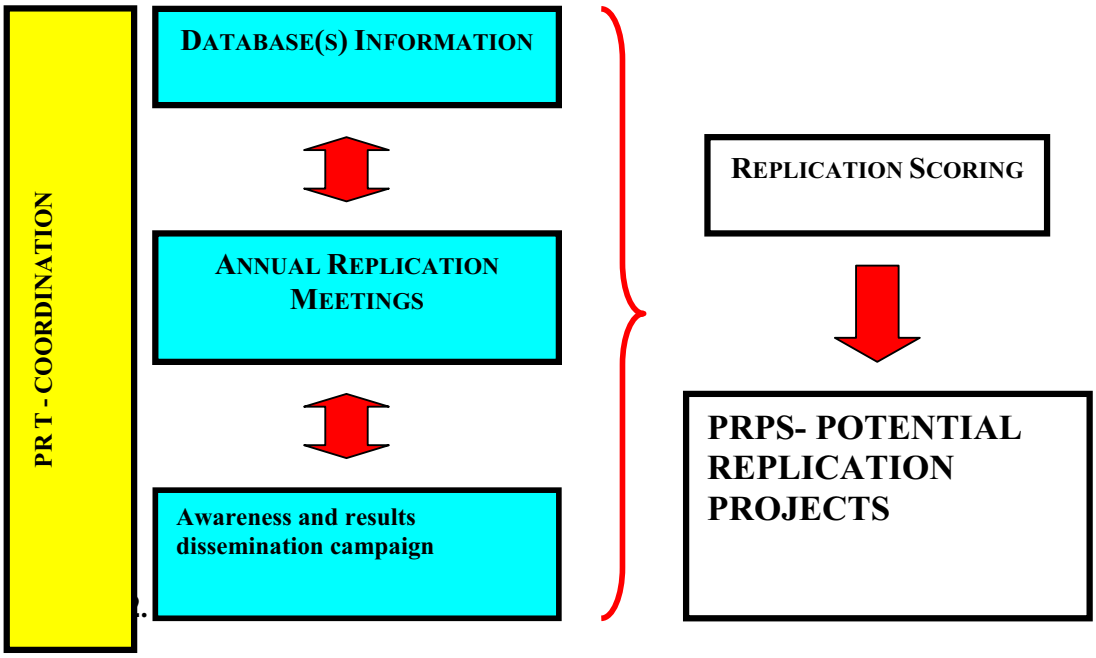
Particular attention will be dedicated to acquire information on successful partnership modalities, as there is growing evidence and practical experience that development initiatives/projects are far more likely to succeed over the long term if they are complemented and supported by sustainable working partnerships between multiple sectors such as the public sector, civil society (including NGOs) and business.

The ICT platform managing all relevant information/data will be properly organised and have different "search" modalities (by sector, country, technology..). It will be linked to project and sub-project websites, and will be managed in a shared Intranet Website/Web Portal environment ensuring easy consultation among members of the Mediterranean LME Partnership as well as other external users. In this respect, different types of accesses can be envisaged and agreed on.

This platform will facilitate the constant exchange and flow of information among the different partners, will serve as permanent forum for sharing opinions and ideas, and strengthen the project monitoring & evaluation process by giving it near 'real time' rather than 'snap-shot'/periodic information.

4.3.3 Information analysis, sharing and dissemination

To accommodate the different nature of the two components of the partnership, an intense awareness and results dissemination action will be carried out using the three main mechanisms described below.



4.3.3.1 Information analysis, selection of PMAs and dissemination

The information collected on the RPs will be taken out of its original/'local' context and placed into the macro-scale Mediterranean "arena" to identify possible matching replication sites. This detailed and systematic exercise would be carried out by the PRT, making use of its internal expertise, and wider knowledge networks.

Further advice, on more remote and/or less documented matching areas could be obtained from national level experts with more detailed insights. Desktop analysis of existing data on biodiversity and pollution assessments at a Mediterranean scale is readily available from LME Partners (SPA/RAC and WWF MedPO, MEDPOL), and could be applied by the PRT, in addition to site visits/assessments whenever necessary. Typically but not exhaustively, the main issues to consider are:

- Technical identification of Potential Matching Areas (PMAs), including characteristics at the physical, geographical, environmental and socio-economical levels.

Then, for each PMA:

- Identification and evaluation of political (decision making), governance and socio-economic context;
- Evaluation/assessment of existing/potential funding sources, possibilities for fundraising and financial sustainability. Special focus on the private sector and any available resources;
- Identification of local and national stakeholders, special focus on local and national government authorities and NGOs with proven, action-oriented track records;
- Assessment of information management, communication capacities and public awareness;
- Final evaluation and selection of PMAs; identification and outline of *Potential Replication Projects (PRPs)*;
- Organization of ad-hoc Replication meetings to share information and coordinate resources/commitments among LME Partners and invited participants, including the results of the selection process. Also, to explore the formal partnership building process.

Again, selected data and key findings from this phase should be properly organised and made widely available via the Intranet resource site for facilitating information flows, cross-sectoral dialogue, consensus building, and used for/cross-checked on the occasion of the Annual Replication Workshops.

4.3.3.2 Organization of two Replication meetings (ARMs)

Two Replication Meetings (RMs) will be held tentatively on the second and fourth year of the project execution. The meetings are planned in conjunction with the Project Steering Committee meetings and will involve all the NPCs, members of the PRT and relevant partners as opportune.

To ensure maximum involvement and active participation, countries/projects will be expected to come to each Annual Replication Meeting with a comprehensive presentation on:

- Main challenges of each project,
- Actions taken and approaches used to meet mentioned challenges,
- Results/impacts of the actions and lessons learnt.

This exercise will provide a basis for group discussions and help focusing on issues common, and of interest, to more countries/projects. Over the years, it will allow a progressive identification of lessons learnt and results achieved. A questionnaire may be used in parallel by the PRT to address specific topics and collect specific information, which wouldn't otherwise be touched. Each workshop will close with an agreed set of issues/lessons/results.

The second Replication Meeting is expected to start with the presentation of the lessons/results agreed at the previous meeting, mark progress and verify if the successful actions/approaches/methodologies have been replicated in other countries/ areas, or, in the case of shortfalls, if remedial actions have been taken.

4.3.3.3 Design and implementation of dissemination mechanism and partnership building

The achievement of open access to, and sharing of, essential information, as well as presentation/dissemination of key data in the form of multilingual and multimedia communication

campaigns dealing with priority policy issues and adapted to particular target audiences, will require the following tasks to be undertaken:

- Enhancement of the dialogue and cooperation among the key actors through the creation of a permanent reference Mediterranean network that includes representatives of national ministries of the environment and institutes and associations involved in information dissemination and environmental communication in Mediterranean countries; and
- The setting of priorities and customization of the key content of the most important project activities to make them more appealing, interesting and understandable to selected audiences;
- Provision of user-friendly access of the public to all unrestricted documentation, data and products prepared within the framework of the project;
- Identification and assessment of existing and successful media/public information campaigns and strategies having an environmental focus and operating at a local or regional level with the purpose of determining the potential to introduce key SP project messages into these campaigns.

This includes sustained rather than sporadic IC efforts, using partnerships where burdens, risks and benefits are carefully defined and shared amongst partners. A weighty support could come from the *Info*MAP infrastructure, using a base server and a dedicated web portal.

4.3.3.4 Organization of a regional conferences

A regional conferences will be convened during the life of the project. The conference will focus on partnership as an indispensable requisite for successful project implementation. Establishing sustainable partnerships and effective communication/awareness-building across sectors are inter-related tasks and essential components for replication project success, especially in the complex cultural, political and social conditions found in the Mediterranean region.

INFO/RAC, given its recognised capacity for partnership building in the region, will serve as main broker for partnership promotion. The Partnership Building Accreditation Scheme (PBAS) will be used as a tool for adding value to the Strategic Partnership. PBAS was developed by the Overseas Development Institute (ODI) and the International Business Leaders Forum (IBLF) in the UK in close cooperation with partners such as UNDP, DFID (UK), the UN Staff College and the World Bank Group. It is an internationally-recognized programme designed to bring professionalism and integrity to the building and brokering of multi-sector partnerships for sustainable development.

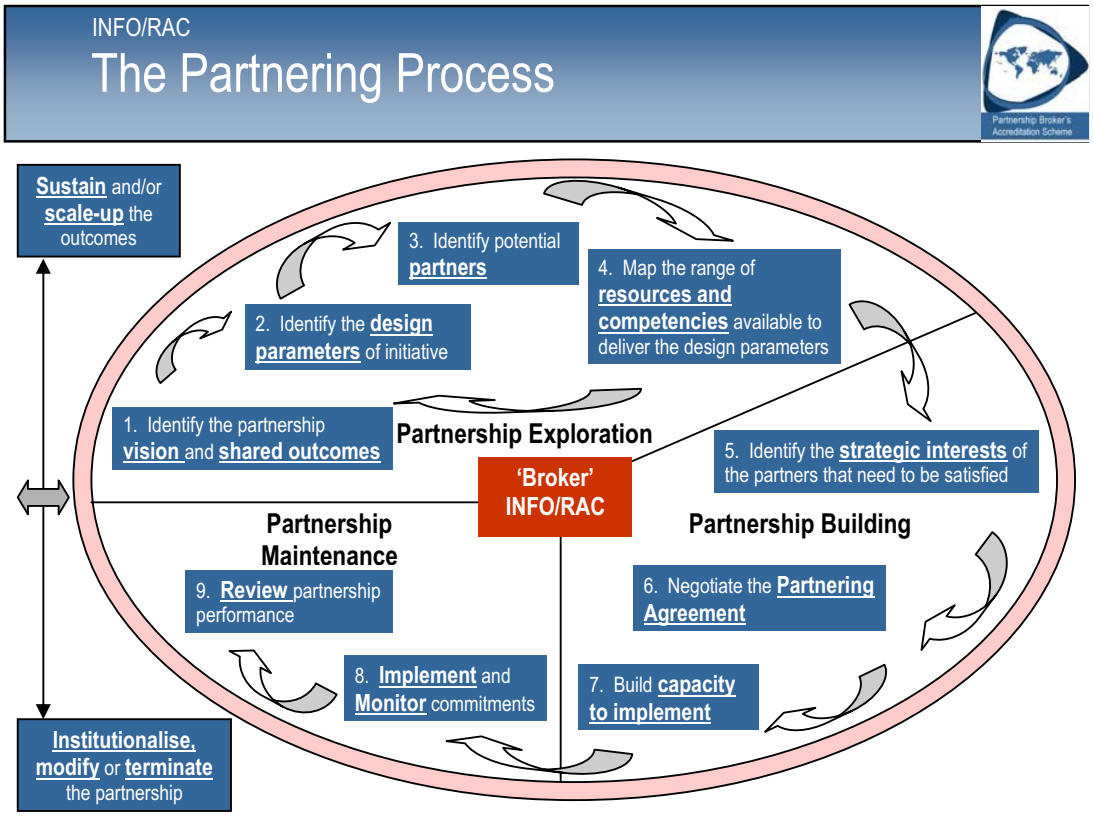


Diagram: The Partnership Process – INFO/RAC (Rome) has developed the required skills and technical capacity to act as a "broker" and facilitator of multi-sector working partnerships that support sustainable development in the Mediterranean

4.3.4 Replication potential assessment

4.3.4.1 Design and implementation of a Replication Scoring System

This innovative approach could be used by both LME Partners and national or international donors/investors interested in replicating RPs in other areas. Following an analysis of data/outputs collected on RPs and PRPs, a specific methodology could be developed by the PRT to objectively evaluate and score the PRPs identified. The scoring system (using actual or weighted values for key indicators) would therefore, provide an overall evaluation for the likelihood of successful replication of the project in an alternate site/context. With experience and numerous field applications, the scoring system could be fine-tuned to facilitate comparative studies and provide an objective value to the weakest and strongest aspects of the PRPs. A complete list of PRPs scored with the system would be compiled by the PRT and compared against actual replication successes or otherwise.

Scoring Systems can also be adapted to simplify and communicate complex (environmental) information or issues to the general public e.g. a beach quality index. The value for public outreach and awareness building should not be overlooked if carefully and thoughtfully communicated through the mass media. This is one of many communication tools, which could help establish a "favourable climate" for effectively implementing PRPs – with wider public knowledge and informed consent and participation.

4.3.5 Catalysing implementation

4.3.5.1 "On site" facilitation and capacity development for replication purposes

At this stage, PRPs should be in quite advanced stages of development both in terms of conceptual design and stakeholder commitments (especially donor and government interest). The PRT should be supported by the collective contributions of LME Partners and gradually assume a more coordinating and monitoring role in the replication process.

Considering the knowledge, previous-experience and data acquired on the PRPs, the main actions for on-site replication to be taken are:

- Promote the establishment of Local/National Project Replication Groups (LPRGs) to act as an interface and reference point for the PRT and LME Partners. Major tasks of this collaboration would be:
- Promoting the establishment of Local/National Project Replication Groups (LPRGs) to act as interfaces and reference points by 1) supporting the elaboration of the specific ToRs, 2) providing initial inputs to the development of an adaptation strategy to use the RPs approach and lessons-learned from similar sites/projects in order to adapt to local realities;
- Promoting the exchange of experience on successful RPs through the use and consultation of the database and other channels as opportune;
- Promote the use of PBSA scheme for setting up working partnerships and cooperation among key stakeholders and interested parties at project level; and
- Support projects with the initial elaboration of procedures for promoting public information and participation

ANNEX G

COUNTRY PARTICIPATION IN PROJECT ACTIVITIES, DEMONSTRATIONS AND PILOT PROJECTS

Component/Sub-Component/Activity	Participating Country(ies) and Sites
Component 1: Integrated approaches for the implementation of the SAPs and NAPs: ICZM, IWRM and management of coastal aquifer	
Sub-component 1.1: Management of Coastal Aquifers and groundwater	
1.1.1: Assessment of risk and uncertainty related to Mediterranean coastal aquifers	
- 1.1.1.1. Assessment of risk and uncertainty related to Mediterranean coastal aquifers	Overall region assessment
- 1.1.1.2. Coastal aquifer vulnerability mapping	Tunisia, Algeria, Montenegro: Boka Kotorska Bay
- 1.1.1.3. Coastal aquifer supplement to TDA-MED	All countries
1.1.2: Regional Actions for Coastal Aquifer Management	
- 1.1.2.1. Development of a Regional Action Plan on Coastal Aquifers	All countries
- 1.1.2.2. Integration of groundwater management in ICZM and IWRM planning systems	Montenegro: Boka Kotorska Bay Algeria: Reghaia
- 1.1.2.3. Identification and planning of coastal groundwater demonstrations	Tunisia, Croatia
- 1.1.2.4. Sustainable Coastal Land Management	2 target countries
- 1.1.2.5. Implementation of eco-hydrogeology applications for management and protection of coastal wetlands	Tunisia, Croatia
- 1.1.2.6. Coastal aquifer supplements to SAP MED, SAP BIO and NAPs	All countries
1.1.3: Legislative, institutional and policy reforms for Coastal Aquifer Management.	
- 1.1.3.1. Policy/legal/institutional regional assessment for coastal aquifer management	Croatia, Tunisia
- 1.1.3.2. Policy/legal/institutional reform, institutional development for coastal aquifer management	Croatia, Tunisia
Sub-component 1.2: Integrated Coastal Zone Management	
1.2.1. Support activities in preparation of National ICZM Strategies and National Action Plans	
- 1.2.1.1. Strengthening the role of ICZM as a policy framework for water resources management and biodiversity protection at the regional level	All countries
- 1.2.1.2. Support to preparation of ICZM NAPs	Montenegro, Algeria, + 1 country [1]
- 1.2.1.3. Harmonising national institutional arrangements and legislation with ICZM Protocol for the Mediterranean	All countries and one case study in Croatia
- 1.2.1.4. Developing/strengthening of coastal legislation	Montenegro, Algeria + 1 country [2]
- 1.2.1.5. Use of Cost of Environmental Degradation (COED) as an ICZM tool	Montenegro, Algeria
1.2.2. Application of ICZM approach, tools and techniques in demonstration areas	

[1] To be identified by METAP
[2] To be identified by METAP

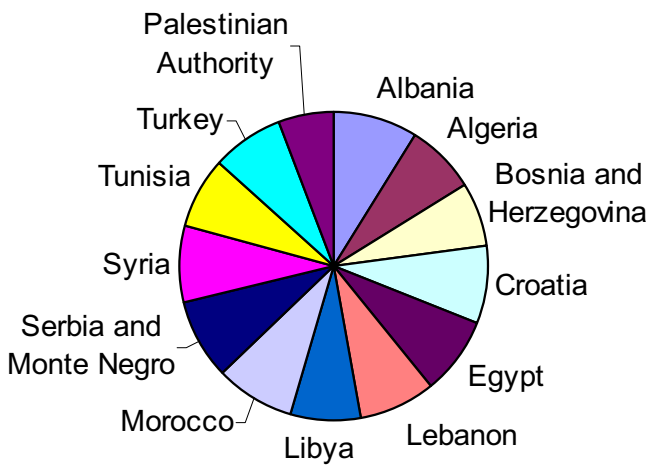
Component/Sub-Component/Activity	Participating Country(ies) and Sites
- 1.2.2.1. ICZM Plans to demonstrate ICZM approach, tools and techniques in selected areas	Montenegro (Boka Kotorska Bay) Algeria (the Reghaia wetlands, lake and coastal area)
- 1.2.2.2. Capacity building for effective implementation and sustainable financing of pilot ICZM projects	All countries
- 1.2.2.3. Co-ordination and harmonisation of ICZM component with other components' activities in demo projects	All countries participating in demo's Montenegro, Algeria
Sub-component 1.3: Integrated Water Resource Management	
1.3.1. Develop Action Plan for Integrated Water Resources Management in the Mediterranean	All countries
1.3.3. Catalyze Action and Build Capacity on National IWRM Planning	Libya, Lebanon
1.3.3. Develop IRBM in globally important river basin(s) and adjacent coastal area	Montenegro/Albania: Buna river (Drin river system) Montenegro : Boka Kotorska Bay Lebanon (the Lithani (Qasmieh) river watershed)
1.3.4. Prepare short-list of transboundary river basins and water issues suitable for interventions and the implementation of pilot projects	All countries
Component 2: Pollution from land based activities, including Peristen Organic Pollutants: Implementation of SAP-MED	
Sub-Component: 2.1. Facilitation of policy and legislative reforms for SAP MED	
2.1.1. Pilot project on the management of phosphogypsum wastes from phosphate fertilizer production	Lebanon, Tunisia and Syria
2.1.2. Pilot project on chromium, nutrients and BOD control in tanneries	Albania, Algeria, Egypt and Turkey
2.1.3. Pilot project on recycling and regeneration of used lubricating oils	Albania, Algeria, Croatia, Egypt, Lebanon, Morocco, Montenegro, Syria and Palestinian Authority
2.1.4. Pilot project on recycling of lead batteries	Albania, Algeria, Croatia, Egypt, Libya, Lebanon, Morocco, Montenegro, Syria, Tunisia, Turkey and Palestinian Authority
2.1.5. Assessment of the magnitude of riverine inputs of nutrients into the Mediterranean sea	All countries
2.1.6. Project on setting Emission Limit Values (ELV) in industrial effluents and Environmental Quality Standards (EQS)	All countries
2.1.7. to 2.1.9. Permit, Inspection and Compliance Systems	Albania, Bosnia-Herzegovina, Croatia, Lebanon, Morocco, Montenegro, Syria and Turkey
Sub-Component 2.2. Transfer of Environmentally Sound Technology	
Start-up of the project and capacity building Introduction of the TEST integrated approach at the demonstration enterprises Dissemination of the results of the project	Tunisia, Morocco, Lebanon, Egypt
Sub-Component 2.3. Environmentally Sound Management of equipment, stocks and wastes containing or contaminated by PCBs in national electricity companies of Mediterranean countries	
2.3.1.Legislative and institutional framework for implementation of ESM of PCBs	Albania, Egypt, Lebanon, Libya, Syria
2.3.2 Demonstration projects to improve the management programme of PCBs and facilitate the implementation of NIPs and MED-SAP	Albania, Egypt, Lebanon, Libya, Syria

Component/Sub-Component/Activity	Participating Country(ies) and Sites
2.3.3 Awareness of importance of ESM of PCBs equipment	Albania, Egypt, Lebanon, Libya, Syria
2.3.4 Technical capacity for ESM of PCBs equipment	Albania, Egypt, Lebanon, Libya, Syria
2.4.5 National capacity to implement PCBs phase-out and disposal programmes	Albania, Egypt, Lebanon, Libya, Syria
Component 3. Conservation of biological diversity: Implementation of SAP BIO and related NAPs	
Sub-component 3.1: Conservation of Coastal and Marine Diversity through the Development of a Mediterranean MPA Network	
3.1.1. Establishment of coordination mechanism for regional MPA management	All countries
3.1.2. Identification and planning of new MPAs to extend the regional network and enhance its ecological representiveness.	All countries
- Priority needs to be addressed for MPA creation	Albania, Bosnia & Herzegovina, Croatia, Libya, Morocco, Montenegro, Syria, Turkey, Palestinian authority
- Launch MPA creation project in three countries.	Albania, Libya, Morocco
- Existing biophysical and ecological information necessary for the proper choice of new MPAs at country level furnished	Bosnia & Herzegovina, Morocco
- A study filling important gaps in ecological knowledge of marine ecosystems in the area	Bosnia & Herzegovina, Morocco
- Existing information on small-scale fisheries in the area addressed to the proper choice of new MPAs at country level furnished	Bosnia & Herzegovina, Morocco
- Fishery study in relation to MPAs (at national or sub-national level) to fill gaps in fisheries knowledge, establishing a preliminary description of small-scale fisheries in areas deserving protection	Bosnia & Herzegovina, Morocco
- Prioritized list of sites worthy of being protected at the national (or sub-national) level based on the four previous outputs	Bosnia & Herzegovina, Morocco
- On-the-job trained local personnel in three countries on ecological quantification of MPA ecosystems and related fisheries	Montenegro (Bojana transboundary estuary -Lake Skadar area), Croatia (Losinj Dolphin reserve area), Albania (Karaburuni)
- Ecological studies and GIS-based maps produced for three demonstration areas	Montenegro (Bojana transboundary estuary-Lake Skadar area), Croatia (Losinj Dolphin reserve area) Albania (Karaburuni)
- Current restricted fisheries areas developed into SPAMIs with full stakeholder support	3 High Seas areas and neighbouring Project countries (Egypt, Palestine, Lebanon, Albania)
- Local stakeholder participation mechanisms and consensus achieved in relation to new MPA creation	Albania, Montenegro, Croatia, Libya
- Activity 3.1.3. Improved management of marine protected areas:	
- Thematic exchange workshops for MPA managers and other stakeholders for existing MPAs	All countries
- Exchange workshops on MPA management addressed to managers, practitioners and relevant authorities of new MPAs	At minimum: Montenegro, Bosnia & Herzegovina, Croatia, Albania, Syria, Libya, Morocco

Component/Sub-Component/Activity	Participating Country(ies) and Sites
- On-job-training for managers, practitioners and relevant authorities in demonstration of new MPA areas	Montenegro (Bojana transboundary estuary-Lake Skadar area), Croatia (Losinj Dolphin reserve area), Albania (Karaburuni) Libya (Farwa coastal lagoon and Gara Island
- Development of management tools: three basic tools developed or adapted to the Mediterranean context and translated into English, French and Arabic	All countries
- ·Demonstration Project: Concerted management plan for the Kas-Kekova SPA, Turkey (twining programme)	Turkey (Kas-Kekova SPA)
- ·Demonstration Project: Concerted management plan for the Banc des Kabyles, Algeria (twining programme):	Algeria (Banc des Kabyles)
3.1.4. Establishment of a regional MPA network monitoring capacity:	
- Feasibility and creation of a Mediterranean MPAs' monitoring observatory;	All countries
- Rapid assessment of the effectiveness of MPA management at sub-regional level;	All countries
- Demonstration project regarding a monitoring and evaluation system for the Croatian MPAs network	Croatia
3.1.5. Ensure the financial sustainability of regional and national MPA networks	
- Financial analysis for the establishment of new MPAs;	All countries
- Training of the MPA managers and practitioners on the elaboration of MPA Business Plan;	All countries
- Assessment of the MPAs global environment from a financial point of view;	All countries
- Training of MPA managers in the conservation finance mechanism;	All countries
- Demonstration project on long-term financial mechanism for MPAs in Tunisia;	Tunisia
- Demonstration project on financial sustainability mechanism for at least three new MPAs in different areas	Montenegro (Bojana transboundary estuary-Lake Skadar area) Croatia (Losinj Dolphin reserve area) Albania (Karaburuni)
3.1.6: Improve the legal governance frameworks of marine protected areas	
- Analysing existing national (or sub-national) and site-specific (local) laws and rules to protect marine habitats, species and areas	All countries
- Proposing updates of legislation to fill identified gaps: national authorities will have information and elements to launch the needed legislative reforms for creating new MPAs.	All countries
- Analysing existing national (or sub-national) conservation and/or fisheries policies that take account of MPAs	All countries
- Training to support governance of MPAs	All countries
- User's guide for MPAs managers	All countries
Sub-component 3.2: Promote the sustainable use of fisheries resources through the application of ecosystem-based management approaches	
3.2.1: Establishment of the ecosystem approach to fisheries management at regional and sub-regional levels	
- 3.2.1.1. Identify regional needs and priorities for mainstreaming biodiversity conservation into fisheries research and management	Tunisia, Turkey, Croatia, Montenegro
- 3.2.1.2. Implement biodiversity conservation and the ecosystem approach into fisheries research and management	Tunisia, Turkey, Croatia, Montenegro

Component/Sub-Component/Activity	Participating Country(ies) and Sites
- 3.2.1.3. Development of legal and management reforms to ensure the long-term limitation of fishing impacts on biodiversity and marine ecosystems	Tunisia, Turkey, Croatia, Montenegro
3.2.2: Reduction of by-catch of regionally important species at a fleet level	
- 3.2.2.1. Risk assessment to prioritise regional threats to vulnerable fish and fisheries interactions with iconic vertebrate species	Morocco, Tunisia, Egypt, Turkey, Algeria
- 3.2.2.2. Develop and implement demonstrable solutions to by-catch mitigation for protected/endangered species of fish and invertebrates and for iconic vertebrate species:	Morocco, Algeria, Turkey
3.2.3: Identifying and addressing unsustainable fishing practices at regionally representative MPA sites	
- 3.2.3.1. Identification of significant fishing impacts in areas of particular vulnerability.	Morocco, Tunisia, Egypt, Turkey, Algeria
Component 4: Project Co-ordination, Replication and Communication Strategies, Management and M&E	
Sub-Component 4.1 Project Co-ordination, Management and M&E	All countries
Sub-Component 4.2 Information and Communication strategies	All countries
Sub-Component 4.3. Replication Strategy	All countries

DISTRIBUTION OF ACTIVITIES TO BE UNDERTAKEN IN PARTICIPATING COUNTRIES (COMPONENTS 1, 2 AND 3)



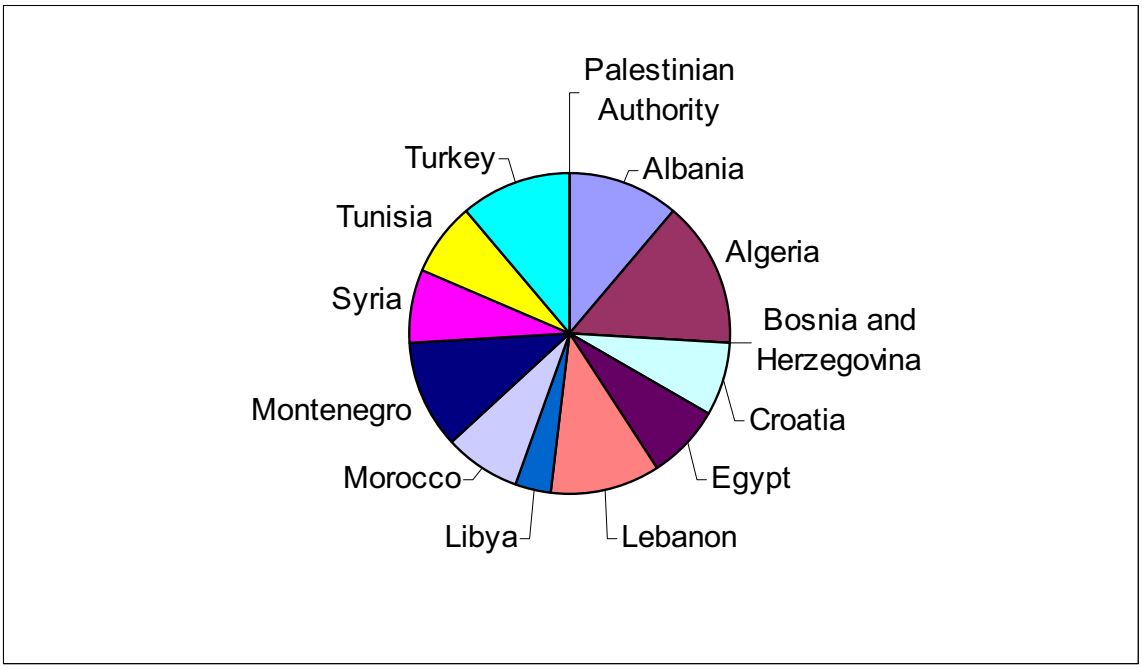
Pilot/Demonstration Projects

Pilot/Demonstration	Pilot/Demonstration Project Sites	No of Demon.
Component 1: Promotion of integrated approaches for the implementation of the SAPs and NAPs: ICZM, IWRM and management of coastal aquifer.		
Sub- component 1.1: Management of Coastal Aquifers and groundwater Activity 1.1.2: Regional Actions for Coastal Aquifer Management ***Sub- component 1.2: Integrated Coastal Zone Management*** Activity 1.2.2. Application of ICZM approach, tools and techniques in demonstration areas ***Sub- component 1.3: Integrated Water Resource Management*** Activity 3.3.1. Support for IWRM Planning at the National and Local Levels	- Montenegro: Boka Kotorska Bay;[3] - Montenegro/Albania: Buna river;[4] - Algeria: the Reghaia wetlands, lake and coastal area;[5] - Lebanon: The Lithani (Qasmieh) river watershed[6]	4
Component 2: Pollution from land based activities, including Persistent Organic Pollutants: implementation of SAP MED and related NAPs		
Sub-Component: 2.1. Facilitation of policy and legislative reforms for SAP MED		
2.1.1. Pilot project on the management of phosphogypsum wastes from phosphate fertilizer production	Lebanon	1
2.1.2. Pilot project on chromium, nutrients and BOD control in tanneries	Turkey	1
2.1.3. Pilot project on recycling and regeneration of used lubricating oils	Algeria	1
2.1.4. Pilot project on recycling of lead batteries	Syria	1
Sub-Component 2.2. Transfer of Environmentally Sound Technology		
Start-up of the project and capacity building Introduction of the TEST integrated approach at the demonstration enterprises Dissemination of the results of the project	Tunisia, Morocco, Lebanon, Egypt[7]	8
Sub-Component 2.3. Environmentally Sound Management of equipment, stocks and wastes containing or contaminated by PCBs in national electricity companies of Mediterranean countries		
Demonstration projects to improve the management programme of PCBs and facilitate the implementation of NIPs and MED-SAP	Albania, Egypt, Libya and Syria	5
Component 3. Conservation of biological diversity: Implementation of SAP BIO and related NAPs		
Sub-component 3.1: Conservation of Coastal and Marine Diversity through the Development of a Mediterranean MPA Network		
3.1.3. Improved management of marine protected areas:		
- ·Demonstration Project: Concerted management plan for the Kas-Kekova SPA, Turkey (twining programme)	Kas-Kekova SPA, Turkey	1
- ·Demonstration Project: Concerted management plan for the Banc des Kabyles, Algeria (twining programme):	Banc des Kabyles, Algeria	1
- Activity 3.1.4. Establishment of a regional MPA network monitoring capacity:		
- Demonstration project regarding a monitoring and evaluation system for the Croatian MPAs network	Croatia	1
3.1.5. Ensure the financial sustainability of regional and national MPA networks		
- Demonstration project on long term financial mechanism for MPAs in Tunisia;	Tunisia	1

[3] To be implemented by UNESCO, PAP/RAC and contribution of GWP-Med
[4] To be implemented by GWP-Med and contribution of PAP/RAC
[5] To be implemented by UNESCO, PAP/RAC and contribution of GWP-Med
[6] To be implemented by GWP-Med
[7] Under the assumption that 2 demonstration enterprises will be selected per country

- Demonstration Project on financial sustainability mechanism for at least three new MPAs in different areas	- Bojana transboundary estuary-Lake Skadar area (Montenegro), - Losinj Dolphin reserve area (Croatia), - Karaburuni (Albania)	3
Sub-component 3.2: Promote the sustainable use of fisheries resources through the application of ecosystem-based management approaches		
3.2.2.2. Develop and implement demonstrable solutions to by-catch mitigation for protected/endangered species of fish and invertebrates and for iconic vertebrate species:	Morocco, Algeria, Turkey	3
TOTAL OF PILOT/DEMONSTRATION PROJECTS		**31**

Distribution of Pilot/Demonstration Projects (Components 1, 2 and 3)



ANNEX H

DRAFT NGO INVOLVEMENT PLAN[1]

PREFACE

The main objective of the "*GEF Strategic Partnership for the Mediterranean Large Marine Ecosystem – Regional Component: Implementation of agreed actions for the protection of the environmental resources of the Mediterranean Sea and its coastal areas"* is to foster the implementation of the two Mediterranean Strategic Action Programs:

- The Strategic Action Program to Address Pollution from Land-Based Activities (SAP MED); and
- The Strategic Action Program for the Conservation of Mediterranean Marine and Coastal Biological Diversity (SAP BIO);

and to also prepare the ground for the future implementation of the Integrated Coastal Management (ICZM) Protocol (under development). The two Strategic Action Programs are aimed at: (i) reducing land-based sources of marine pollution (SAP-MED) and (ii) protecting the biodiversity and living resources of the Mediterranean, as well as their habitats (SAP-BIO). Together the three instruments will help countries toward achieving the MDGs (Millennium Development Goals) and the targets of the World Summit for Sustainable Development (WSSD Plan of Implementation).

It was decided at the PDF-B[2] development phase of this project to include the NGO community of the Mediterranean as a full partner/stakeholder in the Strategic Partnership, through MIO-ECSDE, the Federation of Mediterranean NGOs working on environment and sustainable development[3]. This NGO Involvement Plan is one of the tasks undertaken and aims to design and ensure the effective NGO involvement in the implementation of the project. It should be considered as a "work in progress" since it will be up-dated on a regular basis depending on lessons learned, new NGO partners identified and developments in the implementation of the project.

Twelve (12) Mediterranean countries are included in the geographical scope of the project: Albania, Algeria, Bosnia and Herzegovina, Croatia, Egypt, Lebanon, Libya, Morocco, Serbia and Montenegro, Syria, Tunisia, and Turkey.

Throughout this document the term NGO (Non-governmental organisation) refers to civil society organisations (CSOs) in a wider sense, including community based organisations (CBOs). The general characteristics are that they are local, national or international organisations that are non-profit and have a non binding affiliation to any government, political party or religious group. They may receive funding from a government structure, etc. without however their policies being dependent on it. Academic institutions are not included as such although in many cases strong links may exist.

Civil society participation will strengthen the project but the project will also contribute to the enhancement of the role of civil society in the Mediterranean region.

[1] Drafted by MIO-ECSDE, Febuary 2007

[2] The purpose of the PDF-B is to fully design the activities, timeframe and budget for the **implementation** of the Regional Component under the Strategic Partnership for the Mediterranean Large Marine Ecosystem – Regional Component under the agreed actions for the protection of the environmental resources of the Mediterranean Sea and its coastal areas.

[3] The Mediterranean Information Office for Environment, Culture and Sustainable Development (MIO-ECSDE) is a Federation of 102 NGOs working on environment and sustainable development, acting as a technical and political platform for the intervention of NGOs in the Mediterranean scene.

1. The GEF Strategic Partnership for the Mediterranean Large Marine Ecosystem

The countries of the Mediterranean Sea basin[4] face a variety of shared environmental problems that are transboundary in nature. Key to the success in addressing transboundary problems is the joint political commitment of all countries in the basin. To this effect, the GEF Operational Strategy recognizes that a series of international water projects may be needed over time to: a) build the capacity of countries to work together; b) jointly understand and set priorities based on the environmental status of their water body; c) identify actions and develop political commitment to address the top priority transboundary problems, and then d) implement the agreed policy, legal and institutional reforms and investments needed to address them.

With the support of the GEF, UNEP, UNEP/MAP, and FFEM, and consistent with the GEF Operational Strategy, the Mediterranean countries have collaborated within the context of the Barcelona Convention to revise the Transboundary Diagnostic Analysis[5] prepared in 1997, and have agreed on the following major transboundary environmental concerns for the basin:

- Decline of biodiversity due to over-fishing, conversion and degradation of critical habitats, introduction of alien species, pollution in the form of excess nutrients, toxic waste, including oil, solid waste and litter, and use of non-selective fishery gears;
- Decline in fisheries due to over-fishing, use of harmful fishing practices, loss of shallow-water habitats for some life stages of critical fisheries, adverse water quality from rivers, coastal aquifers, sewage discharges, dredging, and non-point discharges;
- Decline in seawater quality due to inadequate sewage treatment, lack of best practices in agricultural use of fertilizers and pesticides, inadequate controls on atmospheric emissions of heavy metals and persistent organic pollutants from European industrial sources, inadequate source controls and discharge control for industries along the sea, and increases in shipping traffic across the Mediterranean with consequent increase in accidental and purposeful discharge of harmful pollutants;
- Human health risks due to ingestion of seafood, ingestion of water while swimming, contact with contaminated seafood products, and contact with seawater contaminated with pathogens or viral agents;
- Loss of groundwater dependent coastal ecosystems due to the contamination, salinization and over-exploitation of coastal aquifers.

The Mediterranean countries have worked together to set priorities related to these transboundary problems and have jointly agreed on what interventions are needed to address such priorities through two Strategic Action Programs (SAPs):

- The Strategic Action Program to Address Pollution from Land-Based Activities (SAP MED); and
- The Strategic Action Program for the Conservation of Mediterranean Marine and Coastal Biological Diversity (SAP BIO).

The two SAPs are now ready for implementation, consistent with the GEF Operational Program 9 in the International Waters focal area, and a third instrument, the ICZM Protocol to the Barcelona Convention, is currently under development. As a result of the implementation of several Coastal

[4] Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Monaco, Morocco, Serbia and Monte Negro, Slovenia, Spain, Syria, Tunisia, and Turkey, are riparian countries. SAPs have been endorsed by all riparian countries and the EU. All countries except Cyprus, France, Greece, Israel, Italy, Malta, Monaco, Slovenia and Spain are eligible for GEF support.

[5] The Transboundary Diagnostic Analysis (TDA) is a scientifically based assessment of the environmental conditions of an internationally shared water-body, which identifies major problems, their causes, possible solutions, and discriminates between those issues requiring international action (transboundary), and those of an exclusively national nature.

Areas Management Projects (CAMPs) in the region, it appeared evident that the Mediterranean region needed to have a binding Protocol to halt the process of degradation of the coastal areas in the Northern countries and to suggest an approach for coastal development to the countries of the South. The Contracting Parties therefore decided to ask the UNEP/MAP Secretariat to initiate the process of formulating a Protocol on ICZM and a draft text was submitted to the 14th Meeting of the Contracting Parties to the Barcelona Convemtion in November 2005. Furthermore, National Action Plans (NAPs) have been prepared for the implementation of the targets of the SAPs.

BOX 1.1: Agenda 21, Chapter 23

"Critical to the effective implementation of the objectives, policies and mechanisms agreed to by governments in all programme areas of Agenda 21 will be the commitment and genuine involvement of all social groups. One of the fundamental prerequisites for the achievement of sustainable development is broad public participation in decision making. Furthermore … the need for new forms of participation has emerged."

In order to accelerate on the ground implementation of the SAPs, and assist with the early implementation of the ICZM Protocol, a collective effort for the protection of the environmental resources of the Mediterranean, the *Strategic Partnership for the Mediterranean Sea Large Marine Ecosystem* (implemented by UNEP and the World Bank and executed by UNEP/MAP) was proposed to all the countries of the Mediterranean and to all international cooperation Agencies, IFIs and bilateral and multi-lateral donors. The Partnership – which builds upon the model and lessons learnt from the GEF Black Sea/Danube Partnership – is a basin-wide multi-stakeholder collaboration with the main objective to assist basin countries in implementing reforms and investments in key sectors that address transboundary pollution reduction, biodiversity decline, habitat degradation and living resources protection priorities identified in the two SAPs. The Partnership serves as a catalyst in leveraging policy/legal/institutional reforms as well as additional investments for reversing degradation of this damaged large marine ecosystem and its contributing freshwater basins, habitats and coastal aquifers.

The Strategic Partnership consists of the two individual components, which fit together to assist the countries in a collaborative manner according to each agency's comparative advantage:

- Regional Component: Implementation of agreed actions for the protection of the environmental resources of the Mediterranean Sea and its coastal areas (UNEP)
- Investment Fund for the Mediterranean Sea Large Marine Ecosystem Partnership (World Bank).

The main objective of the Partnership is to foster the implementation of the two Strategic Action Programs, and prepare the ground for the future implementation of the ICZM Protocol. Together the three instruments will help countries toward achieving the MDGs and WSSD targets.

The Strategic Partnership entered its PDF-B phase in late 2005, and the final Project Brief is due for submission to the GEF Council in 2007. The Full Scale Project activities are due to start in late 2007 to 2012.

The project activities will be carried out in the following GEF eligible countries: Morocco Algeria, Tunisia, Egypt, Lebanon, Libya, Syria, Turkey, Albania, Bosnia and Herzegovina, Croatia, Serbia and Monte Negro. Palestinian Authority also participates.

The partners of the project are the following:
GEF, UNEP, World Bank, UNEP/MAP, MEDPOL, WHO/MEDPOL, UNEP Regional Seas, UNEP/GPA, WB-METAP, UNIDO, UNESCO, FAO/GFCM, GEF-SGP WWF, REMPEC, PAP/RAC, SPA/RAC, CP/RAC, MIO-ECSDE, GWP-MED, INFO/RAC and the Italian Ministry for the Environment and Territory.

The activities of the Regional Project and the projects under the Investment Fund will be endorsed and reviewed by the Steering Committee, which will consist of the following:

- National Focal Points appointed by the participating governments;
- Implementing Agencies (UNEP and WB);
- Executing agencies (UNEP/MAP);
- The President of the Bureau of the Contracting Parties of the Barcelona Convention; and
- All principal partners.

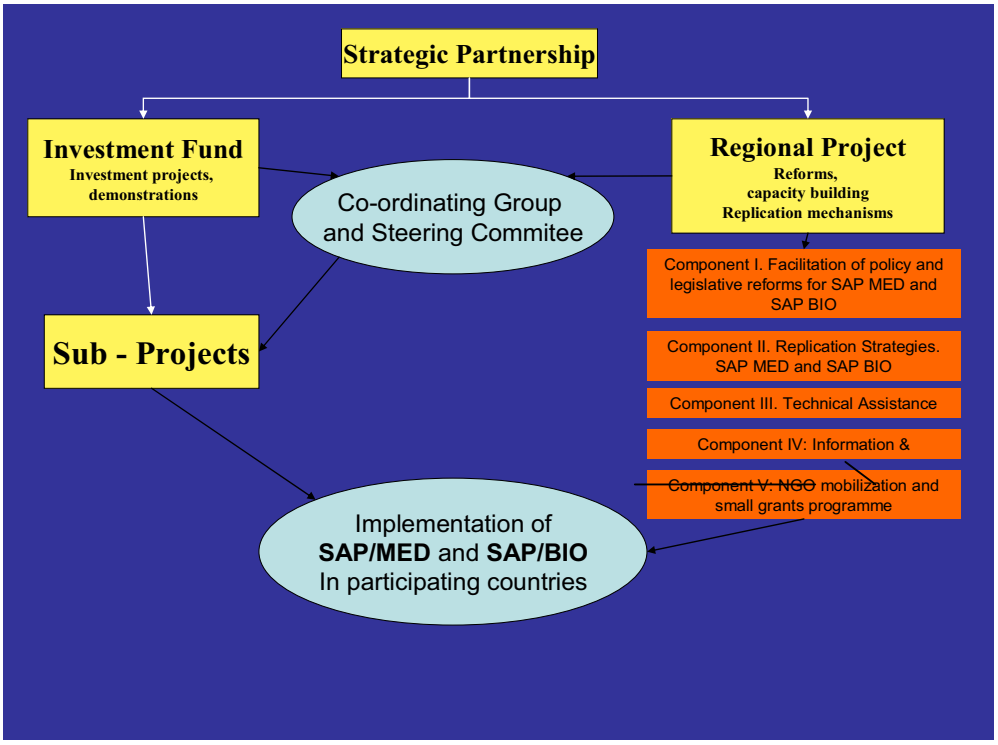
The Regional Component of the Strategic Partnership consists of the following components[6]:

Component I: Facilitation of policy and legislative reforms for SAP MED and SAP BIO;
Component II: Replication Strategies. SAP MED and SAP BIO;
Component III: Technical Assistance:

- Sub-Category 1. Implementation of the SAP MED and related NAPs (pollution reduction strategies);
- Sub-Category 2. Implementation of the SAP BIO and related NAPs (biodiversity protection strategies);
- Sub-Category 3. Implementation of the SAP BIO related to the conservation and sustainable management of vulnerable or endangered fish and invertebrates, including IUCN/CITES lists, and sustainable related fisheries (living resources strategies);
- Sub-Category 4. Regional Strategies to manage and protect coastal aquifers;
- Sub-Category 5. Regional Integrated Water Resources Management (IWRM);
- Sub-Category 6. Regional Integrated Coastal Management;

Component IV: Information & Communication Strategy; and
Component V: NGO mobilisation

Fig. 1.1 Structure of the Strategic Partnership



[6] It should be noted that since the preparation of the NGO Involvement Plan, the component titles and many activities have been revised.

2. The objectives and expectations of the NGO Involvement Plan

Among other activities within the GEF Strategic Partnership for the Mediterranean Large Marine Ecosystem, one component will strengthen public awareness (with particular focus on NGO networks) and support public participation in the implementation of the project. More specifically, it will:

- Ensure effective NGO involvement in the project itself on the basis of this *NGO Involvement Plan*.
- Feed into and complement the Communication Strategy designed by INFO/RAC with NGO specific elements, deliverables, etc.
- Make the necessary links with the GEF SGP (Small Grants Programme) in the Mediterranean so that grantee NGOs/CBOs effectively demonstrate implementation pilot actions and contribute to the NAPs and achieve the targets of the SAP-MED and SAP-BIO.

The expected outcomes of this project component are:

- Facilitated access for NGOs and the general public to relevant to the project information and increased Mediterranean-level stakeholder awareness;
- Enhanced multi-stakeholder participation in the implementation of the NAPs and strengthened SAPs;
- Mobilisation of NGOs/CBOs and their active involvement in the project at all levels;

This *NGO Involvement Plan* aims to contribute to achieving the above objectives by way of:

1. identifying obstacles and challenges for public participation in the region
2. identifying potential NGO involvement in the various components and sub-categories of the project;
3. indicating specific types of NGO involvement in the implementation of the project and existing expertise of specific NGOs;
4. presenting guidelines for mobilizing this involvement and mechanisms for consultation, coordination, monitoring and evaluation;
5. coordinating appropriately with the GEF SGP implemented in the Mediterranean*;*
6. indicating how resources can potentially be mobilised though NGO actions within the project.

3. Obstacles and challenges to NGO involvement

The obstacles that need to be overcome in order to achieve sufficient NGO involvement in the GEF Strategic Partnership for the Mediterranean Large Marine Ecosystem are directly related to the basic root problems delaying progress in public participation in the Mediterranean. These are:

- lack of recognition of legitimacy of the role of NGOs
- absence of processes for social discourse and consensus reflecting the lack of a deeper understanding of governance and the importance of partnerships
- distance between verbal declarations or even genuine good intentions and practical commitments of government bodies/officials. This is partly due to weak infrastructures, weak interagency coordination, ineffective organisation and lack of means including lack of resources to properly organise and implement participatory processes
- slow rates of changes in human behaviour and attitude
- low adoption rates of innovative action
- strong vested interests (political, financial, …)
- insufficiently specialised journalism
- country specific issues (totalitarian regimes, etc.)

MIO-ECSDE has studied the "evolution curve" of public participation in the Mediterranean (see fig. 3.1), which was also presented to the MCSD (Rome, 1-3 July 1999). It represents in a very general way the mode of progress in the evolution of participatory processes in the Mediterranean and the phase in which most of the Mediterranean countries are. The vertical axis depicts the steps in the evolving process as explained in the legend.

It is obvious that while countries and CSOs have to be facilitated to overcome the initial obstacles and climb upwards on the curve, the bulk of the Mediterranean countries, NGOs and CSOs in general, need to focus on steps 9 on.

BOX 3.1: The evolution of public participation

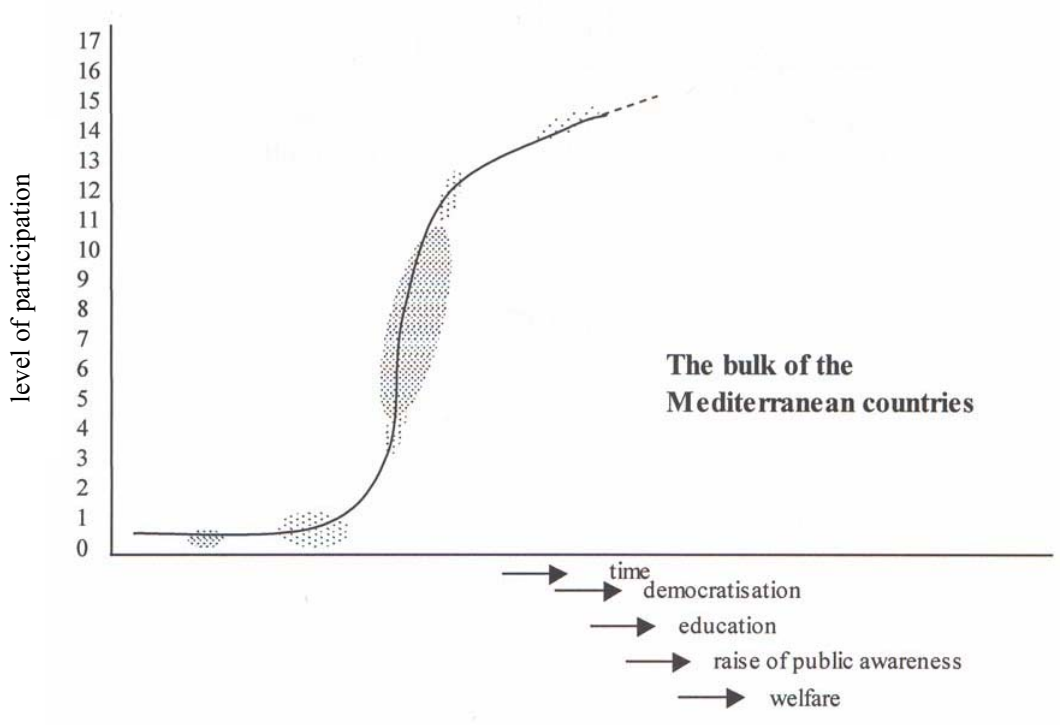
In general, «participation» could be viewed as an evolving process. This process starts from passive provision of information, followed by exchange of information upon request; raising of public awareness through media and meetings; education on conservation issues gradually developing into education about the root problems and sustainability; access to justice and credit by individual citizens, civil groups and NGOs for environmental purposes and institutionalised full partnership with governments and other socioeconomic partners in a new era of shared responsibility and «governance». ***This is a long and difficult road, experienced in most Mediterranean countries as an «uprising curve», very closely linked with the widening and deepening of democratisation, education and sensitisation of the wider public on issues of environment, development and culture.***

The Mediterranean Multi-Stakeholder Forum on "The Protection of the Mediterranean Sea from Land-Based Pollution: Prospects and Partnerships" identified that in order to enable civil society to undertake an active role in the implementation of the NAPs, a certain number of measures need to be taken on behalf of national public authorities to facilitate their involvement. These include:

a) general measures establishing an institutional framework for public participation and involvement as a prerequisite for the adoption of

b) specific measures focused on the implementation of NAPs.

Fig. 3.1: SCHEMATIC REPRESENTATION OF THE PROGRESS OF PUBLIC PARTICIPATION IN THE MEDITERRANEAN



Level of Participation:

0. No participatory practices at all.
1. Passive provision of unsystematic, arbitrarily selected information on environmental issues passed by the authorities to the public. Passive, uncoordinated environmental education projects developed ad hoc.
2. Acceptance of need for information flow on environmental issues by the authorities.
3. Participation of NGOs to information campaigns on conservation and restoration issues.
4. «Active» information: responding to requests by the public. Various means for access to selected information held by the authorities on environment and development issues.
5. Financial support to joint information campaigns and selected NGO projects. Introduction of environmental education projects in selected schools or groups. Systematic large-scale awareness campaigns.
6. Consultations and ad hoc dialogue between citizens groups, NGOs, local authorities and the State without secured follow-up. Environmental education in curricula and/or coordinated networks and programmes.
7. Facilitation and advocacy by the authorities for access of independent civil groups and NGOs to international funds for projects or their operation, with no strings attached.
8. Facilitation mechanisms for participation of the public in the environmental impact assessment (EIA) processes.
9. Active participation of the public through transparent mechanisms in drafting «sustainability charters»/Local Agenda 21, etc.
10. Full access of the public to the environmental and development information base of the State.
11. Participation of groups in the monitoring of implementation and management of sustainability plans.
12. Institutionalisation of 7.
13. Financing of projects and plans for «independent assessments» (counter-assessments) or counter-EIAs for controversial projects.
14. Institutionalisation of 10.
15. Access of public groups to justice including cases of liability and compensations for environmental damages.
16. Access of public groups to supporting funds and credit for operation and projects by national and international sources with no strings attached.
17. Full partnership in a balanced governance with full support to NGOs, local authorities and the public for a participation on equal footing.

These two categories are linked by a dynamic relationship (see BOX 3.2). If these measures are not in place then public participation in the implementation of the SAPs will be very limited.

BOX 3.2: Measures supporting public participation in the implementation of the NAPs

a) General measures to create or enhance the necessary framework for public participation and involvement

The establishment of an adequate institutional, legal and operational framework constitutes a prerequisite for the effective achievement of public information, consultation and participation. It encompasses the following measures:

- ✓ the **adoption of relevant legislation** and **translation of international legal instruments into national law** (e.g. the Aarhus Convention, the EU Directive on public participation – NB: it is noteworthy that for a number of other EU Directives such as the Directive on Environmental Impact Assessments, the Water Framework Directive, the IPPC Directive, etc. the provisions for public involvement are integral part of their implementation);
- ✓ the implementation of the **recommendations** made by the **Mediterranean Commission on Sustainable Development (MCSD)** as well as the **implementation of the Mediterranean Strategy for Sustainable Development (MSSD)**, which was adopted by the Contracting Parties in Slovenia (November 2005);
- ✓ the **increased transparency in public administration** and **increased accessibility to public documents** (legal and technical) relevant to the protection of the environment and public health.

b) Specific measures focused on the NAPs implementation

Specific measures for enhanced stakeholder involvement in the NAP implementation process should be **adapted to the realities of the country and the needs of each stakeholder group** and may cover **a wide array**, such as notably:

- ✓ the **detailed presentation of NAPs** at national level to all national stakeholders;
- ✓ the elaboration of **a "Road Map" with specific steps, milestones and dates for civil society participation**;
- ✓ **easy and non-restricted access** of all stakeholders **to NAP related documents and tools** through various adequate communication channels;
- ✓ regular **reporting of progress** made in the NAP implementation to major interest groups;
- ✓ effective **involvement in decision-making processes** through adequate feedback mechanisms (organisation of consultations, integration of comments and recommendations in the planning of activities, etc.);
- ✓ **financial support** to projects of NGO groups, which undertake important activities on behalf of public authorities;
- ✓ the elaboration of **capacity building programmes schemes** and **technical support** in order to enhance stakeholders' expertise and performance in the relevant fields;
- ✓ the development of **adequate economic instruments** (i.e. eco-taxes) favoring all types of stakeholders, in particular local authorities and the private sector acting locally;
- ✓ the **simplification of bureaucratic procedures** in order to facilitate stakeholder collaboration;
- ✓ the promotion of **environmental management tools** (e.g. EMAS) and of **cleaner technologies instruments and techniques**.

4. Potential NGO involvement in the various components and sub-categories of the project

The participation of civil society organisations in the GEF Strategic Partnership for the Mediterranean Large Marine Ecosystem will be a key element in achieving:

- increased quality of the outputs (policy documents, projects, products, etc.)
- higher awareness level of the processes and results of the project,
- higher acceptance and ownership of the processes and their products
- strengthened stakeholder participation and partnership building
- increased possibilities of the replication of the partnership and its results

The activities foreseen within the various components and sub-components for the implementation of the objectives of the *GEF Strategic Partnership for the Mediterranean Large Marine Ecosystem* are listed in table I.1 (annex I). In this table the activities in which NGOs can and should play a role are also indicated (either as a stakeholder or in an advisory/consultative role).

BOX 4.1: Civil society participation GEF projects

Civil society involvement in GEF projects has increased over time and has grown to complement the growth in their project portfolio. Most projects have subcontracted services to CSOs, while others involve them in providing project services; implementation; consultancy; technical support; awareness raising; research and assessment; management of parts of the project, etc. However, over the past few years civil society involvement in these projects has evolved and grown more versatile to include the following roles (without being limited to these):

- Project execution
- Managerial/contractual role (either as an Implementing agency sub-contracted by a government Executing Agency to manage the project (civil society partner), or as a smaller scale sub-contract for specific services)
- Policy/advisory role in projects (e.g. representation on Steering committees etc., participation in project supported institutions, trust boards etc.)
- Co-financier/Partner (where a CSO is providing in-kind or cash contribution to a project, or undertaking important baseline activities of relevance to a project)
- Stakeholder (where a CSO due to its presence on the ground, relationship with local communities etc., participates as a stakeholder in the project design and implementation process)
- Small grants components for NGOs and CBOs within larger GEF projects (NTEAP, Niger River Basin Project, etc.)

5. Specific types of NGO involvement in the implementation of the project

Environmental NGOs (along with all other major groups) had long been viewed by others as environmental fanatics or enthusiasts and by themselves as "watch dogs" of environmental performance. Nowadays, after long periods of close collaboration and often confrontation at various levels, they are recognised as legitimate partners essential in achieving sustainable development by contributing analysis, expertise and commitment from the inception and policy dialogue phase to the implementation phase at different operational or administrative levels (regionally, nationally and locally). The GEF Strategic Partnership for the Mediterranean Large Marine Ecosystem was designed to ensure the active participation of a wide range of stakeholders (including NGOs) in its various components.

Indicative types of actions that NGOs can undertake in the framework of the project are:

- Development and implementation of public awareness campaigns on transboundary water issues
- Development and implementation of campaigns and demonstration actions such as beach clean-ups, recycling programmes, etc.
- Development of scheduled volunteer collaboration groups to reinforce activities implementation
- Participation in management bodies of marine parks, coastal and marine protected areas (MPAs)
- Participation in processes defining selection criteria, programming, indicators, etc. of demonstration sites/projects, etc.
- Testing the feasibility and efficiency of innovative technologies and their applications
- Contributing to the introduction, pilot use and evaluation of innovative financial instruments
- Demonstrating practical ways of overcoming obstacles and barriers in adopting best practices
- Some specific actions could be entrusted, at least partly, to NGOs, particularly where such competence and expertise has been proven in previous cases
- NGOs can be the organisers *and/or* audiences/beneficiaries of several actions referred to as *capacity building*
- Involvement in non-formal and informal education activities
- Facilitating multi-stakeholder activities and events (round table discussions, engaging the public and private sector, etc.).
- In some cases an NGO can function as broker/mediator/facilitator among different stakeholders and government agencies
- Improve and broaden networks and coalitions
- Preparation and production of thematic publications, brochures, leaflets, etc.
- Providing the public with simplified translations of difficult to understand policy and legal documents, terminology, etc.
- Formulating and conducting surveys, questionnaires, interviews, etc.
- Conducting/participating in monitoring and evaluation processes (independently or otherwise)
- Disseminating results through their networks and channels

In annex II a matrix (table II.1) depicts **some proposed types of NGO involvement in the various components and sub-components** of the GEF Strategic Partnership for the Mediterranean Large Marine Ecosystem. The matrix can be further developed at a later stage.

In annex III, Table III.1 indicatively displays **the capacities and expertise of regional Mediterranean NGOs**. It is a draft table that will need to be enriched.

6. Guidelines for mobilizing NGO involvement and mechanisms for consultation, coordination, monitoring and evaluation

The main phases for progressively more active public participation are:

1. **informing** the affected, interested and/or competent groups
2. **listening** to their opinions (with or without addressing and responding to these opinions)
3. **involving** civil society and the public in a dialogue (on the design, decision-making, implementation, monitoring and evaluation phases)

Obviously in each case many intermediate variations could be developed to a certain extent depending on the technique to be employed, the target groups and the specific issue in question.

Some relevant techniques to achieve the above steps are summarised below:

Table 6.1: METHODOLOGIES AND TECHNIQUES[7] FOR PUBLIC PARTICIPATION

1	Techniques particularly suitable for **informing** the public	• Printed materials (brochures, displays and exhibits, direct mail) • Using existing media (newspapers, news conferences, newspaper inserts, radio and TV, interactive TV, advertising) • Formal Public Information Sessions (Targeted briefings) • Informal Public Information («open house», site visits, «door to door» at home, «Field» Information Offices)
2	Techniques particularly suitable for **listening to opinions** of the public	• Surveys (interviews with key people, formal surveys, polls and questionnaires, workbooks) • Large meetings (public meetings, public discussions, public hearings, conferences, «Samoan Circle»)
3	Techniques suitable for **direct participation** of the public (stakeholders)	• Small meetings (public seminars, focus groups) • Advisory groups (e.g. task forces, «Blue Ribbon» Committees, Working Parties, citizens' panels) • Problem solving techniques (e.g. brainstorming, simulation games, «Charette», «Planning Cells») • Consensus building techniques (e.g. «Delphi process», unassisted Negotiation, Mediation, Assisted Negotiation, MIO-ECSDE/SUDECIR process, arbitration, consensus conferences).

Most of the above mentioned steps should be followed at national or even local levels where the actual projects will take place. It is advisable however that serious efforts be invested for these steps to be followed at regional level as well.

The Mediterranean Multi-Stakeholder Forum on "The Protection of the Mediterranean Sea from Land-Based Pollution: Prospects and Partnerships", organised by UNEP/MAP and MIO-ECSDE with the support of GEF (10-11 October 2005) confirmed recently that public participation is of crucial importance for the successful implementation of the National Action Plans (NAPs) throughout the Mediterranean basin and that **the recommendations made by civil society representatives present at the Forum should seriously be taken into account in the next steps of the NAP process**. These recommendations addressed both regional and national levels and included among others, the following:

- the **setting up of a regional open-ended collaboration platform,** which would contribute to the effective implementation of the National Action Plans (NAPs), as part of the SAPs, and which

[7] details on each technique will be provided as an annex to the finalized NGO Involvement Plan

would ensure: **the easy access to information of all stakeholders** through various adequate communication channels (including a clearing-house mechanism for information), the regular briefing of stakeholders on the progress made in the NAP implementation at national level, the provision of financial support to interest groups undertaking major projects on behalf of public authorities but also in order to help them develop their capacities (MIO-ECSDE, with the support of UNEP/MAP, will be responsible for promoting public participation and facilitating the involvement of all related stakeholders from the civil society in the Platform);

- the **establishment of adequate legal/ institutional frameworks**, whenever necessary, facilitating the active involvement of civil society, especially NGOs (at national level);
- the designation in each country of **a small group of stakeholders around the MED POL National Coordinators** for the preparation of national presentations and information campaigns on NAPs;
- the **elaboration of draft programmes/mechanisms for public participation** taking into account the guidelines elaborated by MED POL (at national level);
- the **use of existing consultation mechanisms and participation fora** for the promotion of NAPs, as available (at national level);
- the **introduction of NAPs to all stakeholders** at the national or sub-national levels;
- the **involvement of stakeholders in the long-term implementation of** NAPs through effective feedback mechanisms (i.e. organisation of consultations, integration of comments and recommendations in the planning of activities, etc.);
- the **involvement of the civil society in monitoring and control activities** or processes (at national level);
- the **use of legal and economic instruments** (i.e. subsidies, eco-taxes, tax abatements), including support for the use of cleaner technologies, to facilitate the implementation of NAPs by the private economic sector (at national level);

In view of the above and in order to facilitate the NGO and the general public access to project activities it is appropriate for each project component to prepare, in consultation with Component VI of the project, **"public participation plans"**. These would provide for each component:

- where, how and when (at what stage) NGOs could be involved
- parameters for monitoring and evaluating:
  - (b) how the project component has been strengthened by NGO participation
  - (c) how it has contributed to the progressive strengthening of the role of civil society.

The public participation plans can be structured using the following tools:

1. All project components should be guided by **a list of the proper actions/steps/considerations to take in order to ensure effective public participation in the project component.** An indicative such checklist is shown in **table 6.2**.

Table 6.2: CHECK-LIST FOR PREPARING EFFECTIVE PUBLIC PARTICIPATION – CONSULTATION PROCESSES	
Identification of the NGOs/CSOs (same applies for other stakeholders as well)	***check***
• Who has competence?	
• Who will be directly affected by the policies, plans, programmes, projects?	
• Who will have to apply them?	
• Who will be indirectly affected or may believe that they will be affected?	
• Who could influence better other stakeholders and the public in favor or against the decisions?	
• Identify the main potential impacts the decisions may have for various NGOs (and other stakeholders) at different levels	
• Identify the potential main barriers in the communication (historical, educational background, knowledge of issues, familiarisation with procedures, democratic traditions)	
• Identify the eventual areas of conflict	
Preparation of meetings	
• Is the language – vocabulary of the presentation of the background document appropriate?	
• Is information provided early enough to allow NGOs (and other stakeholders) to study it and react?	
• Are the available resources used in a fair way, in order to provide opportunities to NGOs who wished to participate to do so?	
• Is suitably qualified staff involved in preparing the process?	
• Is the time and place of the consultation meeting(s) suitable?	
• Is the type of consultation technique (e.g. round table) suitable?	
• Are the functions and persons who will act as chair and rapporteur (coordinator – facilitator) of the meeting the most appropriate?	
• Do you have provisions for some form of amusement?	
Consideration of the inputs - securing the follow-up	
• Is there a report of the meeting indicating the agreed points?	
• Have inputs (opinions, criticism, comments and suggestions) of public and other stakeholders been recorded?	
• Have they been analyzed, taken into account and reflected in the input?	
• Have participants of the meeting(s) been informed of the outcome and how their contribution was considered?	
• Has the process resulted in a consensus?	
• Is there a follow-up process foreseen and agreed (e.g. a Steering Committee, a Comité de Suivi, etc.)?	

2. Each project component should be guided by its own **NGO Involvement Matrix** identifying:

- the type of NGO involvement in the component: one common type or many (differentiated)
- when each type of involvement should take place and for how long (duration)
- which NGOs should be involved and for what purpose
- what are the means or incentives for securing this involvement

The matrix should be linked to a set of indicators (as quantitative as possible) appropriately defined in order to monitor and measure the effectiveness of NGO involvement throughout the implementation of the component. Some basic indicators (related to "consideration of the inputs" in table 6.2) are:

- number of systematic meetings for the project
- number of participants in meetings

- level/phase of involvement
- level of agreement and consensus
- level of commitment of the Authorities
- level of commitment of NGOs and 3rd partners (other stakeholders)
- follow-up mechanisms established
- outreach and visibility

Such a matrix could be as shown in table 6.3, where information would be tabled for the whole of the planned NGO involvement in the various steps of the component (only one example is presented in the table):

Table 6.3: INDICATIVE NGO INVOLVEMENT MATRIX

Component X									
Steps (on a timescale):	**1**	**2**	**3**	**4**	**…**			**Appropriate indicators of success**	**Measures of cost effectiveness**
								• number of participants • level of agreement and consensus • outreach and visibility • level of commitment of 3rd partners • follow-up • …..	- Did the RT mobilise addition sources for the project? - Were investment schemes decreased as a result? - Were *win-win* scenaria established? …..
Appropriate time for NGO involvement		+							
Appropriate type of NGO involvement		roundtable (RT)							
Appropriate NGOs to be involved		A, B, C, ….							
……									

3. At the end of each phase of the project component and once the Strategic Partnership has been completed, a **brief qualitative analysis** should be conducted on how effective NGO involvement has been, based on 1 and 2 and responding to the two questions mentioned already above and again herewith:

- how has the project component been strengthened by NGO participation? and
- how has the project component contributed to the progressive strengthening of the role of civil society?

The introduction of cost assessment parameters of efficient public participation in the various components of the project would be a very useful and innovative exercise as well (see table 6.3 matrix above).

4. At the regional level, once the project is concluded, an initiative significantly promoting the participatory character of the UNEP/GEF Strategic Partnership for the Mediterranean Large Marine Ecosystem would be the production, in all Mediterranean languages, and the dissemination of a **"manual of good participation practices"** including a review of all the different techniques and methodologies used for providing information and preparing public participation plans and consensus-building procedures and a brief summary of the obtained results. This can be used also as a case study for other regional transboundary projects in the region and worldwide.

7. Linking the *Strategic Partnership for the Mediterranean Large Marine Ecosystem with the GEF Small Grants Programme (SGP)*

GEF SGP[8], a decentralized and country-driven mechanism to support national NGOs and CBOs, seeks to achieve global environmental benefits through local initiatives. GEF SGP's starting point in terms of global environmental benefits is to ensure that each project concept/proposal submitted to GEF SGP fits the GEF criteria.

UNEP-MAP and MIO-ECSDE will coordinate with the GEF SGP modality in order to ensure that a certain number of projects mainstreaming the objectives of the "Strategic Partnership" are prepared and accepted. The GEF SGP criteria will be further refined and articulated in a strategic guidance document. This guidance will be targeted mainly for SGP NCs, NSCs and grant proponents. Each proposal would have to clearly articulate how project objectives and activities are aligned with the "Strategic Partnership".

The grantees will be networked and also be part of the larger Mediterranean network of the component and SP.

The following GEF participating SGP countries are eligible for IW projects in the Mediterranean: Morocco, Tunisia, Egypt, Palestinian Authority, Lebanon, Syria, Turkey and Albania.

[8] a corporate programme of GEF, implemented by the United Nations Development Programme (UNDP) on behalf of the three GEF implementing agencies, and executed by the United Nations Office for Project Services (UNOPS)

8. Resource mobilisation through NGO involvement in the project

NGO involvement in the GEF Strategic Partnership for the Mediterranean Large Marine Ecosystem may contribute to mobilising sources of funding to match the GEF and WB contributions to the project. This co-financing will be both in cash and in-kind contributions.

Mediterranean NGO networks and many national CSOs are well trained in attracting and managing funding from various non-GEF related sources such as:

- other UN agencies
- the European Community
- national and local governments
- international and national public and private foundations
- the private sector including enterprises (multinational and national) and
- scientific and academic institutions (to a certain extent)

This will partially be achieved through synergies and complementarity with other on-going projects in the region (e.g. the 2020 Horizon initiative). Each participating NGO partner will be expected to commit itself to mobilising matching resources. In-kind contributions must not be undermined and should be fully reported and well documented.

Table I.1: INDICATIVE NGO INVOLVEMENT IN THE ACTIVITIES OF THE FULL SCALE PROJECT (see also table II.1 - Annex II): Basic types of NGO involvement in the various components of the project)

√ :	as a stakeholder
◀ :	in an advisory/consultative role

Component	Activity	
Component I: Facilitation of policy and legislative reforms for SAP MED and SAP BIO	• Implementation of a country by country capacity building plan for municipal and industrial pollution reduction	◀
	• Implementation of a country by country capacity building plan to improve the permit, inspection and compliance systems for pollution discharges	◀
	• Application of the differentiated approach for pollution reduction	◀
	• Implementation of a monitoring programme of the pollution reduction measures taken during the project's duration based on the critical review and analysis of the present monitoring programme done at the PDF-B phase	√ ◀
	• Strengthening and assisting the existing MPAs, especially with regard to monitoring management effectiveness to measure impacts.	√ ◀
	• Strengthening the network of priority marine and coastal protected areas identified by countries and improvement of existing MPAs: contribute to achieving at Mediterranean scale the WSSD targets concerning the establishment by 2012 of Marine Protected Areas, consistent with international law and based on scientific information, representative networks and time/area closures for the protection of nursery grounds and periods, as well as proper coastal land use.	√ ◀
	Address the priority actions identified, *inter alia*, in the ICZM protocol; the preparation and implementation of national ICZM strategies and plans	√ ◀
Component II: Replication Strategies for SAP MED and SAP BIO	Support the implementation of a framework replication strategy, to be prepared by the PDF-B, to ensure the replication of successful demonstrations, and the broader dissemination of the lessons learnt and results achieved under the Investment Fund and the overall Strategic Partnership.	√ ◀
Component III, Sub-Category 1A: Implementation of the SAP MED and related NAPs (pollution reduction strategies): *Marine Litter*	Application of an action plan and awareness campaigns for stakeholders involved in the implementation of the MED POL Guidelines for the reduction of marine litter pollution	√ ◀
Component III, Sub-Category 1B: Implementation of the SAP MED	**Activity 1: Start-up of the project and capacity building:**	

and related NAPs (pollution reduction strategies) *Transfer of Environmentally Sound Technology (TEST) in the Mediterranean region*	• (i)Set up national focal points (national advisory boards and national counterparts), • ii) introduction of the TEST integrated approach at national counterparts, • iii) set-up of the information management system, • iv) identification and selection of demonstration enterprises, • v) preparation of initial review at demonstration enterprises including market and financial viability and initial environmental review **Activity 2: Introduction of the TEST integrated approach at the demonstration enterprises**: • i) Implementation of Cleaner Production Assessment (CPA) at demonstration enterprises; • ii) Introduction of Environmental Management Systems (EMS) principles and design elements of the EMS at demonstration enterprises; • iii) Introduction of Environmental Management Accounting (EMA) practices and elements of EMA at demonstration enterprises; • iv) identification of EST investment project for the demonstration enterprises; • v) investment promotion of identified EST investment projects; • vi) consolidation of the results of the application of the TEST approach into enterprise sustainable strategy (SES). **Activity 3: Dissemination of the results of the project:** • i) Preparation of national publications on the application of the TEST approach at the demonstration enterprises; • ii) organization of national seminars in each country; • iii) organization of introductory seminars on TEST approach at other enterprises in each country; • iv) organization of a Regional workshop to present the results of the TEST-MED project to other countries of the Mediterranean Region; • v) initiation of networking activities between the TEST-MED counterparts and other institutions/national experts from other Mediterranean countries	√ ◀ ◀ ◀ √ ◀ ◀ √ ◀ √ ◀ √ ◀ √ ◀ √ ◀ √ ◀
Component III, Sub-Category 1C: Implementation of the SAP MED and related NAPs (pollution	Implementation of a financial action plan/mechanism (developed at BPF-B phase) to support sustainable financing for the implementation of the SAP MED and the NAPs	◀

reduction strategies): *Sustainable financing mechanism for the SAP/MED implementation*		
Component III, Sub-Category 2: Implementation of the SAP BIO and related NAPs (biodiversity protection strategies)	• Implement inventorying, mapping and monitoring programmes on the effectiveness of marine and coastal protected areas: to contribute to achieving the WSSD targets concerning the establishment (initially intended by 2004) of a regular process under the United Nations for global reporting and assessment of the state of the marine environment, including socio-economic aspects, both current and foreseeable, building on existing regional assessments. • Assessing and mitigating the impact of threats to biodiversity, especially in the existing MPAs: to contribute to achieving the WSSD targets concerning significant reduction by 2010 in the current rate of loss of biological diversity. • Improve understanding of Med. Coastal and marine sensitive habitats and filling in gaps in biodiversity: to improve the scientific understanding and assessment of marine and coastal ecosystems and MPAs. • Capacity-building, stakeholders involvement and awareness raising: to strengthen cooperation and coordination of all stakeholders, increase stakeholders participation in conservation initiatives and increase awareness raising on marine and coastal biodiversity conservation and MPAs.	√ ◀ √ ◀ √ ◀ √ ◀
Component III, Sub-Category 3: Implementation of the SAP BIO related to the conservation and sustainable management of vulnerable or endangered fish and invertebrates, including IUCN/CITES lists, and sustainable related fisheries (living resources strategies)	• Assisting the countries to implement fisheries and living resources reforms and programs to meet GFCM, ICCAT, SAP BIO and WSSD 2010/2015 sustainable fisheries targets. • Improving coordination between fisheries bodies and environmental commissions and institutions. • Improvement of legislation, compliance and enforcement with respect to the conservation of marine biodiversity and habitat integrity related to fishing. • Developing the strategy for the conservation and sustainable management of vulnerable or endangered fish and invertebrates (IUCN/CITES lists), including sustainable related fisheries. • Improving single-species and multi-species selectivity of gear and fishing practices, addressing the problems of multi-species catch, discards and ghost-fishing. • Assisting the countries to develop and implement the Mediterranean Strategy to reduce fishing-related mortality of marine mammals, turtles and sea birds • Assisting the countries to develop and implement the Mediterranean Strategy to reduce the impact of trawling and other towed gear on critical habitats. Increasing the number of marine fishery reserves. • Assisting the countries to develop and implement the Mediterranean Strategy to eliminate particularly harmful fishing practices (dynamite, chemicals, etc.). • Developing new fisheries management techniques (fishing rights, economic incentives) and refine "traditional" fishery management and control measures. Assisting the countries to control recreational fishing activities. • Improving governance of marine biodiversity and ecosystems conservation, with special relevance to fisheries. Enhancing the environmental education of stakeholders and their commitment to responsible fishing practices • Assisting the countries to improve fishing statistics. Producing a new guide on Mediterranean species identification for fishery purposes. • Assisting the countries to implement the International and national Action Plans (FAO IPOAs and NPOAs)	√ ◀ √ ◀ √ ◀ √ ◀ ◀ √ ◀ ◀ √ ◀ √ ◀ √ ◀ ◀ ◀
Component III, Sub-Category 4: Regional Strategies to manage and	Identification and development of regional, national and sub-national actions and pilot demonstrations aimed at reversing aquifer related degradation trends, such as:	√ ◀

protect coastal aquifers.	• the growing salinization of coastal aquifers; • the contamination due to polluted sub-marine aquifer discharges (e.g.: karst systems); • the loss of ground-water dependent coastal ecosystems and wetlands. Activities will also be developed to introduce the systematic assessment of aquifer vulnerability along the Mediterranean coastal regions, so that priorities maybe addressed in the revised SAP.	√ ◀
Component III, Sub-Category 5: Regional Integrated Water Resources Management (IWRM)	• Through this component the Project will link with ongoing initiatives including the Mediterranean Component of the EU Water Initiative and its Joint Process with the EU Water Framework Directive, the NAPs process, Petersberg Phase II /Athens Declaration Process on Shared Waters, etc. Linkages will be facilitated with the GPA on Land Based Sources of Pollution as well as METAP. Coordination and operational links will be facilitated with Sub-Category 4 on Regional Strategies to Manage and Protect Coastal Aquifers, with Sub-Category 6 on Integrated Coastal Management Strategies, and with transboundary basin management projects implemented under the Investment Fund (e.g.: Neretva, Drin, etc.). • Promote policy dialogue, institutional reforms, legal and regulatory coordination and private sector participation in water resource management at the regional, transboundary and national levels, aiming to assist in meeting MDGs and WSSD water-related targets. • Address biodiversity concerns and issues related to vulnerable habitats such as wetlands as well as water quality concerns taking into account the ongoing work of METAP, in national IWRM planning processes through consultation and assessment. • Support demonstration projects, capacity building and *ad hoc* training at regional, transboundary and national levels, aiming amongst others at reducing the release of contaminants, both point and non-point sources, and at maintaining environmental flows and functioning of water related coastal ecosystems and habitats/sensitive areas. • Identify investment needs related to integrated water resource management, taking into account biodiversity and water quality concerns, and assisting countries to prepare pre-feasibility studies and investment proposals which could be considered by the Investment Fund.	◀ √ ◀ √ √ ◀ ◀
Component III, Sub-Category 6: Regional Integrated Coastal Management	• Technical activities: to support the individual countries to develop and implement necessary ICZM policy and implementation tools at national level, including Cost of Environmental degradation (COED), Strategic Environmental Assessments (SEA), legal instruments at national and sub-national level and Marine Spatial Planning • Contribution of ICZM to coastal and marine bio-diversity conservation, aquifer protection, water resources and river basin management, through demonstration projects • Investments: linkage to the Investment Fund component of the Partnership, by identifying potential investment opportunities for the protection and restoration of valuable coastal areas and assist the countries in the development of pre-feasibility studies and project proposals.	◀ √ ◀
Component IV: Overall Coordination and Monitoring Arrangements for the Strategic Partnership		√
Component V: Information & Communication Strategy	Development and support of a communication Strategy. Use of the best available communication tools and media to enhance and increase the impact on general public, interest groups, decision makers, national and regional stakeholders as required by project objectives.	√ ◀

Component VI: NGO mobilization	• Ensure effective NGO involvement in the full-size project on the basis of the NGO Involvement Plan including the Mediterranean Partnership GEF SGP Strategic Guidance Paper prepared by the PDF-B project. • Feed into and complement the Communication Strategy designed by INFO/RAC with NGO specific elements, deliverables, etc. • Provide, among others, the networking, monitoring and knowledge management components (as identified) to NGOs and CBOs, also to the related to the SP grantees of the GEF SGP, in order to effectively contribute to the achievement of the targets of the SAP-MED and SAP-BIO and implement the NAPs.	√ √ √

Table II.1: MATRIX OF BASIC TYPES OF NGO INVOLVEMENT IN THE VARIOUS COMPONENTS OF THE PROJECT

	Project Components / NGO Activities	I	II	III Sub-Category 1			III Sub-Category 2	III Sub-Category 3	III Sub-Category 4	III Sub-Category 5	III Sub-Category 6	IV	V	VI
				A	B	C								
→	Development and implementation of awareness campaigns	+/■	+/■	+	+	+	+	+	+	+	+		+	+
→	Capacity building	♦ (*)	♦ (*)	+	+/■/♦ (*)	■/♦ (*)	+	+	+	♦ (*)	+/■/♦ (*)		+/■/♦(*)	+
→	Non-formal and informal education activities		+	+	+		+	+	+	+	+/■		+	+
→	Preparation and production of thematic publications	■	+	+	+/■/♦	+/■/♦	+	+	+	■	+/■		+	+
	Participation in management bodies	+	+	+	+	+	+	+	+	+	+	+	+	+
	Facilitating multi-stakeholder processes	+	+	+	+	+	+	+	+	+	+		+	+
→	Development and implementation of activity campaigns		+/■	+	+/■		+	+	+	+	+		+	+
→	Demonstration projects		+/■	+	+/■		+	+	+	■	+		+	+
→	Monitoring and evaluation	+/■	+/■	+	+	+/■	+	+	+	■	+	+/■	+	+
	Dissemination of results	+	+	+	+	+	+	+	+	+	+	+	+	+

+	as a stakeholder/leader	(*)	also as a beneficiary
■	as a partner (not leader)	/	and/or
♦	for targeted actions (mostly to other NGOs)	→	SGPMED eligible activities

Project components and strategic partners:

Component I - Facilitation of policy and legislative reforms for SAP MED and SAP BIO - *(MEDPOL, PAP/RAC, REMPEC, RAC/SPA)*
Component II - Replication Strategies SAP MED and SAP BIO - *(INFO/RAC)*
Component III - Technical Assistance
- Sub-Category 1A. Implementation of the SAP MED and related NAPs (pollution reduction strategies): Marine Litter - *(MEDPOL, UNEP/RS)*
- Sub-Category 1B. Implementation of the SAP MED and related NAPs (pollution reduction strategies). Transfer of Environmentally Sound Technology in the Mediterranean region – *(UNIDO, CP/RAC)*

- Sub-Category 1C. Implementation of the SAP MED and related NAPs (pollution reduction strategies): Sustainable financing mechanism for the SAP/MED *(MEDPOL, UNEP GPA and UNIDO)*
- Sub-Category 2. Implementation of the SAP BIO and related NAPs (biodiversity protection strategies) – *(SPA/RAC, WWF MEDPO)*
- Sub-Category 3. Implementation of the SAP BIO related to the conservation and sustainable management of vulnerable or endangered fish and invertebrates, including IUCN/CITES lists, and sustainable related fisheries (living resources strategies) - *(FAO/GFCM, SPA/RAC)*
- Sub-Category 4. Regional Strategies to manage and protect coastal aquifers - *(UNESCO)*
- Sub-Category 5. Regional Integrated Water Resources Management (IWRM) – *(GWP-Med)*
- Sub-Category 6. Regional Integrated Coastal Management – *(PAP/RAC, METAP)*

Component IV - Overall Coordination and Monitoring Arrangements for the Strategic Partnership

Component V - Information & Communication Strategy – *(INFO/RAC)*

Component VI - NGO mobilization – *(MIO-ECSDE*

Table III.1: CAPACITIES AND EXPERTISE OF REGIONAL MEDITERRANEAN NGOs

Organisation	**Areas of expertise related to the 'Strategic Partnership"**
Association Internationale Forêts Mediterranéenes (AIFM) www.aifm.org	- *Management of woodlands, national, regional and local parks and nature reserves* - *Related awareness raising, networking and capacity building*
Arab NGO Network for Environment and Development (RAED) www.aoye.org	- *Awareness raising, outreach, visibility and mobilisation in the Mediterranean Arab countries* - *Water* - *Waste* - *Urban environment*
Enda Maghreb www.**enda**.org.ma	- *Agriculture and rural development* - *Natural resources management* - *Urban environment* - *Waste* - *Poverty* - *Capacity building*
EUCC Mediterranean Centre	- *ICZM*
European Environmental Bureau (EEB) www.eeb.org	- *Agriculture* - *Biodiversity* - *Transparency and public participation* - *Waste* - *Water* - *Urban environment* - *Capacity building*
Friends of the Earth MedNet (FoE Mednet) www.**foe**europe.org/**mednet**/	- *Water especially transboundary issues* - *Agriculture and rural development* - *Tourism* - *Awareness raising, outreach, visibility and mobilisation*
Greenpeace www.greenpeace.org/mediterranean	- *Marine reserves* - *Fisheries* - *Pollution*
Mediterranean Association to Save the Sea Turtles (MEDASSET) www.medasset.org	- *Habitats conservation* - *Biodiversity* - *ICZM* - *Tourism* - *Awareness and education* - *Waste*
Mediterranean Information Office for Environment, Culture and Sustainable Development (MIO-ECSDE) www.mio-ecsde.org	- *Networking, stakeholder participation and involvement, promoting partnerships* - *Capacity building* - *Water* - *Waste* - *Tourism* - *Education*
Mediterranean Marine Bird Association (MEDMARAVIS)	- *Conservation of coastal ecosystems* - *Avifauna protection* - *ICZM*
WWF Mediterranean Programme Office (WWF MEDPO)	- *Biodiversity* - *Forests* - *Marine protection* - *Freshwater* - *Tourism* - *Capacity building*

ANNEX I

ICZM Policy Brief and Country Reports[1]

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[1] PAP-RAC, April 2006

Policy Brief: Eastern Adriatic Sub-Region

April 2006

1. Executive Summary

Countries of the eastern Adriatic subregion are still suffering from the recent political upheaval, which has had a profound effect on their development prospects. They are still lagging behind many neighbouring countries in spite of the emerging prospect for accession to the EU. Lack of respect for law as well as lack of adequate management instruments has greatly reduced the effectiveness of environmental resources management across the board and in particular in their coastal areas. However, in all the countries some rudimentary form of coastal management is taking place. Although none of the countries has full coastal management framework (legal, institutional, planning, technical) in place, in each one of them some elements of the system could be found. This could be an advantage for an exchange of experiences, normally if effective cooperation mechanisms will be established.

It is clear that "GEF alternative" is the only viable option particularly if it would be coupled with the strong support of the countries to the forthcoming Mediterranean ICZM Protocol. Even if the road to that protocol will be a long and bumpy one, a timely anticipation of its provisions in the Adriatic subregion could be an advantage that it badly needs. The proposed activities and outcomes in the GEF project fall within the legal, institutional, technical, financial, and capacity building domains. There are some risks involved, but it is expected that bringing coastal areas high on the political agenda, primarily by understanding that they are the most valuable asset in all the countries, will be more than enough to reduce eventual negative impacts of those risks.

2. POLICY BRIEF BACKGROUND

Drafting of this Policy Brief was preceded by the preparation of the Strategic Overviews for four countries of the Adriatic sub-region: Croatia, Bosnia and Herzegovina, Serbia and Montenegro, and Albania. The Adriatic sub-region context is characterized by a relatively homogenous situation:

- Political context. All GEF eligible countries are undergoing the process of transition, which is at different stage in every country. They are low to middle-income countries, all of which have experienced periods of grave political unrest after the democratization process started in the early nineties. All are EU aspiring countries, albeit in different stages of negotiation with EU. All the countries have acceded to the number of international environmental conventions, the most important one being the Barcelona Convention.

- Natural resources context. Except Croatia, countries possess a relatively short coast. However, in all cases it is considered as a resource of the prime importance. All countries are abundant with freshwater. Several large rivers are influencing natural process in coastal areas, increasing their biodiversity value, and providing necessary sediments largely affecting the dynamics of the coastline. Coastal areas influenced by the river basins are relatively large. Rivers are bringing a lot of pollution originating inland.

- Coastal pressures. There are a relatively large number of environmental hot spots. They are usually larger urban areas without necessary treatment facilities. No capital city is located on the coast, but all countries have strong secondary cities located there. However, all of these cities are lagging behind the capitals in terms of their socio-economic development. Coastal areas are being deindustrialized, which has resulted in a certain level of depollution but, overall, the pollution level has even increased because of the growing urbanization, which was not followed by the adequate construction of infrastructure. In addition to expansion of urban centres, the linear urbanization trend is present in all countries. Tourism is considered as the major development generator.

- Management and planning context. Land use planning is dominant, while coastal planning system barely exists. Respect for the legislation enforcement is at a low level. All countries support the forthcoming ICZM Protocol of the Barcelona Convention. Institutions for Integrated Coastal Management are in their infancy. Civil sector is emerging with a potential to play higher role in coastal management.

In the Strategic Overviews the current environmental situation in coastal areas of the countries and the status of the implementation of ICZM was described. The overviews identified the coastal priority issues and proposed a set of policy recommendations for each country.

At the expert meeting held in Split on 25-26 April 2006, the strategic overviews were presented and the country representatives discussed and agreed upon the situation as presented in the overviews. The eastern Adriatic countries' representatives stressed that the most pressing needs were:

- To adopt the relevant coastal legislation, even in countries where it already exists;
- To establish the appropriate ICZM institutions with stronger decision-making power;
- To set up an information system that will keep track of all the activities in their coastal areas; and
- To build the appropriate capacity for ICZM.

3. CORE COASTAL ISSUES IN THE ADRIATIC SUB-REGION

Human activities located on the coast and in the adjacent river basins are having strong impact on the state of the coastal terrestrial and marine environment. Biodiversity loss is rapidly emerging phenomenon in the sub-region. Although tourism is considered as a growth sector, the deteriorating environmental situation is degrading its ability to act as a development generator. Unregulated, and often haphazard and illegal, coastal linear urbanization is reducing the quality of coastal landscape as well as the capacity of future generations to make use of the coast at the level enjoyed by the current generation. Cost of coastal degradation, i.e reduction of the capacity of national economies to generate satisfactory income, although not being calculated in this subregion, could be assessed as being relatively high, particularly in some, less developed, countries of the sub-region.

Root causes

Root causes of the coastal degradation have largely been already identified throughout the sub-region. The desire for quick economic profits has too often gone against the need for the rational use of coastal resources. This trend was further influenced by the fact that all of the countries started from a relatively low economic base, while the need for quick development was high on the political agenda. The realization of that objective has too often gone at the expense of high environmental degradation. Additionally, this process was coupled by the lack of adequate financial resources to pay for the minimally necessary environmental infrastructure.

There is a lack of planning and management integration across the board. The "regulatory split" between the coastal marine and terrestrial domains is too evident. While the land resources are being managed in a relatively integrated manner, mainly thanks to the spatial planning laws that has been in place in all the countries of the subregion, on the other, marine side of the coastline, resource management has been and still is almost exclusively sectoral. Furthermore, the integration between marine and terrestrial domains is practically non-existent. This situation is coupled by the overall predominance of the land use planning while, at the same time, coastal management is not widely known as well as practiced. Even when plans are developed, two root causes of their ineffectiveness are present: the lack of respect for the institution of planning, and the lack of the implementation instruments.

There is a widespread lack of confidence in the institutions to govern equitably and efficiently. This distrust has resulted in the population taking their destiny in their own hands. The widespread phenomenon of illegal construction is the result of the latter, but also of the other abovementioned root

causes. Transboundary environmental problems, often present in the sub-region, are getting higher on the political agenda but the non-existence of an effective management system, such as Integrated Coastal Area and River Basin Management (ICARM), is one of the root causes why the transboundary environmental problems are still persistent.

Policy implications

The integrated coastal management initiatives, aimed at reducing the negative impacts on the eastern Adriatic coastal areas, emerged relatively early. One could say that in Croatia they started almost 40 years ago, while in the rest of the region ICZM became a better-known practice in early 90s. However, many decision makers have not yet know its benefits, although they do not shy away from then when an initiative emerges, particularly if it is driven by the foreign donors. Unfortunately, the implementation is the weak point. Today, ICZM practice varies from the country to country. Some have placed emphasis on the spatial planning, some have developed the regulatory and institutional framework, some have prepared coastal plans, but in none of the countries a complete framework is in place. However, all the countries strongly support the preparation of the Mediterranean ICZM Protocol, which is proposing a comprehensive ICZM mechanism at the country level. It is expected that with the Protocol's adoption and entering into force, the countries' efforts to introduce an efficient ICZM mechanism will be strengthened.

Country	ICZM Institution	ICZM Legislation	ICZM Strategy	ICZM plans	ICZM Projects
Croatia	Office for the Adriatic (no decision making power)	Decree on the Protection of the Coastal Area (2004)	No, but a special plan for the Adriatic in preparation	No, only county spatial plans with some sea use plans	Yes
Bosnia and Herzegovina	No	No	No	No	No
Serbia and Montenegro	Yes, public institution with weak legal mandate	Yes	In preparation	No	No
Albania	No	No	National coastal plan (prepared in 1995, adopted in 2002)	In preparation	Yes

4. POLICY OPTIONS

Non – GEF alternative

This alternative is developed also with the assumption that ICZM Protocol will not be adopted and/or ratified, i.e. enter in force so soon. Since direct coastal legislation will not be adopted and/or improved, most of the future environmental legislation will only marginally dealwith the coastal areas' issues. Without the ICZM Protocol, there will be no outside push for new coast-related legislation. The same applies to ICZM institutions, which will not be organized if no initiative will push it from abroad. ICZM will remain as largely unknown tool, while its benefits will not be made better known to the decision makers.

The coastal development will mainly be driven by unregulated tourism development and, more or less rampant, real estate market which will be perceived by the local population as the only viable source of income. The environmental situation will not improve and will, therefore, hinder opportunities for the endogenous development based on the exploitation of tourist potential of the sub-region. Coastal planning and management will remain in the domain of spatial physical planning. It will remain fairly ineffective because the instruments will not exist to facilitate the implementation of coastal spatial plans. Illegal construction will remain the prevailing physical phenomenon in the subregion.

Population growth will be modest, with major urban areas in the subregion growing at the expense of smaller settlements. The latter will largely become secondary residences for the richer national and international clientele. International financial institutions will remain active, because these countries will still be considered as better loan-takers than the remaining countries in the region. This will bring benefits and improvements, but with a danger that the effects will be short term, due to the lack of effective management system in place that would secure longer term sustainability of these investments.

GEF alternative

Integrated Coastal Zone Management will be promoted and decision makers will start perceiving it as a viable alternative. Better coastal governance may bring coastal issues towards the top of the political priority lists. The decision-makers will also be prompted by, *inter alia*, ICZM Protocol (hopefully to be adopted and ratified) and EU ICZM and other related initiatives to propose, adopt and implement coastal legislation and establish coastal management institutions. Coastal biodiversity protection may improve particularly if linked with ICZM.

It may be widely understood that implementation instruments, such as economic and spatial planning instruments as well as improved information systems, are the crucial elements of an effective ICZM system. Capacity building will improve, partly stimulated by the international donors' initiatives, but also prompted by the internal demand. Local authorities will see a potential in ICZM and will establish the relevant local offices. Financing of the necessary environmental infrastructure will increase, partly as the result of the improved coastal management systems in place, which will guarantee better efficiency of investments. National and local coastal strategies and plans will be prepared. These will largely stimulate the integration of major stakeholders in the decision-making process through an improved participation process. Coastal strategies will also help bringing the coastal issues at the top of national political agenda and will help shape the national approach to coastal area management.

The numbr of coastal projects, many of them having a demonstration character, will increase. It is probable that the national financing of these projects will also increase, this being an indicator of the willingness to implement solutions proposed by these projects. The overall environmental situation will improve, which will increase the chances for sustainable development of the countries in the sub-region. More elaborated monitoring systems will be set in place.

Tourism will still be the major development generator, but based on the carrying capacity analysis as well as environmental assessment, it will be much more sustainable than today and respectful of the environmental considerations. Ultimately, its quality will increase, thus bringing larger benefits to the local population. The economic importance of other coastal economic activities might also increase, but with a greater respect for the environment. With the improved coastal governance it is expected that the opportunities for coastal resource use conflicts will be greatly reduced.

Proposed activities and expected outcomes

The proposed list of activities considers that the GEF alternative will be implemented in the subregion. To a certain extent, it is based on the fact that the ICZM Protocol might enter in force, which means that countries will have to adjust their legislation with this regional legal document. The following activities are proposed:

- adoption of new or improved coastal legislation, regulation and accompanying instruments that will facilitate the enforcement of coastal legislative framework;
- building the institutional framework for ICZM at national and subnational (regional) levels; institutions should have sufficient decision-making and legal enforcing power to make them critical elements of an efficient coastal management system; creation of intersectoral bodies aimed at integration of sectoral interests in coastal areas of the subregion;

- improvement in financing coastal management initiatives, particularly through implementation of coastal demonstration projects;
- capacity building for ICZM including university courses at undergraduate and graduate levels, as well as short courses aimed at permanent education of professional staff in planning and management institutions;
- introduction of new tools and techniques for ICZM, such as coastal and marine GIS, marine spatial planning, MPA management, SEA, calculation of the cost of environmental degradation, cost-benefit analysis, conflict resolution techniques; and
- improvement of information collection and dissemination aimed at awareness rising on coastal problems in all strata of the civil society.

The proposed activities are designed to contribute to the sustainable management of the Adriatic coastal areas, in particular by improving the coastal water quality and increasing biodiversity protection and conservation. They are also designed to jump-start the ICZM Protocol adoption and its entering into force. The activities are expected to:

- entice countries to adopt ICZM legislation and create appropriate institutional frameworks;
- create critical mass of ICZM professionals in the sub-region which would bring the coastal areas problems and the need for their sustainable development to the top of the politicians' agenda;
- improve participation in the coastal resources' management decision-making;
- increase level of internal financing of coastal management initiatives;
- stimulate adoption of national and regional coastal strategies and prompt coastal local administrative units to prepare and adopt coastal management plans;
- help introduce new integrated coastal management tools and techniques; and
- increase public awareness on the coastal areas problems.

Risk assumptions

The proposed measures might not achieve the desired effect if the following risks will be present:

- lack of vision on the use of coastal resources as well as the lack of consensus on the value of coastal areas for the countries' development;
- economic situation will not allow larger utilization of internal financial resources;
- renewal of the political instability in the region;
- instruments for the implementation of coastal strategies and plans will not be used and prevailing negative coastal trends will continue;
- sectoral management will remain dominant form of coastal resources utilization, etc;

5. POLICY RECOMMENDATIONS

Main area for change in the Adriatic subregion countries is to improve the integration of sectoral interests in the coastal resources management. All efforts will have to be employed to bring together various sectors such as water and waste management, fisheries, coastal transportation and infrastructure, spatial planning and biodiversity protection being exercised throughout marine and terrestrial parts of the coastal area. The practical steps to be implemented are the following:

- review and analyse the current policies, strategies, action plans and projects in all relevant coastal sectors;
- identify conflicts and overlaps in their implementation, as well as constraints for their better integration in a comprehensive coastal management framework;
- identify opportunities for the improvement of financial means and technical capabilities for integrated coastal management; and
- propose management framework that will optimally utilize countries' potential for an effective integrated coastal management system.

Policy Brief Overview: Maghreb, Mashrek & Turkey

April 2006

Executive Summary

Water quality, biodiversity protection and coherent spatial planning, including transboundary, are widespread issues in the coastal areas of Maghreb, Mashrek and Turkey. Their problems and solutions are also highly interconnected. Unfortunately, in many instances these are addressed on a sectoral basis and usually not in a comprehensive institutional, legal and management framework. ICAM brings this much-needed inter-sectoral and spatial perspective, supporting for example further screening of initiatives pointing to their overlaps, gaps and potential conflict. However, at present in many countries ICAM institutional, legal and management frameworks are incomplete and therefore have not fully demonstrate their expected efficiency in addressing users conflicts and cumulative development and environmental impacts in coastal areas. The present proposal aims at implementing ICAM plans and programs to improve the management of water quality, biodiversity protection and spatial planning in coastal areas.

I. WORKING BASIS FOR THE POLICY BRIEF

This policy brief is part of the preparation of PDF B ICZM sub-component. For its drafting, a series of program documents were consulted (GEF, SAPMED and SAP BIO), and National Overviews were prepared which served as a basis for further discussions during an expert meeting.

Within program documents, key elements of relevance to the PDF B were identified and helped articulate ideas in the Policy Brief. For example, priority actions listed in SAP BIO bearing a planning and spatial component (e.g. elaboration of zoning for fisheries and aquaculture) were taken into account by demonstrating the positive role ICZM can play in addressing these issues.

The National Overviews were prepared for Algeria, Egypt, Lebanon, Libya, Morocco, Syria, Tunisia, and Turkey. They provide a summary of key information (urban and spatial planning, tourism, environmental hazards, natural and cultural heritage, information and communication, participation) in relation to the present ICZM institutional, legal and management contexts in these countries. They conclude on a set of high priority issues to be tackled in order to increase the efficiency in dealing with ICZM practice, including for transboundary issues.

During a 2-day expert meeting, these National Overviews were presented in a synoptic way. They served as a basis for further identifying the most relevant needs in ICZM shared by these countries. The most pressing needs highlighted were to establish appropriate information databases and provide easy access to them, to strengthen capacity of local governments to undertake ICZM projects, to treat solid and liquid wastes, to support the development of sustainable coastal tourism, in particular as a contributor to the rehabilitation of natural and cultural heritage. The need to improve national ICZM frameworks stayed very clearly at the top of the agenda for all countries.

II. CONTEXT AND IMPORTANCE OF THE PROBLEM

Core issue

All around the Mediterranean, land and water-based activities are impacting coastal areas, especially marine and freshwater quality and biodiversity. Loss of amenity values, increase in environmental degradation costs unaccounted for, growing user conflicts, planning deadlocks, are among the most common resulting negative impacts experienced by all countries.

Root causes

After over 30 years in international environmental and socio-economic investigations in Mediterranean coastal regions, root causes are by now well identified: from lack of financial capacity for building appropriate water treatment infrastructures to unregulated and uncontrolled marine resources and spatial uses. More significantly, disconnected sectoral approaches most often steer policymaking and planning, oblivious to their side and cumulative effects and their spatial inconsistency.

However, many coastal problems are interlinked, both in terms of cause to effects but also spatially. For example, ddecline of seawater quality leads to eutrophication, decline of fisheries, human health problems from consuming fish or contacting polluted waters. Sea quality is also a major transboundary issue since pollutants released in hot spots can travel long distances in rivers and current. To be addressed in an efficient manner, an integrated and spatial approach to water quality and biodiversity issues is required.

Policy implications

In this context, coastal management initiatives aim at reducing these related impacts by introducing coordination, coherence and synergies between coastal stakeholders, their policies, strategies and action plans. Coastal management makes thus use of a combination in institutional, legal and management instruments, mechanisms and resources.
At present, around the Mediterranean such coastal management frameworks vary greatly from country to country. None provides the comprehensive set of mechanisms and tools recommended in the ICAM Protocol currently under preparation. Varying levels of awarenesss on the significance and relevance of a comprehensive ICAM approach explain this situation as well as diversity in national political choices in relation to coastal development priorities.

Country	ICZM Body	ICZM Law	ICZM Strategy	ICZM Plans
Algeria	Naitonal Coastal Council proposed	Yes (2002)	No	CAMP SAP Wetland management
Egypt	No	No	No	National plan in preparation
Lebanon	Proposed	Draft prepared	Yes, waiting endorsement by parliament	No
Lybia	No	No	No	No
Morocco	Steering committee & national agency proposed	In preparation	In preparation	In preparation in Nador
Syria				National Plan in preparation
Tunisia	APAL (no legal mandate)	No	No	No
Turkey	Committee since 1993 but no coordination role	No, only shore law to give boundaries		

III. POLICY OPTION(S)

Expected developments and trends without ICAM Protocol and strategic partnership

In the Maghreb, Maskrek and Turkey, all necessary laws in relation to water and waste management, biodiversity protection and spatial planning are in place. However, decrees are often not prepared and/or enacted. In addition coordination mechanisms and structures are not establish to help anticipating and screening potential institutional, legal and management problems that may arise from

the implementation of existing regulations and management decision. Lack of stakeholder awareness, insufficient scientific knowledge and monitoring, as well as inadequate implementation of international treaties and agreements are further drawbacks.

There are usually many sectoral initiatives undertaken with the help of international funds. In water quality and waste management, funding is often the main constraint due to the importance of investments required for building needed infrastructures. In biodiversity protection initiatives are often of a demonstration nature and disconnected from each others. They would however benefit from further prior consultation to avoid duplication of efforts in areas where bilateral funding is often limited. As a result project impacts are short-term and limited to the immediate area where activities took place.

GEF alternatives

In this perspective, coastal management can help overcoming such institutional overlaps and legal gaps. It allows for prior screening of sectoral initiatives seeking complementarities in objectives, activities and related human and financial means. It depends on co-implementation of operational mechanisms to delivery sectoral policies, strategies and plans, where and when conflicts exist or are anticipated to occur. It takes into account in this perspective their spatial consequences.
Many uses in coastal areas are in need of introducing biodiversity protection in their daily practice, in particular to avoid their cumulative effects. Indeed impacts from fisheries, tourism and agriculture can add up in a given coastal area both in their catchment area and their marine waters.

Overview of the existing legal, institutional and management context in the coastal region of Maghreb, Mashrek and Turkey

STRENGTHS	WEAKNESSES
Legal Some countries have coastal zone management laws All countries with sectoral laws, strategies and plans (water and waste management, biodiversity protection) Institutional All countries are considering the most appropriate combination for steering coastal management at national level Management Some countries have national coastal management strategies and/or plans Most countries were or are internationally supported to develop and implement coastal management demonstration projects (MPA, pollution control)	Legal Decrees of Coastal laws are often slow to be prepared and few actually enacted Sectoral laws are not enforced and compliancy not monitored Institutional Designation of national level ICAM coordination body remains a politically sensitive issue Institutions opearte on a very sectoral basis and communicate little Management Once demonstration projects are over, identified follow-up activities often fail to be implemented
OPPORTUNITIES Legal The ICAM Protocol provides a comprehensive and generic framework for consistent coastal law making throughout the Mediterranean Institutional The MAP centres and programmes provide opportunities for initiating, developing and supporting ICAM projects within national institutions towards fulfilling their international obligations (SPA, LBS and future ICAM Protocols) Management Standard methodologies for developping and managing MPAs and river basins are availalble	**THREATS** Legal Lack of committed legal improvements towards facilitating coastal management until the ICAM Protocol is adopted Institutional Lack of coordination and co-development between MAP activity centres towards helping countries establishing coherent and operational ICAM frameworks for fulfilment of international obligations (SPA, LBS and future ICAM Protocols) Management Countries meet financial and human resources obstacles towards building capacity for MPA and IWRM

Coastal management approaches can help qualitfy such cumulative impacts and propose integrated solutions to at least reduce their importance. This will help make conservation more profitable, establish more biodiversity-friendly fisheries/mariculture, tourism and agriculture**.** Several activities are conducive to such expectations including assessing market incentives, establishing zoning plans, using conflict resolution techniques, introducing eco and traditional practices.
The Maghreb, Mashrek regions and Turkey provide appropriate pilot areas for testing "best ICAM package" for sustainable governance in coastal zones

Expected outcome

The present proposal is taking the opportunity of the ICAM Protocol being currently drafted to introduce ICAM strategic thinking within sectoral policy and action plan making. Proposed activities are designed to facilitate jump-starting ICAM Protocol adoption on the basis of water quality, biodiversity protection and marine spatial planning demonstration initiatives. Such initiatives linking sectoral issue solving through ICAM will

- Trigger countries for adopting ICAM regulation, institutional and management frameworks
- Require capacity building at regional level and local levels, including for participation, to ensure proper implementation
- Justify resources allocation for developing ICZM NAPs
- Use ICAM plans for solving key problems identified in the Protocol,
- Demonstrate alternative management approaches such as integrated water management or establishing MPAs taking into account production landscapes,
- Support the use of a wide range of management tools and techniques such as COED, SEA, CCA, conflict resolution technique,

Risks assumptions

Improvement in management for efficient water quality and biodiversity protection practices assumes national decision-makers will adhere to the vision that sectoral policies, strategies and activities in coastal areas must consider each other's spatial and cumulative impacts. In addition, it is anticipated that political and administrative conditions will be in place to facilitate the establishment of coordination mechanisms and transparency at the stage of project and program design.

POLICY RECOMMENDATIONS

Main area for change

Countries need to identify and adopt the most appropriate coastal management framework in relation to solving, in an integrated manner, water and waste management, biodiversity protection and spatial planning issues in their coastal areas.

Practical steps

- Review their current policy, strategy and action plans in relation to water and waste management, biodiversity protection and spatial planning
- Identify clearly overlaps and conflict between them in terms of their implementation
- Identify areas for synergy in terms of human and financial resources
- Propose a comprehensive management framework on the basis of ICAM principles and tools

Strategic overview: Albania

April 2006

1. INTRODUCTION

Albania is situated on the western edge of the Balkan Peninsula. With 28,748 km^2, Albania is one of the smallest countries in Europe. Since the Second World War, Albanian economic policy, performance and development have been erratic and dependent on the political situation. The impact of the centralized economic system on the environment became apparent with the beginning of Albania's transition period. Even though Albania was facing other severe problems, environmental concerns were taken seriously and the Committee for Environmental Protection was established (1991) and new environmental legislation was enacted (including the 1993 Law on Environmental Protection). The political problems and economic difficulties around the country diverted the Government's attention to other, more pressing, issues than the environment. Recently, however, the environment has again become one of the Government's priorities. In 1998 the Committee for Environmental Protection became the National Environmental Agency and placing it under the Council of Ministers strengthened its position. This laid the seeds for the Ministry of Environment into which the Agency was transformed in September 2001. The role of the NGOs has increased steadily over the years, although environmental awareness among the general public and the business community is low and NGOs do not yet have an impact on the public and political life of the country.

2. PRESSURES AND OPPORTUNITIES

2.1. Boundaries of the coastal area

Albania's coast is about 420 km long. Its exclusive economic zone covers about 12,000 km2. The coast can be divided into two parts: the northern, Adriatic coast, and the southern, Ionian coast. They have very different geomorphologic features. The Ionian coast, which runs southeast for 170 km from Cape Karabauruni to Stillo Island on the Greek border, is hilly, mostly steep mountains plunging into the sea, except for the Butrinti wetland in the south. This coastal zone has spectacular cliffs, grottoes, caves, hillsides, harbours, bays and some of the country's most intact natural areas. The Adriatic coast, with a total length of about 250 km, is a low-lying alluvial plain 4 to 50 km wide. It comprises a series of small deltas and lagoons, which are formed by nine rivers: Buna, Drini, Mati, Ishmi, Erzeni, Darçi, Shkumbini, Semani and Vjose. Some of the deltas are still active and their shoreline shows dynamic changes in the vicinity of the river mouths. In the case of the Darçi River, however, the old delta is undergoing severe erosion at the river mouth as the sediment input to the coast has almost completely ceased.

The low coast is interrupted at a number of locations by hills at a right angle to the coast forming capes. These divide the coast into a number of closed physiographic units of varying sizes. This diverse and dynamic land-sea interface has been a corridor of intense interaction between natural systems and human activities for centuries. The rich diversity of coastal habitats and geomorphologic features has been providing an irreplaceable natural resource base for people since the Illyrian tribes first settled there over 3000 years ago. The alluvial plains and wetland areas of the northern coast have been considerably altered to support human settlement and activities, while the rugged character of the southern coast has so far prevented intensive urbanization.

Road access to most of the southern coast has long been undeveloped, with narrow, winding and intermittently unpaved roads at right angles to the shore. The former regime restricted boat access to most of the southern coast. The national road that runs parallel to the coastline has recently been upgraded and new segments are being constructed. There are only two harbours along the southern coastline: Sarandë, the larger one, near the Greek island of Corfu, and Porto Palermo, a small military port half way up the southern coast, now expanded for tourism. The northern coast benefits from the main traffic axis of Albania, consisting of a coastal road and railroad, which connects the northern and central regions. There are two harbours: Shengjin and Durrës, the latter being Albania's most important, and one international airport.

2.2. Population dynamics

According to the preliminary results of the 2001 census, some 30 per cent of the total population lives in the coastal area, i.e. in the area that administratively belongs to the districts that have the coastline as one of their boundaries. However, another survey shows that about 97 per cent of the total population lives within 100 km from the coastline. Table below gives a more detailed overview of the development of the coastal population during the past decade. The population in the coastal districts has grown unevenly, but the general rule is that the northern districts have gained, while the most dynamic development occurred in coastal cities such as Durrës, Vlorë and Sarandë in the south.

District	1994	2001
Laç	57,700	n.a.
Lezhë	69,822	68,218
Velipoja Commune	7,708	n.a.
Durrës	157,132 *	182,988
Kanja	87,166 *	78,415
Lushnjë	132,195 *	144,351
Fier	203,517 *	200,154
Mallakastra	41,545 *	39,881
Vlorë	174,897 *	147,267
Himara Commune	9,119	n.a.
Sarandë	49,908	35,235
*1989		

Table: Coastal population, 1994 and 2001

2.3. Urban development

Coastal urban development is driven by internal migration, exacerbated by the events in Kosovo, which drove many people from the north of the country to the coastal regions, especially the narrow coastal strip. Today, 41 per cent of the total population lives in towns. In 1994, in the coastal area, it was estimated to be around 39%. It is reasonable to expect that this figure is now at least equal or very close to the national average.

Although the biggest cities are located inland (Tirana and Shkodër), the population of coastal cities, particularly Durrës, Vlorë and Sarandë, has increased over the past decade. Urbanization is speeded up by land privatization, as rural dwellers move from primarily mountainous and hilly areas to the coastal areas with better job opportunities and better living conditions. For instance, the coastal cities offer jobs in manufacturing, commerce and tourism.

The currently fast urbanization process is certainly having adverse effects on the natural resources and the environment around the main cities (squatter settlements), because in most cases it is not accompanied by planned housing development or the construction of appropriate infrastructure and services. As a consequence of the as yet undefined landownership, there is the growing phenomenon of illegal land possession and construction of houses, particularly in and around the big cities. There are illegally built houses even in public parks. The most severe problems of urbanization could be summarized as follows: haphazard and unregulated whose consequences include loss of land, natural resources and valuable landscapes; inadequate urbanization, including sprawl development, and speculative and illegal building; lack of infrastructure and poor sanitation standards; degradation of the traditional ambience of the cities and villages along the coast by new developments that frequently ignore traditional urban/architectural patterns; destruction of natural landscapes by careless

introduction of the aesthetically inappropriate developments; and sprawl development along the coast, as opposed to compact settlements, which wastes valuable coastal land and resources.

Land ownership along the coastal strip is still disputed with the government, and is proving to be a critical constraint to development. The unresolved issues of restitution and compensation are particularly problematic along the Vlora - Saranda coastline and have prevented the process of implementation of the Law 9235, dated 29.7.2004, On Restitution and Compensation of Property.

2.4. Tourism

Tourism in Albania has a relatively high potential, but until now the Albanian coast has not been an important destination for international tourists. It is still largely undeveloped with a small number of hotels, while the bars and restaurants are mainly located in cities, catering largely for the inhabitants, not for international tourists. Future trends will definitely change the structure of tourism. Today, 80 per cent of tourists are Albanians. Potential holiday destinations, especially along the coasts in the central and southern areas with beautiful landscapes and natural environment, will attract investors. Some modest capacities already exist in the area between Durrës and Kavajë. A number of hotels were built in Durrës, mainly by Albanian investors. However, some of the most attractive shores have already been spoiled by the development of human activities and settlements (Golemi beach) or are heavily polluted (Durrës beach). Coastal development is also characterized by the construction of secondary homes. Foreign investors, too, are becoming more active.

In the south, in the area of Ksamili, a large number of illegally constructed buildings are hampering the area's potential for sound tourism development. Since it is expected that pressure from tourism will grow (generated by domestic, as well as by international investors), it is of the utmost importance that both local and national authorities make all possible efforts to safeguard the environmental potential of the coastal area to secure the environmentally sound development of tourism and so guarantee long-term sustainability and the socio-economic security of the coastal population.

2.5. Exploitation of natural resources

The central and northern coastal regions remain the country's most important agricultural areas. The coastal area has been strongly affected by migration flows, the main observed trends being urbanization within the districts (movement of the rural population to major urban centres) and the movement of people from other districts towards urban centres and coastal agricultural areas. Today about 58 per cent of the population lives on the coast. Before 1990, coastal agriculture was a big environment-related issue, with large wetlands being drained to provide land for agriculture. This policy had several negative consequences. First, valuable wetlands disappeared, reducing the biodiversity potential of the coastal area. Second, the reclaimed agricultural land was not as productive as expected because of the high salinization of the soil. Finally, complete new villages of high-rise flats were built for agricultural workers who were brought from elsewhere. Since this form of agriculture was not very productive, it soon ran into difficulty, creating a number of social, economic and environmental problems in the coastal region.

The water supply is constantly growing, but it cannot keep pace with rising demand, which is the result of improved living standards, the increased use of electrical equipment, improved sanitary conditions and sewerage systems. In urban areas about 80 per cent of the population has access to piped water. In the coastal area this figure is slightly higher than in the rest of the country (about 88-90 per cent). During the day running water is available in urban areas on an average only for two to three hours. Water use efficiency is low (about 50 per cent of Tirana's water is lost in the city's supply network). Conflicts over the use of water are likely, especially in the Durrës-Vlorë region. The water supply is already woefully inadequate, and the irrigation system is damaged and neglected, while agricultural development will require more water. Tourism is a great water consumer, requiring good-quality water.

Vlora Regional Administration ranks oil spills from passing ships amongst its major concerns. The proximity of the ship routes to the shore and unfavorable current patterns that transport pollution to shores of the southern region add to the problem.

The greatest current threat to biodiversity in the coastal area is associated with the rapid development of housing, infrastructure, and tourism capacity in this area, and the lack of any significant effort to avoid the most sensitive environments.

2.6. Environmental and spatial impacts

For any form of development, the provision of environmental infrastructure and services is vital. Unfortunately, except for harbours, railways and electric power plants, this has been completely neglected. Industrial and urban liquid and solid waste is discharged without any treatment, and there are critical shortages in the water supply. Generally there are no appropriate solid waste management systems anywhere in Albania. Only 50-70 % of the waste collected in the cities is disposed of at designated landfills, which are usually simple dumpsites. Large-scale construction work in some areas, especially in Saranda, and the illegal dumping of the construction waste, has created additional pressure on environment. Waste is sometimes dumped along the shoreline, and when it is not removed, he degraded coastline is affected for a considerable time.

Industrial pollution has decreased rapidly since collapse of the former socialist economy, and closing of the majority of polluting industries. However, threats are still present, both from the abandoned former industrial sites and from newly planned plants. Porto Romano is considered one of the most contaminated locations in the Balkans, and suffers from soil and groundwater contamination caused by former chemical plant. Fortunately, further to the south there was practically no industry during the socialist era. The area therefore has the advantage of a comparatively unaffected natural environment.

Wastewater treatment is not available. Four major coastal cities with a resident population of 254,000 people, which significantly increases during the summer, are connected to a sewerage network, but the wastewater is discharged untreated directly into the sea. Thousands of cubic metres of untreated wastewater are discharged daily from the coastal cities into the sea. While the urban coastal areas are provided with sewerage systems, the suburban areas, which have recently become overpopulated as a result of uncontrolled migration, have almost no sewerage system. Similarly, the urbanized areas in the coastal zone, and particularly the newly built areas close to the beach, do not have any sewerage system in place, only septic tanks or simply sewage collectors. The existing sewerage systems are frequently damaged by the interruptions caused by the construction of new connections (often illegal) and overlooked, because new additions exceed their capacity. Only Vlora and Saranda have any kind of sewerage network, and whilst the coverage of both networks being improved neither has 100% coverage. Only Vlora has any kind of treatment facility, however a collector sewer and a longer sea outfall recently constructed in Saranda have improved seawater quality in the harbor. Elsewhere, wastewater is put into the ground, into valleys or rivers that discharge to the sea, or is discharged directly into the sea. There is no systematic monitoring of the seawater quality on the beaches. However, areas with inadequate underwater outfalls are well known to the local population and are avoided.

Resource extraction is another area where policies are unsatisfactory and exploitation could be considered unsustainable. Coastal forests are being cleared indiscriminately to clear land for coastal development, particularly in Lalëzit Bay and Golemi Beach. The deforestation is causing soil erosion in the coastal zone. Many new legal quarries have been opened in the area (especially around Saranda) as result of the market demand for the construction material. There is a significant number of illegal quarries too. At the same time, there is no evidence of attempts to reuse excavated material, consequently it is dumped indiscriminately as construction waste, including on the shoreline and in the sea, causing additional pressure on the environment and landscape.

Coastal erosion is a great problem in the northern and central coastal regions (the Adriatic coast), and in particular north of the city of Durrës. Sediment discharges from rivers are relatively large, which explains the very dynamic nature of the deltaic development of the coast, resulting in the rapid development of new coastal features, such as spits and lagoons. This also explains the significant coastal erosion, which has been observed in recent decades as sediment input to the coast has declined due to several anthropogenic developments inland, including dam construction. There are four main causes of coastal erosion: (a) the reduction in sediment input, mainly that brought by rivers, into the coastal zone; (b) the reduction in the amount of sand in the coastal zone due to anthropogenic activities (sand extraction from the beaches and bottom of the sea although this is prohibited by law); (c) the changing location of river mouths in deltaic systems, as a result of natural causes or anthropogenic effects; and (d) the alteration of the usual pattern of coastal currents and the associated sediment transport along and across the shoreline, due to man-made structures built along the coast.

In 1997 the UNEP/MAP identified priority pollution "hot spots" and sensitive areas in all Mediterranean countries as part of the Strategic Action Programme in the Mediterranean, financed by the Global Environment Facility (GEF). Albania identified eight priority pollution "hot spots", four of them directly linked to waste-water discharges from cities Domestic pollution is dominant in the cities of Durrës and Vlorë, and in the Mati, Semani and Shkumbini rivers. In the Drini river the pollution is mixed, originating from both domestic and industrial sources. Industrial pollution is dominant in two areas where the former PVC factory in Vlorë and the former chemical factory in Durrës are located. These industrial sites are very close to the coast, and there is still evidence of continuing pollution, although the factories were closed some time ago. For instance, large deposits of hexavalent chromium compounds in Durrës pose a threat to the nearby Porto Romano area, while large amounts of mercury were found in Vlorë Bay. Apparently, some of these compounds are leaking into the nearby sea In addition, three highly polluted but environmentally sensitive areas have been identified in Albania: Kuna-Vaini lagoons with domestic and industrial pollution; Karavasta lagoon with domestic pollution; and Narta lagoon with mixed pollution caused by agriculture and water extraction. The Durrës area is the biggest "hot spot" on the Albanian coast, and is the most obvious example of what might happen if non-sustainable coastal development takes place. The city itself is a concentration of environmental problems, because of the near-total lack of environmental services. In addition, the nearby areas of Golemi Beach (south of Durrës), and Lalëzit Bay and Porto Romano (north of Durrës) should be singled out as sites with a high development potential which, due to the flawed implementation of industrial (Porto Romano) or tourism (Lalëzit Bay) policies, may disappear very soon.

3. Leal and Institutional arrangements

There is no direct legislation for coastal management and no specific law on coastal management. The most powerful piece of legislation regulating development in the coastal area is the Law on City Planning (1993, amended in 1998). It provides an entire hierarchy of planning interventions, many of which could be very useful if applied in the coastal area. This Law, however, does not define coastal strips, coastal zones or coastal areas and, consequently, does not provide management guidelines for them. Unfortunately, the technical capacity to apply this Law fully is not available. Other laws that indirectly touch upon coastal areas are:

- The Law on Environmental Protection (1993, amended in 1998),
- The Law on the Development of Tourism Priority Zones (1993),
- The Law on Fishing and Fish Farming (1995),
- The Law on Water Resources (1996), and
- The Law on Water Supply and Sanitation Sector Regulation (1996).

Among the by-laws and regulations relevant to coastal development, the most important is the one that regulates the preparation of environmental impact assessments. It is now compulsory for most projects, including almost all construction in the coastal zone, to assess the environmental impact. There are two problems at the moment. First, there is a lack of qualified EIA experts, who are

recruited on the consultancy market, which is still undeveloped. Second, although the Ministry of Environment, which is responsible for evaluating EIAs, has established a special department for their review, it cannot fully cope because it also lacks expertise and manpower.

The lack of physical plans or their inappropriate quality is considered to be the major obstacles to sustainable coastal development. Physical plans for major investments and the National Institute is preparing developments for Physical Planning, but the local governments are also making some plans. According to the new Law on the Organization and Functioning of the Local Government, the local level prepares and approves local plans. The Ministry of Public Works, Transportation and Telecommunications (MPWTT) coordinates the local government and the National Institute to ensure compatibility among plans. There are two major problems: (i) the preparation of spatial plans is lagging behind the pace of construction; and (ii) the preparation and implementation of the infrastructure master plans is slower than the preparation of the physical plans for the same areas. This situation has led to illegal construction and to the inadequate provision of infrastructure, particularly where tourism development is planned.

Albania is gradually signing and ratifying *international conventions*. Two that are closely related to coastal zone management are the Barcelona Convention for the Protection of Mediterranean Sea against Pollution (Albania acceded in 1990), and the Ramsar Convention on Wetlands of International Importance (acceded in 1995). Albania has benefited from both conventions. Karavasta - Divjaka lagoon has been designated a Ramsar site, while a number of programmes developed under the Barcelona Convention have also had their impact (Coastal Areas Management Programme, Mediterranean Pollution Monitoring and Research Programme, Strategic Action Programme). Albania has been rather slow in ratifying some of the protocols to the Barcelona Convention.

The institutional structure for coastal zone management is based, in practice, on the capacities of only two ministries: the Ministry of Environment and the MPWTT. An important feature of the Ministry of Environment is the existence of 12 Regional Environmental Agencies, which implement the environmental strategy, follow and implement preparatory procedures for environmental permits, and check compliance with the Law on Environmental Protection.

Especially important is the National Council for Territorial Adjustment (NCTA). It is made up of the Prime Minister and representatives of the Ministry of Environment and the MPWTT, whose Department of Urban Planning and Urban Development acts as the Council's secretariat. All requests to the Council (studies and master plans; smaller plans go directly to local authorities for approval) go first to that Department. This gives the MPWTT a real advantage when decisions are taken. The Council has a powerful role, because it arbitrates when there are no plans or when larger projects contradict the plans and a compromise has to be found. Very often the Council's decisions go against the planning proposals.

There is no department in either ministry dealing specifically with coastal management. The NCTA deals only with spatial planning issues and not with the wider issues of coastal management. In the Ministry of Environment, relations between the departments seem harmonious, but employees are overworked and do not have enough power. The Regional Environmental Agencies often feel powerless when requested to act decisively, because they are understaffed, and there is no integration and coordination of work between the Ministry of Environment's Regional Agencies and those of other ministries (forestry, water, public works, for example). They also feel frustrated because decisions delegated to the regional level are often taken without consultation with the regional offices.

4. Policies and strategies

Among crosscutting strategies and policies of national importance, the following could be mentioned:

- National Strategy for Social and Economic Development (NSSED);
- National Plan for the Approximation of the Legislation and SAA Implementation; and
- National Environmental Action Plan (NEAP).

A number of international coastal zone management programmes were launched, financially supported by the World Bank, EBRD, UNEP and the European Union (EU).

In May 1990, the government of Albania signed the Barcelona Convention and its four related protocols. Upon signing these documents, a number of activities were launched within the framework of the Albanian programme of participation in the Mediterranean Action Plan (MAP). In 1992 a draft agreement for the CAMP was co-signed by the Albanian Government and MAP at the end of 1992. The Ramsar Convention on protection of the habitats of migratory birds and the ECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes have also been signed and ratified.

In 1994-1995 the World Bank financed, through the Mediterranean Environmental Technical Assistance Programme, the preparation of the coastal zone management plans for northern (from the border with Montenegro to Durrës) and southern (from the Karaburuni Peninsula to the Greek border) coastal regions. These plans were methodologically complementary with the UNEP/MAP Coastal Area Management Programme (CAMP), which concentrated on the central coastal region between Durrës and Vlorë (1993-1996).

The major objective of these programmes was to integrate biodiversity protection, tourism development and institutional strengthening. All three coastal plans made a thorough analysis of the situation and gave valuable proposals for future development. But, above all, they were an opportunity for national experts to increase their expertise using some of the best international knowledge. Two obstacles stood in the way of the successful implementation of these projects: first, they did not involve as many stakeholders as they could have done (several NGOs, ministries and scientific institutions were not actively involved in the preparation of the plans). Later, it appeared that those that were not very much part of the process but which had great influence in the decision-making process, such as MPWTT, had shown some resistance to implementing the plans; and second, the optimistic mood of the mid-1990s was suddenly crushed by the events in 1997, and that had very negative consequences for the coastal area's development, because many initiatives were interrupted or stopped, and no major international interest in tourism investment has been shown since then. The Government Decree finally adopted these three coastal management plans in 2002 as the Coastal Zone Management Plan.

Parallel with the coastal zone management initiatives, EBRD was active in promoting the development of tourism, particularly of the private sector. It financed the preparation of Albania's first tourism strategy in 1992. It was to be followed by a detailed tourism study for the southern coastal region. Unfortunately, this initiative was also interrupted by the 1997 events. Now, the German Development Fund (GTZ) has prepared a new tourism strategy and EU has financed, through Phare, a number of projects focusing on biodiversity and wetland protection in the coastal area.

The then Ministry of Territory Adjustment and Tourism (since 2005, MPWTT, with tourism being moved over to the Minsitry of Culture) presented in 2002 the "Tourism Development Strategy in Albania". This strategy was the first concerted effort by the country to bring forth a concrete plan and objectives for the development of the nascent tourism sector. The main macro-economic objectives of the long-term tourism strategy of the tourism sector development are to:

- generate jobs and income,
- accelerate economic and social development throughout the country,
- improve living conditions in Albania,
- initiate economic activities,
- create a positive image of the country internationally as a tourism destination,
- increase the revenue of foreign currency and tax income for the government, and
- develop sustainable and environmentally friendly tourism.

Among the most relevant aspects of this strategy are:

- Pre-conditions for Tourism Development;
- Policy statement and vision for 2012, with market related objectives, and strategic directions for the long-term tourism strategy;
- Alignment of the Tourism Sector among ministries and central institutions, local government, private sector operators and tourism industry associations and other related NGOs;
- Objectives, tourism products, distribution, communication, source markets and target markets for Sun and Beach Tourism, Special Interest Tourism, and Urban Tourism/Business and Congress Tourism in the framework of strategies for the tourism products.
- Development directions for the institutions in the tourism area, for education and training, and for legislation and regulations in the frame of the institutional support, and
- Tourism development strategy implementation and the Action Plan for the period 2003-2006

Strategy and Action Plan for the Development of the Albanian Tourism Sector Based on Cultural and Environmental Tourism, finalized in December 2005, was based on the 1993 Tourism Law and the directions and structure established by the 2002 Strategy. The objective of the strategy is to establish a clear direction for a national tourism strategy oriented toward nature and culture-based tourism. It provides an operational and action-oriented strategy for establishing Albania in international tourism markets.

The National Biodiversity Strategy and Action Plan was adopted in 2000. The Strategy proposes a network of 25 marine and coastal protected areas. Thirteen are lagoons, wetlands and estuaries, with a total area of 36,550 hectares. The remaining 12 are exquisite landscapes, with a total area of 64,300 hectares. Karavasta and Narta lagoons are coastal wetlands with a high biodiversity value, but only Karavasta has been designated as a Ramsar site under the Ramsar Convention. Albania is the country with the highest biodiversity loss in Europe, and coastal and marine sites are among the most endangered. The Strategy proposes a very ambitious programme but actual protection is lagging behind, and a number of wetlands in the coastal zone are still being used as sinks for wastewater. Similarly, the coastal zone management plans that were mentioned above paid special attention to biodiversity protection and management, although at the time of their preparation Albania had not signed the international Convention on Biological Diversity nor adopted its National Biodiversity Strategy. However, these plans defined a number of environmentally sensitive areas and provided management guidelines for their protection and development.

5. Instruments

Albania adopted its first EIA law (No.8990) on 23 January 2003. The law prescribes: 1) two-tier EIA system (consisted of preliminary and detailed EIA) for projects; 2) SEA for strategies and action plans in key sectors (energy, mining, industry, transport, agriculture, forestry, on natural resources and mining properties management and on waste management) and for variety of national and regional plans for territorial adjustment (of urban and rural centres, industrial areas, coastal areas, tourism areas, protected areas and highly polluted and damaged sensitive areas).

Each state body or natural/legal person that submits a proposal for strategies and action plans in key sectors and for national and regional plans for territorial adjustment that require SEA has to: a) compile SEA Report, and b) ask for its evaluation by the Minister of the Environment prior to its adoption by relevant bodies. Comments by the Minister on the environmental assessment are given through environmental declaration, which needs to be published. The procedure also includes: a) Consultations with relevant authorities, and b) Public Debate among representatives of the ministry which licenses the proposal, bodies for territorial adjustment and tourism, local government bodies, specialised institutions, interested persons, environmental NGOs and the proponent.

The SEA regime is being applied for slightly over 18 months and the actual practice reflects a very early stage of development of this system. The following key challenges were observed during the mission:

- Elaboration of SEA Reports (and use of their recommendations) has not yet become an integral part of the planning processes that are subject to SEA. The main causes are that: a) the actual structure of the SEA procedure neglects notification and scoping; b) SEA requirements are not included in the ToRs for the respective planning processes even when these are conducted by the key planning bodies.
- SEA reports produced so far are of insufficient quality, thus setting misleading precedents for future practice.

Economic instruments that might affect development in the coastal area are still rare. Nevertheless, they will certainly play an important role in raising public awareness of environmental values. Some funds have already been found (EU and the World Bank), but more are needed. Two environmental funds have been established: the first with earmarked money from the municipal waste charges, and the other with income generated by the State-owned forests and pastures. Ten different ministries and institutions are in charge of monitoring air, water and soil pollution, environmental radioactivity, transboundary pollution, biodiversity, soil erosion, and pollution caused by industrial and urban waste. The monitoring network has, however, proved unable to meet the requirements for the implementation of modern economic instruments. It is to be strengthened in the years to come in line with the monitoring strategy envisaged by the NEAP. The information collection system relies on three sources: the local administration; the Regional Environmental Agencies; and the regional and local offices of the different ministries and specialized State institutions. The UNEP/MAP Mediterranean Pollution Monitoring and Research Programme have extensively supported the monitoring programme.

6. Coastal practice (Projects, initiatives)

In early nineties several important projects were implemented in Albania that have set the stage for ICAM, namely:

- Coastal Area Management Programme (CAMP) "The Albanian Coastal Region", UNEP-MAP and Ministry of Environment, Albania, 1992 – 1995, for the Region of Durres-Vlore - Central Albanian Coastal Region. The work on the development and implementation of the CAMP for Albania has been an extremely useful exercise because it improved considerably the capabilities of Albanian institutions responsible for various aspects of coastal areas management. Institutions, which were involved, are now largely capable of continuing the work on their own and to apply their know-how in other regions of Albania. The capacity building component of the CAMP for Albania constituted an important and extremely useful part of the programme. In addition to the training courses, much attention was accorded to individual on-the-job training. Within the framework of each individual activity, a number of recommendations were made. Whenever possible, these recommendations should be implemented through the follow-up activities. The report of the plan is one of the outputs of Integrated Management of Coastal and Marine Areas of the Durrësi-Vlora Region initiated through "Coastal Areas Management Programme" (CAMP) for Albania. A certain number of issues actually triggered the launching of the process of coastal zone management in Albania. The most important overall goals of the CZM Plan are the following: to preserve ecological integrity; to renew or rehabilitate damaged resources; to ensure that natural resources are equitable between generations; to encourage complementarity rather than competitive activities; to preserve and promote social equity and introduce the participatory approach; and to provide a mechanism for capacity building and planning. This programme is expected to provide the following benefits: improvement of the state of the environment; incorporation of environmental considerations into planning activities and the decision-making process; enhancement of the local capacities in resolving various development and environmental problems; transfer of knowledge from relevant international organisations to national and local institutions; and creating conditions for responding to some accidental situations.

- Albania Coastal Zone Management Plan, PAP/RAC, Dobbin Milus Int., Ministry of Environment, Albania, 1994 – 1996, North and South Regions of Albania's coastal zone from Montenegro border to Cape Rodonit, Karaburuni Peninsula to Greek border. Partially owing to the very good CAMP results, PAP and its associates Dobin Milus International (DMI) were entrusted by the World Bank to prepare an overall Coastal Zone Management Plan for the remaining two Albania's coastal regions - the North and the South Regions. The major goals of this Plan were to contribute to the biodiversity protection, tourism development and institutional capacity building. This report is part of an overall Coastal Zone Management Action Plan for the northern and southern parts of Albania's coastal zone. This project and this report focus only on the coastal area, which without doubt represents one of the most valuable assets of Albania from the points of view of development and environment. The most important overall goal of the CZM Plan is to preserve ecological integrity through establishing ecologically sustainable limits for resource use. The strategic objectives of the Plan are: to promote conservation of Albania's biodiversity, cultural heritage and coastal and marine-related tourism and ecotourism industry; to enhance employment creation opportunities and institutional capacity; and to recommend a series of investment projects that will help "kick-start" the coastal economy in an incremental way.

Major new trust for ICAM came in 2004 with a renewed interest of the World Bank to support the ICAM activities in Albania. First, the study "Southern Coastal Region: Priority Assessment Study and SEA as a Tool in Coastal Management in Albania" has been commissioned by WB/METAP and PAP/RAC who has also provided a financial support to the preparation of the Study and organised its execution. The study is aimed at supporting the Integrated Coastal Zone Development and Cleanup Program (ICZMCP) in general, and the Spatial Development Study and Plan of the Albanian Southern Coast and the related SEA process in particular. The assessment was meant to carry out the following main tasks:

- to investigate, identify, map, and analyse the changes in the state of the Southern Albanian Coast that have occurred since 1995,
- to identify and analyse the environmental threats as a result of the present coastal development and the constraints these threats pose for future high quality sustainable tourism,
- to recommend specific measures that will need to be considered by the proposed Territorial Development Study and Plan of the Albanian Southern Coast,
- to recommend the most appropriate methodology and the ways and means of integration of SEA into ICZMCP planning process.

The ICZMCP is designed to be implemented over 7 years. The total program is expected to cost US$54.3 million. Phase 1 (from Sep-2005 to Aug-2009) will concentrate on the operational strategies, normative and institutional capacity strengthening, basic environmental infrastructure and rehabilitation as well as remediation works in Porto Romano. Phase 2 (Jan-2009 to Aug-2012) will build upon the initial results of Phase 1 via support to the developed initiatives and specific investments. The overall objective of the ICZMCP is to protect the Albanian coastal ecosystems, resources and cultural assets and promote their sustainable development and management. The Program objective will be achieved through: (i) establishing an integrated coastal zone management (ICZM) institutional and policy framework; (ii) strengthening the broader regulatory and enforcement capacity at the central, regional and local levels for protection of coastal and marine natural resources; (iii) increasing access to basic services associated with improvement of the quality of life and attractiveness of the coastal areas; and (iv) implementing sub-projects aiming at promoting sustainable tourism sector development.

As one of its objectives, the ICZMCP aims to establish an integrated coastal zone management approach to reduce coastal degradation. It will do this by:

- strengthening existing policies and regulations, planning and institutional capacity at the central regional and local levels;

- initiating municipal and commune investments to enhance Albania's coastal and cultural resources and encourage community-support for sustainable coastal management;
- implementing priority investments in line with ongoing land-use planning efforts to support sustainable tourism development in the southern coastal zone;
- containing soil and groundwater contamination in Porto Romano hot-spot.

However, three physical investments have already been identified for implementation during ICZMCP:

- Southern Coastal Solid Waste Management – comprising construction of a landfill to serve the Municipality of Saranda and surrounding villages and implementation of a construction of demolition waste (CDW) pilot project.
- Saranda gateway – comprising the development of the Port of Saranda into a gateway of the southern coastal zone, primarily by developing a dedicated passenger and vehicle ferryboat terminal.
- Porto Romano Hot Spot Clean-up – comprising clean-up and containment of hazardous chemicals and contaminated materials at a disused factory at Porto Romano, Durrës, and a chemical store at nearby Bishti i Palles.

The ICZMCP will also support the formulation of a protected areas management plan for Butrint National Park to ensure sustainability of natural resources and biodiversity conservation. This management plan may identify the need for new zoning and increased enforcement of existing laws within the protected areas.

As part of the ICZMCP, the Integrated Coastal Development Study and Plan – ICD Study and Plan covering the area Orikumi to the border with Greece is being currently prepared. It will focus on the following:

- support to policy development, regulatory framework and capacity building for sustainable coastal management;
- regional investments for improved development, land-use planning and implementation; and
- improved environmental conditions and regional infrastructure for attracting private investments in sustainable tourism.

Furthermore, the main purpose of the project is to:

- take stock of the existing situation and identify the sensitive and robust areas of the territory and their development potential;
- ensure sustainable development of the coastal municipalities both from the environmental and economic perspectives through reasonable use of resources and preservation of what is left unspoiled, looking into the regeneration potential of the ecosystem;
- reconcile conflicting interests for preserving and revealing the uniqueness of the Southern Coastal Region;
- propose a strategy, policies and a programmatic plan of the planned area; and
- provide the basis for the implementation of GIS as an effective tool for development monitoring and management control.

Other important projects and studies that are of relevance for ICAM in Albania are:

- Albania Integrated Coastal Area Management: Nautical Tourism Development Planning Study. J.A. Sciortino. 2004
- Pre-Feasibility Study and Solid Waste Management Plan in Albania. Solid Waste Consultancy B.V. 2005
- Wastewater Management and Integrated Planning for Albania's Coastal Zone Study: Draft Final Report. Dr. Daniel Gunaratnam. 2005

UNEP/MAP/PAP have implemented a pilot project on economic instruments within a framework of the GEF SAP. The overall goal of the pilot project "Sewage and tourist eco-charges for the protection of the Albanian Ionian Coast" is to protect the Ionian coast of Albania from the untreated sewage water discharges. This project is in line with the national priorities in the field of environment and tourism, general efforts for EU legislation approximation, as well as with the principle of sustainable development. It is also in line with the measures undertaken by the government of Albania for the

construction of the sewage collector and treatment plant in Vlora, an investment made by the PHARE Programme, which has been taken in consideration during the preparation of the proposal.

In order to secure the long-term and normal operation of the sewage collector and treatment plant (which will be finalised by the end of 2003), sustainable financial sources are needed.

The project will study the socio-economic situation in the Vlora region, the payment ability of the local population, enterprises, different stakeholders, tourists, etc. in order to assess the possibility of sustainable recovery (either partially or totally) of the operative and maintenance costs of the sewage collector and treatment plant. This will be realised by implementing certain earmarked eco-charges (collected by the municipality) based on the Polluter Pays Principle (PPP) and the Beneficiary Pays Principle (BPP). The rest will be subsidised by the state budget.

Some of the main project activities include: preparation of the Diagnostic Analysis for Vlora; publication in Albanian of the leaflet on environmental economic instruments, which will be addressed to all decision-makers directly or indirectly involved in environment protection; completion of the project website with the Albanian data; public awareness activities with regard to economic instruments; a training workshop on economic instruments; organisation of inter-ministerial meetings, preparation/amendment of certain laws and/or by-laws; etc.

Monitoring results of that part of the Ionian Sea before and after the application of the charges will be an effective way of raising awareness and drawing attention of both the government and the public to the effectiveness of economic instruments as contemporary and successful instruments for environmental protection. Experience gained through this study can be replicated later on in other regions of the Ionian and Adriatic coast of Albania.

List of Environmental Projects, financed by foreign donors after 2000 only for coastal zone (ALBANIA)

No	Environment / Project Name	Project goals/ components	Project/Status (Planned, ongoing)	Project Total Amount (in mil of euros)	Type of Financing (Investment TA)
1.	Institutional Strengthening and Environment Improvement (hot spot of Porto-Romano in Durres)	Environment Ministry is cooperating with the World Bank for the preparation of a project proposal for the evaluation of the environmental, social, economic, healthy risks for the hot spot of Porto –Romano in Durres and to give modest technical assistance for the institutional strengthening of the Environment Ministry in the field of the dangerous waste management. Upon the decision of the Council of the Ministers is approved the grant of this project.	Started on 2003 ongoing	250,020 USD	WB
2.	Preparation of Karavasta Lagoon: Conservation & Sustainable Management Project	For the conservation of environmental, historic, tourist, etc values of Karavasta Lagoon, Ministry of Environment in cooperation with the World Bank undertaken the preparation of a project for the Conservation and Sustainable Management of this zone.	2004-2005	25,000 USD	GEF/WB
3.	Integrated Ecosystem management of Lake Shkoder	Regional project between Republic of Albania and Republic of Monte Negro. To control pollution and improve Biodiversity conservation of Lake Shkoder.	2005-2006	175,000 USD	GEF/WB
4.	Conservation of Wetlands and Coastal Ecosystems in the Mediterranean Region	To have a sustainable management and the preservation of the biologic diversity in the coastal zone of 6 Mediterranean countries through the compilation of a suitable legal framework, institutions and capacities building, exchange of experience, the undertaking of concrete actions, etc. The project is being implemented in the Narta	November 1999 - 2006 ongoing	1,751 milion USD by GEF and 150 000 USD by Albanian Government	GEF/UNDP MEDWET 3

		zone. Project components are: I.Zone diagnostication II. Evaluation of the GAP-s in the environmental legislative and regulatory frame III. Directions of consciousness IV. Monitoring programmes After the work suspension for more than one year period because of the oil drilling – research activity of the INANAFTAPLIN company, in May 2003 the project restarted its activity.			
5.	Preparation of the project "Butrint National Park Biodiversity and Global Heritage Conservation"	It is signed an agreement between Albanian Government and World Bank for the grant for this project. The grant is made for the purpose of financing the preparation of the project. Project will be managed by the Environment Ministry in cooperation with Ministry of Culture , Youth and Sports. There is prepared a draft-decision for this project.	Till the end of 2004 ongoing	25,000 USD	GEF /UNDP
6.	Implementation of the project "Butrint National Park Biodiversity and Global Heritage Conservation"		2005-2007	940,000 USD	GEF /UNDP
7.	Environmental Rehabilitation of the Vlora hot spot.	Under this project Ministry of the Environment has signed an agreement with the Coordination Unit of the Mediterranean Action Plan of United Nations Environment Program (UNEP/MAP). Ministry of Environment has selected the project consultant according to the Albanian public procurement procedures and has signed the contract with the donator and the winning company. The study to be performed under this consultancy has this four objectives: 1. the evaluation of the existing environmental situation in the hot spot	2003-2005 ongoing	300,000USD	UNEP/MAP

		and the quantification of the main land-based sources of pollution including the former abandoned PVC Vlora Plant and municipal solid waste open dumpsite. 2. Development of environmental remediation plan for the former PVC Vlora plant according to the priorities based upon human health and safety and/or environmental protection. 3. Preparation of a long term investment plan for enhanced municipal solid waste management . Identification of priority investments and preparation of relevant feasibility studies for both environmental remediation and solid waste components.			
8.	Legislation and environmental planning. (One of the project component is: Local and Regional Environmental Action Plan for Lezha, Golem, Karpen.)	Between other things, starting at regional level the REAP will take a river basin approach and cover the area of the Drini river basin in the regions of Lezha and Shkoder. It will focus on the concerns of regional, sub-regional government and other stakeholders, and how land use decisions and activities at sub regional level affect neighbouring District especially those downstream. The REAP will propose solutions to environment at river basin level.	2004 – 2007 ongoing	2,500,000 Euro	CARDS National 2002

7. Needs for ICZM

Albania's coastal area is still its biggest development asset. In spite of intensive, albeit rather haphazard, development during the past decade, there are still pristine coastal sites that offer great potential, particularly for the development of tourism (Velipoja-Viluni Lagoon, Lalëzit Bay, Karaburuni Peninsula, Butrinti Lake). Significantly, all of these sites are relatively far from the major urban centres, although close enough to be affected by them in the future.

Pressures on the coastal area are extremely high. Rapid urban coastal development; tendencies towards short term profit against long-term conservation of coastal resources; recent events that have forced the hinterland population, particularly from the mountainous regions, to migrate towards the coast and to find new livelihoods, very often at the expense of the coastal environment; compensation schemes for land that could have absorbed large tracts of the valuable coastal land; the non-existence of coastal plans and very little or no respect for them even when they do exist; the legacy of the former regime's lack of respect for the environment resulting in the location of polluting industries in the most attractive coastal areas; a general lack of human and financial resources for coastal management and law enforcement, are only some of the problems that the Albanian authorities are facing today and which allow very little optimism about the future of the coastal region.

The starting point for the future of the Albanian coast must be a consensus on the strategy for sustainable coastal development, and for integrated coastal management as a major tool to achieve this objective. It is fair to say that quite a large amount of work has been done in recent years, and that it would not require too much effort to create that strategy. The major bottleneck will be reaching the political consensus that such a strategy is needed and, even more so, forcing the major stakeholders to commit themselves to implementing such a strategy. There are several other obstacles that stand in the way of the creation and implementation of a strategy for sustainable coastal development, such as:

- The poor respect for enforcement authorities, resulting in a low level of law enforcement. The responsible authorities are too badly equipped to be effective. They lack the manpower, political support and technical means to ensure respect for law enforcement.
- The lack of coordination and integration among institutions and authorities responsible for coastal management. They often compete among themselves and have different agendas with respect to coastal development.
- Coastal zone management is still not widely known, except in some institutional "pockets". There is little knowledge on its benefits, methods, tools and techniques, and on the procedures and stakeholders that need to be involved. Local action in coastal management is almost non-existent. This obstacle is hindering the implementation of a "bottom-up" approach to coastal management.
- Illegal housing along the coast is widespread. In some locations this will really create an obstacle to balanced development, because no authority will dare, despite some encouraging initiatives to destroy illegal buildings in major Albanian cities, demolish illegal houses on a large scale. But while illegal buildings are still there, the prospects for better development will be hindered, because they consume large portions of the most valuable coastal land.
- There is a benevolent attitude towards haphazard tourism development and unsustainable resource exploitation. The rationale is that these activities create jobs and help ease hardships in an unbearable social situation. This is certainly a short-sighted approach that could backfire.
- There is no developed monitoring system and a general lack of reliable data on marine and terrestrial ecosystems, as well as on pollution and other environmental problems.
- Public awareness on coastal environmental problems is generally very low.
- The use of economic instruments is underdeveloped.

The 1995 CZM Plan (adopted in 2002) analysed in detail coastal resources and formulated objectives for their sustainable use, which were elaborated to the level of action plans and investment packages. However, it did not develop any scenarios of the Southern Coast future. The scale of the migration processes as well as the development pressures were underestimated. The capacity of the Albanian Government to control and direct these processes was overestimated. This is why the CZM Plan proposed a correct development vision and sustainable development objectives, but was overly optimistic with regard to the wider context and its impact on the future development.

The situation developed in a way, which did not allow for the implementation of many of its proposals. Thus for example, the socio-cultural environment of Albania, in particular after '97, was suffering from a post-crisis situation, including a widespread lawlessness and corruption, a lack of respect for institutions and a lack of community spirit, which all together made the co-operation between the authorities and the private interests difficult. A part of this "lack of rule of law" situation is reflected in large-scale illegal building along the coast where road accessibility allowed it. Although the impact of the CZM Plan on the ground was very limited, its development objectives were technically right and they built a nice image of some future state of the Southern Coast. Many of the interventions in the wider coastal planning and management context were proposed in the CZM Plan as well, but they were perhaps not emphasised enough. As a result they were simply overseen or not understood due to their complexity and sophistication compared to the realistic human, institutional and financial capacities in Albania at the time.

Given the scale of uncontrolled and illegal building along the coast, as well as the present ineffectiveness in dealing with this issue, the following urgent measures are recommended in the 2004 Study "Southern Coastal Region: Priority Assessment Study and SEA as a Tool in Coastal Management in Albania" to be considered:

- Proclamation of the coastal belt of 500m (alternatively 300m) as protected coastal area (PCA) of particular significance and interest for the State.
- Immediate measures to improve effectiveness of construction police with particular emphasis on PCA.
- Any construction of residential or tourist buildings within PCA can take place only after the adoption of a detailed regulatory plan approved by the relevant body.
- Construction of residential or tourist buildings within PCA can take place only after the open public spaces including the road/street corridors with communal infrastructure and green areas are subdivided (legally established parcels) according to the approved detailed regulatory plan.
- Within the residential and tourist development land uses outside urban areas no residential development or development of tourist accommodation facilities should be allowed in a 100m coastal belt.
- Measures to limit or stop real estate development (mostly secondary homes) within the tourist development zones.
- Given the importance and special State protection granted to PCA, illegal building within PCA should be proclaimed as criminal act.

Two important land-use planning recommendations, of particular importance for the implementation of coastal plans and policies, have been identified:

- Introduction of <u>effective land policies for settlements -</u> key aim is timely provision of serviced land and public spaces within settlements in which <u>costs recovery through participation of private capital</u> is crucial. This is one of the key prerequisites for the on-the-ground functioning of the land-use planning system.
- Some sort of <u>betterment levy (tax) on land owners and developers in coastal area who benefit from an increase in land value because of a planning decision</u> (and not because of any effort of the landowner). This may be one of the few realistic sources to finance high environmental quality standards and nature protection.

Analysing the present tourism practices and aspirations, the following recommendations may be given:

- Most of the regional development actors consider tourism the key economic sector in the future of Southern Coast. Given the sensitivity and fluctuations of the tourism sector, the role of tourism in the regional economy should be carefully considered in order to avoid it becoming the over-dominant regional economic sector.

- A slower growth with larger share of local tourism investment providing better integration and greater returns to the local communities (as opposed to dominantly international tourism development which brings high rate of profit leakage).
- Tourism development should not impose too high price on the nature and coastal resources – tourism development, as well as transportation planning, should take care of the protected areas (including those proposed for protection) and fragile scenic landscapes.
- Need to curb real estate development on the locations attractive for tourism development - increased mobility and rise of purchasing power induced a strong demand for property acquisition in the coastal area. These properties are in most cases secondary residencies, which do not provide the needed new jobs or income.

All of the above recommendations were further developed in the Integrated Coastal Development Study and Plan – ICD Study and Plan that is currently being prepared.

The MedWetCoast projet that is being carried out by GEF/UNDP has a series of recommendations on how to build the principles of Integrated Coastal Area Management (ICAM) in the Albanian legal and institutional system in a well organised and integrated manner, namely:

- One major element to be implemented is the incorporation of ICAM principles in "sectoral" laws which refer to the country as a whole (e.g. the Forestry Law, the Fishery Law, etc.), but also to develop and adopt specific regulations and by-laws which will refer to the coastal zone alone, as well as to different parts of the coastal systems (land and sea) and different activity sectors (fishing, agriculture, tourism, oil and gas explorations, nature conservation, etc.).
- A National Coastal Zone Management Plan must be approved (done in 2002), which will serve as a regulatory tool for the future development of the coastal zone, in an attempt to balance the economical development with the need to provide greater environmental protection. This document must be approved by the Council of Ministers, and it should serve as a major framework of economical development of such an important area of the country, keeping always in consideration the
- The preparation and adoption of the following regulations and legal techniques and tools are recommended:
    - To establish the requirements, standards and procedures for the Environmental Impact Assessment to ensure the protection of bio-diversity and sustainable development in the coastal zone (the new drafting of a law on licensing requirements can include such a requirement);
    - To adopt the nature and bio-diversity conservation and management regulations related to the protection of coastal and marine ecosystems, and to establish specially protected areas on the basis of IUCN qualification (here, specific details related to the coastal area must be included);
    - To re-define and improve the regulations referring to the zones of exclusion (the coastal setback line) and to define the public ownership rights and restrictions in relation to such a zone. Registration at the Registry of Immovable Properties of such restrictions imposed by law is very important;
    - To re-asses the policy of land compensation of former owners in the narrow coastal belt – zones of exclusion and potentially protected areas;
    - To adopt special rules and procedures (more stringent!!) regulating construction activities along the coastline;
    - To adopt the regulations related to the use of chemicals in agriculture and irrigation systems, and to establish standards for the water quality;
    - To establish the sea water emission standards;
    - To establish other general standards for emissions of substances which might have a negative impact on the environment;
    - To establish the regulations for toxic and hazardous waste management and particularly those related to the harbour and off-shore activities.

- To establish close co-ordination (based on the new law on the responsibilities of local government authorities) with local government authorities dealing with waste management and waste treatment, and not only waste removal.
- More developed experiences from the neighbouring countries should be emulated, but due attention must be paid to the need to adopt foreign laws to the Albanian reality.

Strategic overview: Algeria

April 2006

I. INTRODUCTION

About 43% of the population lives within 50km of the coast, which experiences the highest national density. About 50% of industries are concentrated in 3 locations (Oran, Alger and Annaba). Pollution of water, air and ground water are common issues in and around urban and industrial areas. Uncontrolled urban development takes place at the expense of agriculture land and green areas. Coastal erosion is widespread. Overexploitation of some marine resources as well as loss of natural resources is significant. Institutional setups are being reorganised between ministries in matters relating to water management, pollution abatement and solid waste disposal, towards more integrated and cost-efficient practices. Many administrations remain however under-staffed and financial resources are lacking both at national and local level. Environmentla awareness is still low among citizens.
Most of the trend data gathered for this Strategic Overview is based on the detailed reports produced by the CAMP project and therefore may not fully reflect the diversity in coastal management settings throughout Algeria.

II. PRESSURES & OPPORTUNITIES

Boundary of the coastal area

The Algerian coastline stretches over 1200 km of highly varied physical and natural features and resources. Large coastal plains and plateaux (Métidja, slopes of the sahel), alternate with higher relief and slopes. Wider openings towards the sea provided space for all main cities and ports to be established. Many beaches occur at the mouth of large oueds La Macta, Chelif, Mazafran, Issers, Souman, and Seybousse) . A main marine physical characteristic is the narrowness of its continental shelf.

Urban and spatial planning

On the basis of the Coastal Zone Law (art. 7), limits of sensitive and built areas were physically set and materialised on a consensus basis by intersectoral commissions at the scale of Wilayas. Boundaries were adopted on land and at sea by decree for each Wilaya. According to this, the coastal area includes 400,000ha and its inland boundary ranges from 2.5 to 23km.
Implementation of the law remains difficult due to very high pressure to develop and exploit the coast in the vicinity of built-up areas. In the CAMP area, about 54% of the coastal is already built and Algiers alone gathers 50% of the population. Most of the non-building area defined by the Coastal Zone law (behind a 300m setback line) is actually occupied.
The cadastre is being reviewed to help the drafting of a typology of coastal areas, on a basis of which land property strategies will be defined as well as integrated coastal management plans. This initiative involves national consultancy companies, the Mapping and Remote Sensing Institute. Demonstration activities will be implemented in three areas (East, Centre, and West).
At present coastal municipalities have limited technical and management resources and lack of finances and limited consultation between them is not conducive to spatially coherent planning. The METAP assessment study on the cost of environmental degradation (2005) indicated that to stop such costs from increasing a strict enforcement of land use planning is paramount. It should be combined with measures to reduce water pollution, air pollution and pollution due to poor waste management. On the basis of the CAMP diagnosis 3 coastal spatial plans were drafted for Oran, Algiers and Annaba.
The city of Algiers is the only to have established a Coastal Protection and Promotion Agency. Its mandate is to:

- Participate, in collaboration with relevant entities in the Wilaya, in coastal protection and development
- Monitor the implementation of coastal protection regulations
- Provide the Wilaya with information and documents in relation to environmental infringements
- Provide technical assistance to Wilayas in relation to the management of he summer season
- Organise fishing port security and berths management in El Djamila, Tamenfoust and Algiers ports
- Participate in environmental protection awareness-building campaigns
- Monitor marine water quality for Algiers

Overall, only a major slowing down in the coastal squeeze process and a more balanced spreading of urban development would prevent current trends to continue. For example, three more million inhabitants are expected by 2025 and 1 million should be reorganised on the upper plateaus.

Tourism

Recreational tourism on beaches is a major activity, especially in and nearby important urban areas. Many beaches are over-populated and poor water quality results in their closing.

Exploitation of natural resources

Water is used first for irrigation, then for domestic supply and industry. It is becoming a rare resource not the least due to the drought affecting Algeria over the last few years. Leakages are also responsible for important losses (estimates of 40%). Groundwater is impacted by excessive exploitation. Water consumption is very high and large volumes wasted due to a low pricing per m^3. In Bordl El Kiffan, water usage amounting to 1,500m^3/day is obtained from desalinisation which cost is about four times the price of ground water.

Fishing is a well-developed activity-taking place in the bays of Ghazaouet, Beni Saf, Arzew, Mosthghanem, Bou Ismail, Zemmouri, Annaba, and El Kala. Offshore and deep-sea fishing (for shrimps, demersal fish and squids) are characteristic of Algerian fisheries. Seine fishing is also practiced and there is a large fleet of traditional boats operating on rocky bottoms (fish, crabs, and octopus). Diminishing sizes and quantity have been observed that reflect probably stock dynamics but overexploitation and environmental pollution cannot be excluded as contributing factors. Indeed degradation of Posidonia meadows in relation to pollution discharged from oueds can explain such reduced productivity.
Urbanisation is encroaching on agriculture land. For example in the municipality of Reghaia (METAP study), from 30 to 60 ha have been lost each year since 2003. In the entire pilot area nearly 1,800ha have been converted to other uses between 1987 and 1997.
Coastal beach and dune sands are illegally and massively collected in many areas such as in Bou Ismail (Tipaza) or Zemmouri (Boumerdes).

Environmental hazards

Pollution

Seven pollution hot spots were identified (Urban and industrial waste) in 2002 by a MEDPOL project: Alger, Annaba, Oran, Skikda, Bejaia, Mostaganem, Ghazaouet. They are close to large urban areas or industrial ports. Levels of all contaminants are above norms: heavy metals, oil, nitrogen, phosphorus, and organic matter, PCB in sediments.

Water quality is in most cases below international health standards in urban areas. Only about 8% of sewage waters were treated in the CAMP area in 2005. Lack of finances to maintain and build adequate sanitation facilities is a major cause. Water pollution (oueds and coastal lakes) is impeding the recreational use of beaches (in 2003 35% of beaches were closed to bathing in the CAMP area).

Pollution is also generating smell inconveniences especially in summer. This loss to pollution is estimated to be as high as 2.5% of GDP (METAP COED study, 2005).
Landfill leaching, septic tanks and oil pollution are responsible for severe ground water pollution, especially in the Algiers area. Salinisation is an additional cause for unusable groundwater. Solid waste management is lagging behind due to administrative hurdles, lack of control and information, non-compliance to existing regulations, non-optimal use of existing municipal dumping sites. About 65% of solid wastes are collected in the CAMP area with significant room for improvement. For example industrial wastes are disposed of without adequate monitoring by lack of specialised enterprises. Wastes from the building sector are hardly recycled.

Natural hazards

Coastal erosion has been a widespread phenomenon for many years: nearly 80% of the total shoreline is affected by it. Rate of erosion has been accelerating since the 80s. It is a significant constraint to the management of beach amenities, especially nearby urban areas where demand is high. Illegal sand extraction is accelerating when not triggering this phenomenon.
Earthquakes also affect coastal areas and destructive tsunamis are still live in memories (1365 in Algiers flooding the lower part of the city). Major earthquakes have occurred recently in Chenoua (1989) and Boumerdes (2003). The impacts of such events are likely to get worst in the future due to the present rate of urban growth in the area.
Flooding is another recurring hazard which power and effects are amplified by human activities, especially clearing of forests on slopes.

Natural and cultural heritage

There are many natural sites of national and international interest, among which:

- Taza Park (Jijel Wilaya)
- Rachgoune Island (Ain Temouchent Wilaya)
- Coastal marine area of El Kala National Park (El Tarf Wilaya)
- Gouraya National Park (Béjaia Wilaya)
- Mount Chenoua (Tipaza wilaya)
- Réghaia wetland (Algiers Wilaya)
- Zemmouri El Bahri coastal dunes and forest (Boumerdès wilaya)
- Cap de Garde marine reserve (Annaba Wilaya)
- Habibas Island nature marine reserve (Oran Wilaya)
-

The Habibas Islands marine nature reserve was established by decree in 2004, and proposed as a SPAMI. It is managed by the Coastal National Commission and is under the jurisdiction of the MATE. Two other areas are proposed as marine nature reserves in Chenouah and Boutenah Island and one on the landside in Reghaia Lake, which is a Ramsar site. A National Park is planned for the Chenoua area and an extension to the Chea National Park.

Knowledge on the status of marine biodiversity varies from area to area but in Algiers the situation is critical while in other such as Bou Ismail marine habitats seem to be in good conditions.

Due to the reduction of their surfaces by urbanisation and reclamation, wetlands habitat cannot provide their cleansing and flood control functions and their ecological balance is jeopardized. For example, Lake Reghaia acts as sediment and pollutant trap to such a level that poor water quality has completely depleted fish populations and associated fish-eating birds. It still hosts a nesting bird population which includes IUCN listed Duck species. Habitat destruction also occurs in forest areas cleared for urbanisation. Up to 67ha of dune areas were lost between 1987 and 2001 to urbanisation in the METAP pilot area.

If current pressure levels on marine resources were to continue, by 2025 20 to 50% of habitats of ecological interest could disappear.

IN terms of cultural heritage, almost all of the 500 listed national cultural monuments are concentrated in the Algiers and Tipaza coastal wilayas. Two of those are World Heritage sites.

III. EXISTING LEGAL & INSTITUTIONAL FRAMEWORKS

Legal basis

Much of the legal framework of relevance to coastal management is relatively new and was developed since 2000.
There **Law on coastal protection and valorisation** (2002) adopts 3 principles: (1) development within the framework of the national spatial planning and environmental protection policy, (2) coordination between stakeholders (State, municipalities, environmental NGOs) according to sustainable development, prevention and precautionary principles, and (3) sparing of spatial resources and environmentally-friendly development and promotion of coastal activities.

The law gives a definition of the coastal area in terms of economic, environmental, landscape and heritage criteria: it covers all islands and coastal zones with a minimum extent of 800m inland. A setback line of 300m applies to the entire coastline, forbids any new establishment of industry (art. 15), new building of roads parallel to the coast (art. 4). A minimum distance of 5 km is to be kept between adjacent built-up areas and any extension of built-up areas beyond 3 km if forbidden (art. 12). The law establishes the National Coastal Commission, Coastal Coordination Councils for sensitive areas, a trust fund to support implementation of protection measures, and contingency plans.

Law on Environmental Protection and Sustainable Development (2003): it specifies the legal regime for protected areas and makes prescriptions in relation to the protection of the sea.

Law on Spatial Planning and Development (2001: provides spatial planning orientations, it establishes the National Coastal Master Plan which prescriptions must be translated into Spatial Plans of Wilayas.
Other relevant regulation in relation to spatial and urban planning is:

- Law on land property (1990)
- Law on physical and urban planning (1990)
- Decree on the elaboration of and adoption of the Master Plan for Physical and Urban Planning
- Decree on the elaboration and adoption of land use plans (1991)

Several regulations deal with tourism and recreation, including in coastal areas:

- **Law on tourism expansion zones and sites** (2003): tourism development is to take place in agreement with existing coastal protection regulations; its national tourism master plan includes protection of natural sites and outstanding landscapes.
- **Law on tourism use and lease of beaches** (2003): provides guidelines, regulations and sanctions in relation to the physical planning of beach areas and regulations applying to activities and up to 100m from the shoreline; a decree was enacted in 2004 in relation to leasing conditions for beaches open to bathing.
- **Law on camping** (2001), regulation for the establishment and exploitation of camping; camping are forbidden near the coast to prevent environmental damages

Finally several legislations address the issue of pollution and waste:
- Law on the management, control and disposal of wastes (2001)
- Decree regulating industrial sewage (1993):
- Decree on EIA (1990)

- Decree on regulating classified facilities (1998)

Algeria is party to the following international agreements:
- Barcelona Convention ratified in 2004
- SPA Protocol
- Convention on Biological Diversity
- World Heritage Convention
- Algiers Convention
- CITES Convention

Institutional framework

There is a wide range of administrative levels and institutions with a stake in coastal management in Algeria. The most relevant offices are those of the Ministry of Spatial Planning and Environment (MATE): Head office for urban environmental policy, head office for industrial environmental policy, head office for the conservation of biological diversity, natural areas, and landscapes, head office for communication, awareness-building, and environmental education.

A lack of operational capacity is reported, partly due to overlaps in prerogatives such as in relation to environmental protection, prevention and enlisting.
Other national institutional stakeholders are:

- The National Agency for Wastes
- The Ministry of Fishing and Marine Living Resources
- The Ministry of Water Resources
- Ministry of Agriculture and Rural Development
- Ministry of Health

Several committees and commissions are also operational:

- National Coastal Commission: its mandate covers all coastal areas as defined in art. 7 of the coastal zone Law; its structure consists in a head office and 14 decentralised offices in Wilayas, its role is to keep a watch, support, safeguard and maintain outstanding coastal land and marine areas; make an ecological inventory and assessment of uses and threats; it publish a report on the state of the coast every 2 years, promotes awareness-building and information,
- National Council for Spatial Planning and Sustainable Development (2001)
- National Observatory for the Environment and Sustainable Development (2002)
- National Water Council
- Inter-ministerial Committee to follow up on SAP MED activities

Several line agencies operate:
- National Observatory for the Environment and Sustainable Development
- National Coastal Heritage Trust (Conservatoire du Littoral)
- National Spatial Planning Agency
- National Centre for Marine Rescue

At local level services from Wilayas are involved such as:
- Head Offices for tourism
- Head Offices for Environment
- Head Offices for Hydraulic Engineering
- Some like Algiers host an Agency for coastal protection and promotion

Finally, research institutes support also coastal activities:
- National Centre for Urban Studies and Research
- Institute for Marine Sciences and Coastal Management
- Ecole Nationale Polytechnique – Department of Environmental Engineering

Applied instruments

EIA
Several funds exist to support environmental protection:

- National Fund for the Environment and Depollution
- National Fund for the protection of the coast and coastal areas
- National Fund for the development of fishing and Aquaculture

Policies & strategies
- National Strategy for Sustainable Development
- Strategy for the conservation and sustainable use of biological diversity (assessment of knowledge on biodiversity and priority options for conservation and sustainable use)
- National Strategy on Climatic Changes
- National Strategy against Poverty and Exclusion
- National Policy for Forestry and Nature Conservation (including management of wetlands)
- National Policy and Programme for Disasters Reduction
- National Environmental Report (2000)
- National Environmental and Sustainable Development Action Plan (2002)

IV. COASTAL PRACTICES

Coastal management and Planning

CAMP Algeria (2001 – 2005)– from Chenoua to Cap Djinet, produced a Strategic Action Programme with 19 objectives addressing control of urban sprawl and land use, integrated water management and sanitation, management and disposal of solid wastes, protection of sensitive natural areas, strengthening of capacities. The project concluded on conditions for a successful follow-up, including in terms of governance, financing, monitoring. The project also made recommendations for the Reghaia area on the basis of the results of the pilot project, including the establishment of a nature reserve in parallel with improved tourism facilities.

A GIS project is being setup as part of the Coastal Plan in Oran with the support of the TDE/RAC centre.

Pollution

A national contingency plan against accidental marine pollution is being prepared (**Tel Bahr Plan**).
With the help of MEDPOL, a National Programme for the assessment and the control of pollution was drafted. It covers monitoring of bathing water quality and industrial sewage compliance, level and evolution of contaminants in water, sediments and organisms, in hot spots and the coastal region. The Gulf of Ghazaouet is a pilot zone for a pre-investment study.
MEDPOL also funded a national diagnosis identifying sources of contamination, established the level of marine pollution, state of habitats degradation and level of threats to marine biodiversity. An assessment of pollutant and contaminants by type of sewage,

Environmental management

METAP supported the drafting of a national operational strategy for ICZM (2004) and an assessment on the cost of environmental degradation on a pilot area (Oueds El Harrach and El Reghaia). The area is representative of environmental pressures at national level (uncontrolled urban sprawl, under-sized sewage system, high marine pollution with impact on human health and biodiversity). The study

underlines the priority for improving waste water treatment and the protection of water resources, followed by protection and conservation of green spaces and beach areas as well proper implementation of existing legislation by increasing resources and capacities of key organisations. Cooperation between the different authorities involved at all levels is a pre-requisite.

Nature Protected areas

A pilot project to test ICZM is applied to wetland area in Reghaia Lake
The French Conservatoire du Littoral is supporting the establishment of the National Coastal Council.

The Government has included in its triennial economic programme several project of relevance to coastal protection and conservation in 8 coastal wilayas: El-Tarf, Tizi-Ouzou, Tipaza, Oran, Béjaia, Mostaganem, Jijel and Alger
With the support of the FFEM two pilot sites (Habibas Islands, and Mont Chenoua / Anse de Kouali) will help demonstrate new participative approaches for ICZM based on consensus-building. Already some rehabilitation work was achieved.
Under LIFE funding, the Zemmouri dune site was partly rehabilitated.
As part of SMAP III, the following initiatives are on-going:

- Algerian Coast Management through Integration and Sustainability by the Centro Interdipartimentale di Ricerca per le Scienze Ambientale di Ravenna (CIRSA):
- ICZM approach to sensitive wetlands: El Kala/Moulouya (Alger/Maroc), Fondation Sansouire:

Several training sessions were organised in Algeria and France for staff from the MATE, Wilayas and NGOs on ICZM concepts and tools, management of natural areas

V. NEEDS FOR ICZM

Urban and spatial planning

- Finalisation and adoption of the National Spatial Planning Master Plan
- Enact application decrees for the Coastal Zone Law via a recognised and mandated inter-ministerial committee
- Enact application decrees for the Law on Physical and urban planning
- Existing regulations and spatial plans must be enforced by e.g. an “environmental police” which is to be established
- Ensure proper application, control and monitoring of land use plans for sandy areas (dunes and beaches) in compliance with regulations in the Coastal Zone law
- Support inter-sectoral consultation for physical planning and implementation of measures

Pollution

- Exhaustive and updated assessment of water quality and pollution sources
- Treatment of sewage water is a priority
- Some industries should be displaced away from the coast
- Strengthened capacity of municipalities to manage solid wastes
- Strengthen capacity of Wilaya to monitor and control industrial sewage
- Set up a monitoring network for bathing water quality and erosion

Exploitation of natural resources

- Provide more finances to the Integrated Water Resources Management Fund, especially to develop better irrigated agriculture (using treated sewage waters) and sanitation facilities and establish water management bodies by catchment

- Develop a programme for alternative source of sand as a building material in parallel to the enforcement of existing regulations on sand extraction

Natural and cultural Heritage

- Establish an institutional mechanism for the management of protected areas
- Extension of protected areas: wetlands from Reghaia to Aguelli Island

Information, communication and participation

- Provide training to technical staff in relation to environmental issues in coastal and marine areas
- Increase awareness on soft dune management methods
- Increase awareness building of citizens in relation to water preservation and solid waste disposal
- Improve quality of environmental data, capacity for monitoring and communication

Table 40: Government bodies of relevance to governance and management in coastal areas in Algeria				
Ministry	**Units**	**Line Agency**	**Public Enterprise**	**Institute**

The division of legislation between land and marine sides of the coast n Algeria

	Legislation	**Land**	**Marine**
LAWS	**Law on coastal protection and valorisation** (2002) **Law on Environmental Protection and Sustainable Development** (2003): **Law on Spatial Planning and Development**		
	Law on land property (1990) Law on physical and urban planning (1990)		
	Law on tourism expansion zones and sites (2003)		
	Law on the management, control and disposal of wastes (2001) **Law on tourism use and lease of beaches** (2003)		
DECREES	Decree on the elaboration of and adoption of the Master Plan for Physical and Urban Planning		
	Decree on EIA (1990)		
	Decree on the elaboration and adoption of land use plans (1991)		
REGULATIO			

Stakeholders	Coastal protection	Industry & energy	Fisheries & aquaculture	Ports & marinas	Transport & shipping	Urban development / planning	Tourism & recreation	Water management	Waste management	Agriculture	Nature conservation	Heritage
M. of Environment & Planning												
M. of Maritime Affairs (incl. Port Master Offices)												
M. of Tourism												
M. of Agriculture, Forestry and Water Management												
M. of Economy & Industries												
M. of Culture												
M. of Defence												
Coastal Zone Management Agency												
Regional Water Supply Company												
Maritime Safety Department												
Regional Institutes for Culture												
Municipalities												
Coast Guards												
Marine Institute												
Meteorology Institute												
Beach managers												
Prof. fishermen												
Marina managers												
Hotel owners												
Sport Centres												

Status of implementation of Barcelona Convention and its Protocol in Algeria (as of 2005)		
Text	**Legal/administrative measure taken for**	**National law**
Convention		
Dumping protocol		
Emergency protocol (not yet ratified)		
Pollution from land-based pollution sources		
Specially protected areas		
Pollution from exploration & exploitation of continental shelf		
Transboundary movement of hazardous wastes and their disposal		

Summary of existing institutional, legislative and informal settings in relation to coastal management in Algeria			
Provisions	**Institutional arrangements**	**Legal instruments**	**Non-statutory mechanisms**
Delineation of Coastal Zones	Yes	Yes	
Designation of dedicated institution, commission, committee	Yes, National Coastal Commission	No	
Establishment of institutional instruments for co-ordination	No	No	
Status of land ownership		Yes, being revised	
Regulation of public access to the coast		Yes, coastal law	
Procedures for coastal land-use planning, including control on illegal buildings			
Control of industrial and commercial activities on the coast: Fisheries Mariculture Ports & shipping			
Control of pollution: Waste water quality Bathing water quality			
Management of water resources			
Management of solid wastes			
Control of recreational activities		Yes	
Protection of areas of ecological, natural and cultural value			
Sanctions regimes			
Collection of data			
Information & communication			
Public participation			

Identification of range of coastal management issues arising from thematic analysis		
	THEME	**ISSUES**
HUMAN USES AND ACTIVITIES	**Agriculture**	➡ Extension by reclamation of wetlands
	Fisheries	➡ Some stocks overfished but some areas still not exploited
	Forestry	➡
	Transport	➡
		➡
	Maritime economy	➡
	Tourism	➡
		➡
	Spatial & urban development	Lack of enforcement of existing planning regulation
	Heritage protection, and management	➡ Beginning of management plans for marine protected areas
		➡
Impacts	**Water pollution**	➡ A priority issue
		➡
		➡
	Wastes	➡ Inefficient use of existing facilities
		➡ Application decrees for law on solid waste are insufficient
	Biodiversity, habitats, heritage	
	Urban and transport infrastructure development	➡
		➡
		➡
		➡
	Stakeholders, interactions, & conflicts	➡ No data
		➡

Planning, management and governance	Legal framework	➡
		➡
		➡
		➡
		➡
		➡
	Governance	➡
		➡
Cross-cutting issues		➡
		➡
		➡
		➡
		➡
		➡
		➡

STRENGTHS	WEAKNESSES
Legal Institutional Management	Legal Institutional Management
OPPORTUNITIES Legal Institutional Management	**THREATS** Legal Institutional Management ▪

List of coastal management stakes based on range of issues		
	THEME	**STAKES**
HUMAN USES AND ACTIVITIES	Agriculture	➡
	Fisheries	➡
	Forestry	➡
	Transport	➡
	Maritime economy	➡
	Tourism	➡
		➡
	Spatial & urban development	9.
	Heritage protection, and management	➡
		➡
Impacts	Water pollution	➡
		➡
		➡
	Wastes	➡
		➡
	Biodiversity, habitats, heritage	▪
	Urban and transport infrastructure development	➡
		➡
		➡
		➡

Table 55: List of coastal management stakes based on range of issues identified in Table 53 (continued)

	THEME	STAKES
	Stakeholders, interaction, & conflicts	➡
		➡
Planning, management and governance	Legal framework	➡
		➡
		➡
		➡
		➡
		➡
	Governance	➡
		➡
Cross-cutting issues		➡
		➡
		➡
		➡
		➡
		➡
		➡

Strategic overview: Bosnia and Herzegovina

April 2006

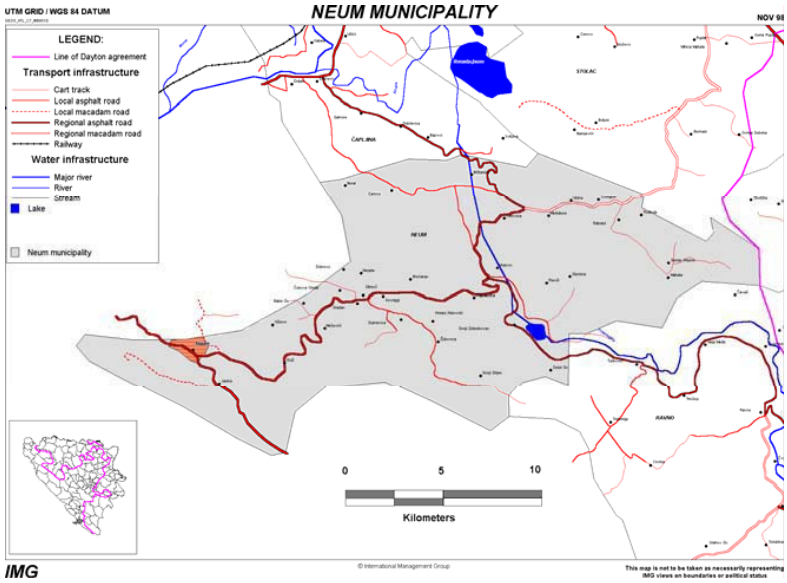
1. INTRODUCTION

Bosnia and Herzegovina is a complex state consisting of two entities, the Federation of Bosnia and Herzegovina and Republika Srpska. It has a land area of 51,209 km2. Few rivers, notably the Neretva (218 km), flow towards the Adriatic Sea. The terrain in Bosnia and Herzegovina is mostly highland with the average height of 150 m above sea-level. The climate is moderate continental and in a smaller part also Mediterranean. Forests and forestlands cover about 50% of the territory, while the total agricultural land covers 2.5 million hectares or 0.7 hectares per capita. With its high average annual precipitation (1250 l/m2 compared with the European average of 1000 l/m2) Bosnia and Herzegovina possesses significant water resources. According to the 1991 census, Bosnia and Herzegovina had a population of 4.4 million inhabitants and a GDP per capita of about 2,500 USD, placing BiH among medium-developed countries. The most recent estimates show that the population has decreased to 3.5 million inhabitants as a result of the consequences of war and that the GDP has fallen to the substantially lower figure of about 1200 USD per capita.

2. PRESSURES AND OPPORTUNITIES

2.1. Boundaries of the coastal area

Bosnia and Herzegovina has about 25 km long coasts on the Adriatic Sea. It includes the Klek Peninsula, Neum-Klek Bay, Neum-Klek coastal waters and coastal waters of the Mali Ston Channel. Neum Municipality is natural port and it is the only Adriatic's seaside municipality of Bosnia-Herzegovina. It covers 225.5 square kilometers and is located 210 kilometers southern from Sarajevo. Neum bay is about 6 km long, 1.2 km wide and has an area of 8 square km. It is situated in the Neum-Klek bay under limestone hills Osoj and Prisoj.



However, the coastal region is far larger than the adjacent coastal area. It has to include the surrounding catchment area in the mainly karst region and that is why it could be treated as homogenous karstic region. Even inland parts of the catchment areas of the rivers that gravitate to Adriatic Sea basin should be treated in similar manner as coastal zone itself. The uncontrolled management of water and environment in this region that spreads on about 25% of the territory of Bosnia and Herzegovina, has great influence on Mediterranean area.

2.2. Population dynamics

With the total of 4,377,033 inhabitants in 1991, the population density was 85.5 inhabitants/km^2. However, the current population figures vary significantly depending on the source. According to Bosnia and Herzegovina's Agency for Statistics, the permanent population in 2001 stood at 3,798,000. According to the Blue Plan, the population of the coastal region was 226,000 in 2000, expected to grow to 246,000 in 2025 (growth rate of 0.3%, equal to the national average). The population density is somewhat smaller than the national average (51 against 78 in 2000) but the difference is expected to be reduced by 2025 (57 against 74).

2.3. Urban development

The coastal area has one settlement – Neum. It is a natural port and a direct outlet of Bosnia and Herzegovina to the sea. Neum Municipality covers an area of 225 km^2. It is part of the Herzegovina-Neretva Canton of the Federation of Bosnia and Herzegovina. Neum Municipality had about 4,300 inhabitants in 1991, while the city itself had around 2,500 inhabitants. From 1991 to 1998, the population level was stable, but still less than in 1971 (4,800 inhabitants). In the wider coastal region, particularly within the catchment area of Neretva, Trebišnjica and Cetina rivers, the urban situation is more diverse. The major city is Mostar with 110,000 inhabitants, Livno with 42,000, Konjic with 31,500, Široki Brijeg with 29,170, Čapljina with 28,800, Ljubuški with 27,540, Trebinje with 25,000, Posušje with 17,456, Grude 15,500, Čitluk and Međugorje with 15,000, Bileća with 11,200, (all in 2001) etc. The critical issue here is that all these settlements are producing large quantities of wastewater, which is being discharged in the adjacent rivers without adequate treatment and, thus, having negative impact on the coastal waters in Bosnia and Herzegovina and neighbouring Croatia.

2.4. Tourism

Before the war Bosnia and Herzegovina had a diversified economic structure. Industrial production (43 %), agriculture and forestry (18 %) and mining (14%) were important and produced the main part of the GDP. Tourism was also well developed. Yugoslavia's military industries were heavily concentrated there, and the defense industry, producing about 40% of Yugoslavia's armaments, was a significant part of the economy.

The city of Neum has a good potential for tourism development. It is well located, somewhere in the middle between Split and Dubrovnik, 60 km from Medjugorje and 75 km from Mostar, with a diverse hinterland with plenty of tourist attractions. However, due to the fact that it belonged to one of the former Yugoslav republics, a sizeable amount of money generated in that republic was invested in the tourist capacities of Neum. At present it offers 3,500 beds, out of which 2,000 are in four hotels. Before the war, Neum had 600,000 overnight stays with 5,000 beds, while in 2001 the abovementioned number of beds has generated about 200,000 stays. The capacity for urban tourism in Neum is practically fully utilized, while the remaining coastal area still offers some tourism development potential.

2.5. Exploitation of natural resources

Intensive urban development of the Mediterranean region in B&H was the result of the economic growth during the seventies. Agriculture activities and fishing, as well as aquaculture, were not planed nor controlled and monitored, hence their impact on environment is unknown. Infrastructure facilities and tourist settlements that were constructed had usually negative impact and have degraded natural resources. Especially high negative impact was of the illegal construction of various structures, houses, etc., and discharges of wastewater, vegetation burning, cutting of woods, etc. Industrial facilities for food production, metal and especially aluminum industry were placed in the Neretva catchment area. Industrial wastewater was discharged directly into the Neretva River without any treatment. Most of the population as well as economic activities are highly concentrated in and around

major urban centres, resulting highly cumulative negative environmental impacts. Because of the karstic nature of the area, most of the pollution ends up in the Adriatic Sea.

2.6. Environmental and spatial impacts

Neum, the only direct outlet of B&H to the Adriatic Sea, has inadequate wastewater treatment (only mechanical treatment). Although the number of inhabitants is low, it increases in the summer two to three times and thus, causes significant seawater pollution impact, especially during three to four season's months. The specific configuration of the coastal area (double bay: Neum Klek Bay and Mali Ston Bay) and geological characteristics of Neum Klek area, request high level of coastal area protection and particularly protection of seawater for recreation and tourist purposes. In these two bays there is also a number of large shell nurseries, directly affected by pollution. In the very vicinity of the water intake for regional water supply system, which supplies Neum Municipality and two other settlements, a dumpsite is located presenting a serious water polluting risk.

Infrastructure objects, permanent and tourist settlements built in urban and suburban zones present a considerable urban degradation. New hotels that are in good harmony with the surrounding environment are a rarity. Regardless of the protection measures employed, some protected areas are surrounded by illegal housing and other forms of environmental degradation (illegal quarries, illegal dumping sites etc.). The forest fires in summer months are a considerable problem resulting in the reduction of the forest areas and forest habitats.

The current environmental concerns are mainly associated with the waste disposal practices and low territorial coverage of the sanitation services. Only the town of Neum has partial sewerage network. The current municipal wastewater service is covering only 45% of the population. Septic tanks and latrines of the dubious quality are commonly used in the remaining part of the area. The potential of the ground infiltration into the sea is relatively high. The solid waste produced in the region os poorly managed. The number of unregulated and unsanitary open dumping sites is relatively large. Although the total solid waste generated is less than 30 m^3 per day (150 m^3 during the summer), the current waste disposal practices generate negative impacts on health and on natural resources. Leachate generated by waste dumps threatens the ground and surface water resources and affects the seawater quality.

In the wider region the exploitation of the Neretva River Basin stands out as the most important issue because it affects the wider Adriatic area in the transboundary context, as well as the coastal waters of the Bosnia and Herzegovina. The Neretva River (220 km), the largest river in the Eastern Adriatic watershed, is an international waterway shared by Bosnia Herzegovina (BiH) and Croatia. Within BiH it has additional transboundary characteristics as it is shared by two entities - the Federation of Bosnia Herzegovina (FBiH) and the Rebuplika of Srpska (RS) – each with its own government and body of law. The Trebisjnica River (99 km) and its basin are located entirely in the RS but are hydraulically linked to the Neretva River. Taken together, these two rivers comprise the Adriatic watershed of BiH. Although covering only 24.3% of BiH territory (10,000 km^2), the Neretva and Trebisjnica River Basins (NTRB) are relatively rich in water resources draining 63% of all surface water flows in BiH (the rest draining to the Danube/Black Sea). The NTRB ecosystems include wetlands of international significance. The lower course of the Neretva River from Mostar (FBiH) to the river's mouth (Croatia) contains the largest and most valuable remnants of the Mediterranean wetlands in the Eastern Adriatic coast and is one of the few areas of this kind remaining in Europe. On the Croatian part of the delta, 1700 hectares are protected in five distinct reserves. The NTRB are considered to be of great cultural/historic importance with ruins dating back to the 4th century B.C.

The NTRB play an important part in the economies of both countries and in the livelihoods of over 300,000 people (approximately 35,000 in Croatia, 40,000 in the Trebisjnica RB, the rest in FBiH primarily in the lower Neretva water course where the basins' largest city, Mostar, is located). The rivers are used by the population for transport, gravel and sand extraction, recreation, fisheries, fishing

and abstraction for drinking water, irrigation and energy. There are several multi-purpose reservoirs in each basin primarily for hydropower operations but also providing for flood protection, water supply of industry and irrigation, and provision of minimum biological flows. There are five hydropower plants (HPP) on the Neretva River with four more under consideration; and one HPP on the Trebisjnica River). The natural beauty and cultural heritage of the NTRB support some local tourism but the potential is largely untapped. The problem is that poor management of water resources in NTRB is resulting in degradation, in terms of quality and quantity, to the resource itself as well as to the basins' ecosystems, particularly wetlands. The environment, as a special water-using sector, is generally ignored resulting in deterioration of the ecosystems. The cumulative negative impacts of these pressures include a loss of habitat and biodiversity; land degradation and reduced agricultural productivity; sedimentation and erosion leading to reduced efficiency of reservoir operations; salinization; and salt-water intrusion. It is important to stress that most of settlements in the NTRB, especially the small ones, do not have a sewerage systems. Some settlements are not connected to the public sewerage system and their problem of wastewaters is solved by septic tanks construction. It is very usual that utility companies perform an empting of those septic tanks which content are being taken into the sewerage systems of the bigger settlements. NTRB is mostly contaminated with domestic and industrial wastewaters, which do not content significant amount of toxic materials. Those are mostly fecal and technological waters. Domestic wastewaters are contaminated with organic pollutants, azoth and phosphate compounds and fecal bacteriae. They have low concentration of heavy metals and high amount of detergents. Industrial waters contain mostly organic pollutants.

Major urban centres in the Mediterranean region of B&H

3. LEGAL AND INSTITUTIONAL ARRANGEMENTS

The environmental legislative sector in B&H is governed by a complexities of the political structure of the country. The former Yugoslavia issued a number of legislative documents that deal with natural resource management and the environment. Even today there are over 70 such legislative acts that are still valid in both entities. There are no laws or other regulations on the environment at the State level. However, the Council of Ministers has charged the Ministry of Foreign Trade and Economic Relations with coordinating the drafting of an environmental protection bill. There is agreement with the Environment Ministries of both entities and the Government of Brcko District that they will take part in drafting the law, as will independent expert and non-governmental organizations. For the interim period, the Annex 2 to the new State Constitution stipulates that all laws that were in force in Bosnia and Herzegovina when the Constitution came into effect and that are not inconsistent with it may remain in force. For the period 1996-2002, before new legislation was passed, this was important for

the environment because it confirmed the standing in both entities of the Law on Physical Planning passed in September 1987 (Official Gazette SR BIH 9/87). This Law was general and covered all major components of the environment. It dealt with the overall issues of urban planning, physical planning, the environment and building.

Separate laws on the environment and environmental media were drafted after 1998 for each of the entities, with financial support from the EU Community Assistance, Reconstruction, Development and Stabilisation Programme (CARDS). Considerable effort was made to harmonize them in order to avoid future difficulties with implementation. Both packages of laws have been discussed and approved by the Inter-Entity Steering Committee for the Environment. The contents of these laws are not identical, but are very similar and there are no differences as far as technical issues and goals are concerned. That is important to prevent unfair competition, but also for Bosnia and Herzegovina's possible accession to the EU. These laws are on: Environmental Protection; Air Protection; Water Protection; Waste Management; Nature Protection; and Environmental Fund.

The comprehensive framework law for integrated coastal management is not available in Bosnia and Herzegovina. There are several laws applying to the coastal zones: Law on: the territorial sea (1987), elements of the water regime (1974), land-use planning (1974- 1987), water (1998), fishing (1989), meteorological activities (1976), Decrees on coastal waters (1980) and water categories (1967), Development plan (1981- 2000), and Programme for the protection of the environment (1990).

Bosnia and Herzegovina is in the process of drafting the Law on inland and maritime sailing. This law would regulate conditions of navigation safety on inland and maritime navigations routes belonging to B&H territory, where international and interstate navigation regime are applied, basic legal issues related to ship and boats, navigation accidents, captaincy and inspection supervision, regulation of ports, the protection of sea pollution from boats. This Law will set conditions of navigation routes in inland waters as well as routes on coastal sea, regulate transportation of passengers and things, rescuing persons, ships and things from those ships, actions in cases of shipwreck, liability of ship owner and ship operator, liability for death of persons, damaging things and environment pollution from the ships, as well as liability in cases of oil outpouring which is transported as cargo.

The institutional arrangements for environmental management in B&H are, again, quite complex. The major institutions are the following:

- Ministry of Foreign Affairs: its main functions and tasks relating environment are signing of international multilateral and bilateral agreements and contracts, and carrying out procedures for their ratifications.
- Ministry of Foreign Trade and Economic Relations: coordinating activities and harmonizing plans of entity authorities and institutions on international plan, in the following sectors of agriculture, energy, environmental protection, development and utilization of natural resources and tourism.
- Environmental Steering Committee of B&H: inter-entity body that coordinates the work related to the environment between the two entities. It is involved in the following tasks: international contracts and programs related to the environmental issue, cooperation with Republic of Croatia and Federal Republic of Yugoslavia in the field of environment, harmonization (between two Entities) of existing and future environmental legislations, regulations, environmental action programs, monitoring, standards and information systems; harmonization (between two Entities) of plans for urgent situations; coordination (between two Entities) of all environmental activities to provide that B&H join European Union, as a member country.
- Commission for coordination of water management issues between two entities deals with the following issues: international contracts in the field of water management, international water paths, international water management projects, cooperation with Republic of Croatia and Federal Republic of Yugoslavia on the water related issues, harmonization of present and future regulations from the water management field, harmonization (between two Entities)

and monitoring of water quality standards, harmonization (between two Entities) of solid waste disposal programs – protection of water resources, etc.

In the Federation of B&H, the environmental management institutions are the Ministry of Physical Planning and Environment and the Ministry of Agriculture, Water Management and Forestry. The former comprises the Environment Sector. It has three departments: the Department of Ecology and Environmental Impact Assessment, the Department of Biodiversity and Natural Ecosystems Conservation, and the Department of Protection of Air, Water, Soil and of Waste +Management. It has a total staff of nine, including the Assistant Minister and the Heads of the three departments. In addition to the two above-mentioned ministries, many other authorities in the Federation of Bosnia and Herzegovina deal with environmental issues indirectly, as prescribed by law. The Federation is divided into ten cantons with 84 municipalities. According to chapter III of its Constitution, the Federation and the cantons are jointly responsible for the "policy of environmental protection" and for the "use of natural resources" (art. 2). These responsibilities, according to article 3, may be exercised jointly or separately, or by the canton as coordinated by the Federation. Each canton has its own constitution and government. The cantons' environmental authorities are their ministries of civil engineering, physical planning and environmental protection and their ministries of agriculture, water management and forestry.

In Republika Srpska, the relevant institutions are the Ministry of Physical Planning, Civil Engineering and Ecology, and the Ministry of Agriculture, Forestry and Water Management. The Ecology Sector of the former is made up of seven people, including the Assistant Minister. Administration is more centralized in this entity, which has no cantons, although there is a local administration in the entity's 65 municipalities. In Republika Srpska, some other ministries and independent administrative offices and institutions also have environmental responsibilities. The entity is responsible, with the municipalities, for ensuring environmental protection in accordance with the law. It is also supposed to meet the specific environmental protection needs of its citizens in accordance with article 102.5 of its Constitution. Here, too, the lack of a regulatory framework that specifies the functions of the various bodies with environmental responsibilities creates the potential for overlap and duplication.

There is no specific institutional arrangement for ICAM neither in B&H as a whole, nor in its entities. Cantons or municipalities.

4. POLICIES AND STRATEGIES

Although neither the State nor the entities have an environmental policy, some important programmes for environmental action have been prepared and adopted in recent years.

The National Environmental Action Plan (NEAP) was the first document specifically oriented to environmental problems. The eight priorities identified in NEAP are: water resource management and waste-water treatment; sustainable development in rural areas; environmental management (information system, integral planning and education); protection of biological and landscape diversity; waste and waste management; economy and sustainable development; public health; and demining. About 450 projects have already been initiated under NEAP and 50-60 of them have been selected and are under preparation.

Based on the analysis of the current situation in all fields of environmental protection it was determined that the area of water resources and wastewater represents the first priority of the NEAP. Pollution prevention and prevention of irrational and uncontrolled use of water represents a necessary measure for protection of water which is one of the most important resources of B&H. In addressing these problems NEAP proposes: establishment of the catchment areas management, realization of long-term water supply projects, construction and reconstruction of the wastewater treatment plants and sewerage systems, rehabilitation of flood protection systems to the required safety level, and use of water for irrigation and production of electricity.

Much attention has recently been given to the finalization and approval of the Poverty Reduction Strategy Paper or Mid-term Development Strategy of Bosnia and Herzegovina (2004-2007), which was adopted on 5 February 2004. The Paper gives a broad overview of the national economic and social situation in all sectors, including the environment and water. The priorities of the environment sector identified in the Paper, including in its Action Plan, generally follow those set out in NEAP. The Paper is considered by the Environment Ministries in both entities as the environmental strategy paper and the expectation is that it will play this role for a certain time.

The Council of Ministers has adopted an initiative of the Ministry of Foreign Trade and Economic Relations to draft a strategy for environmental protection and sustainable development. This has also received the support of the National Steering Committee for Environment and Sustainable Development.

No specific coastal policies have been prepared so far in B&H. That is not a surprise considering the short length of its coast. However, the documents that could consider as indirectly coastal, are the following:

- Spatial Plan of Bosnia and Herzegovina to the year 2000.
- Planning activities where treated within Regional Plan of South Adriatic Area through the General Plan for former SR B&H (1981-2000).
- The Neum Municipality Area Plan was prepared during eighties as the first planning documentation referring to the whole municipal territory. As result of pre –war non-regular functioning of the governmental bodies as well as the same situation after the war, Neum Municipality Area Plan has never been adopted.

5. INSTRUMENTS

An EIA system has yet to be put into place in BiH. A new set of environmental laws, including the Framework Law on Environmental Protection, which has provisions addressing EIA procedures, was adopted by the National Assembly of Republika Srpska on July 25, 2002 and entered into force after being published in the Official Gazette of RS, 53/02. The Framework Law on Environmental Protection in Federation BiH was adopted in March 2003 but it has not been published yet in the Official Gazette. Although the Framework Law on Environmental Protection in RS has been put in force, it is still not fully operative due to the lack of necessary by-laws. Therefore, in this transition period, the already existing licensing procedure (urban permits, construction permits and water management permits) is still considered an indirect method for assessing the impact that undertakings and activities may have on the environment. The existing licensing practice and associated problems show that, after adoption of the new law, all participants in the licensing process (developers, officials, as well as some expert institutions involved in the preparation of EIS) will require capacity-building programmes to increase their knowledge on the subject matter. This includes preparation of the EIA guidelines that will serve each stakeholder (including relevant government ministries and departments, project developers, the general public, consultants, NGOs and others) as a basic reference that will simplify the EIA procedure and make it easier to understand and follow.

Some of economic instruments used for environment protection in Bosnia and Herzegovina include the charges, taxes and fines. The following charges and taxes are recommended and applied: user charges (for the use of natural resources and public utility services), discharge charges (for discharging pollutants into environment) and special product taxes when consumption of the product has a detrimental impact on the environment (oil derivations, tobacco products, etc.). According to the Law on water, water charges are classified as general water charges and special water management charges (water utilisation, water protection, extraction of material from water streams, water regime changes, and flood protection). Currently, only special water charges are implemented. There are also water

user fees, which include both rates for sewage and water supply (based on a metered water supply). Municipal solid waste charges usually differ for households and industry – prices for industry are often 2-3 times higher than for households. Rates are different from region to region; some municipalities use a uniform price for a household, while others set their prices per m2 of the household. The collecting percentage is low and it cannot cover the cost of treating the waste. The deposit refund system in Bosnia and Herzegovina is applied only for glass (beer bottles), although even in that area cans mostly replaced bottles. The percentage of products returned may be around 70%. Introduction of tax differentiation for lead/lead-free gasoline was intended to stimulate purchase of cars, which use lead-free gasoline, and thus contribute to improvement of state of the environment.

6. COASTAL PRACTICE (PROJECTS, INITIATIVES)

LIFE TC financed in late 90ties the project for the establishment of the Mediterranean Action Plan's office in B&H. It assembled the major coastal stakeholders who have supported the initiative. The task of the office was supposed to be coordination of all MAP activities, including those on ICAM, in the country.

Under the Global Environment Facility the Mediterranean Action Plan (MAP) from 1999 to 2005 has undertaken a number of activities aimed at the implementation of the LBS Protocol. A review of issues related to this objective has been undertaken, and the National Diagnostic Analysis (NDA) and National Action Plan (NAP) were drafted in January 2000. According to the results and analysis of NDA and Baseline Scenario, the main environmental issues in the Neum coastal area weer to build the Municipal solid wastes in Neum (unsanitary landfill) and Communal wastewater in Neum (partially constructed sewage system).

A biodiversity strategy and a nature protection strategy are planned. There is no policy for water management and water protection. Some strategic documents prepared in the former Yugoslavia such as the Water Management Master Plan (published in 1994) are still followed in both entities. There are also some local initiatives to develop local environmental action plans (LEAPs) in both entities.

7. NEEDS FOR ICZM

Development of the ICAM process in B&H has not started yet. The main reasons for such situation could be summarised as follows: complicated political situation, practically no existing legal framework and sector laws on environment, lack of adequate relevant institutions and human resources at all political levels in B&H. However, when it starts it may have to differ from other countries because its coastal area is so short and the level of human activities are not extraordinary. But, the greater attention will have to be given to the larger coastal region with river basins of the three rivers in the Adriatic Catchment Area: Neretva, Trebišnjica and Cetina. The major environmental issues will have to be managed jointly with Croatia, where three catchment areas are located as well.

Strategic overview: Croatia

April 2006

1. INTRODUCTION

The Republic of Croatia belongs to the central European, Adriatic-Mediterranean and Panonian-Danubian group of countries. It covers the land area of 56,610 km², 31,067 km² of coastal sea, The surface area of the Adriatic watershed is 22,134 km².

The coastal area belongs to the country's most valuable economic and natural assets. It is here that dynamic and interrelated natural processes take place activated by the interaction between the sea and the mainland, including development pressures and possible related negative impacts that have or may have undesirable impacts on ecological systems. The Adriatic Sea, which cuts deeply into the European continent, has always represented an important link between the Middle East and the Western Europe.

Two factors characterise the national development process in Croatia: the transition to a market-oriented economy and the process to EU accession. Following the war in the early 1990s and the break- up of the socialist economy, the overarching goal of the Government of Croatia has been, and continues to be, sustained economic growth. This is being achieved through a series of market-oriented reforms and soft and hard infrastructure investments.

2. PRESSURES AND OPPORTUNITIES

2.1. Boundaries of the coastal area

The total length of the coastline is 5,835 km (13% of the Mediterranean coastlines), of which 1,777 km belong to the coast of the mainland, and 4,058 km to the island coasts, which makes the Croatian coast the most indented in the Mediterranean. The principal natural feature is the hilly karstic base. The mountainous coastal belt often keeps the dominant influence of the sea within just several kilometres inland. There are 718 small and big islands, 389 cliffs, and 78 reefs.

2.2. Population dynamics

In the past decade, there has been a visible migration flow from the inland areas towards the coast. Today, in the belt reaching 5 km from the coastline inland (11,452 km^2 or 20% of the national territory) live 1.1 million inhabitants (26% of the national population, but less than 1% of the Mediterranean coastal population). The major reason for this is the location of various economic and the resulting economic growth in the area, which offers a better future to the newcomers. In fact, the favourable climate, abundant natural and historic assets, high accessibility, irrigated and fertile soil attract activities, which are in turn leading to important changes in the land-use patterns.

2.3. Urban development

Major towns in the coastal area of Croatia are: Split, Rijeka, Pula, Zadar, Šibenik, Ploče and Dubrovnik. Among the ten largest cities in Croatia, 5 are located in the coastal area. Only a relatively modest portion of the Croatian coast is at present occupied by urbanisation, which is considered to be the major driving force behind the coastal development processes (837 km[1] or 14.3% of the total length). According to the "Report on the State of the Space" from 2003, the adopted physical plans of coastal local administrative units (municipalities and communes) envisage occupation of another 716 km[1]. Thus, in the next 10-20 years (the time span of a generation) almost the same length of the coastline will be developed as has been done by all the generations that have inhabited the Croatian coast so far.

The physical configuration of the Croatian coast makes reasonable the assumption that only about 50% of the Croatian coast is accessible, i.e. that construction is possible within reasonable expense limits. Following that reasoning, it can be expected that, soon, about 50% of the Croatian coast will be taken by urbanisation. The present and future urbanisation will be less of the illegal one (which at present, unlike in some previous periods, is also an easily resolved phenomenon) than the legally approved construction, which is, obviously, much harder to control. A situation that can currently still be kept under control could easily turn into an absolutely unsustainable development pattern, characterised with a linear coastal urbanization that endangers, among other things, coastal biodiversity (usually located in the narrow strip on both sides of the coastline). The coastal urbanisation, in majority of cases, is not accompanied by adequate water treatment facilities, which is a significant contributor to the pollution of coastal waters.

With the urbanisation rate of 61%, the population density is around 100 inhabitants per km^2, which is above the Mediterranean average. In this area there are 1,262 settlements.

Ten largest towns in Croatia	
	Number of inhabitants (according to 1991 Census)
Zagreb	867 717
Split*	200 459
Rijeka*	167 964
Osijek	129 792
Zadar*	80 355
Karlovac	70 950
Pula*	62 690
Sisak	60 884
Slavonski Brod	58 531
Sibenik*	55 842
*coastal city	

2.4. Tourism

Tourism is increasingly becoming one of the most important sectors of the Croatian coastal economy, whose development largely depends on good coastal environmental conditions. The coastal environment, in turn, is threatened by point and non-point sources of pollution. The tourism development concept is in a transitional phase, changing from a dominant "mass" tourism model, to a more sophisticated one, which would give priority to quality over quantity. Unfortunately, the current process of tourism development is not equally distributed over the entire Adriatic coast but is still largely location centred, meaning that, in some areas, a considerable development has taken place in recent years (Istria, some islands, Dubrovnik), while in most other areas a more haphazard tourism growth has materialised, which is much more difficult to control. Unfortunately, the latter type of situation prevails in the four counties that are covered by this project. As a result, there is a considerable and irrational consumption of space, increased pollution, low visual quality of the objects, diminishing income and, finally, little or no concern for the environmental and biodiversity protection and conservation.

2.5. Exploitation of natural resources

The country's very long coastline with good natural conditions provides a suitable environment for fisheries, but the Croatian part of the Adriatic is poor in fish compared to some other parts of the Mediterranean. Every year 240 000 tonnes of fish and other sea products are caught in the Adriatic Sea. Annual fish consumption in Croatia is estimated at 7 kg/capita. From 1990 to 1994 there was a

considerable increase in fishing. For instance, the number of the trawls increased by 34 per cent, drift nets by 33 per cent, but at the same time the catch drastically decreased. This is typical of overfished areas. There is a decrease in the average size and weight of the fish, some species are depleted, etc. Because of fishing practices, overfishing and pollution, fishing and fish processing declined by almost 60 per cent in 1989- 1995. The damage to fish hatcheries may be due to shoreline erosion.

Aquaculture has increased in recent years and has negatively affected marine ecosystems. In the Adriatic Sea, the majority of cultured marine fish species are grown in cages. Current production of shellfish is only about 4.500 MT. Fish farming in floating cages include mainly sea bass and sea bream, producing only about 2.700 MT/year based on fry stock. Shellfish aquaculture development has a huge potential in the Adriatic region, both ecologically and economically. In 1995, 25 fish farms were registered on the Croatian coast, of which 17 were on the islands and 8 on shore. Together with watersoluble waste, solid particles composed of uneaten feed stock and fish excrement cause pollution in both inland aquatic and marine ecosystems.

Agriculture at land in the coastal region and the rural population are decreasing: in 1991, 8.56 per cent of Croatia's total population was in rural areas, and in the seven coastal counties it was 3.42 per cent. In 1996, agricultural land covered approximately 55 per cent of the total surface area of the 7 coastal counties, with several areas with high potential agricultural productivity (Ravni Kotari, Neretva river delta). The trend reflected in the decrease in the agricultural population and in the surface of cultivated land in the coastal region is further exacerbated by the re-orientation of the landowners to tourism. The use of agricultural land in the vicinity of the urban centres has, to a large extent, been changed to meet the needs of secondary or tertiary activities, or turned into secondary home settlements.

Biological and landscape diversity is very high. Thus, for example, the ichtyofauna of the Adriatic rivers is among the highest in Europe (out of the 64 fish species, 40 are Mediterranean endemic species, while 11 exist only in Croatia). Coastal biodiversity is under threat. Out of 407 Adriatic fish species, 64 are endangered with fisheries activity.

2.6. Environmental and spatial impacts

The process of de-industrialisation of the Croatian economy is clearly visible from 1987. The volume of the total industrial production diminished constantly between 1987 and 1995, in 1996 there was slight progress in production. The contribution of the industrial sector to the GNP has diminished to approximately 25% in the last few years. At the same time the number of people working in the industrial sector decreased rapidly. The positive side of the de-industrialisation is the elimination of polluting technologies near the coast and the possibility of creating new economic activities that are not endangering the coastal environment. Today, the Primorje-Gorski Kotar County is the most industrialised coastal province, followed by Split-Dalmatia and Istria. The main industrial plants are found around the cities of Rijeka and Split. The main impact of coastal-and marine-based industries is wastewater discharge without prior treatment. Another impact is inadequate disposal of solid waste in porous karstic terrain which could contaminate ground water which is used for drinking purposes.

Inhabitants and urban areas are the major source of loads of the catchment area of the eastern part of the Adriatic Sea by organic substances, total nitrogen and phosphorus. The coastal area of this region is more densely populated than the hinterland and the major part of the load (61 per cent) lands in the sea as a result of the inadequate direct wastewater discharge. The share of tourism in the total load is the greatest in the catchment area of the western coast of Istria (some 15 per cent). This source is characterized by pollution caused in a short period of time during summer months by direct wastewater discharge into the sea. Agricultural activities which are the major source of water pollution by nitrogen (28 per cent of the total load) and cattle breeding as a major source of water pollution by phosphorus (41 per cent of the total load) have developed in the hinterland (central Istria, Gorski kotar, Lika, Ravni kotari, the Neretva catchment area). The load coming from these activities is brought into the sea by fresh waters. The main contribution to the load of the sea by total nitrogen (80 per cent)

comes from the rivers and ground waters; they contribute less to the organic substance (55 per cent) and the total phosphorus load (36 per cent). The main contributor is the Neretva River.

Maritime transport is an additional source of marine pollution due to possible accidents (especially in relation to petroleum transport) and to improper disposal of ballast and bilge waters and solid wastes. Two major port cities are Rijeka and Split, followed by Pula, Zadar, Sibenik and Ploce. Coastal trade and navigation have been very much developed, in particular among the Italian, Slovenian and Croatian parts. This is why the consideration of navigable waterways in the Adriatic and their control is becoming very important.

Degradation of the coastal belt, especially noticeable in major urban centres, is a consequence of the non-existence of corresponding physical plans, speculative illegal construction, inadequate institutional structure and instruments for implementation of plans, including the lack of a political will to improve the state. Residential developments on the coast are growing in parallel with the population. The spread of residential areas onto prime land is common. Densification in the form of high-rises, which offers an easy solution, puts a severe strain on the modest infrastructure, especially water and sewage networks, of the coastal cities. There is, also, another type of residential development which deserves special attention: secondary residences and summer homes. Secondary housing, which was very limited, until the 1970s, has since increased enormously and continues to grow.

Despite numerous strategic documents islands still lack concrete measures to improve the state and activities that would not focus on short-term economic profits at the expense of a long-term conservation of insular environment. The Island Development Act that is in force cannot be enforced due to the shortage of funds.

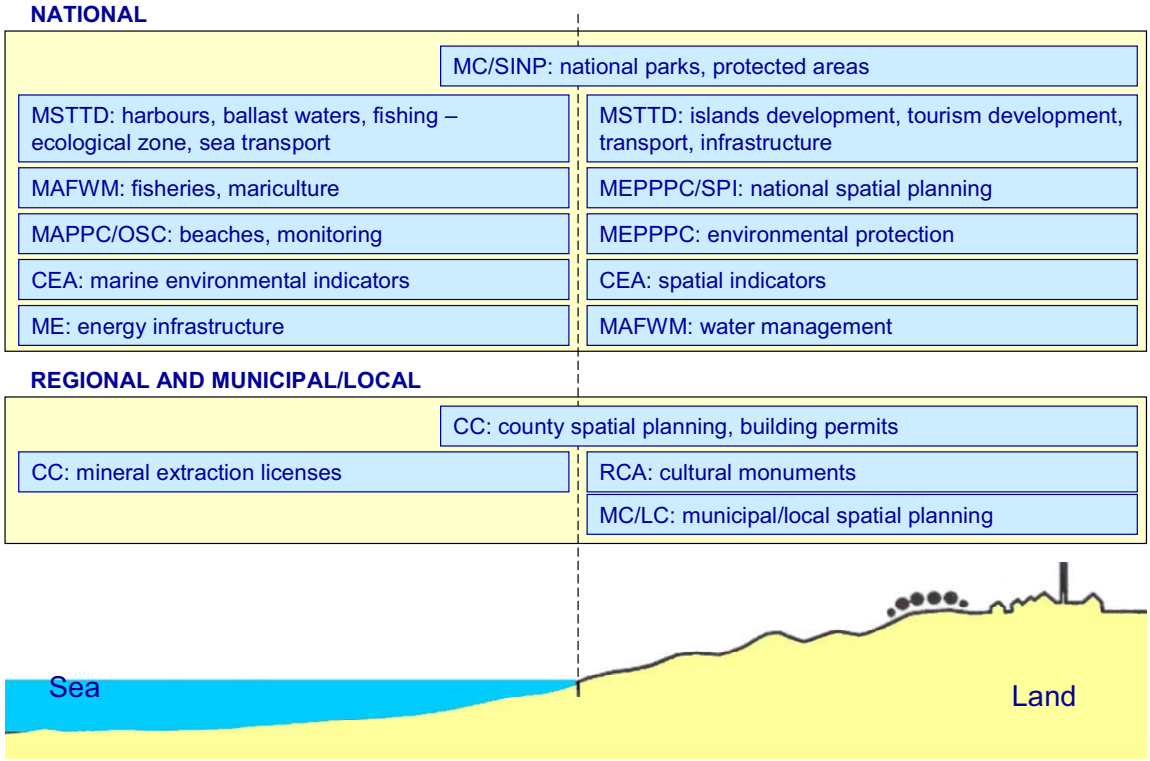
The state of the Croatian coastal sea can be deemed comparatively well. However, great problems exist in the so-called "hot spots" (areas with the concentration of environmental problems, mainly in the vicinity of the large urban agglomerations, in the enclosed bays, near big industrial complexes and harbours, etc.). Several years ago, the Croatian authorities have identified, within the GEF project "Strategic Action Programme to address pollution from land based activities (SAP MED)", eight such spots where the concentration of ecological problems has been exceptionally high (Pula, Rijeka, Bakar, Zadar, Šibenik, Kaštela Bay, Ploče, and Dubrovnik).

In the last two seasons the County of Istria recorded the highest number of beaches with good bathing quality sea. In 2004 the percentage of beaches with high quality sea (5.42%) is higher as compared to 2003. In the County of Primorje-Gorski Kotar, testing of sea water quality performed in the area of Crikvenica, Rijeka and Opatija in early May revealed that test results of 26 beaches exceeded the limit values prescribed in the Regulation. In the County of Lika-Senj sea water is prevalently of high quality. All samples taken over the past two years met the Regulation standards.The good sea water quality in this county is due to the lack of urbanisation and industry, as well as to the hydro-geomorphological structure of this area. In the County of Zadar, growth in the number of beaches with high quality sea was observed in 2004 (from 11.11% in 2003 to 47.95% in 2004). Also in this county all samples met the Regulation standards. In the County of Šibenik-Knin testing of sea water sanitary quality at the beginning of 2004 bathing season indicated high quality sea water. However, as the tourist season went on, the results of the analyses deteriorated. Such a situation may be attributed to the insufficiently developed municipal infrastructure as well as to the high tourist inflow during the season.At the end of the tourist season this county had 98.68% of beaches with good bathing quality sea and not one single beach with high quality sea. In the County of Split-Dalmatia, in 2003 as compared to 2004 there were more beaches with high quality sea. In 2004 99.23% of beaches were registered with good bathing quality sea.

3. LEGAL AND INSTITUTIONAL ARRANGEMENTS

The legal and regulatory framework for the Croatian coastal area is scattered across the number of different regulatory systems and regimes. The most characteristic feature is the fairly clear split in powers regarding management of land and sea. The regulatory system that governs land areas and land-based activities is characterised by powers vested mainly in the regional and local authorities. In spite of the comprehensive planning system embedded in the Law on Spatial Planning, the influence of the Ministry of Environmental Protection, Physical Planning and Construction (MEPPPC) was, until recently, rather limited. This situation has changed when the Decree on the Protection of Coastal Area was adopted was adopted by the Government in September 2004. It has helped the MEPPPC to temporarily renew its dominating role in managing coastal physical development.

The regulatory system that governs sea areas is characterised by a sectoral approach - harbours, fishery and mariculture, navigation, energy, etc. - and by powers vested in national State authorities (sectoral directorates and public companies managing particular resource sectors). There is almost no co-ordination or attempts at integration of activities and legislation among these two regulatory systems. This in spite of the fact that these instruments exist and that some of them are being already used in Croatia, albeit for different purposes, and not for one stated above (EIA, planning, public participation).



Regulatory "split" in Croatia's coastal zone
(MC/SINP:Ministry of Culture/State Institute for Nature Protection; MSTTD: Ministry of the Sea, Tourism, Transport and Development; MAFWM:Ministry of Agriculture, Forestry and Water Management; MEPPPC:Ministry of Environmental Protection, Physical Planning and Construction; MEPPPC/SPI: Ministry of Environmental Protection, Physical Planning and Construction/State Planning Institute; MEPPPC/OSC: Ministry of Environmental Protection, Physical Planning and Construction/Office for the Sea and Coasts; ME: Ministry of the Economy; CEA: Croatian Environment Agency; RCA: Regional Conservation Authority; CC: County Council; MC/LC: Municipal Council/Local Council)

The most important laws for protection of the coastal land areas are the Spatial Planning Law and the Nature Protection Law. The Planning law does not, however, requires separate coastal zone planning and management, although it is implicit that coastal protection considerations should be integrated into regional, municipal and local planning. Unfortunately, the recent practice in fulfilling even this meagre requirement is not encouraging. Coastal zone planning as a specific task is barely discernible in many of those plans. Only recently, county spatial plans have recognised the coastal zone as a specific area. It is true that there are special sections in the plans that deal with coastal zones, but more in a formal manner and without much effort to employ the ICZM methodological approach. Only the Zadar County Planning authority has prepared an introductory study to introduce ICZM carrying out the suitability analysis to assess the potential locations for mariculture.

From the very beginning, the Office has been conceived, in terms of permanently employed staff, as a relatively small unit. Until the year 2000, it has always had between 6 and 8 employees. Then in 2000, due to some restructuring in the new Ministry, and because of its differently perceived role, the Office's staff has been reduced to 5 employees (4 technical persons and a secretary). This situation has remained until today. However, it is important to say that, although the personnel have been reduced, the respective tasks have remained practically unchanged. The Office is responsible for the following: (i) to coordinate monitoring of the quality of the sea; (ii) to propose measures to improve the state of coastal areas and coastal waters; (iii) to prepare assessments and propose programmes to eliminate the effects of the marine and coastal pollution; and (iv) to participate in the implementation of the MAP programme in Croatia. The Office is currently positioned at the lowest level in the MEPPPC hierarchy, and that certainly defines the institutional powers that are allocated to it. It has no administrative function and has no power to intervene in the case of serious environmental disruption. Its role could be considered as predominantly advisory one.

The financial basis for ICZM in Croatia is very weak, almost non-existent. The national Government allocates no specific resources for it, as well as the MEPPPC. Some small amounts are provided by the international organisations, but this is far from satisfactory. It is well-established fact that some financial resources are needed to lift the ICZM initiatives off the ground. The authorities should provide these resources as they find the interest in pursuing these initiatives. On the other hand, the central government (less), and county and local authorities (more) secure significant financial resources for spatial planning, namely for the preparation of the spatial plans, but not necessarily for their implementation.

The Central Government is responsible for the overall policy framework. In Croatia, there are no special organizational or legal forms of integrated management of coastal areas. Specific tasks for coastal resources protection and development are performed within the State organizations and sectoral and other institutions. The only component of the national administration that deals with ICZM is a tiny Office for the Protection of the Sea and Coast, located in Rijeka. Its activities are exclusively focused on the coastal (marine and terrestrial) area. The law of 22 December 2003, which defines the organisation of the Ministry, mentions the protection of the sea, i.e. the marine, but not of the terrestrial part of the coastal area, as one of the MEPPPC's tasks, and which implicitly falls within the Office's scope of activities because there is no other unit in the Ministry that deals with similar issues. Among other activities that might fall within its scope of activities are the following: general environmental policy as an instrument for achieving sustainable development; the implementation of the cadastre of polluters (monitoring), including the land-based polluters of the sea; implementation of the information system on the environmental protection; and international relations in the environmental protection. However, these are the general activities that do not explain much about the actual work that the Unit is performing.

With regard to economic activity in the coastal region, the following ministries and State organizations are important:

- Ministry of Environment, Physical Planning, and Construction monitors the processes going on in physical planning and implementation of plans, as well as urban planning

and building inspections, and protects various segments of the environment and oversees and coordinates monitoring.. It has established an information system for the environment programme designed to support decision-making in environmental regulation and protection. Priority was given to the protection of sea and surface water, consistent with the fact that the most extensive parts of environmental legislation are dedicated to water protection.

- State Water Directorate develops law and regulations, controls quality standards and pollution levels. It has been set up with its four divisions in accordance with the Water Law. Its prime responsibility is directing the longterm development of water resources, managing water resources, and supervising the implementation of the provisions of the Water Law and related regulati Chapter 9: Management of Marine Resources and Pollution Directorate is responsible for controlling marine pollution from land-based activities.
- Water Agency, Hrvatske Vode monitors water quality and collects water payments.
- Ministry of Development,, Tourism, Maritime Affairs, Transport and Communications and Reconstruction prepares and manages the State development programmes and restoration processes. It performs, among other things, tasks related to the management of Croatian marine territorial waters.
- Ministry of Culture's Directorate for the Protection of Cultural Heritage is active in research, categorization and protection measures. It has departments in Rijeka, Zadar and Sibenik, and is also in charge of the town conservation institutions in Dubrovnik and Spilt. Within their mandates, other ministries are also active in the coastal region:
- Ministry of Agriculture and Forestry (Directorate for Fishery),
- Ministry of the Economy (comprises two important sectors : energy production and ship building),
- State Hydrometeorological Institute,
- State Hydrographic Institute in Split,
- Institute for Oceanography and Fisheries in Split,
- Centre for Marine Research in Rovinj, and various public enterprises operating within the sectors of waters, forests, roads, etc.
- There are also specialized agencies that are set up as public companies, such as the Croatian Hazardous Waste Management Agency (APO), Agency for the Protection of the Environment (AZO), the Waste Management and Environmental Protection Agency, the Energy Research and Environmental Protection Institute (ECONERG).

4. POLICIES AND STRATEGIES

Land-Use Strategy of the Republic of Croatia (1997**),** is the fundamental document for land-use planning, which unifies sectoral strategies and programmes, synthesises them, and thus represents the only document that tackles all aspects of land use. It defines the Croatian Adriatic region as a physically large unit of preserved biosphere and special values. Among the large number of directives it gives, the following are important for the coastal region:

- the obligation to use the land rationally, to stop the urban spreading to the most valuable coastal stretches, to carefully select locations for marinas, to assess the carrying capacity of the environment,
- the need to transform the economy in order to harmonise it with the specific features of the coastal environment, topreserve the value of the agricultural land, and to rehabilitate traditional activities,
- the increase of the areas of protected nature from 7.5% to 15% of the total surface area of the country, where a large portion belongs to the coastal region.

National Action Plan (NAP) is a plan for mitigation of pollutant emission consistent with the Strategic Action Programme for the Reduction of Pollution of the Mediterranean from Land-Based Sources

(SAP MED), which is prepared by the contracting parties to the Barcelona Convention, including the Republic of Croatia. The Guidelines for preparation of NAP are contained in SAP and pertaining documents. NAP is prepared on the basis of the earlier developed documents: National Diagnostic Analysis (NDA), 2003 Baseline Budget for the Republic of Croatia - Coastal Area (BB), Sectoral Plans for different types of pollutants (SPs) and Economic Instruments for Protection of Sea against Pollution from the Land-based Sources in the Republic of Croatia - Current Status and Possible Solutions (EI). All documents (NDA, BB, SP, EI and NAP) were prepared within the UNEP GEF SAP MED Project that gave them full financial support. The Inter-ministerial Commission was convened to follow up preparation of these documents, and it was available for consultations during all the stages of the documentation preparation. NAP primarily focused on determining proposals for the environmental protection priority actions for the coastal area of the Republic of Croatia. Performance of these actions shall result in achieving the basic SAP objectives. It is underscored that NAP was prepared on the basis of the national environmental protection plans currently in effect in the Republic of Croatia, which were used to establish the basic concepts in this document. The summary of the most important plans is given in a separate section herein. In addition to the national environmental protection plans, the information on the Croatian legal and institutions framework is briefly described herein as particularly important.

The Contingency Plan for Accidental Marine Pollution with the aim to protect the Adriatic against pollution and fulfil obligations arising from the national and international regulations. The plan determines measures to reduce environmental damage caused by accidental pollution such as the spillage of oil and oil mixtures, the discharge of harmful and hazardous substances and unexpected natural phenomena. The plan also sets basic structural, administrative and technical preconditions for taking measures in order to shorten the time of response and thus reduce the possible impacts on the environment.
issue.
Prompted by negative trends in spatial use of coastal area, the central government has recently undertaken several actions that might result in improved coastal resources management. The recently adopted Decree on the Protection of Coastal Area for the first time defines, in geographic terms, what is the coastal area (1000 m landwards and 300 m seawards), and what activities will be given priority with respect to coastline location (especially those that require coastal location). Unfortunately, there is no reference to such defined coastal area in the further text of the decree. It almost exclusively relates to the terrestrial part of the coastal area and deals with the problems encountered there as well as provides measures to mitigate them. There is only a mention that when deciding on the location of the coastal activities preference would be given to the coast dependent ones.

5. INSTRUMENTS

Traditionally, physical plans were the most powerful tool of coastal area management in Croatia. Although their implementation did not always succeed in achieving the planning goals, and sometimes those goals were not in the function of optimal protection and development of coastal areas, the physical plans have the greatest merit for the fact that large parts of the coastal region have remained well preserved.

Land-use reports for the coastal counties are prepared at regular intervals, always pointing at the problem of illegal housing and suggesting measures for its solution. However, those measures are not always applied, and when so, not consequently. One of the reasons for such situation lies in the fact that a radical solution would cause serious social problems, especially in urban agglomerations. On the other hand, the coastal administration does not always apply efficient rehabilitation measures that would enable the inclusion of the illegal housing into the physical plans, giving the possibility of legalising the houses.

The protection of the coastal belt is regulated by instruments at several levels. First, there is the protection of the public marine property (a 6 m wide strip) where strict limitations are applied and

which is entirely treated as state property. Building is allowed only exceptionally. Public marine property can only be used on the basis of a concession granted for a limited period of time.

Integration of the environmental component into sectoral policies is still not widespread. Thus, for example, even if Croatia is a tourist country, its tourism strategy still doesn't include the definition of areas for more of less intensive tourism building. Accordingly, there is no policy of economic stimulation of tourism building in some zones aimed at improving tourism activities in hitherto undeveloped areas.

The use of economic instruments in the development of coastal areas has been rather limited. Mostly, the traditional instruments are used, such as fees and charges for certain resources. The use of sophisticated instruments is still in its infancy.

According to the most recent amendments to the EIA Guidebook, before the developer applies with a study to MEPPC, they need to prove that the proposed project is in accordance with relevant physical plans. This novel amendment has put the whole procedure one step backward bearing in mind that the development of physical plans does not set detailed requirements for environmental assessments, and that physical plans are rather general in nature threatening that EIA might become only a *pro forma* tool for obtaining a location permit.

SEA of physical plans are already carried out in Croatia under Article 34 of the Environmental Protection Act, which requires MEPPPC consent to such plans prior to their passing. There are no detailed provisions, however, and the assessment is rarely carried out in the same depth as is required for projects under the EIA Guidebook. Meanwhile, Article 33 requires environmental factors to be taken into account in drawing up the plan of any level (town, municipality, county, state). It is planned to include SEA as an amendment to the EIA Rule Book and also to the Environmental Protection Act, probably in a form that operates more through cooperation and advice than rigid requirements. The Proposal of amendments to the Environmental Protection Act (April, 2002) in Art. 33(a and b) introduces SEA as the only legal framework at the moment in Croatia for SEA procedure and it sets a basis for its implementation in Croatia's legal system.

6. COASTAL PRACTICE (PROJECTS, INITIATIVES)

In 1997 the project of a "Systematic Research into the Adriatic Sea as a Basis of the Sustainable Development of the Republic of Croatia" was launched, serving for a continuous monitoring of the state in the marine environment. The project results should form the basis of the coastal and insular zone management, or rather improvement of Croatian regulations in the field of the protection of marine environment and their harmonization with international regulations. Through this project Croatia has joined the regional co-operation in the protection of the Adriatic, because the implementation of the Adriatic Protection Strategy is only possible in co-operation with the neighbouring countries in the Adriatic.

The programmes that address the issues in the coastal area of Croatia include:

- Sewage treatment investment programme in Trogir-Kaötela and Solin-Split;
- Environment Management Plan for the Cres-Loöinj Archipelago;
- Sustainable Development plan and investment programme for
- National park Krka and the River Krka, in the framework of the Mediterranean Environmental Technical Assistance Programme (METAP PHASE III);
- Water management programmes for the coastal region which integrate land-based activities;
- Master Plan for the Adriatic will be prepared within the work of the trilateral Commission between Croatia, Italy and Slovenia. The first phase of the Master Plan will produce information system (ASEMP).

The GEF/UNDP is preparing the project Conservation and Sustainable Use of Biodiversity in the Dalmatian Coast Through Greening Coastal Development (Coast). The pšroject goals are to ensure that the development path of the Croatian coast is environmentally friendly, with the conservation of landscape and biological diversity central to that development path. The project area covers four Dalmatian counties: Dubrovnik-Neretva, Split-Dalmatia, Šibenik-Knin and Zadar county. The project area is rich with biological and landscape diversity, identified as of national, Mediterranean and global values, under severe threat, would the development path be uncontrolled and/or biodiversity (BD) and landscape (LD) unfriendly.

UNEP, ina ssociation with PAP/RAC, has financed the inovative project on integrated coastal arean and river basin management (ICARM) for the Cetina River. The general objectives of this study are as follows:

- To apply the principles of the "Conceptual Framework and Planning Guidelines for Integrated Coastal Area and River Basin Management" to issues concerning the Cetina basin and its adjacent coastal area;
- To investigate their interrelations (functional, socio-economic, natural, and others), as well as to clarify and quantify them;
- To provide support to the local administrative units and Split-Dalmatia county in the preparation of the integrated river basin and coastal area management strategy; and
- To develop the respective planning and managerial instruments in order to facilitate decision-making which is crucial to both the management and protection of the Cetina basin and it's associated coastal area.

Specific objectives were:

- To identify the major problems relating to the development of the Cetina basin and to establish and prioritise the means to their solution;
- To identify the basic conflicts in the Cetina basin and its associated coastal area, and to define their resolutions;
- To propose an institutional framework that would meet the need for the establishment of a long-term basin management system; and
- To create the preconditions for the achievement of regional and international cooperation in relation to management of the Cetina basin.

The preliminary activities for the Spatial Plan for the Area of Special Interest, covering the entire Croatian coastal area, have started. The plan is conceived as a strategic document that will guide future actions and provide directions for the preparation of the county and local coastal spatial plans. It is questionable, however, whether such a large area could be covered by a spatial plan. There is awareness of this problem and it will be dealt with along the way.

7. NEEDS FOR ICZM

Within the COAST project, some of the major issues in ICAM in croatia are identified as follows:

- **The regulatory "split"**. The sectoral interests in the coastal area of Croatia seem to be so strong as to create a lack of sectoral policy integration. The institutional rigidity, coupled with bureaucratic inertia is overly present in all the levels of the administration. The opposition to changes is coupled with the lack of incentives to involve institutions in integrated management. Very often, the opposition caused by the strong economic interests stay behind the lack of sectoral integration. The economic interests are often coupled with the strong property interests opposed to regulatory integration. This situation is also made worse by the difficulty in defining coastal area in legal terms.

- **Weak institutional arrangement for ICZM**. The lack of understanding ICZM and a corresponding lack of political will to start the ICZM process on a larger scale in Croatia are the main barriers to better institutional arrangement.
- **Mistrust in the institutions**. There is lack of transparency when resource management decisions are being made. Certainly, the instruments such as planning, EIA or SEA, and public participation mechanism could help, but most of them have not yet been in wide use. Also, the public does not have full confidence and does not trust the results when these instruments are being used. Public participation is at a very low level.
- **Lack of integration between land and sea areas.** There is a lack of understanding and consensus among the decision makers, planners, coastal managers and scientists that there should be integration between sea and land areas.
- **Inadequate financing**. It is evident that decision makers do not have a clear idea what ICZM is and what benefits it could bring. On the other hand, there is no bottom-up pressure to employ ICZM as a management framework for coastal resources management, especially the biodiversity. Very often, ICZM is confused with spatial and physical planning, which certainly doesn't bring the need for ICZM to the attention of the decision-makers, and they think that spatial planning alone (if needed!) is enough to solve the coastal development problems. There is inadequate technical base (not enough well qualified planners), as well as low level of the information exchange, which would bring the emergence of ICZM as a viable management alternative. Finally, there is a constant lack of financial resources in the local administration's budgets, as well as the persistent culture that looks for outside financial help to solve the coastal problems (national and/or international), as if it is not an issue of prime importance for the coastal local communities.
- **Lack of sustainable development vision for the coast**. There is no national strategy for the coastal area. Spatial strategy for Croatia (1998) is considering coastal area as a space with special characteristics, but only from the spatial point of view. There is no integration of environmental component in the spatial vision. The concept of sustainable coastal development is not elaborated.
- **Lack of sectoral integration**. The national spatial strategy and county spatial plans lack sectoral integration, which is the essence of ICZM. This is the evidence of the existence of the management barrier that the coastline constitutes between the dominantly land-oriented competencies that rest mainly with the county and local/municipal authorities and embodied in the Spatial planning Law, and primarily sea-oriented competencies that rest with the various sector authorities according to specific sectoral laws dealing with specific resource issues (fisheries, harbours, navigation). However, some land-based sectoral departments (water, forests, electricity, heritage, agriculture) have also failed to be, on one hand, integrated in the spatial plan while, on the other, have not shown too much inclination by themselves to be integrated. Lack of horizontal integration is well known among Croatian sectoral institutions and authorities. Plans are prepared sectorally, with little or no consultation with other sectors. Sometimes, as it is well known within MEPPPC, the departments within the same ministry do not communicate. In addition, national goals related to coastal (land and marine) areas are not always integrated with the county and local ones, which is the consequence of the limited scope of the Spatial Planning Act in relation to the sea.
- **Insufficient vertical integration.** A certain level of vertical integration among competent authorities at all administrative levels in spatial planning is achieved. It is well known that plans at various administrative levels have to be coordinated and that there must be no conflict between objectives, strategies and land uses. However, this applies almost exclusively to spatial planning in the land part. The similar could be applied to the sectoral plans as well. Unfortunately, low level of cross-sectoral vertical integration has been achieved.
- **Inadequate integration of environmental/biodiversity considerations in decision making.** Decision makers seldom consider environmental, and in particular biodiversity, considerations. There is a widespread concern that environmental/biodiversity considerations

are an impediment to development. There is a lack of adequate information relayed to decision makers on the cost and benefits of such considerations. Finally, there is lack of understanding that environmental/biodiversity conservation and protection could be considered as developmental assets, and that they could be beneficial and profitable for the coastal economic stakeholders.

- **Inadequate technical capacity for ICZM**. Educational system for spatial planning, as the closest discipline to ICZM, is not adequately considering ICZM in their curricula, if at all. Today, some "non-core" ICZM university departments, such as political sciences, geography and economics, are "producing" experts better suited for ICZM than the departments of architecture and planning. Biology and marine sciences departments are too technical and specialised in their knowledge to be adequately evaluated here. System of training courses for ICZM is not developed, and many experts are not aware if its existence and/or need at all. Finally, there is a low interest among specialists for ICZM. This may have been prompted by the lack of cooperation between the coastal/biodiversity scientists and planners/managers. The communication between them has never really been established.
- **Inadequate level of public participation.** Public participation in ICZM and awareness raising programmes for ICZM are poorly developed. Public participation is only formally applied and there is no real intention to make it an indispensable part of the planning and/or ICZM process. Biodiversity issues are not especially being put forward in debates on coastal issues in Croatia.

Integrated Coastal Area Management has to be more actively promoted in Croatia. By establishing the ICZM system, the enabling environment for mainstreaming biodiversity into coastal policy and management framework will be created. This will certainly contribute to the better coastal biodiversity protection and conservation. However, this project does not have the power to create the change by itself. It should be considered only as one of the vehicles that could generate change in the Croatian coastal area. The actions recommended are to be considered only as constituent parts of the wider process of change. The actions are proposed only at a national level. They emanate from the Global, European and Mediterranean experiences. The following strategic groups of activities are recommended:

- definition of the national policy framework for the coast,
- adoption of specific coastal legislation;
- institutional arrangement for ICZM;
- application of the modern planning and management tools;
- increase of the level of national financing to stimulate coastal management;
- increasing the involvement of the public;
- capacity building for coastal management; and
- exchange of information.

Strategic overview: Egypt

April 2006

I. INTRODUCTION

The total coastline stretches for about 3,000 km along the Mediterranean and Red Seas, including the Suez and Aqaba gulfs and coastal lagoons. Half the population lives in the coastal region. The densely populated cities are Alexandria (c. 4 million) and Port Said (0.5 million), wile in the central delta, the population is more widely scattered. Population density varies from 400 to 1200 persons/km^2.
The Mediterranean coastal zone is of great economic and environmental significance. It combines localities of intensive socio-economic activities and urbanized areas and pressure on coastal resources is also very high. About 40% of industries are located in the coastal region. The enormous urban population (many migrant workers) and adjacent agricultural areas, all contribute to the pollution load reaching coastal waters.

II. PRESSURES & OPPORTUNITIES

Boundaries of the coastal zone

The coastal zone is defined by law: it extends to a maximum 30km inland in desert areas unless this distance is blocked by any topography; in the Delta depression the area includes the +3m contour line.

Urban and spatial planning

Urban population is expected to reach about 60% by 2030. Alexandria and Cairo concentrate 40% of it. Urban development along the coast is strictly linear, being confined to a narrow strip of land rarely exceeding few hundred meters in width between the coastal highway and the coastline. At present, the coastal area is urbanized from Alexandria to Mersa Matruh, and some coastal resort areas have been developed along the Delta coast. In north Sinai, coastal resorts have been constructed west of El Arish during the past three decades. The most important new urban centre along the Mediterranean coast of the Nile Delta is the New Damietta port city. The city was built around the new port facility and has since become an urban extension of the neighbouring Damietta and Ras El Bar cities. The new industrial city of New Borg El Arab was established also west of Alexandria. The westward expansion of Alexandria has resulted in the complete urbanization of the coastal land westward to El Agami to Sidi Krir.

Resort construction on the Egyptian Mediterranean coast destroyed the natural landscape as for most stone ridges running parallel to the coast were removed to provide land for different tourist installations. The natural vegetation and native plantations (olive and figs) grown in the depressions between the ridges were also removed. In addition, quarrying activities have been so extensive that most of the coastal limestone ridges have disappeared

Many of the resorts from Alexandria westwards to Mersa Matruh caused major shoreline modification to enhance the quality of their beaches. Dredging of artificial lakes with inlets to the sea has been carried out to build intricate system of channels, lakes and islands.

Infrastructure developments of urban areas however are not complete, except for major cities like Alexandria and Port Said. Many such development (roads, infilling, blocking of streams) have impacted on the coastal flood streams.

Tourism

Tourism is one of the main activities in the coastal regions, especially beach related development and recreation. It is the biggest generator of foreign exchange just behind overseas remittance by Egyptians, the Suez Canal Toll, as well as oil exports. Hurghada and Sharm El-Sheikh alone have a significant national economic impact. Most of these developments were unplanned, adopting large-scale development and limited to enclaves, i.e. not integrated. This has been typical of tourism development between Alexandria and El Alamein. Large resorts are often targeting lower quality levels secondary residences. This induces rapid congestions of beaches.

Demand for nautical facilities is growing and 50,000 berths are planned by 2017. More than a million tourists (70% foreign) visited protected areas. However, marine tourism is still poorly regulated.

Maritime transport

Due to the Suez Canal, Egypt has specific constraints in relation to maritime transport management and safety. For example free navigation is permitted for ships carrying hazardous wastes for the purpose of recycling, reuse of final disposal according to the provisions of the Basel Convention. There is also an important traffic for oil.

Exploitation of natural resources

Water availability is key to economic development in Egypt; hence the large water management projects and infrastructures developed, including the High Dam. Surface water from the Nile River accounts for 96% of renewable water and Lake Nasser is the main reservoir. Closing the gap between water availability and growing demand from all sectors is a major challenge. For example, tourism resorts require high freshwater volumes and desalination is becoming widespread as an alternative source of water.

Egypt has one of the oldest agriculture systems in the world. The agriculture sector represents nearly 20% of GDP and 40% of labour. Between 1980 and 2000, surface increased from 5.8 millions acres to 7.95 millions. Fertile land in the Delta and Nile valley are exposed to salinisation, urban encroachment, soil and water resource pollution, sand engulfment at the rim of the western desert (16% of the old valley are covered), coastal erosion in relation to sediment supply depletion in the Rosetta and Damietta branches. Excessive use of fertilisers, inappropriate cropping and irrigation systems are other causes for agricultural damages to soil fertility and productivity. Grazing lands are also impacted, first by harsh climatic conditions (droughts and floods) but also by overgrazing. Agriculture also reclaimed vast wetland areas, with impacts for example on migratory birds and wider effects on biodiversity. The policy is now to urgently reclaim desert lands. Large water supply project were accomplished: El Salam Canal in the Sinai and the Toushki in the South and Western desert.
Fish is a traditional and important component of the Egyptian diet. The total fish catch in 1999 was 172,400 tons of which 90,000 came from the Mediterranean and the remaining from the Red Sea. The Red Sea is characterised by its great variety in fish due to its high biodiversity. Illegal fishing is a prominent issue and water pollution has resulted in a decrease in Sardines and is threatening resources in coastal brackish lakes (Lake Manzala near Port Said).

The coastal region produces about 85% of gas and oil and it is increasing every year. Several specialised ports operate in relation to this production: Al Ain Sokna terminal on the Red Sea and Sidi Krir terminal on the Mediterranean shore.

The Red Sea coastal zone possesses a huge reserve of minerals including phosphates, metals (zinc, iron) and semi-precious stones.

Environmental hazards

Pollution

About 8 billion m^3y^{-1} of pollutants, are discharged directly (town sewage) or indirectly (Nile, irrigation and drainage canals, and coastal lagoon - Maryut, Idku, Burullus and Manzala). There are five hot spots: El Manzala, Abu-Qir Bay, El-Me Bay, Alexandria and Damietta. Three of the hot spots are within Alexandria and its border with Beheira Governorate; the last two are within Port Said Governorate. Most sanitation pollution is seasonal, related to summer surges in population or resulting from northwest winds that drive pollutants to the borders such as in Rafah and El Arish. Chemical and bacteriological pollution is however low in the Red Sea.

The most severe impact by industry is air pollution, followed by working environment pollution problems and effluent pollution. For example mining produces leakages with impacts on the seabed, especially during loading at ports in the Red Sea.

Maritime transport in the eastern Mediterranean, including oil tankers (25% of world oil transport), commercial ships and passenger ships, affect the coast to a large extent. The entire beaches are frequently polluted by oil lumps, litter and plastic debris; even in the very far remote areas of the coast where there are no activities.

Marine eutrophication is mainly an inshore problem that affects lagoons, harbours, estuaries and coastal areas adjacent to river mouths. Along the Mediterranean coast, three areas show distinctly higher levels of eutrophication parameters. The first is around Alexandria, the second is Abu Qir, and the third is from new Damietta to Port Said. The three areas are characterized by the existence of discharge of domestic sewage and agricultural runoff from the River Nile, the coastal lakes and its related drainage system.

Solid wastes

Solid waste pollution, especially due to massive accumulations, is a major national problem. Solid wastes are produced in majority by cleaning of drains and canals, agriculture, and municipalities. Solid waste management of summer resorts is not adequate in many places: collection and transportation is not well conducted, and disposal results in major environmental problems within the coastal zone. In the city of Alexandria, however, a new, highly effective management system has been developed: a sanitary landfill was established and will be completed by recycling.

Coastal erosion

Large parts of the Nile Delta suffer from severe coastal erosion, although adequate protection and mitigation measures have been considered. This is mostly a result of the High Dam, which has cut massive sedimentary delivery to the coast. But climate change is also having an impact testified by more frequent flooding, damages to port and city infrastructures.

Natural and cultural heritage

The coastal and marine environment in Egypt is demonstrates varied habitats with lagoons, coral reefs, dunes, wetlands, rocky shores. The marine area hosts rare species such as dugong. Construction of tourism and nautical facilities, land reclamation, housing, and industrial development, anchoring, all induce habitat losses especially, mangrove forests and coral reefs as well loss of endangered species such as sea turtles. Curio collection and trading is also widespread, particularly in Hurgada and Safaga. However, there are no clear statistics to quantity rate of biodiversity loss.

There are currently 24 protected areas in Egypt of which 5 are on the Mediterranean coast (Zaranik, Ahrash, Al Omayed, Ashtum El Gamil, and Burulus) and 3 along the Gulf of Aqaba (Ras Mohammad, Abu Galum, Nabq). Ras Mohammad was the first declared protected area in Egypt (1983). Five more protected areas are planned: 3 on the Mediterranean coastline (El Saloum, El Shuwaila, and Ras El Hekma) and 2 in the Gulf of Suez (Malahet Ras Shukeir and the Red Sea). Protected areas in the Gulf of Aqaba include combined marine and land parts and consists in mangrove and coral reefs. Along the Mediterranean wetlands are protected for their birds and help local fishing communities in their development via ecotourism.

Drainage of parts of the northern Delta lakes and wetlands for cultivation, urban expansion, or industrial development has been a major ecologic problem affecting all the lakes to different extents. Drying and clearing of large tracks of wetlands and marshes have resulted in reducing the sizes of most of these lakes considerably. Lake Maryut has been reduced to a mere 25% of its original size. The original area of Lake Manzala was 1710 km^2, was reduced to 1400^2 km by 1970 to 1200 km^2 in 1980

Information and communication

Centre for Environment & Development for Arab Region and Europe (CEDARE) which developed the first virtual training course on ICAM, in Arabic (developed together with PAP/RAC and RMSU)

Participation

Hurghada Environmental Protection and Conservation Association

III. EXISTING LEGAL & INSTITUTIONAL FRAMEWORKS

Legal basis

The Environmental law N° 4 (1994) deals with general rules, definitions, authorities concerned with environment protection, administration and responsibilities of the Environment Affairs Agency, the environmental protection fund and incentive systems. It delineates requirements for land protection, and management of hazardous substances and wastes, protection of air, protection of water including control of oil spills, pollution caused by harmful substances, wastewater and garbage, and covers sea pollution from land-based sources; it states requirements for issuing internationally recognized certifications, and details administrative and judicial procedures, penalties including fines, detention, suspension of license, and confiscation of properties.

The actual implementation remains difficult due to lack of political will and limited human and financial resources. Redundancy of authorities assigned with executing environmental legislation and lack of coordination between them is a major cause.

Other major relevant laws are:

- Law 116/1983 controls the use of land for non-agricultural purposes. Construction permits beyond urban and rural boundaries of existing settlements are prohibited, and the use of the Nile silt in production of red bricks is forbidden.

- Law 48/1982 addresses the protection of the Nile and related fresh waterways from pollution. It specifies water quality of fresh water bodies receiving industrial effluents, limitations of treated industrial effluents discharged to fresh water, quality of drainage water mixed with fresh water bodies, and quality of sewage and industrial effluent discharge to drains and brackish water bodies. Some standards for effluent are not consistent with standards of the receiving water bodies, standards are also impractical and difficult to enforce.

- Law 38/1967 and its amendment 31/1976, deals with municipal solid wastes. The law regulates collection and disposal. Local councils are responsible for issuing licenses for garbage collection and municipalities are responsible for management of solid wastes. No specific rules were delineated for handling hospital and other hazardous wastes.

- Law 3/1983 deals with planning of urban settlements. It specifies requirements for urban and rural planning, zoning, industrial parks, renovation of urban areas, land acquisition for public projects, and penalties.

- Law 145/1988 delineates authorities and responsibilities of local government units (city, district, and village councils); functions and authorities of the local popular councils. The law defines means of local financing including fees on commercial activities, crops, entertainment and hotels, profits of community projects.

- Law 102/1982 designates natural reserves and related conservation measures. The law established a Protectorate Fund for managing funds, donations and aid allocated for nature protection.

- Law 117/1983 defines criteria for designation of historical structures, protection of antiquities and regulation of excavation in historical sites.

- Law N°48 (1982) on River Nile and watercourse protection from pollution.

- Law 24/1983 concerning protection of marine life and regulation of fisheries.

International Conventions

- African Convention on the Conservation of Nature and Natural Resources (Algiers, 1968)
- Biodiversity (Rio, 1992)
- Climate Change,
- Desertification,
- Barcelona (1976)
- Protocol of the Mediterranean Special Protection Zones (1982)
- Protection of Natural and Cultural World Heritage (UNESCO, 1972)
- Endangered Species (CITES, 1973)
- Regional Convention on Protecting the Environment of the Red Sea and the Gulf of Aden (PERGSA, 1982)
- Hazardous Wastes,
- Law of the Sea (UNCLOS)
- Marine Dumping,
- Nuclear Test Ban,
- Ozone Layer Protection,
- Ship Pollution,
- Wetlands (Ramsar, 1971)
- Basel Convention on the Transboundary Movement of Hazardous Wastes and their Disposal (1993)
- Egypt has also signed, but not yet ratified, the Kyoto Protocol.

Institutional framework

The following ministries have a stake in coastal areas:

- Ministry of Environment
- Ministry of Construction and New Communities (environmental regulations in new cities and communities);

- Ministry of Health (monitoring water and wastewater management systems, water supplies and air quality, licensing food establishments, and inspection of food hygiene, and handling of hazardous substances and work environment);
- Ministry of Public Works and Water Resources (control of pollution sources and monitoring water quality in the Nile, and regulating the reuse of drainage water);
- Ministry of Industry (regulation of industrial emissions, and setting requirements for waste minimization and conservation of production inputs);
- Ministry of Agriculture (conservation of agricultural land, licensing agro- chemicals and fishing regulations);
- Ministry of Local Administration (issuing rules and regulations for protection of the environment at the city, district and village levels, operation of cleansing facilities and licensing building construction);
- Ministry of Interior (enforcement of environmental regulations and policing of waterways, vehicle emission regulation);
- Ministry of Tourism (licensing tourist establishments and regulating use of beaches and Nile cruisers);
- Ministry of Petroleum (environmental regulations for drilling, refining, transportation and distribution of petroleum products);

Several line agencies operate in the coastal region:

- Egyptian Environmental Affairs Agency (EEAA)
- Egyptian Archeological Authority (designation of historic sites, protection of antiquities and regulating excavation);
- Sanitary drainage Companies (responsible for regulating discharges to public sewers);
- General Organization for Urban Planning (designation of locations for public parks, community services and environmental concerns in planning settlements);
- General Organization for Industrialization (licensing new industrial establishments and setting criteria for cleaner production);
- Seaport authorities (protection of ports from ship and land–based pollution); and

The Egyptian Environmental Affairs Agency (EEAA) which is the central institution involved in environmental protection and co-ordination. It operates under the Ministry of Environment and has multi-functions mandates, including the coordination with concerned agencies and ministries to prepare the National ICZM "Plan for the Mediterranean Sea and Red Sea coasts". The Agency has initiated the coordination of ICZM planning by establishing by decrees (1994, 1997, and 2002) the National Committee for ICZM (NCICZM). The committee draws-up a consistent policy and strategy for future development, and resolves conflicts between users' interests. The NCICZM comprises top rank representatives of all concerned ministries (inter-ministerial), NGOs and major stakeholders. Its assignments are as follows:

- To coordinate all coastal activities between competent authorities towards ICZM, through the drafting, setting and approval of general guidelines for all activities, including EIA.
- To ensure that all land use plans and development activities in the coastal area take into account contingency arrangements.
- To harmonize between proposed development activity and carrying capacity of the ecosystem for a sustainable use of available resources.
- To ensure efficient commitments to Regional and International conventions concerning the protection of the marine environment and coastal areas.
- To approve programmes and plans aimed at restoring and rehabilitating coastal ecosystem
- To coordinate and specify mandates for different authorities in the coastal area.
- To approve national arrangements and contingency plans related to the protection of the environment in coastal areas.
- To review and evaluate all major projects in the coastal zone, particularly conflict ones.

- To review any future activities or projects relevant to the ICZM

Along the Mediterranean coast of Egypt, there are eight coastal governorates. These are from west to east Matruh, Alexandria, Behaira, Kafr El-Sheikh, Damietta, Daqahliya, Port Said, and North Sinai. Public Councils are democratically elected institutions entrusted with the preparation of local development plans, monitoring budgets and achievements of local government. They are responsible for public projects such as housing, sanitation, and cleansing.

Local environmental protection and natural resources conservation have so far been hampered by lack of fiscal resources, scarcity of specialized expertise to tackle environmental problems, and ambiguity and overlapping of environment related functions among local bodies and central government agencies operating at the local levels. To overcome these obstacles, the environmental law has instituted EEAA branches at the governorates level. The branches report to both the governors and EEAA. Their responsibilities include:

- Proposing programs for protection of local natural reserves;
- Monitoring environmental phenomena and marine species in natural reserves;
- Administrating and coordinating environmental activities;
- Executing public environmental awareness programs;
- Presenting periodic reports to EEAA on the state of local environment.

Research institutes

- Egyptian Academy of Scientific research and Technology, National research Centre
- Agriculture Research Centre (under Ministry of Agriculture and Land reclamation): Management and conservation of agricultural land, wildlife and biological resources, Preventing soil stripping and protecting land form degradation
- National water Research Centre (under Ministry of Water Resources and Irrigation): Protecting water resources, Regulating and controlling sources of water pollution
- Setting water quality standards and discharge limits
- Climate Change and Environmental Institute
- University of Alexandria
- American University in Cairo

Applied instruments

- *EIA:* The legal basis for EIA is established by Law No 4 (1994), the Law on Protection of the Environment; it is implemented through its Executive Regulations, issued by Prime Ministerial Decree No. 338 of 1995 (came into full force in 1998). The law states that the environmental impact of certain establishments or projects must be evaluated before any construction works are initiated or a license is issued by the competent administrative authority or licensing authority. In 2004, 1.7% and 0.02% of EIA projects processed were related to tourism and ports respectively.
- *SEA*
- *GIS:* The use of the geographical information system to construct a special system for the solid wastes (agricultural- industrial) was applied on: agricultural wastes- industrial- garbage- health care- construction and demolishing wastes- sewage purification wastes. Moreover, the role of coordination between the various groups to solve the problems of these kinds of waste was assured.
- *Decisions Support Systems (DSS):*
- *Environmental Management Systems (EMS)* is used to certify industries. The ISO 14000 procedure was introduced in 1998 and by 2003 the number of certified industries has seen a tenfold increase.

Policies & strategies

An Integrated Coastal Zone Management Strategy is developed by the EEAA
In 1992 Egypt prepared and adopted its First National Environmental Action Plan (NEAP) and the second NEAP was drafted in 2002. The NEAP includes programmes and projects that address several environmental issues including the management of national marine coastal zones. Main objectives include establishing a dynamic process for national comprehensive coastal zoning, and achieving sustainable use of marine and coastal resources through a combination of scientific research, appropriate quotas and regulations, active monitoring and enforcement, and pilot projects allowing use of certain resources by local citizens.

There is a Solid Wastes Management National Strategy (200) declined for 5 governorates including Damietta drafted as part of the UK-funded Environmental Assessment and Management Program.
A Sustainable Tourism Strategy is to be developed as part of government-sponsored Sustainable Tourism project. As part of CAMP, a sustainable tourism development option was proposed for Fukah-Matrouh.

The National Biodiversity Strategy and Action Plan were adopted in 1997. The Strategy is incorporated in the National Plan of the Ministry of Planning as a basis for the sustainable development of natural resources. The strategy is translated in 5-year implementation plans.

Egypt prepared a National Oil Spill Contingency Plan within an overall National Environmental Disaster Management Plan. The Mediterranean part of this plan was prepared in cooperation with REMPEC. The plan covers ports, harbours, and waters within the exclusive economic zone. On land, it includes the foreshore and adjacent land affected by an oil spill.

The Environmental Information and Monitoring Program (EIMP) of the EEAA is implementing a comprehensive program for monitoring water quality in the Mediterranean coastal water (Coastal Water Monitoring Program, CWMP). This programme includes monitoring of Water Quality parameters, and levels of contaminants in sediments along the entire Mediterranean coastline.

There is a National Water Policy (Horizon 2017) partially implemented over the last few years targeting optimum utilisation of resources, preservation of quality, development of additional water resources in cooperation with countries from the Nile basin.

IV. COASTAL PRACTICES

Urban, spatial and integrated planning

As part of the SMAPIII initiative the following projects are funded:

- ALAMIM Alexandria Lake Mariout Integrated Management (Egypt), with the help of Entitat metropolitana de serveis hidraulics i tractament de residus (Barcelona, Spain
- Plan of Action for an Integrated Coastal Zone Management in the area of Port Said (Egypt) with the help of Nucleo di Ricerca sulla Desertificazione dell'- Universitá degli Studi di Sassari (NRD-UNISS) (Italy):

Pollution

The government developed an "Eco-friendly Industrial Cities Rehabilitation Programme", to create a suitable environment for industry in new industrial cities and to limit emission pollution. The program started in 1998 in five cities including along the coast in Borg EL Arab and in 200 in New Damietta.
The Ministry of Water and Rural Irrigation developed a sustainable management scheme for coastal waters implemented through an integrated plan for managing and protecting coastal waters.

The Ministry of State for Environmental Affairs, with unep/map (2005), produced the National Action Plan for the Reduction of Pollution of the Mediterranean Sea from Land Based Sources

USAID funded the Egyptian Environmental Policy Programme (EEPP) which technical support helped activate an integrated hazardous wastes management system (strategy, waste list, guiding document for classification and transport process and methods, best practices, capacity building).

GEF is funding a five-year demonstration wetland project at Lake Manzala. The executing agency of this project is the Egyptian Environmental Affairs Agency EEAA. The main objective of the project is to reduce the discharge of pollutants from Lake Manzala into the Mediterranean Sea. This is accomplished by reducing the pollution load reaching the lake via agricultural drains through a series of constructed wetlands.

There is an integrated coastal water quality-monitoring program supported by GPA/LBS & MEDPOL which established monitoring stations. Another similar project is managed by the EEAA supported by Egyptian research institutes and DANIDA, which monitored for 4 years the Mediterranean and Red Seas.
There is also National Monitoring Programme run by the Ministry of Water Resources and Irrigation for assessing Surface and groundwater quality in the Nile, Lake Nasser, main canals and drains.

Natural and cultural heritage

Egypt also collaborates to activities in the framework of the Regional Convention for the Conservation of the Red Sea and Gulf of Aden Environment. Egypt donated a site for establishing the Mutual Assistance Centre.

A marine pollution prevention centre is established in Sham El-Sheikh, equipped with state-of-the-art control technologies. It covers the areas of Ras Mohammed and Nabq Governorates. The centre handled the Falsh Air accident and related oil pollution in 2004.

MedWetCoast financed management plans for three coastal protected areas along the Mediterranean in Zaranik, Lake Burulus and Omayed.

USAID funded partly the Red Sea environmental Policy Program to support protection of marine biome and protected areas. This initiative was continued with the support of EU-Life funds in 2005.
USAID and TDA, are supporting the Red Sea Sustainable Tourism Initiative (RSSTI)

Tourism

As part of the CAMP project in Fuka-Matrouh (1990-1992) a carrying capacity assessment was undertaken. The area is a major emigration area from the Delta region and one of the most attractive tourism coastal region for the Mediterranean in Egypt, both in terms of natural and cultural heritage.

V. NEEDS FOR ICZM

Urban and spatial planning

- Integrating all policies related to coastal and marine management into national plans
- Establish a comprehensive zoning system to designate intended uses of coastal areas and to identify protected areas and public parks
- Establish programs to restore habitats impacted by tourism or other development activities

Environmental hazards

Pollution

- Municipal Sewage management is the most pressing issue for the three administrative regions of Alexandria, Beheira and Port Said. Discharged pollutants loads and the resultant BOD are above the permissible levels. Since the SAP targets cannot be met by the year 2005 as planned; therefore, immediate action is needed.
- Industrial development: pollution effluent including heavy metals, nutrients and suspended solids, is another pressing issue affecting the three administrative regions; wastewater treatment plants are needed especially for hot spots (by 2010). Investments are also needed in cleaning systems for air and liquid wastes. Industries have to immediately establish their waste treatment facilities if non existent.
- Urban Solid Waste According to the SAP targets until the year 2005, all cities with population > 100,000 should apply a solid wastes management system. In the case of the three administrative regions new sanitary landfills for the main cities solid waste must be built.
- Updating of legislation applying to the protection of water courses
- Make sure that location and design of sea outfalls meet the appropriate environmental quality criteria
- Develop and implement effective control of the dredging and filling of coastal and marine areas for urban and industrial development, port construction, as well as maintenance and dredging of navigation channels

Tourism

- Enforce the use of EIA for all tourism development coastal projects
- Further develop the network of protected areas as a cornerstone of ecotourism
- Regulating scuba diving and other water sports according to the carrying capacity of coral reef systems,
- Provide adequate infrastructures and human resources to protected areas

Exploitation of natural resources

- Establish an institutional body responsible for the management of coastal lake resources and issue fishing permits
- Develop a rational use of aquaculture
- As part of the Master for combating desertification, halt or minimise in the north coastal belt, factors active in the marginal land of the area such as rangeland and cultivated rainfed areas; develop GIS database of all uses in the area

Natural and cultural heritage

- Establish sustainable development along the shore of Ras Mohammad Protected area
- Pursue rehabilitation of mangroves
- Encouraging pilot projects for sustainable use of natural resources that have social and economic returns

Information and communication

- Establish a biodiversity data and information system

Government bodies of relevance to governance and management in coastal areas in Egypt				
Ministry	**Units**	**Line Agency**	**Public Enterprise**	**Institute**

The division of legislation between land and marine sides of the coast

	Legislation	Land	Marine
LAWS			
DE CR			
REGU LATIO			

Stakeholders	Coastal protection	Industry & energy	Fisheries & aquaculture	Ports & marinas	Transport & shipping	Urban development / planning	Tourism & recreation	Water management	Waste management	Agriculture	Nature conservation	Heritage
M. of Environment & Planning												
M. of Maritime Affairs (incl. Port Master Offices)												
M. of Tourism												
M. of Agriculture, Forestry and Water Management												
M. of Economy & Industries												
M. of Culture												
M. of Defence												
Coastal Zone Management Agency												
Regional Water Supply Company												
Maritime Safety Department												
Regional Institutes for Culture												
Municipalities												
Coast Guards												
Marine Institute												
Meteorology Institute												
Beach managers												
Prof. fishermen												
Marina managers												
Hotel owners												
Sport Centres												

Status of implementation of Barcelona Convention and its Protocol in Egypt (as of 2005)		
Text	**Legal/administrative measure taken for**	**National law**
Convention		
Dumping protocol		
Emergency protocol (not yet ratified)		
Pollution from land-based pollution sources		
Specially protected areas		
Pollution from exploration & exploitation of continental shelf		
Transboundary movement of hazardous wastes and their disposal		

Summary of existing institutional, legislative and informal settings in relation to coastal management in Egypt			
Provisions	**Institutional arrangements**	**Legal instruments**	**Non-statutory mechanisms**
Delineation of Coastal Zones			
Designation of dedicated institution, commission, committee			
Establishment of institutional instruments for co-ordination			
Status of land ownership			
Regulation of public access to the coast			
Procedures for coastal land-use planning, including control on illegal buildings			
Control of industrial and commercial activities on the coast: Fisheries Mariculture Ports & shipping			
Control of pollution: Waste water quality Bathing water quality			
Management of water resources			
Management of solid wastes			
Control of recreational activities			
Protection of areas of ecological, natural and cultural value			
Sanctions regimes			
Collection of data			
Information & communication			
Public participation			

Identification of range of coastal management issues arising from thematic analysis in Egypt		
	THEME	**ISSUES**
HUMAN USES AND ACTIVITIES	Agriculture	➡
	Fisheries	➡
	Forestry	➡
	Transport	➡
		➡
	Maritime economy	➡
	Tourism	➡
		➡
	Spatial & urban development	▪
	Heritage protection, and management	➡
		➡
Impacts	Water pollution	➡
		➡
		➡
	Wastes	➡
		➡
	Biodiversity, habitats, heritage	▪
	Urban and transport infrastructure development	➡
		➡
		➡
		➡
	Stakeholders, interactions, & conflicts	➡
		➡

Planning, management and governance	Legal framework	➡
		➡
		➡
		➡
		➡
		➡
	Governance	➡
		➡
Cross-cutting issues		➡
		➡
		➡
		➡
		➡
		➡
		➡

STRENGTHS	WEAKNESSES
Legal Institutional Management	Legal Institutional Management
OPPORTUNITIES	**THREATS**
Legal Institutional Management ▪	Legal Institutional Management ▪

List of coastal management stakes based on range of issues		
	THEME	**STAKES**
HUMAN USES AND ACTIVITIES	Agriculture	➡
	Fisheries	➡
	Forestry	➡
	Transport	➡
	Maritime economy	➡
	Tourism	➡
		➡
	Spatial & urban development	10.
	Heritage protection, and management	➡
		➡
Impacts	Water pollution	➡
		➡
		➡
	Wastes	➡
		➡
	Biodiversity, habitats, heritage	▪
	Urban and transport infrastructure development	➡
		➡
		➡
		➡

Table 55: List of coastal management stakes based on range of issues identified in Table 53 (continued)

	THEME	STAKES
	Stakeholders, interaction, & conflicts	➡
		➡
Planning, management and governance	Legal framework	➡
		➡
		➡
		➡
		➡
		➡
	Governance	➡
		➡
Cross-cutting issues		➡
		➡
		➡
		➡
		➡
		➡
		➡

Strategic overview: Lebanon

April 2006

I. INTRODUCTION

Nearly 55% o f the population lives on the coast. It is the richest and most sensitive part of the country. Indeed, industrial, commercial and urban activities are concentrated on the water's edge. Within a 500m bandwidth urban areas occupy 40%, agriculture 41% and natural areas 19%.

As a result, Lebanon faces several key coastal management challenges for which both institutional and legal frameworks require adjusting and strengthening. Coastal pollution and uncontrolled urban development are most urgent to tackle. Unique to Lebanon are very large dumping sites right in the heart and on the shore of the largest cities (Beirut, Tripoli) impacting nearby recreation areas and marine resources. Due to the scarcity of plains along the coast, uncontrolled development is enhancing its negative impact on rare agriculture and natural areas.

Many international initiatives have been started over the last decade to address these issues. There is evidence of positive effects as testified by changing attitudes at the level of government, municipalities and citizens. Several recommendations and results produced have been percolating through the planning and decision-making practice.

A full comprehensive ICAM framework needs to be adopted and implemented on the basis of the ICAM law and strategy proposed at the outset of the CAMP project.

II. PRESSURES & OPPORTUNITIES

Boundaries of the coastal zone

The coast of Lebanon is about 120km long. With 8% of the total land surface, available coastal space is narrow except to both its north and south borders where coastal plains are found.

Urban and spatial planning

The necessary role of coastal municipalities in local development is being gradually acknowledged. However local financial capacity is very limited and highly dependent upon power balance within central government.
Many industrial facilities have no permits or are located in unclassified industrial zones.

Tourism

Tourism is a very segmented sector and coastal tourism is very concentrated in the Beirut area, organised in small, medium and large summer resorts regardless of the status of bathing water quality. Privatisation of beaches for large complexes (beaches are public properties by law) and encroachment on the maritime public domain by marinas are major issues.

Alternative sources of tourism on the coast are still limited such as visits to the Palm Islands and Sour Beach reserves. Foreign tourists mostly visit cultural and historical resorts. There is an increasing demand for recreation on natural beaches such as along the rocky shores south of Batroun and the sandy beaches of Jbeil, Jiyeh, Rmalyleh and Sour.

Exploitation of natural resources

Coastal **water resources** face constraints of natural, technical and legal nature. Rainfall is concentrated over a 3-month period when water is least needed especially for irrigation. Storage of

water is made difficult due to karstic reservoirs and narrow steep valleys. Surface water management is a major challenge. Old and inadequately maintained water supply facilities contribute to high losses (up to 50%). Skilled staff is not readily available and monitoring activities almost inexistent. Water pricing is still based on lump sums and not commensurate to actual consumption. Water management entities are established according to administrative boundaries and not watershed limits. There is limited coordination among the water sector stakeholders and water planning is almost inexistent.

The largest agricultural plains are those to the south between Ghazieh and Naqoura, in Akkar, and in the Abu Ali Valley. Due to the absence of a clear national policy to guide domestic agricultural production, agricultural plots (citrus, bananas and vegetables) are steadily replaced by industrial and urban areas south of Beirut.

The fishery sector occupies about 4,000 fishermen organised in 38 cooperatives spread between the ports of Tripoli, Byblos, Jounieh, Beirut, Saida, Sarafand, Tyre and Naqoura. There are among the poorest communities in the country (less than 100$US per month). The fishing sector faces the following challenges: marine resources overexploitation, lack of harbour facilities and hygienic conditions for fish transport and storage (as a result local fish markets are closing), lack of diversification, no social security. Lebanese eat for 75 million $US per year while only 7 million US$ are caught locally. Most of fish is imported from Gulf countries, Morocco and Turkey. Off-shore sport fishing has become popular over the last decade.

Environmental hazards

Pollution

Wastewater treatment plants are insufficient. All sewage sea outfalls in Beirut for example are located near beaches (Carlton Hotel, Ramlek el Baydah, Ras Beirut, Ain Mraieseh area). They have the highest sewage generation rate in the country.

Industries are a major source of marine and water source pollution. The most polluting include tanning and dressing of leather, production of gas products, manufacture of fertiliser and cement. There are at least five pollution **hot spots**: Chekka (asbestos and cement discharged into the sea), Selaata (phosphates and sulphates into the sea by fertiliser plant), Zouk Mosbek – Zouk Mkayel (various chemicals), Dora industrial area (petroleum storage, tanning), Shoueifate, Ain Anoub and Bchamoun industrial areas (waster water via the Ghadir stream), and Gazieh coast and Nahr Saitaniq (tanning, soap factories).

Large developments were built using sand extracted from beaches.

Solid wastes, industrial, domestic or otherwise are dumped directly into the sea. The Beirut dumping sites have been a serious health case for many years and are about to be resolved with the technical support of METAP. The same occurs in Tripoli and its seafront dumpsite where solid waste impact nearby beaches and as far as the Palm Islands, not to mention leakages into marine water. Solid wastes are also dumped directly on Akkar coastal plain.

According to METAP assessment (2004), the costs of environmental degradation in Lebanon are estimated at 2.8 - 4.0% of GDP (an average US$ 565 millions per year), of which 1.0-1.2 % account for inadequate potable water, sanitation and hygiene, 0.7-1.3% for air pollution, 0.6-0.75% for coastal degradation, and degradation of land resources and wildlife for 0.5-0.7%. Of total damage costs, about 62% is from damage to health and quality of life and 38% from natural resource degradation. The most affected coastal areas are the beaches of Beirut and Jounieh

These results however underestimate the total damage costs from environmental degradation, since no costs estimate is provided (lack of data) for degradation associated with industrial, hazardous and hospital wastes, and losses of most forest cover, biodiversity and natural ecosystems.

Natural and cultural Heritage

The largest **natural areas** are situated between Amioun and Jounieh to the north and between Tyre and Naqoura to the south. Natural woodland vegetation is restricted due to overgrazing, charcoal production and urbanisation. It is now restricted to few coastal areas, including the slopes close to the Kalb, Damour and Awali rivers.

There are at least 12 sensitive areas in the coastal zone due to their ecological and landscape value: Akkar beach and dunes, Akkar agricultural plain, Ras El-Cheqaa, Amsheet-Jbeil coastal area, Nahr Ibrahim Valley, Nahr El-Kalb Valley and river mouth, Damour agricultural plain, Rmeileh beach, Tyre beach, Iskandarouna and Naqoura. There are very few coastal protected areas limited to Tyre Beach Reserve (south) and the Palm Islands (north). River basins such as Damour River, Awali River and AL-Kalb are declared as areas under protection (by Decree).

The marine area of Lebanon is relatively rich in fauna and flora: 4 species of turtles and 6 marine mammals. Marine habitats are threatened by invasive species (Stypopodium zonale), marinas and large tourism complexes untreated waste water discharge, agricultural effluent.

Cultural heritage in the coastal areas consists mainly in large urban centres with a long settlement history: Beirut, Sidon and Tyre (still inhabited) or stand-alone mounds characterised by their outstanding topographical nature such as tells of Sarafand, Jiyye, Tell al-Burak and tell al-Maashuq. Late Roman olive oil complexes are also typical of the coastal region as well as traditional town and village cores, vernacular architecture, cultural landscapes, and historic battlefields. . Another major part of the coastal cultural heritage includes traditional customs and beliefs as well as crafts, folklore and oral history. Critical issues are: limited knowledge about the nature and extent of the cultural resources in the coastal area, lack of statutory and physical protection to classify and register national monuments, and lack of conservation and maintenance programmes for almost all the known sites and resources.

Information and communication

Information sharing is a national concern and data in relation to public and private projects alike are hard to obtain. When available there are outdated or simple estimates of future projections and/or scenarios. The need for a coastal environment and development databases is paramount.

Municipalities have for long been reluctant to collaborate with central government and international entities. There is weak cooperation and communication between local communities and their local authorities (operating on a volunteer basis).

Participation

Decentralised and participatory mechanisms are still new to most local communities. There is an increasing trend to involve young and women in community development. This is dependent on the density of NGOs in a given area.

III. EXISTING LEGAL & INSTITUTIONAL FRAMEWORKS

Legal basis

The current legal framework is rather old and significantly obsolete. Lack of control and enforcement is widespread, as well as delays in implementing proper urban planning.

There is no clear definition of the coastal area boundaries. There is however, a law of on coastal development (24/ 06/ 1966); treats in particular planning and urbanisation of the coastal zones (decrees dated 24/ 06/ 1966, 26/ 05/ 1972, 17/ 04/ 1973);

A proposal is made in the draft ICZM law produced as part of the CAMP Lebanon project. The Ministry of Environment is in charge of submitting it to the Council of Ministers for approval.

There are numerous gaps and overlaps in water management related legislation, especially in relation to the allocation of responsibilities.
There is a Decree-law of 10/06/1925 on public maritime domain
Law of 24/ 09/ 1962 for industrial zones (decrees of 02/ 03/ 1996)

Ratified conventions

- Barcelona Convention (1976) and its related Protocols: Dumping Protocol (without amendments), Emergency Protocol, LBS protocol (without amendments), SPA Protocol;
- Convention on Biological Diversity;
- United Nations Convention to Combat Desertification;
- Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar);
- Protocol of 1978 Relating to the International Convention for the Prevention of Pollution From Ships, 1973 (MARPOL);
- Basel Convention;
- Paris Convention concerning the Protection of the World Cultural and Natural Heritage;
- Stockholm Convention on Persistent Organic pollutants

Signed Conventions

- Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques
- Convention on Fishing and Conservation of Living Resources of the High Seas

Institutional framework

There is no institution or a single ministry that would be specifically in charge of managing the coast. Coastal management forms an integral part of the functions attributed to several ministries: Ministry of the Environment, Ministry of Tourism, Ministry of Agriculture, Ministry of Public works and Transport (Directorate General for Urban Planning (DGUP). DGUP'S mandate is to develop regulations and orchestrate urban planning. It defines urban master plan and issues building permits for municipalities that do not have a municipal council or an engineering department (this includes most of the municipalities in Lebanon except Beirut, Tripoli, Federation of Municipalities of Jbail, Keserouan and Mten).

Other institutions are the Council for Development and Reconstruction (CDR) and Higher Council for Urban Planning (HCUP). The CDR is a public institution established in 1977. It is directly linked to the Council of Ministers. The CDR is responsible for the planning and programming of reconstruction/rehabilitation projects in all sectors and across Lebanon. It is also mandated to develop a master plan for urban planning. Almost 85% of all funds earmarked for reconstruction transit through the CDR. It may replace any public institution to implement projects as deemed necessary.

The HCUP is presided by the DGUP and consists of the Director Generals of select ministries (Interior and Municipalities, Housing, Transports, Public work, Justice and Environment), representatives from several institutions (CDR), and urban planning specialists. It makes recommendations on urban planning projects and regulations, and large-scale development projects.
Mouhafazats (or Governorates), could be considered as interregional services, but they are not in charge of managing the coast.

There are Water Services whose initial number (24) has been reduced to 4, and correspond to Mouhafazats (or Governorates). These Services are: Service of Water of Mount Lebanon, Service of Water of Békaa, Service of the South Lebanon and Nabatyieh, Service of Water of Beirut.

The Municipalities and Municipal Federations have many responsibilities (all that concern physical development in their territorial limits). They implement urban projects; follow up on cleanliness and public health issues, water works, public transport and tax collection. They may also request from the DGUP the definition of urban master plans. Municipalities are also responsible for receiving applications for construction permits and issue permits

Among research institutes

- American University of Beirut
- Balamand University
- National Council for Scientific Research (CNSR)
- Industrial Research Institute

Applied instruments

EIA: a Legal text addressing Environmental Impact assessment was officially proposed to the Council of Ministers for approval; it is not adopted yet. A Unit of Planning and Programming (UPP) within the MoE has initiated a program for establishing a comprehensive EIA system.

SEA: There is an ongoing project at the Ministry of environment Strategic Environmental Assessment & Land Use Planning in supported by the EC-Life Third Countries. It started in 2003 for 3 years and was extended until June 2006. It aims to integrate environmental considerations into policies, plans and programs at the national level in order to alleviate major problems facing the national sustainable development agenda. It consists in legal, capacity building, and institutional strengthening components.

ISO: In 1999, 81 Lebanese companies had obtained the ISO 9000 certificate (Quality Management), while four companies have also obtained the ISO 14000 certificate (Environmental Management).

Policies & strategies

- Within CAMP Lebanon, a national Strategy for Integrated Coastal Area Management was prepared and to be submitted to the Council of Ministers
- METAP/WB/MoE, produced an Environment Report (SoER) and a Strategy Framework for environmental development

The following plans are to be completed (as of mid 2005):

- National Action Plan for the Reduction of Pollution of the Mediterranean Sea From Land Based Sources, Draft Report (2005)
- National Wastewater Management Plan
- National Plan for Municipal Solid Wastes Management in Coastal Areas

IV. COASTAL PRACTICES

Multi-sectoral

The CAMP project (2002 – 2005) generated a series of reports and activities, which for some have already been followed by implementation:

- Inputs from the land-use management activity were used by the DGUP to prepare their document on the implementation of regional and local master plans

- A dossier on Agoura's cultural heritage was submitted to the 100 Monument Fund
- Oceana Project, off-shoot of the CAMP Lebanon initiative, supported by the municipality of Damour and a private firm which consists in soft beach constructions for tourist and sale of local products
- Sarafand municipality will prepare its development programme on the basis of CAMP outputs and recommendations.

As part of CAMP, several training courses: Carrying Capacity Assessment for the development of the tourism sector, ICAM approaches and building a coastal management strategy
Based on CAMP results, USAID funded in 2003 a project to promote ecotourism in the Damour municipality and the Daour River basin.

Institutional capacity building

An Investment Planning Program Environment (MSC-IPP Environment) was supported by the EU (2002-2004) to enhance environmental investments and create the legal, administrative and physical conditions for effective MoE intervention.

Technical Assistance to Reinforce Governance in Environmental Tasks (TARGET), is EC funded (2003-2006) to sstrengthen the structure of the MoE to be able to cope with and efficiently deal with tasks leading to environmental sustainability, to build staff management capabilities, to apply modern management and effective leadership practices as well as enhance the capacity of the Ministry in mobilizing resources and establishing new partnerships; to provide the necessary tools and applications to improve the performance of MOE functions efficiently.

Project entitled "Stable Institutional Structure for Protected Areas Management (SISPAM)" is supported by the EC Life Third Countries programme (2004-2007). It aims to suggest and implement Stable Institutional structure for biodiversity conservation in Lebanon and sustainable management of Protected Areas; more specifically is aims to adopt an appropriate institutional structure for Protected Areas Management in Lebanon, to suggest and implement a detailed action plan for PA management, to appraise available resources and capacity requirements, to agree on a sustainable funding structure.

Project "Strengthening the Environmental Legislation Development and Application System in Lebanon (SELDAS)", is supported by the UNESCO-Cousteau Ecotechnie Chair at the University of Balamand, funded by the European Commission Life Third Countries Program (2003-2005), aiming to strengthen the capacities of the institutions dealing with environmental legislation development and application and trigger environmental law education

Urban and spatial planning

A national Spatial Planning Master Plan was prepared in 2002 for the CDR.
The Unit of Planning & Programming (1999-2002) managed a 3-phase initiative funded by the EC-Life (through METAP for phases one and two, Swiss Trust Fund through METAP for phase 3). It aims to establish an Environmental Impact Assessment System in Lebanon and an EIA Unit at the MoE. The Unit will assist in the review and amendment of the legislation related to the duties and organization of the Ministry of Environment as well as in recruiting new staff; it will plan and program new projects at the Ministry and launch the Hazardous Waste Program at the Ministry.

Environment

The National Environmental Action Plan is being prepared with the help of UNDP.
There is a project on Building Capacity for Sustainable Hunting of Migratory Birds in the Mediterranean countries of North Africa and the Middle East (application in Tunisia and Lebanon):
An initiative on "Alleviating Barriers for Quarries Rehabilitation in Lebanon", is funded by EC- Life third countries and the ministry of Environment (2005-2008) to alleviate the legal, institutional,

technical and financial barriers that hinder the process of quarries rehabilitation in Lebanon and purge the environmental and socio-economical impacts caused by quarries

Tourism

The René Mouawad Foundation funded in 2004 an ecotourism project for Damour village and beach MEDA via SAMP III is financing a project (2005 – 2007) at the University of Balamand entitled "Integrated Management of East Mediterranean Coastlines"

Natural and cultural heritage

A MedWetCoast project (2002-2006) is still on going, supported by FFEM.

A Biodiversity Enabling Activity Project, was funded by GEF (1997-1998) to elaborate a "National Biodiversity Strategy and Action Plan (NBSAP)" and the Country Report to the Conference of Parties (COP) to fulfill articles 6 and 26 of the Convention on Biological Diversity

A Biodiversity Planning Support Programme, was supported by GEF/UNDP (2000-2001) to strengthen the capacity of parties to the Convention on Biological Diversity to prepare and implement National Biodiversity Strategy and Action Plan

A Protected Areas Project was supported by GEF (1996-2000), aiming to set action plans for the management of protected areas to conserve biological diversity. More precisely it targeted (1) the management of three natural protected areas in Lebanon: Palm Islands, Horsh Ehden, & Al- Shouf Cedar natural reserves; (2) Safeguarding biological diversity & attaining its sustainability, (3) Building human capacities in the management of natural reserves both between public & non-governmental sectors; (4) Enhancing public awareness about importance of natural reserves.

The Society for the Protection of Nature in Lebanon was in charge of the Environment Information Center (EIC), a project funded initially by UNDP-LIFE programme in 1995.

Pollution

A Lebanese Cleaner Production Center was financed by EU and UNIDO (2002- 2005) to improve capacity of the centre to advice SMEs SMEs, and to facilitate the transfer to cleaner processes, thus contributing to the sustainable and continuous application of CP by industry in Lebanon.

An Implementation of Hazardous Waste Program was funded by METAP (2001), to help prepare a complete study about management of Hazardous Wastes in Lebanon on the basis of a review of studies and statistics and the formulation of a work plan and proposing a decree

Information and communication

The Lebanese Environment & Development Observatory (LEDO) was funded by the EC-LIFE program (1999-2000) to help collect & disseminate more information on the state of the Environment & environmental degradation in Lebanon; to provide decision makers with necessary data.
A Sustainable Development Networking Programme was supported by UNDP (1996), to facilitate and disseminate sustainable development related information, provide capacity building, and enhance communication between different stakeholders.

A European Commission – LIFE Third Countries by UNDP-MoE, (2000), developed the Lebanese Environment and Development Observatory (LEDO) - a project whose general objective was to provide proper information and better understanding of the state of environment and development in Lebanon

V. NEEDS FOR ICZM

On the basis of the most recent sources the following recommendations are made:

Legal measures

- Promulgate the ICAM law
- Regulate use of pesticides and irrigation water
- Enact regulatory and legal texts to protect and preserve agricultural and natural sensitive areas, including beaches, headlands, bays, plains, river mouths, etc.; in particular protect Naqoura coast and bay as national natural heritage
- Enforce existing fishing regulations

Institutional framework

- Build administrative capacity in delivering ICAM
- Maintain linkage between the MoE and CAMP area local communities
- Increase MoE' capacity to follow-up on the implementation of CAMP recommendations
- Establish a national Coastal Zone Management Centre
- Extend CAMP to a phase II to cover coastal towns in the north

Planning and land-use management, by MoE in collaboration with DGUP

- Provide continuous assistance to CAMP municipalities in their use of sustainable indicators for planning purposes
- MoE to monitor the design of municipal master plans for land-use management before adoption by DGUP
- Adopt the newly proposed bidding document for land-use management
- Enact decisions to fully protect and preserve coastal agricultural plains against construction
- Enact decisions to fully protect and preserve areas and landscapes of natural, historical and archaeological significance from any type of construction
- Organise further informative workshops at municipalities and inter-municipal levels on importance of urban master plans as a means for coastal resources conservation
- Design and disseminate a booklet on sustainable practices of land-use management based on CAMP outputs

Tourism

- Promote the sustainable tourism concept via studies in four coastal towns
- Carry out specialised training courses in coastal communities with specific sustainable tourism assets
- Encourage NGO funding for sustainable ecotourism development

Exploitation of natural resources

- Ensure conservation of fishing resources via legal enforcement, increasing fishermen's ecological awareness, upgrading fishing gear and facilities, improving their social status
- Draft an integrated river basin management master plan for the Damour River
- Provide training in wise practices in agriculture for farmers in the coastal plains

Environmental hazards

- Establish adequate waste water treatment plants
- Establish adequate solid waste management mechanisms and procedures
- Undertake a comprehensive quantitative and qualitative survey of the Damour, Litani,Nahr, Al-Kahb and Al-Awali Rivers
- Upgrading of primary treatment plant in Saida (by 2010)
- Funding Sour coastal municipal dumpsite rehabilitation (by 2009)
- Rehabilitation of Saida coastal dumpsite and securing location and funds for second landfill (by 2010
- Reduction of leachate from Bourj hammoud dumpsite (by 2010)
- Reduce waste littering along the coast of Beirut
- Closure of all sea outfalls in Beirut and Tripoli
- Closure of seafront dumpsite in Tripoli
- Include in COED in depth assessment of impacts of environmental quality on tourism and recreation, the cost of land resources degradation (agriculture, quarries, forests)

Cultural Heritage, by MoE in collaboration with Directorate of Antiquities

- Seek funding to print and disseminate the booklet "Cultural Heritage and Sustainable Development"
- Protect and seek funding to rehabilitate the nominated site Oumm Al-Amad
- Convert the Damour silk factory into a national silk museum
- Protect and rehabilitate the remaining coastal heritage sites

Natural Heritage

- Link conservation to economic development by preserving areas of comparative advantage, from a natural, agricultural, landscape, cultural and/or ecological point view.
- Increase capacity in taking into account socio-economic aspects of conservation projects
- Inform and empower municipalities to increase their revenues by conservation of coastal resources
- Declare the Damour Beach and River mouth as well as the Naqoura Coast and Beach areas of special importance at the national and international level
-

Information and communication

- Make public the use of CAMP databases
- Increase awareness on the need for setting up municipal databases and digital mapping facilities for land use maps

Participation

- Introduce Local Agenda 21 in municipalities based on CAMP experience
- Empower and assist municipalities in drafting development plans taking into account sustainable and rational use of coastal resources
- Make local communities participate in development plans and programmes
- Develop inter-municipal environment and development project

Table 40: Government bodies of relevance to governance and management in coastal areas in Lebanon

Ministry	Units	Line Agency	Public Enterprise	Institute
Ministry of the Environment				
Council for Development and Reconstruction (CDR)				
Ministry of Tourism				
Ministry of Agriculture				
Ministry of Public works and Transport, Directorate General for Urban Planning (DGUP)				

Table 47 : The division of legislation between land and marine sides of the coast in Lebanon

	Legislation	Land	Marine
LAWS	Maritime fishing law		
DECREES	Decree N°5591 (1994) on responsibilities and duties of MoE		
REGULATIONS	Many regulations on restrictions on fishing		Species: Sea turtles, sponges Gear: explosives, poison

Stakeholders	Coastal protection	Industry & energy	Fisheries & aquaculture	Ports & marinas	Transport & shipping	Urban development / planning	Tourism & recreation	Water management	Waste management	Agriculture	Nature conservation	Heritage
M. of Environment & Planning												
M. of Maritime Affairs (incl. Port Master Offices)												
M. of Tourism												
M. of Agriculture, Forestry and Water Management												
M. of Economy & Industries												
M. of Culture												
M. of Defence												
Coastal Zone Management Agency												
Regional Water Supply Company												
Maritime Safety Department												
Regional Institutes for Culture												
Municipalities												
Coast Guards												
Marine Institute												
Meteorology Institute												
Beach managers												
Prof. fishermen												
Marina managers												
Hotel owners												
Sport Centres												

Table 50: Status of implementation of Barcelona Convention and its Protocol in Lebanon (as of 2005)

Text	Legal/administrative measure taken for	National law
Convention		
Dumping protocol		
Emergency protocol (not yet ratified)		
Pollution from land-based pollution sources		
Specially protected areas		
Pollution from exploration & exploitation of continental shelf		
Transboundary movement of hazardous wastes and their disposal		

Summary of existing institutional, legislative and informal settings in relation to coastal management in Lebanon			
Provisions	**Institutional arrangements**	**Legal instruments**	**Non-statutory mechanisms**
Delineation of Coastal Zones	Yes	No, draft law	
Designation of dedicated institution, commission, committee	No		
Establishment of institutional instruments for co-ordination	No	No	No
Status of land ownership			
Regulation of public access to the coast			
Procedures for coastal land-use planning, including control on illegal buildings			
Control of industrial and commercial activities on the coast: Fisheries Mariculture Ports & shipping			
Control of pollution: Waste water quality Bathing water quality			
Management of water resources			
Management of solid wastes			
Control of recreational activities			
Protection of areas of ecological, natural and cultural value			
Sanctions regimes			
Collection of data			
Information & communication			
Public participation			

Identification of range of coastal management issues arising from thematic analysis		
	THEME	**ISSUES**
HUMAN USES AND ACTIVITIES	**Agriculture**	➡
	Fisheries	➡
	Forestry	➡
	Transport	➡
		➡
	Maritime economy	➡
	Tourism	➡
		➡
	Spatial & urban development	▪
	Heritage protection, and management	➡
		➡
Impacts	**Water pollution**	➡
		➡
		➡
	Wastes	➡
		➡
	Biodiversity, habitats, heritage	▪
	Urban and transport infrastructure development	➡
		➡
		➡
		➡
	Stakeholders, interactions, & conflicts	➡
		➡

Planning, management and governance	Legal framework	➡
		➡
		➡
		➡
		➡
		➡
	Governance	➡
		➡
Cross-cutting issues		➡
		➡
		➡
		➡
		➡
		➡
		➡

STRENGTHS	WEAKNESSES
Legal Institutional Management ▪	Legal Institutional Management
OPPORTUNITIES	**THREATS**
Legal Institutional Management	Legal Institutional Management ▪

List of coastal management stakes based on range of issues identified		
	THEME	**STAKES**
HUMAN USES AND ACTIVITIES	Agriculture	➡
	Fisheries	➡
	Forestry	➡
	Transport	➡
	Maritime economy	➡
	Tourism	➡
		➡
	Spatial & urban development	11.
	Heritage protection, and management	➡
		➡
Impacts	Water pollution	➡
		➡
		➡
	Wastes	➡
		➡
	Biodiversity, habitats, heritage	▪
	Urban and transport infrastructure development	➡
		➡
		➡
		➡

List of coastal management stakes based on range of issues identified (continued)		
	THEME	**STAKES**
	Stakeholders, interaction, & conflicts	➡
		➡
Planning, management and governance	Legal framework	➡
		➡
		➡
		➡
		➡
		➡
	Governance	➡
		➡
Cross-cutting issues		➡
		➡
		➡
		➡
		➡
		➡
		➡

Strategic overview: Libya

April 2006

I. INTRODUCTION

Lybia's coastal areas remain rather free of any significant development: apart from the areas around towns and industrial centers, most of the Libyan coast is still protected from deterioration and remains very wild

Information on coastal management in Lybia remains hard to come by. The data presented in this strategic overview is based on a single source of information (WWF, 2004) which focused on assessing conditions in the Eastern region and potential for establishing marine protected areas. As a result information in this profile does not cover in details topics such as urban and spatial planning.

II. PRESSURES & OPPORTUNITIES

Boundaries of the coastal region

Libya has a 1,970 km coastline in the southern-most part of the Mediterranean basin. Three-quarters of the coast is low-lying and corresponds to the maritime fringe of the Libyan desert; the rest is mountainous, on the slopes of the Jebel Akhdar region, in the North eastern part of the Country. Human density and tourism on the Libyan coastal fringe is low.

Urban and spatial planning

The Eastern region is likely to experience mass tourism development in the near future.

Exploitation of natural resources

Libya is the greatest producer and exporter of crude oil in the Mediterranean Sea (1,29 million bbl/d). Limited areas of petroleum products impacts have been observed. Local points of consistent crude oil spills stuck on the rocks, are present only in few zones, but several cases of diffused traces of crude oil and petroleum products have been surveyed on beaches.

In terms of coasgtal fishing, activities are impacting on sensitive ecosystems, such as Posidonia beds and commercial exploitation of one of the last extensive formations of Corallium rubrum is still unregulated.

Environmental hazards

The coastal environment of the Eastern Region at the moment is not seriously in danger. Local pollution is associated with the larger cities of the region (Banghazi and Darnah) and major industrial sites. Untreated solid wastes are dispersed along the coastline underlining a chronic lack of waste management system, particularly near the major urban settlements. Untreated waste discharges in the sea are the major land-borne pollution concern in the area.

Despite no serious oil contamination, cases have been observed between Al Dressia (Tulmaythah) and Darnah, with the exception of limited deposits of hydrocarbons on rocks and on beaches observed in other areas. The development of the petroleum industry in Libya and the presence of various refineries, terminals and other installations, constitute a serious potential hazard to the environment.

The situations and sources of water pollution have been observed mainly in the urban and suburban areas. Urban wastewater drains and open air solid wastes disposal, located close to the shoreline or river beds are widespread.

Solid waste disposal is perhaps the most important impact observed in the Easten Region. Urban garbage is widespread along the coast, increasing close to urban and suburban areas. This situation causes deterioration of the environment, both by release of pollutants in ground water and seawater and from an aesthetic point of view.

Natural and cultural heritage

The Eastern Region of Libya was listed among the 10 "last paradises" of the whole Mediterranean. However, protected areas account for less than 0.5% and 0.1% of the total surface. Two sites of special environmental interest in the area have been identified and should be considered priorities for protection:

1. Al Dressia (Tulmaythah) - Qasi ad Disah
2. Darnah - Sidi Awn

Both areas are granted with particularly outstanding marine and coastal biodiversity and sea/landscapes in need of urgent conservation actions. The unique conservation status of such coastal stretches justifies further study.

The central area of the coast, from Qasi ad Disah to Al Haniya to Darnah, provides excellent opportunities to develop sustainable tourism initiatives connected to the protected areas and the archeological sites, and - with the necessary precautions - aquaculture.

Coastal areas between Al Dressia (Tulmaythah), Qasi ad Disah, Sidi Awn, Wadi el Hamassah and Ra's at Tin are particularly underexploited and rich in environmental resources, which can be easily protected with little impact on the livelihood of local communities.

Information and communication

There is a lack of scientific data on marine and coastal biodiversity, little knowledge on existing and potential threats to biodiversity, limited technical expertise in the field of MPAs establishment and management.
Environmental awareness among local communities is low.

III. EXISTING LEGAL & INSTITUTIONAL FRAMEWORKS

Legal basis

No data on national legislation

Libya has ratified the Barcelona Regional and Bilateral Agreement with states bordering the Mediterranean in August 2004 and the OPRC Convention (International Convention on Oil Pollution Preparedness, Response and Co-operation, 1990

Institutional framework

No data

There is an Environmental General Authority but information on its activties is either in Arabic language or not available.

There is a National Marine Biology Laboratory dealng with fish biology, phytoplancton and algae, chemistry and marine pollution, aquaculture,

Policies & strategies

Libya has developed three National Action Plans within the framework of the Strategic Action Programme for the Conservation of Marine and Coastal Biodiversity in the Mediterranean (SAP BIO) of the Barcelona Convention:

- National Action Plan for the Conservation of marine and coastal birds
- National Action Plan on proposed new marine and coastal protected areas and national parks
- National Action Plan for the Conservation of marine turtles and their habitats

In the National Action Plan on MPAs, the Libyan government recognizes that its coast has valuable sites in urgent need of protection, and considers the coastal lagoons and bays of Ain El-Gazalah Bay, Bumbah Bay, Ain Ziana lagoon, Farwa and the river mouths (Wadi) of Wadi Al-Hamsah, Wadi Al-Khabtah, Wadi Ka'am, and the Tawrurgha spring and salt marshes of the Eastern Region as priority areas for conservation.

IV. COASTAL PRACTICES

The Eastern Region of Libya has been identified as a priority for the second stage of the Action Plan on Marine Protected Areas of the Strategic Action Programme for the Conservation of Biological Diversity (SAP BIO) in the Mediterranean Region. In the "National Action Plan on proposed new marine and coastal protected areas and national parks" of SAP BIO, Libya has committed to develop a national legal framework to enhance the establishment of new MPAs and promote their sustainable management.

V. NEEDS FOR ICZM

In terms of environmental protection and management of coastal and marine areas, the following measres are recommanded:

- Development and implementation of *ad hoc* conservation measures, specifically the establishment of a network of Marine Protected Areas (MPAs), built-in into a broader Integrated Coastal Area Management Plan (ICAM) for the region.
- An in-depth analysis of the social, biophysical, institutional and organizational characteristics of the area (baseline data) highlighting the problems and causes for concern in the coastal area, to facilitate an understanding of the relationships between key factors and prioritize management issues properly;
- Strengthening of public awareness of environmental issues and the need to take action;
- Strengthening of local capacity in the fields of land planning, waste management (solid urban and sewer waste) and environmental monitoring through international cooperation programs in specific fields of action;
- Identification of priorities and goals for local communities to better orient the planning process.
- International cooperation to help local experts and institutions in the planning, design and management of new MPAs and the establishment of an integrated coastal area management framework
- Development of an integrated national programme for waste management
- Restoration of abandoned landfill sites
- Construction of new landfills
- Extended recycling programme
- Construction of composting plant
- Implementation of innovative techniques for the collection, treatment and disposal of waste
- Coastal zone cleaning, with emphasis on tourist sites

Government bodies of relevance to governance and management in coastal areas in Montenegro				
Ministry	**Units**	**Line Agency**	**Public Enterprise**	**Institute**

Table 47 : The division of legislation between land and marine sides of the coast

	Legislation	Land	Marine
LAWS			
REGULATIONS			

Stakeholders	Coastal protection	Industry & energy	Fisheries & aquaculture	Ports & marinas	Transport & shipping	Urban development / planning	Tourism & recreation	Water management	Waste management	Agriculture	Nature conservation	Heritage
M. of Environment & Planning												
M. of Maritime Affairs (incl. Port Master Offices)												
M. of Tourism												
M. of Agriculture, Forestry and Water Management												
M. of Economy & Industries												
M. of Culture												
M. of Defence												
Coastal Zone Management Agency												
Regional Water Supply Company												
Maritime Safety Department												
Regional Institutes for Culture												
Municipalities												
Coast Guards												
Marine Biology Laboratory												
Meteorology Institute												
Beach managers												
Prof. fishermen												
Marina managers												
Hotel owners												
Sport Centres												

Table 50: Status of implementation of Barcelona Convention and its Protocol in Montenegro (as of 2005)

Text	Legal/administrative measure taken for	National law
Convention		
Dumping protocol		
Emergency protocol (not yet ratified)		
Pollution from land-based pollution sources		
Specially protected areas		
Pollution from exploration & exploitation of continental shelf		
Transboundary movement of hazardous wastes and their disposal		

Summary of existing institutional, legislative and informal settings in relation to coastal management in the Republic of Montenegro			
Provisions	**Institutional arrangements**	**Legal instruments**	**Non-statutory mechanisms**
Delineation of Coastal Zones	No data	No data	No data
Designation of dedicated institution, commission, committee	No data	No data	No data
Establishment of institutional instruments for co-ordination	No data	No data	No data
Status of land ownership	No data	No data	No data
Regulation of public access to the coast	No data	No data	No data
Procedures for coastal land-use planning, including control on illegal buildings	No data	No data	No data
Control of industrial and commercial activities on the coast: Fisheries Mariculture Ports & shipping	No data	No data	No data
Control of pollution: Waste water quality Bathing water quality	No data	No data	No data
Management of water resources	No data	No data	No data
Management of solid wastes	No data	No data	No data
Control of recreational activities	No data	No data	No data
Protection of areas of ecological, natural and cultural value			
Sanctions regimes	No data	No data	No data
Collection of data	No data	No data	No data
Information & communication	No data	No data	No data
Public participation	No data	No data	No data

Identification of range of coastal management issues arising from thematic analysis		
	THEME	**ISSUES**
HUMAN USES AND ACTIVITIES	**Agriculture**	➡
	Fisheries	➡ Unsustainable fishing activities on sensitive ecosystems, such as *Posidonia* beds, ➡ Unregulated commercial exploitation of one of the last extensive formations of *Corallium rubrum*
	Forestry	➡
	Transport	➡
		➡
	Maritime economy	➡
	Tourism	➡ Future Uncontrolled mas s tourism in Eastern Region
		➡
	Spatial & urban development	Future Urban sprawl in Eastern region
	Heritage protection, and management	➡
		➡
Impacts	**Water pollution**	➡ Unregulated solid waste disposal, untreated sewage discharges, crude oil and petroleum derivates spills represent the major threats to the marine and coastal ecosystems of this area
		➡ Crude Oil and petroleum derivates spill
		➡
	Wastes	➡ Solid wastes in open dumping sites
		➡
	Biodiversity, habitats, heritage	▪
	Urban and transport infrastructure development	➡
		➡
		➡
		➡
	Stakeholders,	➡

	interactions, & conflicts	➡
Planning, management and governance	Legal framework	➡
		➡
		➡
		➡
		➡
		➡
	Governance	➡
		➡
Cross-cutting issues		➡
		➡
		➡
		➡
		➡
		➡
		➡

STRENGTHS	WEAKNESSES
Legal Institutional Management ▪	Legal Institutional Management
OPPORTUNITIES Legal Institutional Management	**THREATS** Legal Institutional Management

List of coastal management stakes based on range of issues identified in Table 53		
	THEME	**STAKES**
HUMAN USES AND ACTIVITIES	Agriculture	➡
	Fisheries	➡
	Forestry	➡
	Transport	➡
	Maritime economy	➡
	Tourism	➡
		➡
	Spatial & urban development	12.
	Heritage protection, and management	➡
		➡
Impacts	Water pollution	➡ Considerable weight should be given to the cleaning of coastal areas and swimming sites
		➡
		➡
	Wastes	➡ Considerable weight should be given to the cleaning of coastal areas and swimming sites
		➡
	Biodiversity, habitats, heritage	▪
	Urban and transport infrastructure development	➡
		➡
		➡
		➡

List of coastal management stakes based on range of issues identified in Table 53 (continued)		
	THEME	**STAKES**
	Stakeholders, interaction, & conflicts	➡
		➡
Planning, management and governance	Legal framework	➡
		➡
		➡
		➡
		➡
		➡
	Governance	➡
		➡
Cross-cutting issues		➡
		➡
		➡
		➡
		➡
		➡
		➡

Strategic overview: Montenegro

April 2006

I. INTRODUCTION

Serbia and Montenegro combines characteristics of a country in socio-economic and institutional transition in addition to emerging from nearly complete 10-year international isolation. A major consequence is an overall weak human resources capacity both in terms of staff availability and range and level of professional competences. The country is therefore presently undergoing large and rather rapid institutional and legal re-adjustments in relation to its international obligations, including MAP, and standards, especially the EU *Acquis Communautaire*. As a result any assessment of the current situation in relation to the capacity and delivery of ICZM activities is likely to evolve significantly over a short period of time. An additional variable in the overall changing landscape of governance in the country lies in the coming referendum on Independence to take place on 21 May 2006. While not likely to affect activities at operational level, political decisions in relation to international commitments are at present for many on stand by.

As Montenegro is establishing its new institutional, legal and governance system, opportunities occur for channelling international financial and capacity-building support in an efficient coordinated way. The ICZM approach provides for a powerful and operational framework suitable to the needs of the coastal region at this threshold development period.

II. PRESSURES & OPPORTUNITIES

Tourism has always been and remains today the main economic activity for the coastal region. The coast of Montenegro was for long an attractive destination for Eastern European tourists during the 70s and 80s. Development remained however relatively limited which contributed to the preservation of a striking coastal natural and cultural landscape. During the isolation period of the 90s uncontrolled development took place, in particular illegal building of residences, with significant related impacts today in several landmark areas such as Boka Kotorska. For example, "ponta sa mandracima" or small harbours are a unique system of the traditional coastal architectural setup, built in local mason stone. While such structures provide primarily shelter for small boats, the local population also uses them in the summer season as sunbathing platforms. A tendency to build more such structures to provide more accommodation space for bathers is noticeable all around Boka Kotorska. This contributes to the artificialisation of the narrow contact zone at the sea water's edge and impacts on the most productive area of the Boka Kotorska shores.

Maritime transport related services have also always been a trademark for coastal Montenegro with a long tradition of seafaring concentrated in Boka Kotorska and in Bar: former Yugoslavia owed a significant merchant fleet, exported many of its sailors worldwide and provided shipbuilding and repair facilities. Most of the merchant fleet was sold during the 90s while shipyard activities declined. In addition, the port of Bar, a major gateway for Serbia, never actually fully reached its full development capacity since its establishment. Today major re-organisation and re-orienting is taking place in the maritime industry, the government is building again a new, if modest, merchant vessel fleet and is seeking investments opportunities for the Port of Bar. Tourism remains however the key coastal development priority for the government, to which maritime activities must positively contribute, in particular for nautical tourism.

Land transport impacts in relation to these developments appear still today overlooked, in particular in relation to road traffic growth projections. Indeed, traffic congestion and related air pollution in and between main cities are already an issue, especially during the vacation season. A new tunnel linking Podgorica and Bar was inaugurated in 2005. While it has reduced travel time by nearly half it does not solve the remaining connection constraints of other nearest coastal cities with the hinterland, i.e.

Budva and Kotor (a third lane on the Podgorica – Budva road is built for short sections; the Tivat Airport to Kotor road tunnel is being repaired). Potential for improving the coastal parallel main road remains limited due to constraining physical features (steep and narrow coastal slopes). Alternatives for improved collective transport (road and rail) and short-sea shipping have not yet been fully assessed in an integrated manner. A recent major train accident on the Podgorica – Belgrade railway line further underscored the urgency in improving drastically this service.

Exploitation of natural resources remains limited. The fishing fleet is nearly inexistant and current knowledge on exploitable marine resources is still inaccurate. Agriculture has been on a dwindling curve for many years maintained today at a mere subsistence level. Opportunities for development are however identified both in the fishing sector, including aquaculture in Boka Kotorska, and agriculture for eco-products to supply the expected growing local tourism-related demand. Mineral resources are limited in the coastal region and ostly exploited in quarries in relation to the construction market. Potential for oil and gas explotation remains to be fully assessed, especially in the marine area. Finally water resources are plentiful due to the high precipitation regime and despite its karstic storage. The main issue lies essentially in improving water supply (high level of losses due to leaking) and sewage water disposal (many unconnected sewage) and treatment.

Water supply and wastewater management on the coast are today critical pressing development issues and landscape degradation is threatening Montenegro's major touristic asset. In terms of level of coastal and marine pollution current available information precludes any consistent and global baseline assessment: no measurements are available for many pollution sources such as persistent organic compounds, heavy metals, nutrients and suspended solids, hazardous wastes. The status of knowledge on marine water pollution from land-based sources rests on two main recent reports, i.e. the Waste Water Feasibility Study – Coastal Region (EAR, 2004) and National Diagnosis Analysis on land-based marine water pollution (2004, for MEDPOL). In terms of bathing water quality, measures during the summer season indicate that in many places levels are near or below national and international standards; eutrophication is a significant phenomemon especially in Boka Kotorka. As for coastal industries (mostly related to ports and shipyards), they are not large potential polluters and many of the industries operate much below installed capacity. Overall level of organic pollution from agriculture in the coastal area is very low. Finally, oil spillage is not a current major threat along the coast of Montenegro or offshore. Minor spillages are reported in the Port of Bar and Boka Kotorska (10 to 100m^2) but no critical dumping at sea.

Despite the obvious marketing value of the Montenegrin coastal **natural and cultural landscapes**, little awareness exists and attention is given to ensuring this economic asset will be preserved for the next decades. Many law protected natural areas have been degraded by construction or neglect and none have management plans and adequate staff to man them. There are no declared marine protected areas. Due to tourism and urbanisation pressure and the fact that information on biodiversity is not taken into account in procedures for adoption and implementation of spatial and physical plans, individual species, communities as well as entire ecosystems are disturbed, have been altered or have altogether disappeared from coastal areas. Many wetlands areas were built over and today only a few valuable places remain: small areas in Buljarica, in the back of Jaz beach in Donji Grbalj, larger sites in Solila near Tivat and parts of Ulcinj around salt works and Zoganj area. Solila for example is an area of former salt pans hosting some migratory birds in winter. It is threatened by pollution from the nearby industrial area. The most significant wetlands are those found behind Velika Plaza in Ulcinj, rich in birds, water birds, amphibians, reptiles, and water insects. The site is threatened by illegal hunting, building and sand extraction

Illegal fishery practices occur usually between Bar and Ulcinj, near Lustica. However, illegal fishing is rather widespread and reported all along the coast, including in sensitive habitats and ecosystems (Bojana river mouth, Katic island- near Petrovac, Donji Grbalj shore and area between Bar and Ulcinj). Illegal fishery practices (dynamite fishing and trawling at depths shallower than authorised) cause destruction and degradation of sea bottoms and consequently disappearance of *Posidonia* beds, of high biodiversity value. Illegal collection of date shells causing degradation of biocenoses and solid

substratum continues despite new regulations in the Fishery law (art. 56). Accidental killing / catching of protected species (dolphins) is reported.

While the cultural heritage has usually benefited from more (international) attention (not the least because of major damages caused by earthquakes), limited financial means as well as lack of political commitment (national and local) have contributed to its overall degradation. Many historical monuments and buildings but also vernacular rural architecture are in need of re-furbishing and protection. The case of the World Heritage site of the city of Kotor epitomises this situation: a management plan for the entire protected area is only about to be drafted today now that the time deadine for fulfilling international obligations is coming to a close.

Finally**, availability of up-to-date data and information** is today a major stumbling block in Montenegro. Over the last several years, Government could allocate no sufficient financial means for collecting and updating existing data sets. This is a general rule affecting all sectors. As a result, trend analyses and comparative assessments remain tentative. In addition, lack of specialists in some fields has been recognized for many years as an additional cause for information gaps. Areas particularly in need of data are coastal and marine fisheries, biodiversity and habitats. In addition, limited information on the status of coastal environment is fed to the ministry of Environment by agencies, including Morsko Dobro. There are currently informal talks between the M. of Environment and the M. of Maritime Affairs on the establishment of mechanisms for exchanging information and clearly defining respective roles and actions. Finally, government institutions hardly disseminate environmental information to the public. Although citizens have a legal possibility to appeal to court in case they are not allowed to access environmental information, it is not customary in Montenegro to exercise such rights. The new **Law on Free Access to Information** strengthens citizen rights to access to information and make the implementation of these rights in practice more effective.

III. EXISTING LEGAL & INSTITUTIONAL FRAMEWORKS

As a result of its transition stage, Montenegro is currently revising and adapting its legal framework to EU standards. This review gives the overall situation as to March 2006.

Legislation

Montenegro adopted a Coastal Zone Law in 1992 which regulates the activities and duties of the Coastal Management Agency (Morsko Dobro). The objective is to regulate the management, utilisation, improvement and protection of the Coastal Zone (art. 1). The Coastal Law deals with the following issues:

- Land ownership status in the Coastal Zone (art. 4): the Coastal Zone is State owned and for public use, except where "private property does not affect the nature and purpose of the coast, and if it improves the utilisation of the Coastal Zone"
- Designation of a management agency for the Coastal Zone by the Parliament (art. 5)
- Access to living resources (hunting, cultivation, protection) as stipulated in a separate special law (art. 6)
- Uses of the Coastal Zone (art. 7 to 12): which economic activities are allowed, how, user fees, etc
- Cadastre (art. 13 to 15): registration of structures in the Coastal Zone
- The definition of bathing areas, their access status and their use (art. 16)
- Coastal Zone protection (art. 17 to 22) under the responsibility of Port Master Offices: dealing with pollution from land base sources and at sea, disposal of hazardous wastes
- Penalty provisions (art. 23 to 28)
- User and Property rights (art. 29 to 33): for permanent and temporary structures, including those on the seafloor

However, the provisions of this Law are broad, ambiguous and not sufficient for setting up a sound coastal management strategy on local and state levels. As a result a new Coastal Law is in preparation,

but no draft version available yet. In the mean time new pieces of legislation are being prepared which scope overlap with those of the current CZ law; and cooperation especially between the Ministry of Maritime Affairts and the Ministry of the Environment on amending the CZ Law is limited and of a rather consultative nature.

On the marine side the following legal texts are therefore in the process of being drafted:

- Law on Ports -
- Law on the sea (UNCLOS)
- Law on registration of ships
- Law on safety and security of navigation
- Law on hydrographic activities (SOLAS);
- Amendments and modification of the Coastal zone law
- Law on prevention of pollution of sea from ships
- Law on maritime navigation.

There are two main sources of legal environmental and natural heritage protection: the Environmental Law (N°12/96) and the Law on Nature Protection (N°39/77). Both provide guidelines in terms of nature protection, ownership rights and duties, implications in relation to urban and spatial planning, and financial means. However, they are not interrelated and no by-laws have been adopted so far for the law on Nature Protection.

In terms of obligation in relation to the Barcelona Convention and its Protocols, the situation in Montenegro is as follows: the Convention is ratified, as well as the Dumping, LBS, SPA and Pollution from exploration & exploitation of continental shelf Protocols. Needed legislation is either fully or partially transcribed in the national system. The Emergency Protocol is ont yet ratified but their legal obligations are partially met. The protocol on Transboundary movement of hazardous wastes and their disposal is approved by the Government of the Republic of Montenegro but not ratified by the State Union of Sebia & Montenegro.

Finally, nn terms of other major international conventions, the Federal Republic of Yugoslavia ratified the Convention on Biological Diversity on November 5, 2001. Ratification instruments have not been provided yet by the State Union of Serbia & Montenegro. Montenegro has no national Biodiversity Strategy and Action Plan *(BSAP),* which should be developed as a national commitment to the Convention on Biodiversity. A project proposal for BSAP has been submitted via UNDP to GEF for funding as an enabling activity. Prominent is the need to ratify the Bern Habitat Directive and the Bonn Convention on Migratory Species.

SFRY has ratified the Ramsar Convention in 1977. The succession statement was submitted and membership of FRY is valid from July 3, 2001. The status of membership in this Convention has not been questionable in any moment for FRY and SU S&MN today. The Regina Amendments and the Paris Protocol to the Ramsar Convention have not been ratified, and there are no explicit plans for that.
FRY has confirmed the CITES Convention by issuing the Law on Approval of the CITES Convention on International Trade of Endangered Species of Wild Flora and Fauna on November 5, 2001 ("Yugoslav Official Register", International Agreements, no. 11/2001).

Institutions

The organisational set up of government bodies and institutions in Montenegro is rather simple: it consists in rather small ministries, national and regional institutes and line agencies (public enterprises). However, an additional institutional layer arises from the existing federal structure and power sharing arrangements between Serbia and Montenegro: since March 2002, the new State Union of Serbia and Montenegro is established beween the Republic of Serbia and the Republic of Montenegro. In the new agreement all but five functions are legally devolved to the level of Republics, leaving only Foreign Affairs, External and Internal Economic Relations, Human Rights and Defence

at federal level. According to the Constitutional Charter, competences on signing and ratification of conventions and protocols remained at the joint state level.

Significant institutional re-arrangements have been taking place during the last 5 years. For example, the Coastal Zone Management Agency was transferred from the Ministry of Maritime Affairs and Transport to the Ministry of Environment and Physical Planning during the summer of 2004. A new Maritime Safety Agency was established in 2004 along with Coast Guards for which a coordination body is still to be organised.

The following major elements may be relevant to retain:
- In terms of planning and programming, 5 activity domains are under the remit of more than one entity: fisheries and aquaculture, ports and marinas, urban development and planning, tourism and recreation, water management;
- In terms of issuing of permits and licences, again 5 activity domains are under the remit of more than one entity: fisheries and aquaculture, urban development and planning, tourism and recreation, and agriculture
- In terms of control, for activity domains where mutliple mandates are identified, on average 4 entities take a share;

Applied instruments

Due to the long period of isolation during the 90s many instruments available to ICZM have not been up-dated and upgraded. In addition human resources to apply such instruments are limited.
Much of instruments applied relate to spatial and physical planning. Instruments such as EIA, SEA, GIS, CCA, are in the process either of having their legal basis revised or are being adopted.

Policies & strategies

Since the beginning of the 2000s, along with the significant reshuffling of its legislative and institutional set up, Montenegro is producing a wide range of new national policy, strategic and orientation documents. Many are of relevance to the development and management of the coastal region:
- Tourism Master Plan (2001)
- Direction for the Development of the Ecological State of Montenegro (2001)
- Montenegro: The Impact of Travel and Tourism on Jobs and the Economy (2001, WTTC)
- Sustainability Strategy of the Ecological State of Montenegro (2002, ECPD)
- Serbia & Montenegro environmental sector report (2002, WB)
- Environmental performance review for Serbia and Montenegro (2003, EC)
- Report on marine pollution from land-based sources (2004)
- National Strategic Master Plan for Waste Water Treatment (2004)
- National Master Plan for solid waste management (2004)
- National Plan of intervention in case of accidental sea pollution
- Water Management Base of Montenegro (2001)
- National Plan for the Prevention, Preparedness, and Response to Major Marine Pollution Incidents at Sea (in preparation)
- Physical Plan of Montenegro (2005)
- Physical Plan for the Coastal Zone (2006)
- National Strategy for Sustainable Development (to be finalised by June 2006)
- National ICZM Strategy (to be finalised end of 2006)

COASTAL PRACTICES

The most developed and formalised practice in the coastal region relates to **the leasing of seasonal beach permits** for the tourism season. This is under the responsibility of the Coastal Management

Agency, which issues tenders for areas to lease. Part of this legal zone is also on the marine side wherein leasing relates mostly to sites for fish farming and aquaculture.
In terms of **operational water management**, a first plan was to develop a shareholder company involving coastal municipalities and the Regional Enterprise PEW ("Aqua Regia"[2]). In February 2005 a new regional utility called "VODACOM" has been registered which will be the coordination utility of the coastal municipalities. In addition a World Bank project so far on stand by, has been adopted which aims at bringing water to the coastal from the Skadar Lake. How this project links with the VODACOM initiative remains unclear.

In terms of **international cooperation**, a memorandum of understanding was signed in 2004 between the M. of Environmental Protection and M. of Environment and Territory from Italy, which includes bilateral cooperation on marine protection issues.

A **CAMP project** is under preparation for the 2006-2007 period.

The **SPA/RAC** center is to provide some assitance funds to support the M. of Environment and Physical Planning in the preparation activities in relation to GEF

Under **REMPEC**, a MoU was signed in December 2005 to undertake activities in relation to the 'Development of National Capacities of Serbia and Montenegro for Prevention of, Preparedness for and Response to Marine Pollution from Ships". The Maritime Safety Agency is to implement the program in collaboration with the M. of Environment and Physical Planning covering 7 activities with a total budget of about 2.7M € (strengthening of maritime administration, revision of national contingency plan, stockpiling equipment, port reception facilties in Bar, training courses)
Under **MEDPOL**, Montenegro is waiting for GEF to implement recommandations from the national diagnosis

Under the **Adriatic – Ionic initiative**; a Declaration on cooperation in the field of environmental protection was signed in July 2005 in the framework of the Adriactic – Ionian Initiative. Projects will address environmental protection and preservation, combating pollution in the Adriatic and Ionian seas, technical cooperation and capacity building, as well as bilateral transfer of know-how and exchange of information. Activities include workshops, seminars, development studies, harmonisation of environmental legislation in line with EU framework, development programs for ecological rehabilitation and restoration of polluted sites and protection of the marine environment, cooperation in regional data exchange, etc.

Montenegro is a member of the **ADRICOSM** partnership which aims at organising, evaluating and coordinating multinational research development and implementation programmes advancing the understanding, monitoring and predictive capabilities in the Adriatic Sea area in the fields of integrated coastal area and river basin management systems. Among projects, the demonstration of the feasibility of marine now casting/forecasting at weekly time scale, developing coupling with river basin management systems for coastal pollution and marine ecosystem health management. A new proposal is being prepared for a project on the Bojana River

NEEDS FOR ICZM

The ICZM diagnosis adopted as a working basis by the inter-ministerial Committee lists 38 stakes of importance to the coastal region of Montenegro. The strategy-building process currently underway is about to select 4 to 5 strategic objectives and to develop a strategic action program by the end of 2007.
ICZM is needed for the following reasons:
- To build awareness on a necessary vision of the coastal region as a development and planning spatial unit
- To overcome current strong sectoral policy making practice

[2] Taken from the ToR for EIAa Study, prepared by PEW «Crnogorsko primorje», October 2002

- To establish communication channels between land and maritime operating institutions
- To tackle growing real-estate pressures on land resources (agriculture and natural areas)
- To help the development of inter-disciplinary research and applied research curricula and projects
- To develop integrated solutions to addressing coastal marine pollution prevention, control and monitoring
- To build awareness on the importance of establishing coastal protected areas (land and marine)

Taking into account ICZM relevant strategic objectives and programmes adopted or currently being developed in Montenegro, the following areas can be proposed in relation to needs for ICZM in the country:

- Establishment of inter-sectoral communication tools and institutional mechanisms which could operate within the framework of SEA practice, especially between Ministry of Environment and Ministry of Maritime Affairs
- Strong effort in ICZM capacity building towards ministerial, government agencies and municipalities
- Development of multi-disciplinary learning curricula at university level as well a the knowledge base (marine biology, maritime economy, eco-toxicology, coastal tourism economy, natural and cultural heritage valuation)
- Further sharing of management, revenues and costs from beach management between Coastal Management Agency and municipalties
- Clarifying responsibilities in relation to the development and management of future marinas
- Clarifying responsibilites in relation to responsibilities for control of sea water quality
- Instating appropriate implementation power to the department of environmental protection
- Providing a clear insitutional framework for the new Coast Gards body
- Produce COED study
- Ensure sustainable financing for beach and marine water quality monitoring
-

Government bodies of relevance to governance and management in coastal areas in Montenegro				
Ministry	**Units**	**Line Agency**	**Public Enterprise**	**Institute**
Ministry of Maritime Affairs and Transport		Maritime Safety Department		
Ministry of Environmental Protection and Physical Planning	Department for Environment		Coastal Zone management Agency PE for National Parks	Hydrometeorological Institute Centre for Eco-toxicological research Republic Institute for Urban Planning
Ministry of Agriculture, Water Engineering and Fisheries	Departments: agriculture, forestry & waterengineering	Department for waters		
Ministry of Culture and the Media				Institute for Nature Protection Republic Institute for the Protection of Cultural Monuments (Cetinje) Regional Institute for the Protection of Cultural Monuments (Kotor)
Ministry of Education				Institute for Marine Biology (Kotor)

The division of legislation between land and marine sides of the coast

	Legislation	Land	Marine
LAWS	Planning and Development (N°16/1995), 2005	Yes, defines the different types of spatial plans (National, special purpose, GUP, DUP)	Yes, in the newly adopted Coastal Area Spatial Plan
	Sea Fisheries (2003)[1]	No	3 miles, 12 miles, restricted zones, commercial and recreational fishing, mariculture zones, resources protection, artificial reefs **(forbidden)**
	Agriculture (2001)	No specific regulations for coastal areas	No
	Environment (N°12/1996)	Preservation of natural values and habitats (including by local authorities art. 12), user-pay principle, awareness, information access, EIA, implementation of ratified international conventions, eco-charges from investment projects, repay for investments requiring EIA (art. 37)	No specific provisions for marine areas, it is assumed they are similar to those on land, for e.g. concerning the use of EIA, awareness, etc.
	Nature protection	Provides categories of protected areas	No particular mentioning of a category for marine protected areas
	Law on Waters ("Off. Gazette RoMN", no 16/95)	Enacting Water engineering documents (conditions, approvals and licenses) which define conditions for construction of structures and facilities so as to ensure protection of surface and underground waters, monitoring of water pollution, determining remuneration for the protection of water from pollution - polluter pays principle.	The same provisions regarding remuneration and monitoring of pollution are valid for the sea. Special regulations for discharge of waste water into the sea are defined by the Book of Regulations on quality of waste waters and means for their discharge
	Maritime and Internal Navigation (No. 12/98)	Control of land-based pollution of sea water and port areas	Control of sea pollution from ships
DECREES	Ports and Harbour[1] Provision for section III in Coastal Zone Act	Navigation, docking and handling infrastructures and maintenance capacity	Facilities for protection of the marine water from pollution by ballast waters
	EIA	Many activities, including tourists settlements, hotel complexes	Mining, aquaculture, and any effects causing changes in the ecosystem, Ports, marinas, harbours, navigation channels, landfills for waste disposal
REGULATIONS	Class and Category of Waters	Drinking water, fishery and shells, for bathing (2 categories)	Water for fishery and shells, for bathing (3 categories)
	Bathing Places (beach management)[1] Provision for section II.2 in Coastal Zone Act	Bathing facilities (showers, drinking water, toilets), rescue services, rental services	Recreational boundaries (100, 200) and access and safety distance for boats, sailboats, scooters, etc
	Wastewater	Waste water quality for discharge in surface and underground waters (art. 5)	Discharge depth and distance in the sea (art. 26, art. 31)

Stakeholders	Coastal protection	Industry & energy	Fisheries & aquaculture	Ports & marinas	Transport & shipping	Urban development / planning	Tourism & recreation	Water management	Waste management	Agriculture	Nature conservation	Heritage
M. of Environment & Planning	P&P, R, D	C (EIA), P&L°	C, P&L°	P&P, D, R		P&P, R (CZML & CASP), P&L, S	C (EIA), P&L°	C, P&L°	R, C, P&L°	C, P&L°	P&P, R, I	C,S
M. of Maritime Affairs (incl. Port Master Offices)			C, S	C, S	P&P, R, P&L, C (AMS)	M (in Morsko Dobro area)						
M. of Tourism				C			P&P, R, P&L, S, C					
M. of Agriculture, Forestry and Water Management	P&P, P&L, C, S, R		P&P, R, P&L, S, C	P&P, C, S, R	C but no S (oil spill)		P&P, R, P&L, C, S	P&P, R, P&L, C & S		P&P, R, P&L		
M. of Economy & Industries		X	X		X				X		X	
M. of Culture												P&L (submar)
M. of Defence				C (military)								
Coastal Zone Management Agency	D, M&L		P&P (aquac)	L		C	L, C	C (quality)			I	X
Regional Water Supply Company								D, C, I	D, C		X	
Maritime Safety Department					D (C. guards), F							
Regional Institutes for Culture												P&L
Municipalities	F		P&L	C		P&P, P&L, C	P&P, P&L, C	P&P, P&L, F, C	P&P, P&L, C			P&L, F (submar)
Coast Guards			X		X		X					
Marine Institute			Advice, I, C					C (quality)			Advice, I	
Meteorology Institute					X (forecast)			C (quality)				
Beach managers	F						X					
Prof. fishermen			X									
Marina managers					X	X	X				X	
Hotel owners	X					X	X	X	X		X	X
Sport Centres			X				X				X	

Status of implementation of Barcelona Convention and its Protocol in Montenegro (as of 2005)		
Text	**Legal/administrative measure taken for**	**National law**
Convention	Precautionary principle / polluter pays	Law on Environment, Law on waters Law on Nature Protection Law on Construction of Buildings (art 9)
	Undertaking of EIA	Law on planning and Physical planning (art. 61) Several law and sub-laws under preparation (EIA, SEA, IPPC)
	Promotion of ICZM	GTZ project; preparation of CAMP project
	Marine pollution monitoring programmes	Report on the State of the Environment
	Access of public to information	Constitution (art. 19), Law on Environment (art. 7, 12, 26, 42)
Dumping protocol	Prohibition of dumping waste	Law on Environment (art. 9, 10); Law on Water (art. 26, 29)
	Permits	
	Ships and aircrafts	
	Obligation to report	Coastal zone law (art.22); Law on waters (art. 34), NPPPRMPI
Emergency protocol (not yet ratified)	Implementation of international regulation to prevent pollution from ships	International treaties and conventions in Table 1; Coastal zone Law (art. 21, 22)
	Contingency plan	
	Measures taken	NPPPRMPI (in prep)
	Monitoring	No equipment in ports
	Dissemination and exchange of information	Electronic monitoring system soon operational
	Competent national authorities for combating pollution	
	Competent national authorities for receiving reports and assist	MoMA, MoEP, MSD, IMB
	Competent national authorities for mutual assistance	Coastal zone law and law on water; NAP
	Competent national authorities for implementing para 2, art. 4	MSD, coast guards
	Regulation on pollution by oil and hazardous substances	MSD, Coast guards,
	Bilateral /multilateral agreements	Planned in NPPPRMPI (new regional centre)
	Port reception facilities	MoU with Italy Study on port reception facilities undergoing = Bar, Budva, Kotor, Herceg Novi, Risan
	Assessment of environmental risk of maritime traffic	Planned to be under MSD, Maritime Police and Coast guards
	Strategies for reception of ships in distress	Law on maritime and internal sailing (art. 175-185)

Status of implementation of Barcelona Convention and its Protocol in Montenegro (as of 2005)		
Text	**Legal/administrative measure taken for**	**National law**
Pollution from land-based pollution sources	National action plans and programmes	Law on environment for financing environmental measures; Law on EcoFund in preparation, Law on waters , Law on Maritime and internal navigation Agency for Environmental Protection
	Reduction of risk of pollution by accidents	EIA, SEA, and IPPC to be adopted in 2005
	Authorisation or regulation control of discharges	Law on Environment (inspection), Law on Maritime and internal navigation
	Standards and criteria for seawater quality (bathing and seashells)	Regulation on classification and categorisation of waters
	Assessment of pollution along the coast	Idem to measures listed under general obligations
	Evaluation of effectiveness of national plans and programmes	
Specially protected areas	Preservation and management of value natural and cultural heritage and preservation of threatened and endangered species	Programme on biodiversity monitoring, SAP BIO
	Establishment of SPA	Incomplete legislation, Law on protection of Nature, Decree on Protection of rare, scarce, endemic and endangered plants and animal species (red list), Law on Forest, Law on Environment, Law on Hunting
	Protection in conformity with art. 6	No
	Prohibition of dumping in protected areas	No
	Regulation of the passage of ships	Law on marine fisheries
	Regulation on introduction of species	By CASP
	Regulation of activities	Law on marine fisheries
	Regulation of scientific research activities	Hunting association, FRY Law on approval of the CITES Convention
	Regulation of fishing, hunting, trade in animals and plants	No
	Planning and management	Law on protection of nature
	Protection and conservation of species	Not applicable
	Granting exemption from protected measures	
Pollution from exploration & exploitation of continental shelf	Authorisation for seabed exploration and exploitation	Law on participation of the private sector in performing public services, Law on mining, regulation on procedure and conditions for granting concessions; Law on the environment (EIA)
	Control of use, storage, and disposal of chemical	Law on production and trade of toxic substances, Law on waters, EU chemicals legislation in process of transposition,
	Discharge of sewage from installation	Law on Environment, Regulation on the criteria for selection of sites, methods, and procedures for depositing waste material,
	Disposal of garbage from installation	Same as sewage
	Disposal of wastes and harmful or noxious substances and material in designated offshore reception facilities	Not applicable
	Safety measures	Law on integrated pollution prevention and control (in preparation)
	Contingency planning	Not included in NPPPRMPIS (in preparation)
	Notification of events on the installation or at sea likely to cause pollution	NPPPRMPIS (in preparation)
	Removal of installation	Not applicable

Status of implementation of Barcelona Convention and its Protocol in Montenegro (as of 2005)		
Text	**Legal/administrative measure taken for**	**National law**
Transboundary movement of hazardous wastes and their disposal	The protocol is approved by the Government of the Republic of Montenegro but not ratified by the State Union of S& M; Reduction or elimination of the generation of hazardous wastes Reduction of transboundary movement of hazardous wastes Prohibition of export and transit of hazardous substance to developing countries Prevention and punishment illegal traffic of hazardous wastes Notification of transboundary movements of hazardous wastes through territorial sea	Law on Environment, Law on local self-management, Law on cleanliness, collecting and use of wastes, Law on pubic utilities, Law on transport of hazardous wastes, Master plan for waste management, national waste management policy, Regulation on documentation submitted along with the application for issuing of licence for waste import, export, transit Law on foreign trade, Law on the transport of hazardous substance Criminal code Regulation on documentation submitted along with the application for issuing of licence for waste import, export, transit

Summary of existing institutional, legislative and informal settings in relation to coastal management in the Republic of Montenegro			
Provisions	**Institutional arrangements**	**Legal instruments**	**Non-statutory mechanisms**
Delineation of Coastal Zones		Coastal Zone Management Act	
Designation of dedicated institution, commission, committee	Coastal Zone Agency		
Establishment of institutional instruments for co-ordination	Proposed Coastal Committee	Decision on Council for Sustainable* Development	Proposed
Status of land ownership		Real Estate Act	
Regulation of public access to the coast		Coastal Zone Management Act	
Procedures for coastal land-use planning, including control on illegal buildings	Consultation and expert review	Land planning Act & CASP Law on building* Law on communal activities* Decision on leasing conditions* Cadastre Code in Coastal Zone*	Environmental considerations taken into account in planning stages
Control of industrial and commercial activities on the coast: Fisheries Mariculture Ports & shipping		Fishery Act Fishery Act Law on seaside and internal navigation* Law on Waters	
Control of pollution: Waste water quality Bathing water quality	Yes, but overlaps	Coastal Zone Management Act, Law on Waters Regulation on quality Regulation on Bathing water	
Management of water resources	Between Regional Water Resources Company & municipalities	Law on water* Water supply and discharge of waster water and solid waste Act* Code on waste disposal*	
Management of solid wastes	Between Regional Water Resources Company & municipalities	Water supply and discharge of waster water and solid waste Act Code on waste disposal	
Control of recreational activities	No	Code on nautical tourism* Code on bathing places	No information
Protection of areas of ecological, natural and cultural value	No	Environmental Act Law on Nature protection EIA decree & Ordnance* Compensation for pollution decree* Ordnance on endangered species*	No information
Sanctions regimes	No information	Law on inspection control* Environmental Act Coastal Zone Management Act Fishery Act	No information

		Law on Waters	
Collection of data	No information	Environmental Act (registries)	
Information & communication		Environmental Act (agencies to ministry)	
Public participation	No information	No information	No information

Identification of range of coastal management issues arising from thematic analysis

	THEME	ISSUES
HUMAN USES AND ACTIVITIES	**Agriculture**	➡ 1. Agriculture has been long neglected despite its role in socio-economic development, environmental protection and spatial planning; however, planned tourism-related agriculture may not be sufficient for maintaining production at a year-round economically viable level
	Fisheries	➡ 2. National statistical data on existing fish stocks and mariculture potential need updating and consolidating, however available human resources to control fish catches are too sparse. FAO figures for present domestic consumption market for fishing and mariculture products is small compared to estimated potential for production; in addition to the highly competitive international market this may explain why investors are probing but so far not investing
	Forestry	➡ 3. lack of data on forest quality, level of exploitation and ownership in the coastal region and level of fire hazards
	Transport	➡ 4. The development of an integrated transport system (road – rail – sea) requires rapid simultaneous massive investments which are not mobilised at present ; for example while the coastal express way is a key strategic option on the national transport development agenda for Montenegro, it is not incorporated into the EU TEN scheme for the Balkan region; ➡ 5.The port of Bar is still looking for a niche within the highly competitive new maritime logistical network in the SEE region
		➡ 6. While alternative oil and gas transport schemes are available, a deadline for the decision on the most appropriate option is unknown
	Maritime economy	➡ 7. The dismantling of the former Yugoslav merchant marine fleet results in low activity in shipbuilding and repair and numerous seamen sailing foreign flags; maintaining of such low production coastal industries (also salt production) is challenged by tough international competition; redevelopment of the shipping and shipyard economy and its infrastructures is second on the economic agenda after tourism:
	Tourism	➡ 8. Promising development perspectives identified in the Master Plan for Tourism, including nautical tourism, which require diversification of the tourism offer and attracting foreign investors who are still waiting for investment conditions to be consolidated
		➡ 9. A beach-quality policy and management practice based on an economic development strategy taking into account the principles of sustainable development
	Spatial & urban development	➡ 10. Maintaining key existing national spatial planning orientations while ensuring a balanced development of the coastal region by: ▪ adopting new methodological approach, including the polycentric system ▪ creating socio-economical conditions for the emerging of several development foci within the coastal region ▪ integrating land and marine development and management in a unifying spatial planning policy and plan (CASP) ▪ controlling conditions for development in a selection of high priority coastal sites
	Heritage protection, and management	➡ 11. Keeping the objectives of biodiversity conservation in Skadar Lake National Parks while demand for recreational fishing and hunting is increasing and financial resources for management, including inspection are very limited
		➡ 12. Neglect of traditional indigenous knowledge, especially in rural architecture

Impacts	**Water pollution**	➡ 13. Despite poorly maintained municipal sewage disposal and treatment networks, the overall marine water pollution level is still low at the open coast; but it is likely to deteriorate as urban pressure will increase, unless planned network investments are delivered on time; In Boka Kotorska many individual sea outlets discharge directly and are collectively responsible for eutrophication episodes
		➡ 14. Existing technical regulations are little respected by industry (including shipyards), partly due to insufficient government inspection enforcement as well as limited technical and financial capacity
		➡ 15. Broader protection zones for existing and potential groundwater sources, including permanent following up of their quality
	Wastes	➡ 16. Location for efficient coastal municipal solid waste management facilities are identified but final agreement to begin building work depends upon adoption of proposed institutional reorganising at ministerial and municipal levels
		➡ 17. Port of Bar has identified its waste management solution but is still looking for financial support
Identification of range of coastal management issues arising from thematic analysis (continued)		
	THEME	**ISSUES**
	Biodiversity, habitats, heritage	➡ 18. Impacts of many activities are not assessed: ▪ Introduction of alien species, voluntarily or accidental on basis of prior assessment of autochthonous flora and fauna ▪ Illegal fishing, qualitatively yes but not quantitatively ▪ Relationship between artificialisation and biodiversity in the coastal zone, especially in Boka Kotorska ▪ Illegal collection of valuable underwater archaeological artefacts ▪ Increasing hunting pressure in wetland areas especially in relation to growing foreign demand
	Urban and transport infrastructure development	➡ 19. Controlling leasing level and keeping the right balance between development and protection in the coastal zone managed by Morsko Dobro
		➡ 20. Urban development pressure and real-estate speculation moving further inland, leading to degradation as an everyday phenomenon and threatening natural and cultural heritage and landscape integrity
		➡ 21. Increased demand over the mid term for construction material will require existing quarries to be enlarged and/or the identification of suitable new sites
		➡ 22. The full socio-economic development and environmental impacts of the new express connection Podgorica- Sozina tunnel-Bar via and the possible expressway via Verige are not fully assessed, including increasing road traffic development which if unregulated will generate chronic transport congestion and pollution
	Stakeholders, interactions, & conflicts	➡ 23. Overlooked emerging land and marine use conflicts, e.g. tourism and maritime economy
		➡ 24. Hunting and wetland conservation
Planning,	**Legal framework**	➡ 25. Revision of the coastal zone law, to support integration of sectoral legislation into a unifying text, including questions of introducing articles on non-building zone, removing articles on ports (e.g. clarification on concessions regime for marinas), and publishing decrees concerning the management of Morsko Dobro
		➡ 26. Despite existing legislation, control of compliance and application of fines in relation to both land and marine pollution, is still sectoral and which institution deals with it depends on the origin and type of pollution
		➡ 27. Limited legal coverage for inter-institutional communication, public information and participation, but legal provisions are under preparation

		➡ 28 Despite adequate provisions in the environmental and nature protection laws, no full implementation, especially in establishing natural, cultural and landscape protected areas
		➡ 29. Some legal domains still to be completed to fully comply with obligations from Barcelona Convention and its protocols
		➡ 30. Despite legal obligations, planning documents do not systematically take into account natural and cultural heritage protection
	Governance	➡ 31. Remaining disagreement on Coastal Zone boundary line in Velika Plaza, Port of Bar, Tivat Airport and Valdanos challenges its appropriateness in relation to the general economic development and environmental protection of the coast
		➡ 32. Lack of a coordination structure for coastal marine water quality monitoring
Cross-cutting issues		➡ 33. Information and data: unequal assessments on availability and gaps in sectors; inconsistent, inaccurate and/or outdated statistical data in some sectors, e.g. in fisheries, biodiversity; limited communication of existing knowledge between and within institutions and towards the general public
		➡ 34. Lack of monitoring capacity of impacts, e.g. on illegal collection of archaeological artefacts, fishing, hunting, introduction of alien species, artificialisation,
		➡ 35. Lack of inspection capacity on compliance, e.g. industrial sewage, illegal building,
		➡ 36. Lack of up-dating in research and management methodologies
		➡ 37. A weak grass root organisation base still little involved in consultation processes
		➡ 38. Limited awareness about the ecological importance of remaining coastal wetlands results in illegal hunting and building in legally protected areas
		➡ 39. Absence of conflict resolution consultation mechanisms and platforms

STRENGTHS	WEAKNESSES
Legal ▪ A dedicated Coastal Law ▪ A right to remove illegal building in Coastal Zone ▪ Legal provision for the establishment of MPAs Institutional ▪ A Coastal Areas Special Plan taking into account the land and marine side of the coast ▪ A new Maritime Safety Agency ▪ Regional plans for water supply and waste water management ▪ Regional plans for solid waste disposal ▪ A Coastal Agency with a mandate across the land-sea divide ▪ Relatively good knowledge of coastal environments ▪ Limited industrial development and pollution Management ▪ A long practice of quality beach management at Morsko Dobro resulting in international recognition (Blue Flags)	Legal ▪ Too focused a coastal law ▪ No legal provisions for setback lines ▪ No regulations for spatial planning on use of marine areas (including recreation, protected areas, fishing areas, etc). ▪ No legal provision for management plans in MPAs Institutional ▪ No official mechanism for co-ordinating coastal management ▪ A low priority for environmental issues at Morsko Dobro despite adequate internal capacity to handle them ▪ Still insufficient knowledge and monitoring of marine biodiversity ▪ Significant overlaps in relation to control and monitoring of marine pollution and maritime safety Management ▪ Limited finances dedicated to public beaches ▪ Limited shared decision and control by municipalities of development in Morsko Dobro area ▪ No proper control of illegal building by municipalities
OPPORTUNITIES	**THREATS**
Legal ▪ A legal system adopting EU regulations standards ▪ Already some strong legislative provisions in fishing, environment, water quality, culture Institutional ▪ A period for re-organising distribution of responsibilities Management ▪ Some strategic and sectoral plans for management, especially in tourism and water ▪ A long tradition of spatial planning with skilled practitioners	Legal ▪ Several legal provisions in favour directly or indirectly of constructions at the expense of environmental quality ▪ Lack of penalties enforcement capacity Institutional ▪ Unstable institutional context due to the transition period ▪ No policy and strategy on coastal agriculture ▪ Limited information sharing and communication between institutions and within institutions ▪ Outstretched Humana resources Management ▪ Lack of integration at strategic and operational levels between sectoral plans, especially tourism with water management, agriculture or transport ▪ No carrying capacity assessment of tourism development, especially impact of transport networks ▪ A limited representation and participation of NGOs ▪ Lack of data and easy access to it

Strategic overview: Morocco

April 2006

I. INTRODUCTION

While for centuries Morocco was a country organised around its hinterland main cities, the coastal region has now become the backbone of economic development wherein most industrial and tourism activities are today concentrated. Development has primarily focused and impacted the shores of the Atlantic Ocean. However, major investments are now also taking place along the Mediterranean shores (known as the Northern Region), a region which was for many years rather neglected in terms of economic development.

Signs of unsustainable development are nonetheless already visible on the Mediterranean especially in two areas. First the Nador region threatened by uncontrolled urban development and associated pollution of the Nador lagoon; second the bay of Tetouan also experiencing uncontrolled urban sprawl in addition to growing activities such as tourism, textile, paper, para-chemsitry and agro-indsutries pouring untreat"ed seage directly into the bay.

All these evolutions are taking place against a backdrop of decentralisation and still limited awareness among many decision-makers of the urgency in coordinating and channelling development on the coast. More positively, there is presently an attempt at the central level of governement to better control and steer coastal development though a comprehensive and coherent policy, legal and management framework dedicated to coastal areas.

II. PRESSURES & OPPORTUNITIES

Boundaries of the coastal region

The Mediterranean shore of Morocco is about 540km long. It is mostly a steep mountainous ridge interspersed with deep valleys. Several alluvial plains occur in Tetouan-Smir, AL Hoceima, Bou Areg and Sa'idia where the two largest wetland areas are found (Nador lagoon and the Moulouya estuary).

Urban development

Urbanisation has increased overall in Morocco from 29% in the 60s to 60% in 2004, and 60% of the urban population lives in coastal areas. So far most of this development has taken place along the Atlantic shore but the Mediterranean coastline is catching up.

Despite existing policy and regulation to draft Urban Master Plans (SDAU) for coastal towns, none have been initiated so far. Urban areas are often characterised by increasing poorly organised suburbs. In some areas such as Tetouan spatial segregation is happening with distinctive well-manned rich areas and poor negelected neighbourhood (in terms of infrastructures and hygiene: water supply, sewage disposal and treatment, etc.).

Land ownership rights are a significant issue in many instances with new illegal buildings built on State-owned land (forestry and maritime public domain). The existence of a specific land property type, the "Titre khalifien" (khalif property) dating back to the Spanish ascendancy times, causes numerous additional property disputes between citizens and the State.

Tourism

Coastal areas are today the main focus of tourism development, especially the Atlantic coast where towns like Tanger and Agadir make up for 70% of night stays. For a long while the Mediterranean coast of Morocco remained outside the realm of international tourism: in fact much of the summer tourists are still today a majority of nationals. However, over the last few years an intensive and ambitious tourism development programme has been developed. There is evidence that existing

tourism projects, including campings, are impacting on coastal dunes as well as other recreational uses such as trampling and motor vehicles.

Eco-tourism is still embryonic but potential is considered high, especially in areas which are still remote from main road networks. However, with the building of the Coastal Rocade, some presently protected and preserved coastal sites such as the Cap des Trois Fourches may be negatively impacted. Scuba diving for fishing is not much developed and mostly practiced by foreign tourist, especially Spaniards.

Land and Maritime transport

The major endeavour to build the Mediterranean Rocade linking Tanger to the Algerian border is already producing economic development but also environmental impacts as speculation increases in relation to establihing tourism resorts and facilitating everyone's access to beaches. Many illegal constructions for residential homes were erected other the last few years especially in the Sa'idia area. In terms of maritime transport, nearly 200 ships sail daily through the Strait of Gibraltar oil spills are a significant threat. For example in 1990 an oil spill due to collision occurred offshore of the Al Hoceima Park with serious ecological impacts for the local coastal fauna and flora and economic consequences on fishing and public health impact on nearby beaches.

Exploitation of natural resources

As numerous Dahir and Arrêtés testify, sand extraction on beaches and offshore is a significant economic activit linked to the booming construction industry. It is also a damaging activity along the entire Mediterranean coast.

In terms of fishing resources, coastal oueds have little value, except the Moulouya estuary. Pelagic fish is the main catch, and sardines make up for 75% of it. Mussels and oysters are exploited, and slowly but surely, are declining. Fishing catches are for local consumption and dwindling resources are today threatening the livelihood of many traditional fishermen. In addition to over-exploitation, marine fauna, including fish, is also affected locally by pollution.

Agriculture in the coastal region is characterised by two main practices: a low intensity traditional way mostly concentrated in coastal dune areas, and a more intensive modern agriculture using fertilisers and pesticides contributing to water pollution and eutrophication in areas such as the Nador lagoon. Traditional farming in dunes operates today only at subsistence levels. Modern agriculture is thriving as testified by reclamation of wetlands proving a profitable practice, especially in the Nador lagoon where a new free-trade area will use c. 300 ha of wetlands. However, lack of water proves a constraining factor as salinisation is now occurring. The Moulouya estuary is the only area where irrigation can support agriculture.

Water supply and water quality

Most of the river network is seasonal torrential in small catchment areas except for the Moulouya basin which is the longest Oued Morocco, and second only to the Nile river on the southern shore of the Mediterranean. As a result there are few water dams built along this coast, most to provide water supply to coastal urban areas.

Water quality is degrading as a result of a growing coastal population, extending urban areas and developing industrial, harbour, farming and tourism areas. Pollution originates both from diffuse and point sources. Seasonal water pollution peaks are a characteristic of the region. Three areas are distinguished according to their pollution levels: (1) from West to East: Tanger – Tetouan, highly urbanised and polluted experiencing some saltwater intrusion, (2) from Oued Laou to Cap des Trois Fourches with low urbanisation and very limited marine water pollution near Al Hoceima; (3) from Melilia to Sa'idia under fast uncontrolled urbanisation, increasing industrialisation and pollution in the

Nador Lagoon area. In addition, waster water generated in rural areas is discharged directly in rivers or agricultural canals ending up for example in the Nador Lagoon.

Urban sewage treatment facilities are either non- existing or inhabitants are only partly connected. Level of treatment is usually of a primary type. Industrial pollution is concentrated in Tanger, Tetouan, Nador and Al Hoceima with sewage pouring directly untreated in the sea.

Usually, the autonomous public water utility services make financial losses and financial resources from municipalities are limited and not sufficient for preventive environmental measures and awareness-building.

In terms of beach quality, public health conditions are usually satisfying except near major urban and recreation areas where beaches are often covered in litter, especially at the high season (e.g. Nador Lagoon). Bathing water quality is in most instances in conformity with Moroccan norms. However degradation is noticeable in Tanger and Sania Torres.

Red tides do occur with high toxin concentration in mussels, measured in the Al Hoceima –Cala Iris area as well as Martil – El Jabha and Cap de l'eau.

Environmental hazards

Public health

In many instances, solid wastes are dumped into non-controlled landfills or are coming directly from mountainous watersheds (e.g. Jbel Gougourou). Abundance of indisposed garbage and poor water quality are the two main source of risk of contamination and threat to human health.

Natural hazards

The central region experiences a high level of seismic risk as testified by the Al Hoceima earthquake in 2004.
Natural coastal erosion is impacting some beaches but is also related to human activities (sand extraction, dredging and infrastructures). The beach in Kariat Arekmane is among the top 19 beaches suffering from intense erosion in Morocco.
Environmental costs of degradation

The METAP project on "assessing the cost of environmental degradation in coastal areas" demonstrated that for the Nador area, the cost of environmental damage would be between 3.72 and 4.66% of local GDP. However, given the limited data available, it is concluded that the actual cost is most likely to be much higher. Health and marine production (fishing and aquaculture) related costs are by far the biggest environmental damage cost items (90% of the total) and the biggest cost items are wastewater treatment and waste management. Other costs of environmental damage included urbanisation-related costs, beach erosion, loss of agriculture land, and erosion control with afforestation, non-timber value related forest loss.

Natural and cultural heritage

Despite still limited scientific knowledge on Moroccan coastal environments, in terms of marine biodiversity, endemism is considered low along the Mediterranean coast. Where significant data is available such as for coastal wetlands (Smir, Nador and the Moulouya) they point to degrading conditions, especially in the Nador lagoon where most vegetation species are declining. However, rare species like otters are testified in the Moulouya estuary.
The Al Hoceima National Park hosts the highest concentration of Audouin seagull in Morocco and the largest colony of the fishing buzzard (*Pandion haliaetus*) in the Mediterranean, for which the park was established. The Few areas of remaining natural terrestrial vegetation are constrained to the highest

slopes or some isolated coastal patches. However, the largest vegetation protected areas in Morocco are also found along the Mediterranean coast (Cape Spartel, Jbel Moussa, Kodiet Taïfour, Bokkoya, Cap des Trois Fourches, massif du Gourougou).

There are 10 coastal areas identified as Sites of biological and ecological interest (SIBE) in the Master Plan for Protected Areas of 1996; an ecological diagnosis was produced in 2002 for three of these sites under the MedWetCoast project (Cap des Trois Fourches, Sebkha Bou Areg, and the Moulouya estuary). At present 20% of the protected area in the Moulouya estuary are occupied by a private project. And a mass tourism project is planned for the central part of the Al Hoceima National Park.
There is a significant cultural heritage on the coastal slopes with about slightly over 60 sites recorded, more than half of them in the Tanger – Tetouan area, a third in Tetouan – A Hoceima, and the remaining between Al Hoceima and Sa'idia. Sites date back to the Phoenicians but most of remains date from the XVIth century onwards. There is however no systematic inventory to demonstrate their archaeological value.

Information and communication

Participation

Morocco has engaged in a major decentralisation process via its regionalisation adopted in 1997. It aims at introducing further participation and coordination through the drafting of regional plans. Inter-municipal solidarity is targeted.

III. EXISTING LEGAL & INSTITUTIONAL FRAMEWORKS

Legal basis

The Moroccan regulatory framework is characterised by a mix of old and more recent texts. Old texts especially in relation to maritime public property or opening of quarries do not fit anymore into the present vision of more environmentally friendly development. For example short-term concessions tend to be systematically renewed leading to *de facto* permanent occupation of the maritime public domain. All texts are fragmented and as a result there is no unified regulatory framework for coastal areas. Only one motion, dating from 1964, deals with coastal tourism, but is still of limited scope and little explicit.

The recently adopted (2003) Law on environmental protection and valorisation remains too broad for pragmatic implementation. One must wait for the implementation decrees to be preapred and enacted. Its third chapter includes a section dedicated to the protection of marine areas and resources, including at the coast, to prevent and stop activities likely to impact water quality and deteriorate marine resources, fauna and flora, impact human health (art. 33). How coastal management plans will be drafted, which criteria will be used for selecting protected areas and how coastal resources will be exploited are still left to further legislation. For now legal planning instruments such as SDAU, which are meant to impose, rights of ways or non-building zones in practice simply overlook environmental precriptions.

A most significant legal text is the Coastal Protection law which was in its early version copied from the French Coastal Law. The Coastal Law Commission under the Ministry of Spatial Planning has revised it on several instances. The last version has still not been presented. Its main purpose is to gather in one text all pieces of legislation dealing with coastal areas and to provide a definition of the coastal region. It should fulfil four main objectives: (1) protection of natural and sensitive sites, (2) control of economic activities requiring proximity to the sea, (3) promoting a depollution policy for highly polluted domestic, tourism and industrial areas (especially the bay of Tetouan and the Nador lagoon), (4) improving access to the sea. However the draft law includes the following elements:

- All municipalities with a marine border (including in estuaries up to the salt water limit) belong the coastal area;

- Activities falling under this law are: search and exploitation of living and non-living marine resources, construction works, clearings, plantations, quarries, campings, etc;
- A 100m setback line from the highest annual sea water level is foreseen; this can be extended depending on the sensitivity of the area (e.g. to erosion) or reduced (economic activities requiring close access to the shoreline, and areas already urbanised); roads are to be built at least 200m from the shoreline with possible derogation
- Extraction of materials may be forbidden where there is a direct or indirect threat to beaches, dunes, cliffs, wetlands, spawning grounds, natural deposit of live shells and aquaculture areas
- Embanking, drying out and land filling require public enquiry
- New housing estate projects must be equipped with appropriate sewage water treatment
- Concessions regimes for fishing, aquaculture, and parking are included
- Sanctions in relation to urban planning, environmental quality and protection of public property

Morocco is party to the following conventions:
- Ramsar
- Barcelona and SPA Protocol
- Bonn
- Rio
- CITES
- Climate Change
- World Heritage

Institutional framework

Most national and international assessments point to the following institutional drawbacks: responsibilities overlap between ministries, coordination mechanisms are still missing, strong sectoral vision dominate, no incentives and limited awareness-building and education initiatives.

In fact inter-ministerial coordination is weak, partly because there is no national coastal policy to bring institutions together. This is also valid at the local level. As a result coastal issues are not dealt within specific coastal commissions but within national spatial planning or environment-related initiatives. Indeed, within the MATE both the Head Office for Spatial Planning and the Head Office for Regulation and Control each set up a Coastal unit with a distinc purpose. The former to work on a Coastal Zone Strategy and a Coastal Zone Law draft, the latter (working in collaboration with the Office for hazard monitoring and mitigation and the Office for Cooperation & Communication) as part of the MedWedCoast project to draft management plans for 5 sites in the NE of the country. Both coastal units havenow been dismantled.

In addition, a National Coastal Management Commission under the Prime Minister is in charge of defining a policy on tourism and recreation facilities, and related investment programmes and real-estate measures. Its spatial mandate reaches up to 5 km inland from the coastline.

As a result, at present, Morocco has neither a full ICZM strategy nor a law.

Applied instruments

EIA has only been recently introduced as a legal obligaton. In the Chefchouan Province however no EIA was undertaken for the coastal rocade and the new fishing harbour.

Policies & strategies

In ters of coastal policy and management, the MATE produced a position paper “Avenues for coastal zone management” providing a review of the current state of development and environmental protection for coastal zones at the national level. It concludes on a series of proposals in relation to integrated environmental management for coastal areas and a series of principles for a new strategy

along with related implementation measures. It is considered a milestone, if still sectoral, towards further future inter-sectoral vision to coastal management.

Three policy and management instruments are proposed: National Master Plan for the valorisation of the coast providing orientations, and regional and local Master Plans to be applied, both in the marine and land areas. Plans at national level are to define carring capacity for all development sites requiring proximity to the coast (ports, tourism complexes) and nature protection perimeters of ecological and biological interest, both on land and at sea. These recommandations endorse principles enacted within the National Charter for Spatial Planning and art. 36 of the Environmental Law.

In addition the paper emphasises the need for strengthening the Department of Environment in its prerogatives and role, especially in urban planning commissions, it proposes the establishment of a National Agency for Coastal Protection (NACP) and the adoption of the Coastal Zone Law.
The NACP would coordinate public and private initiatives, to monitor and protect coastal areas, would ensure rational exploitation of coastal resources through regulations and partnerships with local authorities and interest groups, private and collective; it would also build up awareness among local decision makers, NGOs and private individuals;

Principles proposed to guide coastal management are to adopt a sustainable development approach, to anticipate, undertaking SEAs, to support participation and partnerships and undertake curative and conservation measures.

A Trust Fund is proposed that should be financed by the State, international cooperation, private entreprises and the Mohammed V Foundation. Its role would be to draft an inventory of State, collective and habous land property near the coast, to purchase land on a conciliatory basis or by exproprriation, provide incentives to farmers to keep their lands and to private owners to develop activities on their land such as ecotourism compatible with the protection of the coast.
Other significant policy and strategy documents are:

- National Strategy for Environmental Protection and Sustainable Development (1995)
- National Environmental Action Plan
- Program me of Action for Development and Planning of the Moroccan Mediterranean Region (PAIDAR)
- National Emergency Plan (to combat massive marine pollution)
- Environmental policy for coastal areas in the 2004-2008 plan
- Economic and social plan which includes a strand on ICZM (strategy, institutional framework, monitoring program, pilot project)

IV. COASTAL PRACTICES

Economic development

- A tourism development project for the Bay of Sa'idia, including a tourist complex near the Moulouya esturay mouth.
- An economic Development project for the North Region (Tanger, Tetouan, Chefchaouen, Al Hoceima, Nador, Taza and Oujda)
- A project to develop 5 fishing villages solve problems of growing uncontrolled settlements by the Ministry of Fisheries

Spatial and urban planning

A coastal audit was launched in 2006. Its objective is to produce an exhaustive institutional, legal (including land onwership), ecological, administrative and urban assessment of practices in the coastal region. It will make a proposal for a definition of the coastal zone, a new coastal management policy, and a roadmap to implement this policy giving short to long term actions and identifying modalities for partnership, as well as defining a monitoring and evaluation framework.

Conservation

Conservation initiatives are rather commonplace today although still at an inception level, especially in relation to the identification of protected areas and the launching of their management plans. There are many small initiatives supported by international financing. The largest are those from multilateral financing:

- GEF – protected areas project towards integrating two management plans (National Park Al Hoceima & Jbel Moussa)
- MedWetCoast Project to establish management plans for the NE region including for coastal sites in the Moulouya estuary, the Nador Lagoon, and the Trois Fourche Cape
- WWF made an inventory of Ramsar sites to update the list of wetland; 2 mediterranean sites are included and management plans are to be initiated.

Infrastructure development

Such types of projects are most numerous, dealing with roads, water supply, and sewage treatment, for example:

- Several internationally-funded infrastructure projects including the Mediterranean rocade (EU-WB), water supply (MEDA), master plan for sewage disposal, rural roads near Nador and Al Hoceima
- Several projects by ONEP in relation to sewage water treatment: Al Hoceima and Nador (FFEM funding) as well as for a submarine outfall in Tetouan and Nador

Combatting pollution

MEDPOL is involved in several projects including the establishement of a monitoring network for chemical and biological quality of marine waters and public health on beaches which is operational and led to the building or planning of sewage plants and beach cleaning campaigns. MEDPOL is also funding the monitoring of eutrophication in Nador lagoon.
Emergency and contingency plans are to be drafted to control and monitor water quality in ports and establish deballasting stations. Simulation exercise on combating marine oil pollution

Environmental protection and management
METAP undertook a coast assessment of environmental degradation in Morocco.
A diagnosis on land-based activities impacting the Mediterranean is about to be published.
Studies on the ecosystem of the Smir lagoon are published and to be used to build awareness among decision makers on the importance of conservation.
An ecotourism and awareness-building feasibility study in the Moulouya estuary for its SIBE site is underway involving the local population aiming at drafting a participative action plan.

Projects in the pipeline

A CAMP project is in preparation for the central Rif area with two main objectives: (1) preserving natural and cultural resources in an area still richly endowed with them, (2) support local development based upon the respect of natural and cultural values. The Al Hoceima National Park is part of this area. The area is still significantly enclosed and eco-tourism and awareness-building are considered appropriate avenues for improving the socio-economic situation. Marine water quality is among the best in the Mediterranean and public health quality of beaches is good. Agriculture is the main economic activity with cannabis sometimes being the main staple. Limiting factors for development are water resources and seismic hazards.
The PAC project is considered a demonstration initiative on how to establish local master plans.

V. NEEDS FOR ICZM

Establish a stable inter-ministerial Coastal unit under the Primatur
Adopt the comprehensive set of ICZM strategy and Law
Undertake feasibility study on the establishment of the National Agency for Coastal Protection
Ensure communication between coastal audit and the development of the CAMP project
Prepare an SEA for the future Coastal Management Master Plan
Develop ICAM training for local authorities in relation to decentralisation and tourism development
Develop an ICZM plan for the Baie de Tetouan and the Nador Lagoon, including for water supply and sewage disposal
Improve knowledge base on ecological and biodiversity status of coastal environments

Table 40: Government bodies of relevance to governance and management in coastal areas in Montenegro

Ministry	Units	Line Agency	Inter-ministerial Commissions	Institute
Prime Minister	High Commission for Water and Forests and Combating Desertification			
Ministry of Interior & Municipalities	Head Office for Civil Protection Head Office for Municipalities	Governorates and Walis		
Ministry Physical Planning, Water & Environment	(1) Head Office for Physical planning (Coastal management unit) (2) Department for Environment: Head Office for Regulations & Control (Coastal management unit) (3) Secretariat for Water: National Office for Meteorology	Regional Inspection Offices Forest Services	National Environmental Council National Commission on EIA Coastal Management Commission	
Ministry of Public Works & Transports	Office for Ports and Maritime Public Domain	Regional and district offices National Fisheries Agency Port Development & Exploitation Unit		Ports Training Institute National Fisheries Research Institute
Ministry of Agriculture & Rural Development				Agronomy & veterinary Hassan II Institute
Ministry of Trade & Industry				
Ministry of Tourism	Office for Physical Planning & Investments			
Ministry of Public Health				
Ministry of Habous & Islamic Affairs	User rights in estuaries Awareness building on conservation			
Ministry of Higher Education & Scientific Research				

Table 47 : The division of legislation between land and marine sides of the coast

	Legislation	Land	Marine
LAWS	Law on environnemental protection & valorisation	Criteria for classification of protected areas Supports drafting of coastal management master plans	Marine water quality and combating pollution, marine fauna & flora protection and exploitation of marine resources
	Law12-03 on Environmental Impact Assessment	No implementation decree yet	
	Law on fishing & preservation of marine ecosystems	Law not yet adopted LBS pollution not included	Maritime fishing Code Marine pollution from the land and from ships (oil)
	Law on water	Based on French Water Law, is to address LBS pollution	
	Project law on Coastal protection (in preparation)		
	Municipal Law (C*harte Communale;* 2003)		
	Law on Protected areas	In preparation following IUCN categories	
	Law on National Parks (1934)		
DECREES	Surface Water quality criteria (2002)		
	Irrigation water quality criteria (2002)		
REGULATIONS	Communal Charter (2003)	Local Spatial & urban planning Exploitation & preservation of forests, coastal land (beaches), lakes and rivers Protection of natural and cultural sites Management of public healthe issues (drinking water, sewage and dumping sites)	Bathing water

Stakeholders	Coastal protection	Industry & energy	Fisheries & aquaculture	Ports & marinas	Transport & shipping	Urban development / planning	Tourism & recreation	Water management	Waste management	Agriculture	Nature conservation	Heritage
High Commission for Water and Forests and Combating Desertification											Management of protected areas Ramsar & CITES FP	
M. of Interior & municipalities						P&P		X LBS pollution	X			
Ministry of Public Works & Transports			P&P, Op, M, Tr	Mgt	Security			Marine pollution,	ships & port wastes			
M. of Tourism							P&P, M					
M. of Agriculture and Rural Development												
M. of Trade & Industries												
Ministry of Health							Beach quality monitoring					
Ministry of Habous & Islamic Affairs											Conservation in estuaries	
Maritime Safety Department												
Regional Institutes for Culture												
Municipalities						Municipal Charter						
Coast Guards												
Marine Institute												
Meteorology Institute												
Beach managers												
Prof. fishermen												
Marina managers												
Hotel owners												
Sport Centres												

Table 50: Status of implementation of Barcelona Convention and its Protocol in Montenegro (as of 2005)

Text	Legal/administrative measure taken for	National law
Convention		
Dumping protocol		
Emergency protocol (not yet ratified)		
Pollution from land-based pollution sources		
Specially protected areas		
Pollution from exploration & exploitation of continental shelf		
Transboundary movement of hazardous wastes and their disposal		

Table 52: Summary of existing institutional, legislative and informal settings in relation to coastal management in the Republic of Montenegro

Provisions	Institutional arrangements	Legal instruments	Non-statutory mechanisms
Delineation of Coastal Zones	No	No	No
Designation of dedicated institution, commission, committee	No consensus	No, proposed	Yes, Coastal Unit
Establishment of institutional instruments for co-ordination	No	No	No
Status of land ownership	-	Need clarification	Yes
Regulation of public access to the coast	No	No	No
Procedures for coastal land-use planning, including control on illegal buildings	NO	Yes, not enforced	No
Control of industrial and commercial activities on the coast:			No data
Fisheries	Yes	Yes	
Mariculture	Yes	Yes	
Ports & shipping	Yes	Yes	
Control of pollution: Waste water quality	Yes	Yes	No data
Bathing water quality	Yes	Yes	
Management of water resources	No data	Yes	No data
Management of solid wastes	No data	Yes	No data
Control of recreational activities	No data	No data	No data
Protection of areas of ecological, natural and cultural value	Yes	Yes	No
Sanctions regimes	Yes	Yes	No data
Collection of data	No data	No data	No data
Information & communication	No data	No data	No data
Public participation	No data	No data	No data

Table 53: Identification of range of coastal management issues arising from thematic analysis

	THEME	ISSUES
HUMAN USES AND ACTIVITIES	Agriculture	➡
	Fisheries	➡ Over- fishing & illegal methods (dynamite, light, irregular mesh)
	Forestry	➡
	Transport	➡
		➡ Impact of maritime traffic by oil spills
	Maritime economy	➡
	Tourism	➡
		➡
	Spatial & urban development	Un-controlled housing development in the eastern region
	Heritage protection, and management	➡
		➡ Un-documented Archaeological sites impede proper valuation & valorisation
Impacts	Water pollution	➡ Lack of sewage treatment infrastructures
		➡
		➡
	Wastes	➡
		➡

Table 53: Identification of range of coastal management issues arising from thematic analysis (continued)

	THEME	ISSUES
	Biodiversity, habitats, heritage	▪ 10 coastal protected areas, only 3 with management plans, but so far no implementation
	Urban and transport infrastructure development	➡ No full assessment of direct and indirect Impact of the coastal rocade
		➡
		➡
		➡

	Stakeholders, interactions, & conflicts	➡
		➡
Planning, management and governance	**Legal framework**	➡ Coastal Zone law in project
		➡
		➡
		➡
		➡
		➡
	Governance	➡ Decentralisation process underway but still strong influence from Walis
		➡
Cross-cutting issues		➡ Lack of scientific assessment of marine biodiversity
		➡ Still limited public awareness on the environmental importance of coastal zones
		➡
		➡
		➡
		➡
		➡

STRENGTHS	WEAKNESSES
Legal New Environmental law New EIA Law Institutional Attempts to development a CZ policy and management vie the environmental policy Management Increased number of ecological baseline studies to establish management plans for protected sites	Legal Many outdated laws Coastal zone law not yet adopted Institutional Limited inter-sectoral communication and planning Management Still strong influence of government representatives on municipal affairs No implemented and operational management plans for protected sites
OPPORTUNITIES	**THREATS**
Legal New decentralisation framework (Charte communale) Institutional Attempts at establishing a coastal unit Management	Legal Institutional Limited awareness among decision-makers on the need for coordinated planning Management No global vision for coastal areas

Table 55: List of coastal management stakes based on range of issues identified in Table 53

	THEME	STAKES
HUMAN USES AND ACTIVITIES	Agriculture	➡
	Fisheries	➡
	Forestry	➡
	Transport	➡
	Maritime economy	➡
	Tourism	➡
		➡
	Spatial & urban development	13.
	Heritage protection, and management	➡
		➡
Impacts	Water pollution	➡
		➡
		➡
	Wastes	➡
		➡
	Biodiversity, habitats, heritage	▪
	Urban and transport infrastructure development	➡
		➡
		➡
		➡

Table 55: List of coastal management stakes based on range of issues identified in Table 53 (continued)

	THEME	STAKES
	Stakeholders, interaction, & conflicts	➡
		➡
Planning, management and governance	Legal framework	➡
		➡
		➡
		➡
		➡
		➡
	Governance	➡
		➡
Cross-cutting issues		➡
		➡
		➡
		➡
		➡
		➡
		➡

Strategic overview: Syria

April 2006

I. INTRODUCTION

The coastal region of Syria is under much development and environmental pressure.
The coastal population density in Syria (380 persons/km^2,) is four times the national average. Nine percent of the Syrian population (1.92 million inhabitants) lives on only 2.5 percent of the total land area. The Syrian coastal region accounts for 11% of GDP, 35% of the national energy production, 38% of cement production, 50% of petroleum refining and agriculture is using a significant share of the land with the help of irrigation.

Coastal degradation is listed in the NEAP as a secondary issue, behind contamination and depletion of water resources, land degradation and desertification, inappropriate solid waste disposal, illegal settlements and unregulated town planning.

A first assessment of the coastal region was made in the early 90s by a CAMP project which recommendations where since partly implemented. The land use and urban development plans were accepted officially as elements of future development.

New updated data on the current state of the coastal region remains limited, especially for its marine areas, which makes an assessment of current status of ICAM practice approximative.

II. PRESSURES & OPPORTUNITIES

Boundaries of the coastal zone

The Syrian coastline extends for about 183 km along the Mediterranean Sea. The region is composed of three markedly different areas: the coastal plain, abundant with water and fertile soil; the hilly zone with limited water resources and lower quality agricultural land; and the mountains. Sandy beaches are encountered near the City of Lattakia. The sea is generally deep and the continental shelf is narrow (usually less than 1km).

Urban and spatial planning

High migration from rural areas to the coast has made difficult controlling town planning and housing development. As a result, buildings and infrastructure are impinging on what is left of old coastal forests ecosystems In addition unclear land tenure generates significant ownership conflicts. Overall, land use planning is deficient. Environmental issues are not taken into account in 5-year spatial plans.

Exploitation of natural resources

Precipitation is the main source for water (55%) while rivers and springs provide 40%. About ¾ of these resources are used by agriculture, 20% by industry and 4% by households. Groundwater resources are already overexploited and demand is increasing from irrigated agriculture, which accounts for 85-90% of fresh water consumption. Freshwater input into the sea is very low due to damming of coastal rivers. Saltwater intrusion is a significant occurrence.

Bad practice in farming methods, including clearance of forests, has also been responsible for intense soil erosion on coastal water catchments.

In terms of fishing resources, the shoreline is poor in gulfs and bays, and does not support nursing and reproduction for biological species. Fishing is poorly controlled and illegal methods, including with dynamite, a common practice.

Oil is shipped mainly from the port of Lattakia

Environmental hazards

Water pollution

Intensive agricultural activities in the coastal region, including the 70,000 plastic green houses, result in excessive and uncontrolled use of fertilizers and pesticides. Contaminants eventually reach rivers and pour into the sea. This situation is typical of Al Kabir Al Shimaly and Al Sakia outfalls in Lattakia, and Al-Kabir Al-Janouby and Al-Hussein outfalls in Tartous. Due to limited water in rivers pollution concentration is higher in the coastal rivers and in their estuaries. Consequently, seawater along the Syrian coastline is very often oligotrophic

Most of the direct discharge of raw sewage into the sea is concentrated along a length not exceeding 8 percent of the 183 km long coastline, in four hot spots: Banias, Lattakia, Tartous and Jableh. In these areas are found major industrial complexes such as the Banias oil refinery, the Tartous cement plant, the phosphate loading dock at the Port of Tartous, the two oil terminals of Banias and Tartous, and the thermal power generation station in Banias. Small-scale industries also affect the marine environment including steel rolling mills, food processing, beverage, olive oil mills, cattle and sheep slaughter houses, textiles, and various agricultural related activities such as confined animal facilities and green houses.

Drifting of raw sewage along the shoreline, and eutrophication and bacteriological contamination of coastal seawater at points of discharge of raw untreated sewage water manifest the severity of the municipal sewage problem. The problem becomes particularly acute during summer.

Solid wastes

The main coastal municipalities of Lattakia, Tartous, Banias and Jableh generate solid waste. Only the cities of Alep, Homs and Damascus have developed solid waste management plans. Elsewhere, many illegal open dumping sites occur. A significant impact comes from discarded solid wastes in summer by tourists on beaches and other recreational areas. One of the largest waste dumpsites in the coastal region is located in Al Bassa 12 km south Lattakia. It occupies 100 hectares in a potentially tourists area. Seawater near the site is contaminated with heavy metals. The landfill is to be closed in 2010 when an alternative site will be selected. The site epitomises many of the characteristic of other unlicensed waste dumpsites in the coastal region.

As a result of bad smells, polluted water; solid wastes on beaches and in bathing waters, negative socio-economic impacts are felt such as a reduction of tourism, a decrease in economic revenues due to loss of recreational areas. There is also a potential decrease in real-estates values.

Natural hazards

Beaches are eroding, but sand mining is contributing to this trend.

Natural and cultural heritage

Natural, and especially cultural heritage, are important in the coastal region but not adequately documented and protected: with 0.6%, Syria has one of the lowest percentages of protected areas in the Mediterranean. The Syrian coast is very rich in species (340 for fish, 4 types of sea turtles, and 11 types of sea mammals). There is one marine protected area being established (2006) in Fanar Ibn Habi (1,000 ha) and a coastal forest is proposed for protection in Wadi Hzairin (Lattakia). There is so far neither consultative nor management structure for protected areas.

Information and communication

Information and communication are still limited and this results in a lack of public awareness on environmental issues and sustainable development.

The Syrian Environmental Association was established in 2001. It manages a project on the promotion of environmental awareness of cleanliness in Damascus. Other NGOs are: Society of Coastal area for protection of health and environment, Environment Protection & Sustainable Development, Syrian society for Wildlife Conservation

III. EXISTING LEGAL & INSTITUTIONAL FRAMEWORKS

Legal basis

Syria has no Coastal Zone Law or any other legislation with a coastal focus. Most of its environmental legislation is new (for example the environmental law was adopted in 2002) or is incomplete (for pollution control). EIA regulations were adopted recently. There is no law on solid waste management, only decrees and orders.
Syria signed the following conventions:

- Barcelona Convention and its Protocols (Dumping Protocol-without amendments, Emergency Protocol, LBS Protocol, SPA & Biodiversity Protocol); New Emergency Protocol and Offshore Protocol (signed but not ratified)
- Basel Convention on the transboundary movement of hazardous waste disposal
- Convention on Biodiversity
- Ramsar Convention
- CITES Convention
- Convention to combat desertification
- World Heritage Convention
- Climate change Convention
- MARPOL (1988)

Institutional framework

Several reports point to the lack of inter-ministerial coordination to manage degradation of resources (water and land) and in general institutions, which are under-staffed. There is a general lack of expertise in the fields of environmental economics, EIA, planning, and environmental health.
In terms of environmental protection and management, the following institutions are in place:

- Council for Environmental Safety and Sustainable Development
- Council on Biodiversity and Genetic Resources (responsible for plans and programs for the conservation, management, and sustainable use of biodiversity and genetic resources of plants and animals; supervision of projects on biodiversity and coordination with other ministries and institutions)
- Ministry of Local Administration and Environment
- General commission for Environmental Affairs
- Scientific and Environmental Research Centre
- National Biodiversity Unit (prepared SAP BIO)

In each governorate Regional Environmental Directorates and Local Environmental Committees were established. They are in charge of relaying the national environmental policy and monitoring compliancy to legislation.

Applied instruments

EIA

Policies & strategies

- National Environmental Action Plan: The overriding objective of NEAP is to contribute to the protection of the health of the Syrian population, and to manage scarce materials and cultural resources in a rational and cost-effective manner while allowing economic growth to continue unimpeded by environmental degradation.
- National Environmental Strategy: aims to *inter alia* (1) prevent misuses of water (2) improve quality of life in urban areas, (3) reduce the effects of pollution on human health, (4) protect natural and cultural resources, and (5) build capacity, educate and raise awareness among citizens
- National Biodiversity Strategy and action plan (1999), it has neither chapter nor objective dedicated to coastal areas; it is more focused on terrestrial and freshwater biodiversity;
- National Strategy plan for water resources
- National Action plan to combat desertification
- Integrated water resources management plan
- The National Action Plan for the Protection of Mediterranean Sea from Land-based Pollution (in preparation)
- National chemical strategy profile, which aims to develop an integrated management system that will ensure the safety of those who deal with chemicals.
- There is no policy or strategy on solid waste management

IV. COASTAL PRACTICES

A **CAMP project** was developed from 1988 to 1994. Its main output consisted in a Coastal Resources Management Plan based on a Preliminiary Study of the Integrated Plan for the Syrian Coastal Region and a series of sectoral studies (planning, prospective study; impacts of climate change; vulnerability of freshwater resources to pollution, ground water pollution potential map and a surface water pollution protection map. The project made some recommendations including for the protection of freshwater resources (sanitary protection zones around waterworks, surface water protection zones); establishment of proper waste treatment practices and technologies; integrated measures related to pollution abatement in industry and agriculture. A number of immediate actions were proposed related to sand extraction from dunes, illegal construction, protection of the coastal strip and wetlands. Land use planning policies were formulated, and a detailed land-use and urban development scheme elaborated. A high level interministerial committee for coastal management was proposed to be established to secure integration of development policies and decisions. A freshwater Protection Plan and Integrated Coastal Resource Management Plan were also recommended. The sanitary protection of water resources, protection of dunes and wetlands were implemented immediately.

Within **SMAP III**, the ICZM component has highlighted the following problems:
- Conflicts between different uses of the coastal areas (e.g. tourism, agriculture, protected areas) and investments
- No clear priorities of coastal uses
- Need to increase communication and collaboration between parties to find consensus.
- Participatory approach is not implemented yet in Syria for such topic

A project funded by the **EU Life Third Countries** programme studied erosion processes in a coastal area of Syria (2004). It led to recommendations on how to improve soil protection, including by re-afforestation of cleared lands.

The **National Action Plan for the Protection of Mediterranean Sea from Land-based Pollution** is under preparation based on inter-ministerial and stakeholders meetings (2005). It covers two coastal governorates Lattakia and Tartous. Stakeholders meeting helped prioritise environmental issues, adopt economic priority list, and agree on investment portfolio. The LBS strategy recommends the construction of landfills for solid wastes, municipal wastewater treatment plant in Lattakia, Tartous, Banias and Jableh, pre-treatment of wastewater in some industries and to reduce emissions from cement plants.

Syria has finalized a national **monitoring agreement with MEDPOL** in 2003. Monitoring agencies participating include the Ministry of Local Administration and Environment, the Higher Institute for Marine Research, the Scientific Research Center, the Ministry of Irrigation (Coastal Basin Directorate), and the Atomic Agency Commission. The MEDPOL study also identified areas in need of intervention in order to prevent them from becoming new environmental hot spot:

- Wadi Quandeel: a rehabilitation plan, as well as prohibition/ control of illegal fishing and preservation of submarine life.
- Umit Tiur: protection from urban development; prohibition of excavation of sand at public beaches
- Arwad island: management plan for organising tourism activities; removal of illegal buildings
- Lattakia beach (south-east): designation as specially protected area, suitable for recreation only (bathing, sightseeing boat tours)
- Rasi Fassouri: management plan for tourism activities; restoration of surrounding environment

A **Field survey** was carried out by **Med – MPA** (2002-2003) to identify a network of coastal and marine protected areas (Oum – Toyour, Joan Jableh – Lattakia, Arwad Region, border with Lebanon, Ras Samra, Ibn Hani). It is planned to draft a management plan for the Oum Toyour marine area with the help of Med – MPA project. For this site, the project identified and classified marine biotopes; collected data on species listed in SPA Protocol, and elaborated a photo-library. During this survey, two additional hot spots were also identified in Soukas and Arab Al Muk.

According to the **METAP**, the Environmental costs of degradation are estimated to 2.7 – 4.3% of GDP, that's a mean estimate of US$ 624 millions. Coastal zones would account for 0.1% or US$ 12 millions. These costs are related to port, municipal and industrial waste and sewage impacting on tourism and ecosystems. It is estimated that coastal pollution is costing Syria 0.04% of GDP in domestic and international tourism. Coastal pollution also affects fisheries and generates losses due to changes in species estimated at 0.2% of GDP.

UNDP supported a project (implemented by the Ministry of Irrigation) on planning for integrated water resources management UNDP, 2001-2004
The **Government of Japan** provided grant assistance to the Syrian Environment Association (2002)

The **Ministries of Environment** in Syria, Lebanon, and Jordan were supported by the German International Co-operation Agency for a raining course on Regional Information Environmental System (2001) and the Governments of Syria and Morocco on an Enforcement program agreement between the two countries (2001).

V. NEEDS FOR ICZM

Institutional arrangements

- Increase level of coordination and its effectiveness between the various agencies in the planning, use and preservation of environmental resources
- Give clear priorities between varying coastal uses to help reduce conflicts (tourism, agriculture, protected areas)

Plans and programmes

- Preparation of a national action plan for integrated coastal zone management supervised by the environmental protection council and shared with all concerned institutions
- National Action Plan should be based on participatory mechanisms, using Strategic Environmental Assessment (SEA) approach

Legal needs

- Improve urban and spatial planning regulations

Government bodies of relevance to governance and management in coastal areas in Syria				
Ministry	**Units**	**Line Agency**	**Public Enterprise**	**Institute**
Ministry for Environmental Affairs	General commission for Environmental Affairs National Biodiversity Unit	General Environmental Directorates Local Environmental Committees		Scientific and Environmental Research Centre
Ministry of Housing & Utilities				
Ministry of Local Administrations				
Ministry of Tourism				
Ministry of Agriculture and Agrarian Reform	Supreme Council on Biodiversity and Genetic Resources			

- Strengthen protection of cultural heritage as a major aspect in environmental protection
- Enforcement the implementation of the environmental law No 50 and its executive regulations
- Promote the adoption and issuing the EIA law.

Operational needs

- Built regulated dumping sites
- Built adequate water supply and sewage networks
- Increase environmental awareness of personnel employed by various organizations
- Emphasis on economic tools to achieve sustainability of economic projects (e.g. COED)
- Increase awareness raising about eco-tourism and on carrying capacity analysis for tourism in coastal zones
- Promote the use-advanced technology for planning and monitoring (GIS; remote sensing).

The division of legislation between land and marine sides of the coast

	Legislation	Land	Marine
LAWS	Law on Environment		MPA
	Water Law, Decree No. 2145 (1971) and Law No. 17 (1982)	regulates water exploitation and water quality monitoring	
DECREES	Decree No. 30 on the Protection of Aquatic Life (25/08/1964),	Chapter 6, articles 32 and 33 relates to the protection of public waters	
	Decree on protection of freshwater and marine organisms and organising fisheries(1964)		
REGULATIO	EIA is a Draft Decree		

Stakeholders	Coastal protection	Industry & energy	Fisheries & aquaculture	Ports & marinas	Transport & shipping	Urban development / planning	Tourism & recreation	Water management	Waste management	Agriculture	Nature conservation	Heritage
M. of Environment & Planning												
M. of Maritime Affairs (incl. Port Master Offices)												
M. of Tourism												
M. of Agriculture, Forestry and Water Management												
M. of Economy & Industries												
M. of Culture												
M. of Defence												
Coastal Zone Management Agency												
Regional Water Supply Company												
Maritime Safety Department												
Regional Institutes for Culture												
Municipalities												
Coast Guards												
Marine Institute												
Meteorology Institute												
Beach managers												
Prof. fishermen												
Marina managers												
Hotel owners												
Sport Centres												

Status of implementation of Barcelona Convention and its Protocol In Syria (as of 2005)		
Text	**Legal/administrative measure taken for**	**National law**
Convention		
Dumping protocol		
Emergency protocol (not yet ratified)		
Pollution from land-based pollution sources		No
Specially protected areas	Establishment of a MPA	No
Pollution from exploration & exploitation of continental shelf		
Transboundary movement of hazardous wastes and their disposal		

Summary of existing institutional, legislative and informal settings in relation to coastal management in Syria			
Provisions	**Institutional arrangements**	**Legal instruments**	**Non-statutory mechanisms**
Delineation of Coastal Zones	No data	No data	No data
Designation of dedicated institution, commission, committee	No data	No data	No data
Establishment of institutional instruments for co-ordination	No data	No data	No data
Status of land ownership	No data	No data	No data
Regulation of public access to the coast	No data	No data	No data
Procedures for coastal land-use planning, including control on illegal buildings	No data	No data	No data
Control of industrial and commercial activities on the coast: Fisheries Mariculture Ports & shipping	No data	No data	ISO 14001
Control of pollution: Waste water quality Bathing water quality	No data	No data	ISO 14001
Management of water resources	No data	No data	No data
Management of solid wastes	No	No	ISO 14001
Control of recreational activities	No data	No data	No data
Protection of areas of ecological, natural and cultural value	No	In preparation	No data
Sanctions regimes	No data	No data	No data
Collection of data	No data	No data	No data
Information & communication	No	No	Yes, Local Environmental Committees
Public participation	No data	No data	No data

Identification of range of coastal management issues arising from thematic analysis in Syria

	THEME	ISSUES
HUMAN USES AND ACTIVITIES	**Agriculture**	➡ Overexploitation of groundwater resources ➡ Intensive and unregulated use of pesticides and fertilisers ➡ Forest clearance and soil erosion
	Fisheries	➡ No data, but illegal and damaging fishing method
	Forestry	➡ Important forest clearance
	Transport	➡ No data
		➡
	Maritime economy	➡ No data
	Tourism	➡ No data
		➡
	Spatial & urban development	Lack of appropriate urban and spatial planning legislation and practice
	Heritage protection, and management	➡ Important cultural heritage but poorly documented and protected
		➡ Natural heritage to be protected in marine areas
Impacts	**Water pollution**	➡ Most important national issue
		➡ Lack of adequate sewage networks and treatment facilities
		➡
	Wastes	➡ Many illegal dumping sites
		➡ Problem especially acute in summer on beaches

Identification of range of coastal management issues arising from thematic analysis (continued)

	THEME	ISSUES
	Biodiversity, habitats, heritage	No data on impacts
	Urban and transport	➡ No data
		➡

	infrastructure development	➡
		➡
	Stakeholders, interactions, & conflicts	➡ No data
		➡
Planning, management and governance	Legal framework	➡ No Coastal Zone Law
		➡
		➡
		➡
		➡
		➡
	Governance	➡
		➡
Cross-cutting issues		➡ Lack of scientific data
		➡ Overall lack of human resources in administration
		➡ Lack of skilled human resources
		➡
		➡
		➡
		➡

STRENGTHS	WEAKNESSES
Legal Institutional Increasing administrative capacity to address environmental issues Management	Legal Incomplete legislation, especially in relation to pollution, spatial planning, and heritage protection Institutional Lack of human resources in administrations Lack of skilled personnel in many fields Management Lack of financial resources
OPPORTUNITIES	**THREATS**
Legal Institutional Management	Legal Institutional Management

List of coastal management stakes based on range of issues identified		
	THEME	**STAKES**
HUMAN USES AND ACTIVITIES	Agriculture	➡
	Fisheries	➡
	Forestry	➡
	Transport	➡
	Maritime economy	➡
	Tourism	➡
		➡
	Spatial & urban development	14.
	Heritage protection, and management	➡
		➡
Impacts	Water pollution	➡
		➡
		➡
	Wastes	➡
		➡
	Biodiversity, habitats, heritage	▪
	Urban and transport infrastructure development	➡
		➡
		➡
		➡

Table 55: List of coastal management stakes based on range of issues identified in Table 53 (continued)

	THEME	STAKES
	Stakeholders, interaction, & conflicts	➡
		➡
Planning, management and governance	Legal framework	➡
		➡
		➡
		➡
		➡
		➡
	Governance	➡
		➡
Cross-cutting issues		➡
		➡
		➡
		➡
		➡
		➡
		➡

Strategic overview: Tunisia

April 2006

I. INTRODUCTION

Tunisia is a contrasting country in terms of coastal management policy and institutional set up. On the one hand it has developed a case unique in the Mediterranean with its Coastal Protection and Spatial Planning Agency with large prerogatives; on the other it has not given it all possible means to intervene on the coast in the face of major mass tourism investments which remains the mainstream economic development strategy for the government.

Equally, Tunisia has neither coastal zone management law nor ICZM strategy to back up its Coastal agency, but partnesrhips with private stakeholders are developed to mainstream environmentally-friendly practice in development, be it tourism or industry related.

Overall, Tunisia remains at the forefront of innovative soft legal binding coastal management practices in the southern Mediterranean. It is an insteresting case study to learn from. But it still has to explore further into potentials for more formalised coordinated sectoral approaches and steering at higher level of government.

II. PRESSURES & OPPORTUNITIES

Boundaries of the coastal zone

The coast of Tunisia may be divided in four major zones: the northern shore from the Algerian border to Bizerte mostly rocky and steep; the Gulf of Tunis, up to El Haouaria, where sandy beaches and capes alternate; the Gulf of Hammamet up to Chebba, mostly sandy and the first tourism area in the country; and the Gulf of Gabes up to the Lybian border, a low lying and shallow coast.

Urban development and spatial planning

About 63% of the population lived in coastal governorates in 1996 and projections point to 2/3 by 2015. All major urban areas are on the coast: Bizerte, Great Tunis, Great Sousse, Great Sfax, Nabeul, Mahdia and Gabes. However, their population is stabilising

The National Master Plan for Spatial Planning instated a list of large urban areas and natural sensitive areas that require local master plans. Natural sensitive areas also require management, protection and monitoring plans and by 2000, 17 such zones were established. However such plans have no legal precedence other higher level plans.

Most coastal cities follow participative planning processes such as Local Agenda 21 (Djerba, Monastir, La Marsa, Hammam Sousse, Sousse, Mahdia, and Sakiet Eddaier), municipal environmental plans (Bizerte and Zarzis) and strategies for town development (Tunis and Sfax).

The Coastal Protection and Spatial Planning Agency (APAL) can purchase land to protect it from development or establish partnerships with landowners in sensitive areas to stimulate them to follow terms of reference in how to manage their land. Potential areas concerned are Tabarka – Bizerte, Bizerte – Kalaat el Andalous, Soliman – Nabeul, Hammamet South – Sousse, Mahdia – Gabes, Gabes – Medenine. So far no financial mechanisms have however been identified to help implement this policy.

Infractions on the Maritime Public Domain are numerous but of a low level. Most major cases relate to private and tourism establishments. Most cases are solved on a conciliatory basis. If not, a specific commission deals with it on a regulatory basis.

Overall, there are attempts to control urban sprawl in relation to intense tourism development, especially by introducing environmental measures. This is acknowledged as a very significant parameter in helping reduce the costs of environmental degradation resulting from urban sprawl over agriculture and natural areas.

Transport and infrastructures

Due to the high level of tourism development, coastal areas benefit from good infrastructures such as highways, airports (plane is a major transportation means in Tunisia and 5 out of 7 are on the coast), commercial and fishing harbours and marinas. Accelerated urbanisation is a negative side effect.
Commercial and fshing ports are other important infrastructures along the coast. Some fishing harbours have an impact on sedimentary equilibrium.

Tourism

The national tourism policy is to increase number of tourists from the present (2005) 6 million visitors up t o10 millions per year. Tourism is the first job generating activity in Tunisia (5.7% of GDP in 2002), mostly for beach activities. As a result more than 95% of facilities are located on the coast. There is no global assessment of tourism impacts on the coast. However, many negative effects are visible. Many infrastructures were located directly on coastal sand dunes, which has enhanced sand erosion processes. Mass tourism dominates, generating large solid waste and sewage volumes. Other impacts are artificialisation and "concreting" of coastal landscapes and encroachment on fertile agriculture soils. Some studies point to high pressure by spear fishing in the Zembra archipelago or trampling in historical sites such as the old fortress near Bord Kastil in Djerba.

Exploitation of natural resources

Water is the biggest constraining development parameter in Tunisia where resources available per inhabitant are among the lowest in the Mediterranean basin. There is a deficit in surface waters and groundwater is overexploited (especially in the Cap Bon, Sfax – Mahres, Gabes, Djerba and Zarzis regions). Tunisia however has managed to secure safe water supply to a large majority of the population. Many dams were built to overcome this situation with significant negative impacts on sediment delivery to the coast and correlated coastal erosion problems. Salt intrusion is a widespread occurrence all along the shore and especially on the eastern shore of Cap Bon, as well as in Bizerte and Ras-Jbel, in Mahdia, Ksour-Essef, Teboulba, Kalaa Kebira and Msaken-Khniss, in Sfax-Mahres and Gabes.

Fishing equals to about 1% of GDP and provides about 60,000 jobs. The low impact traditional coastal fishing is disappearing replaced by more modernised and more destructive trawling practice for demersal fishing. Higher market prices for the second type of products (which are mostly for export) explain these trends. There are still insufficient data on fishing resources but existing data would indicate that many species are over-exploited especially in the Gulf of Gabes, while there is still some room for increase of catches in the northern region it is also proposed to reduce efforts by 20% in the southern region. Some specific species are under pressure: red coral by divers, seashells by collectors, marine turtles by accidental fishing. Monk seals, endemic specie, have altogether disappeared. Aquaculture has good potential and its development is a strategic objective for the government as an alternative to ocean fishing. It is however suffering from industrial pollution in shallow water areas.

Coastal plains have significantly fertile soils where **arboriculture** dominates. In some areas, wind erosion is important. The need for **agriculture** land is sometime putting pressure on natural habitats for example in the lower Medjerda valley and Cap Bon. But most significantly agriculture requires groundwater resources and makes use of chemical fertilisers and there is no legal environmental

restriction. It is therefore responsible for eutrophication. But agriculture land also is in turn under urban pressure, especially by tourism development.

There are about 80 **coastal forest** sites, many of which occur on sand dune systems, which are stabilised by pine plantations. In some other areas such as Khroumirie and Mogods oak of the kermes type occupy such dunes. Some of this forest provides defence for farmland against sand engulfment by the Oriental Erg, especially in the Mahdia area. However, tourism development in this area tends to encroach on forests. Finally the unique landscape of the Gabes **Oasis** is also threatened by uncontrolled urbanisation and industrial pollution.

Quarries are numerous along the coast due to fossilised dune ridges where construction material is extracted since antiquity. This has had major impacts are on coastal dune landscapes. Today only four such quarries are operating and abandoned ones require rehabilitation work. Many other quarries located in coastal areas were closed including in the El Bibane lagoon, in Djerba and Kerkennalh, Ichkeul and Zarzis.

Environmental hazards

Industrial pollution

There is no systematic monitoring of land-based pollution sources. However, in 2001 about 14% of urban sewage waters were disposed of untreated. Their impact is however very local and spread through time. In the Gulf of Tunis eutrophication is more and more frequent, posidonia beds are affected and nitrophilous algae appear.

Nearly 2/3 of industry is concentrated in coastal areas (Bizerte, South Tunis, Sousse, Sfax, La Skhira and Gabes). Heavy pollution is affecting mostly Sfax and the Gulf of Gabes (phosphogypsum, heavy metals) and in other regions by agro-industry and textiles.

Maritime transport pollution

Two coastal areas are major sea passage for maritime transport, in the north and northeast of the country and coastal stations control traffic. Ships are also controlled in ports, especially as far as disposal for liquid and solid wastes is concerned.

Natural Hazards

Impact of sea level rise is testified in areas such as Bizerte and its lagoon, parts of the Gulf of Tunis, the Cap Bon Peninsula, the Gulf of Gabes, and low-lying islands (Kerkenah, Djerba, Kuriates, Kneiss). This will have en impact on coastal water resources. Already nearly a 100km of sandy coast are retreating and in need of urgent remediation.

Natural and cultural Heritage

The coast of Tunisia is endowed with a great diversity of landscapes: rocky capes, sand dunes, lagoons, sebkhas, archipelagos and outstanding submarine sea grass areas, most of high natural and cultural value.

In terms of marine fauna and flora, the northern Tunisian shore and the Gulf of Tunis are rich in rare sessile and often endemic species, an indication of an overall well preserved marine environment. Urban pressure is more acute in the eastern part but scientific data in this area is also less important to further quantify this. Where ecosystems have been well studied such as in the Gulf of Gabes there is evidence for severe pollution impacts on posidonia beds for example.

Protected areas account for over 1.000.000 ha of which 80% are wetland, followed by National parks and natural reserves. Five sites are identified to become marine protected areas (Galite archipelago, Zembra and Zembretta, Kuriat islands, Northeast of Kerkennah, Cap Bon to Cap Serrat shoreline). Three areas are classified as Specially Protected Areas of Mediterranean Interest (Zembra and Zembretta National Park, Kneiss Island, Galite archipelago).

The coast of Tunisia is rich in a diversified archaeological heritage with more than 200 coastal sites (Phoenician, roman, Berber, arabo-islamic, French colonial). Five sites are on the World Heritage list (Ichkeul Lake, Cartages Sidi Bou Saïd Park, Kerkouane, Tunis and Sousse Medinas). Several submerged harbours are a significant part of this heritage as well as major antique shipwrecks (Mahdia).

Information and Communication

A METAP study in 2005 on cost of environmental degradation in coastal areas underlined the importance of future investment should emphasise environmental education and awareness raising in matters of hygiene and sanitation as much as technical improvement of sewage treatment facilities.
APAL undertakes each year an awareness-building summer campaign with the support of Scouts, about coastal environments focusing on beach cleanliness. In addition TV and radio programmes are broadcasted in summer addressing issues in each Governorate such as the Maritime Public Domain, beach cleaning and present projects in each zone.

Participation and partnerships

Some private funds subsidise or initiate activities related to environmental protection such as the Tourist Zone Environmental Fund and the Industrial Depollution Fund (FODED). The former supports maintenance of green space and environmental conditions close to tourist facilities. It does not solve environmental problems related to tourism, but it improves aesthetics of tourism regions. The depollution Fund has financed 330 projects for a total of 17.1 million dinars since 1992.

III. EXISTING LEGAL & INSTITUTIONAL FRAMEWORKS

Legal basis

Thre is no coastal zone law. The first legal document to take into account the coastal zone is the Spatial Planning and Urban development Code (2003). It provides a setback line of 100m in areas with no urban master plans and 25m where there is such a plan.

A special law was enacted to establish the Coastal Protection and Spatial Planning Agency which in its art. 1 also provides a definition of the coastal zone as “the contact zone, which puts in conrete form the ecological, natural and biological relationship between the sea and the land as well as their direct and indirect interactions”.

The law on The Public Maritime Domain was adopted in 1995, which defines natural and articificial areas under its jurisdiction.

Environmental protection is dealt with in the Law for establishing a National Agency for Environmental Protection (1988, modified in 1992).

A regulation to combat marine pollution (1996) requires the oil and gas industry to prepare specific plans for the protection of the marine environment.
There is a law and a decree on EIA and only the NAEP is entitled to accept EIAs.
There is a law on fisheries.
Signed Conventions

- Rio (1992)

- Mediterranean Agenda 21 (1994)
- Ramsar (1971)
- Barcelona (1977)
- LBS Protocol (1981)
- SPA Protocol (1983)
- Convention on the preparation, combating and cooperating against oil pollution (1995)
- Paris Convention (1974), the national park of Ichkeul is classified since 1980
- MARPOL Convention (1976) and Protocol (1980)

Institutional framework

Two key ministries deal with coastal areas: the Ministry of Agriculture, Environment, and Hydraulic Resources and the Ministry of public works, Housing and Spatial Planning. The first ministry is in charge of the environmental policy and the second hosts the Coastal Protection and Spatial Planning Agency (APAL) and is in charge of the Maritime Public Domain, harbour works and protection against erosion.

The **APAL** was established in 1995 by law to implement the national coastal protection policy through studies on protection and valorisation of natural areas; it monitors coastal ecosystems. The APAL undertakes:

- To bring consistency between coastal programmes and projects
- To manage coastal areas, monitor physical planning, and ensure conformity in relation to regulations and norms, especially on the Maritime Public domain (short term lease for recreation purposes, concessions for marinas and aquaculture farms)
- To discharge infractions in relation to the use of the Maritime Public Domain (28 beach wardens patrol the entire coastline)
- To control coastal land property (identification of land areas under pressure and buffer zones)
- To monitor the evolution of coastal ecosystems (The Coastal Information System – SIL, indicators and maps)
- To assess and manage sensitive areas
- To assess EIA of relevance to its competencies
- To undertake research, studies and expertise in relation to coastal protection and valorisation of natural areas (SPA strategy)

The **National Environmental Protection Agency** is in charge of combating all pollution sources and any types of environmental degradation as well as monitoring dumping of pollutants and associated facilities. In terms of coastal protection, the agency agrees on EIAs in the coastal zone, manages investments for depollution and establishes regulated dumping sites. ANPE is the MEDPOL focal point.

The National Office for Sanitation (ONAS) was established in 1975 to ensure proper sanitation of tourism facilities in the Tunis Lake area.
Tunisia hosts since 1985 the Regional Activity Centre of MAP for Specially Protected Areas.
A national commission for the prevention and to combat marine pollution was established in 1996.
Overall, appropriate coordination between ministries is still insufficient.

Applied instruments

The **Coastal Observatory** within the APAL collects analyses and dispatches data and information on the state of coastal areas in order to facilitate control and monitoring as well as decision taking for planning, protection and development of coastal areas. Themes are: marine erosion, microbiological quality of bathing water, sensitive coastal areas to accidental pollution, urban pressure, and land uses, etc. The Observatory developed many partnerships with data providers such as the National Institute for Sea Sciences & Technologies, SPA/RAC, and the Ministry of Public Health. A GIS system is to be developed by the APAL.

The **Observatory of the Sea** managed by the National Institute for Sea Sciences & Technologies monitors biological resources and hydrological and hydro biological parameters of water.
A set of sustainable development indicators is used to produce the annual State of the Environment report. It includes a chapter on coastal areas.

Policies & strategies
- National Strategy for Coastal areas (protection of the natural, cultural and landscape heritage at the coast, valorisation and sustainable exploitation of natural resources in an integrated way)
- National Strategy for the preservation of soils (2002 – 2011)
- National Strategy for the preservation of water (1990 – 2001)
- National Strategy for tourism (2002), with an emphasis on environmental issues
- National Master Plan for Spatial Planning (1998); it identifies key problems for the coastal region (marine erosion, salinisation, degradation of fauna and flora).
- National Programme for Solid Wastes Management (1993), includes establishment by 2006 of 7 controlled dumping sites in coastal areas
- Sustainable development strategies for the cities of Tunis and Grand Sfax

IV. COASTAL PRACTICES

Pollution

Under **MEDPOL**, a monitoring programme was developed on chemical pollution in the NE region and bathing water microbiological quality in the Gulf of Tunis (1995 – 2005). Laboratories belonging to several institutions monitor today bathing water quality. It consists in 252 measuring stations, especially nearby industrial and urban areas, in the vicinity of sea outfalls and coastal lagoons.

A **depollution study** was initiated in 2003 for Bizerte Lake, which pointed to a 60% level of water pollution, by industry. In Sfax all former NPK factories were dismantled in 2004 and a large area near the coast was cleaned up.

Under **METAP**, a pilot project was carried out in 2005 to assess the cost of environmental degradation in coastal areas. Estimates are of 1.3 – 2.3 of national GDP (or between 40 to 74 millions $ US). This is the lowest in all of North Africa and the Middle East and ranks right after costs in the OECD. The remediation cost is estimated at about 0.5% of GDP. Health effects dominate the total costs and require focus attention on further improvement in sanitation, waste water treatment and waste management. Losses of tourism and costs related to the loss of recreational opportunities are significant because the tourism industry is important. This underlines the need for careful planning, regulation of urban development and conservation of beaches. Losses of agricultural production and losses of ecosystem services together account for 0.1% of GDP.

A **National Emergency Plan to combat marine pollution** was adopted in 1996 and ports were equipped with intervention and maintenance facilities. Most oil terminals are being equipped with deballasting stations.

There was a major **sanitation programme** to clean up the north Tunis Lake. The State purchased all land on the shore of the Lake that would benefit from new sanitation infrastructures. The resulting high added value ensured the feasibility of the project. A new town was built and the lower city is now free from floods. A similar project was carried out for the southern lake where industrial depollution was the major objective.

Environmental management

Beach management plans were elaborated for 27 sites by APAL in 2003 to guide works and ensure a rational exploitation and management of these beaches.

With the help of the **GEF**, a project on the **protection of marine and coastal resources** was launched in 2003 as part of GEF's operational strategy on biodiversity conservation. The first objective of this project is to integrated management mechanisms for biodiversity conservation in the Gulf of Gabes with implementation in 2 pilot projects and a marine protected area. The second objective is to establish institutional means and techniques to reverse current trends in biodiversity degradation with the participation of communities towards sustainable development.
In terms of bilateral cooperation:

- With the Swedish cooperation: studies on the Ariana sebkha
- With the Spanish cooperation: rehabilitation of coastal eroded areas
- With the French cooperation: technical assistance to establish a network of marine protected areas (strategy, improvement of the legal framework, preparation of a pilot project "Establishment of the La Galite National Park)

Several coastal management projects were also undertaken:

Preservation and monitoring of the Ichkeul ecosystem, an important wintering site for migratory birds threatened by combined salinisation due to damming and climatic change (dryer climate). An ecological and impact study led to a Programme on Economic and Social Development for the Bizerte region and an ecological management plan for the Ichkeul National Park. The results of this project are taken into account in other development initiatives in the region such as foe integrated rural development and the Master Plan for water. Today the need for maintaining freshwater supply to the Ichkeul Lake is acknowledged and taken into account on the basis of adaptation capacity of wetlands to climatic and physico-chemical variations over a long term perspective.

CAMP Sfax- The area is in the northern part of the Gulf of Gabes, characterised by a high level of industrial activity with resulting high marine pollution levels and eutrophication, uncontrolled solid waste disposal, and insufficient connection to the urban sewage network. An integrated management plan was drafted for water resources and solid and liquid wastes. The following activities were addressed:

- Inventory of pollution
- Climate change impact study
- Port contingency plan and establishment of harbour reception facilities
- Preparation of a programme for SPAs
- Study on the protection and management of the Sfax Medina
- Prospective studies with environment/development scenarios
- Setup of a GIS database
- Preparation of an integrated management plan for solid and liquid wastes
- Detailed master plan for the Great Sfax area

The main impact of the project was to introduce new methodologies for tackling coastal management and to train administrative staff and local experts. A group of consultants in the Sfax Region is in charge since 2002 to follow up on the implementation of recommended activities by regional and national authorities. They participate to the SAP MED initiatives as well.
There is a national programme for the establishment of marine and coastal protected areas. A National Park is to be established in La Galite and the Zembra and Zembretta archipelago and protected areas are planned for northeast Kerkennah, Kuriat Islands and between Cap Negro and Cap Serrat.
There is a programme for the **rehabilitation and conservation of coastal wetlands and ecosystems** in part supported by MedWetCoast – the Cap Bon is the area concerned with lagoons, islands and oueds. The project is articulated on a local consultative management group. Activities mostly concentrated on studies (ecological diagnosis, land property control and beach use plans, archaeological inventory, mapping) but some protection works already begun.
In addition, a program was designed for the rehabilitation of several sebkhas: Ariana (sanitation and physical planning), Mahdia (protection and physical planning), Kelibia, Soliman, Korba, Sijoumi).

A plan is to be prepared for the management of Boughara, El Knais and Bibane Lakes and the Kerkennah Islands to establish a balance between exploitation of maritime resources and protection of biodiversity.
The **assessment of fishing resources** was undertaken between 2002 and 2005 by the Laboratory of living marine species in order to help better regulate fishing seasons and related techniques. Oceanographic studies (currents, chemistry, hydrobiology) are carried out also by the Marine Environment Laboratory. On its side the laboratory for marine biodiversity and biotechnology is studying the biodiversity of sensitive coastal areas such as lakes and gulfs, carries out monitoring and mapping of sea grass beds, and studies threatened marine species such marine turtles.
A national programme targets coastal protection against erosion. The Association manages a pilot project at Djerba Aguir for the Preservation of Djerba Island with the support of the APAL and the ministry of Agriculture, Environment, and Hydraulic Resources. Another demonstration project is located in Mahdia to fix dunes. Other locations are North Tunis (Gammarth to Catharge, Carthage to La Goulette), Tunis South (Rades to Soliman), Bizerte (Rafraf), Sousse Nord (Kantaoui to oued el Hammem),

V. NEEDS FOR ICZM

Tunisia is among southern Mediterranean countries at the forefront of coastal management practices with (1) a favourable institutional framework in terms of ministerial responsibilities and awareness, (2) a legal framework supporting environmental protection of coastal areas, (3) financial incentives to stimulate environmentally-friendly behaviour, and (4) several initiatives to establish ICZM as a common practice. Still, the following challenges remain:

- Designation of a leading institutional entity to steer ICZM and develop an ICZM strategy, to coordinate programs and agencies involved, to facilitate arbitration in resource user conflicts, to monitor and evaluate projects and programmes conducive to ICZM
- Provide APAL with significant financial means to implement recommendations from studies
- Extend the spatial remit and prerogatives of the APAL
- Integration and implementation of sustainable development principles within sectoral policies, strategies and programmes, especially in the tourism sector
- Introduction of SEA to be first tested by the tourism sector
- Participatory EIAs
- Taking into account of cumulative impacts in given areas
- Improvement of sewage quality criteria towards levels commensurate with varying environmental sensitivity
- Improvement of the scientific knowledge on the impact of climate change, eutrophication processes, and degradation of biodiversity
- More involvement of NGOs and private stakeholders, including at the local level
- Strengthening of NGOs capacity to participate
- Strengthen and spatially extend the regional pollution contingency plan
- Draft guidelines for the operational implementation of the National Contingency Plan against marine pollution

The division of legislation between land and marine sides of the coast

Government bodies of relevance to governance and management in coastal areas in Montenegro				
Ministry	**Units**	**Line Agency**	**Public Enterprise**	**Institute**
Ministry of Agriculture, Environment, and Hydraulic Resources and the	Head Office for Forestry Head Office for Water Resources Head Office for Large Hydraulic Works Head Office for Fisheries & Aquaculture Head Office for Environment & Quality of Life	ANPE ONAS		
Ministry of Public Works, Housing and Spatial Planning.		APAL		
Ministry of Tourism		AFT ONTT		
Ministry of Interior and Local Development				

	Legislation	Land	Marine
LAWS	Law on Environmental Protection (1988)	For industry and agriculture	
	Law to establish the APAL (1995)		
	Law on water (1975)		Forbids pouring or immersion of domestic and industrial wastes likely to impact human health, marine fauna and flora and jeopardise tourism development
	Law on contingency planning in case of marine pollution (1996)		Offshore oil platforms
	Fishery law (1994)		
	Law on solid wastes		
	Forestry Law (1988)	Conservation and protection of nature and wild fauna and flora	
	Law on protection of agriculture lands (1983)		
DECREES	Decree on sewage water criteria for authorising disposal (1985)	Sebkhas, irrigation and agriculture sewage canals, lakes	Sea
	Decree on National parks (1997)	Chambi, Ichkeul	Zembra Islands, Zembretta
REGULATIONS	Regulqtions for national parks (1984)		
	Regulation for the establishment of natural reserves		

Stakeholders	Coastal protection	Industry & energy	Fisheries & aquaculture	Ports & marinas	Transport & shipping	Urban development / planning	Tourism & recreation	Water management	Waste management	Agriculture	Nature conservation	Heritage
M. of Environment & Planning												
M. of Maritime Affairs (incl. Port Master Offices)												
M. of Tourism												
M. of Agriculture, Forestry and Water Management												
M. of Economy & Industries												
M. of Culture												
M. of Defence												
Coastal Zone Management Agency												
Regional Water Supply Company												
Maritime Safety Department												
Regional Institutes for Culture												
Municipalities												
Coast Guards												
Marine Institute												
Meteorology Institute												
Beach managers												
Prof. fishermen												
Marina managers												
Hotel owners												
Sport Centres												

Status of implementation of Barcelona Convention and its Protocol in Montenegro (as of 2005)		
Text	**Legal/administrative measure taken for**	**National law**
Convention		
Dumping protocol		
Emergency protocol (not yet ratified)		
Pollution from land-based pollution sources		29/10/1981
Specially protected areas	3 sites are classified since 2001: Galite Island, Zembra Island, Kneiss Island	22/04/1983
Pollution from exploration & exploitation of continental shelf		
Transboundary movement of hazardous wastes and their disposal		

Table 52: Summary of existing institutional, legislative and informal settings in relation to coastal management in the Republic of Montenegro

Provisions	Institutional arrangements	Legal instruments	Non-statutory mechanisms
Delineation of Coastal Zones	Yes	Law on public maritime domain, law on Coastal Agency	
Designation of dedicated institution, commission, committee	Yes, APAL	Yes	
Establishment of institutional instruments for co-ordination	Yes, inter-ministerial committee for land-use planning and of the Coastal protection agency		
Status of land ownership		Yes	
Regulation of public access to the coast		Yes, law on MPD	
Procedures for coastal land-use planning, including control on illegal buildings	Yes		
Control of industrial and commercial activities on the coast: Fisheries Mariculture Ports & shipping			
Control of pollution: Waste water quality Bathing water quality		Yes Yes	
Management of water resources			
Management of solid wastes			
Control of recreational activities		Yes	
Protection of areas of ecological, natural and cultural value		Yes	
Sanctions regimes		Yes, but need revision	
Collection of data	Yes	No	Observatory
Information & communication	No	No	No
Public participation	No	No	No

Table 53: Identification of range of coastal management issues arising from thematic analysis

	THEME	ISSUES
HUMAN USES AND ACTIVITIES	Agriculture	➡
	Fisheries	➡ All stocks are over-exploited ➡ Use of illegal methods and fishing gear
	Forestry	➡
	Transport	➡
		➡
	Maritime economy	➡
	Tourism	➡ Mostly beach related with concentration impact on fragile dune systems
		➡ Mass tourism with high demand for water
	Spatial & urban development	
	Heritage protection, and management	➡
		➡
Impacts	Water uses & pollution	➡ Salt intrusion is a general occurrence
		➡ Over-exploitation of coastal aquifers and deficit in surface water
		➡ No LBS pollution regular monitoring system ➡ Eutrophication in the Gulf of Tunis and Gabes
	Wastes	➡ High solid waste volumes in relation to mass tourism
		➡

Table 53: Identification of range of coastal management issues arising from thematic analysis (continued)

	THEME	ISSUES
	Biodiversity, habitats, heritage	Urban development for tourism facilities responsible for landscape degradation and artificialisation High pressure on submarine habitats by scuba-diving (Zembra archipelago) Some marine species threatened by fishing activities (red corals, seashells, marine turtles, monk seal)
	Urban and transport	➡ Many dams have impacted delivery of sediments to the coast
		➡ Some fishing ports have impacts on longshore sediment transport

	infrastructure development	➡ No cumulative environmental impact assessment of tourism development
		➡ No control of illegal building of small dwellings on beaches
	Stakeholders, interactions, & conflicts	➡ Tourism pressure for construction land generate speculation on agriculture land
		➡
Planning, management and governance	**Legal framework**	➡ No legal basis for environmental protection in tourism projects
		➡ No legal urban criteria for tourism facilities (densification, heights of buildings)
		➡ No Coastal zone law
		➡
		➡
		➡
	Governance	➡ Limited decision-making and taking by local government and local state offices
		➡
Cross-cutting issues		➡ Lack of scientific knowledge on status of the marine environment
		➡
		➡
		➡
		➡
		➡
		➡

STRENGTHS	WEAKNESSES
Legal Environment protection Law Institutional Management An agency dedicated to coastal protection and spatial planning	Legal No coastal managementlaw Institutional Lack of inter-ministerial commission for coastal management Still strongly centralised decision-making and taking Management Lack of financial means to implement all of APAL's missions
OPPORTUNITIES	**THREATS**
Legal Pending ICAM Protocol to help dradt a coastal zone management law Institutional Management Some financial support for environmental protection by private stakeholders Still significant pristine natural marine areas	Legal Institutional Management Mass tourism driven coastal development Limited controlof land property speculations Potential long term water supply shortage

Table 55: List of coastal management stakes based on range of issues identified in Table 53

	THEME	STAKES
HUMAN USES AND ACTIVITIES	Agriculture	➡
	Fisheries	➡
	Forestry	➡
	Transport	➡
	Maritime economy	➡
	Tourism	➡
		➡
	Spatial & urban development	15.
	Heritage protection, and management	➡
		➡
Impacts	Water pollution	➡
		➡
		➡
	Wastes	➡
		➡
	Biodiversity, habitats, heritage	▪
	Urban and transport infrastructure development	➡
		➡
		➡
		➡

Table 55: List of coastal management stakes based on range of issues identified in Table 53 (continued)

	THEME	STAKES
	Stakeholders, interaction, & conflicts	➡
		➡
Planning, management and governance	Legal framework	➡
		➡
		➡
		➡
		➡
		➡
	Governance	➡
		➡
Cross-cutting issues		➡
		➡
		➡
		➡
		➡
		➡
		➡

Strategic overview:Turkey

April 2006

1. INTRODUCTION

Turkey is a country well endowed with a wealth of coastal areas and an abundance of their coastal resources. It has the longest Mediterranean coastline when its islands are not taken into consideration (the third longest when the islands are included). The present economic and social development of Turkey is not much different from the average of the 21 Mediterranean countries. Human activities in the Mediterranean coastal regions intensified during the second half of the 20th century, especially after the 1970s.

There are several reasons why Turkey's coastal areas have been historically neglected. Among these, low levels of industrialization and urbanization within the country, very modest demands from tourism and for recreational activities, the weakness of the private sector, limited private ownership of coastal lands, and the geomorphologic characteristics of the coastal areas are the most significant ones. A substantial part of the coastal areas of Turkey, including almost all forests and woodlands, are still state owned (in 2003). This state ownership has caused several problems for the development of coastal areas.

Migration from rural to urban areas and to the large metropolises in Mediterranean regions from the eastern part of Turkey has played a key role in the urbanization process, because of their suitable conditions. This has caused an increased stress on coastal ecosystems. To date, management of coastal development in Turkey has been strongly central and clearly sectoral, although there have been several efforts since late 1980s to bring in "integrated" management and to decentralize the planning and implementation authority by transferring responsibilities to local administrations (municipalities and provincial governorates).

2. PRESSURES AND OPPORTUNITIES

2.1. Boundaries of the coastal area

The Aegean and Mediterranean coasts, extending from Canakkale in the north to the Syrian border in the south, account for 4170 km and they are noted for their scenic beauty, richness in natural resources, historical and archaeological sites.

2.2. Population dynamics

According to the 2000 census, the population of Turkey stands at 67,803,927, of which 64.9% (44,006,274) occupy urban centres, and the remaining 35.1% (23,797,653) live in rural areas. Turkey has a young population compared to other European countries. Approximately one third of the population is below 15 years of age. This percentage decreased to 29.3% in 2000 from the 1996 figure of 32.8%.

During the 1990-2000 period, populations of all three southern coastal regions (Sea of Marmara, Aegean Sea, and the Mediterranean) has increased but with significantly different rates. People migrating from the central, eastern and southeastern parts of the country pressure these regions. The population of the Marmara Region has grown fastest during 1990-2000 with several provinces (Istanbul, Bursa, Tekirdag, Kocaeli) with mean annual rates of around 30%. The attraction in the metropolitan cities is urban opportunities, as is the case with Istanbul and Bursa, industrial facilities (Kocaeli, Bursa, Istanbul), tourism and secondary (holiday) housing developments (Tekirdag).

2.3. Urban development

Seven of the ten provinces having the highest GNP per capita (and fourteen of the highest twenty provinces) border on one of the four Turkish seas. Several provinces around the Sea of Marmara (Kocaeli, Istanbul, Yalova and Bursa), Kirklareli and Zonguldak of the Black Sea, and the Aegean provinces of Izmir and Mugla are clearly at the highest levels of economic development.

Urbanisation in Turkey's coastal zones accelerated in the 1980s in line with the national trend. Employment opportunities in the service sector and in manufacturing industries in and around large cities like Istanbul, Izmir and Kocaeli, in the tourism industry in Antalya and its environs, Aegean resorts such as Kusadasi, Bodrum, Marmaris and Fethiye, and in a variety of sectors in Adana and Icel have triggered migration from rural areas to these urban centres, and thus contributed positively to the process of urbanisation.

Two of the three largest metropolitan cities of Turkey (Istanbul with a population of 8,803,468 – the largest city) and Izmir with a population of 2,232,265 (the third-largest city according to the 2000 census) are located in the coastal zone. The next largest coastal cities are Adana and Antalya along the Mediterranean Sea. Rapid urbanization in Turkey, particularly along the coastal zone, has resulted in several significant problems. Illegal and shabby private residential developments on public lands (called "gecekondu" in Turkish) on the periphery of the legal urban borders have become a common feature of large cities. These squatter districts, often lacking inadequate infrastructure and sanitation facilities, have become one of the most important challenges to the municipal administrations. In recent years, these developments have been periodically legalised through amnesty declarations. This unplanned urbanisation that resulted from massive migrations from rural areas, has brought a host of social problems to the urban life agenda. These include increases in crime (mainly theft and bag snatching, personal safety issues, the distribution of narcotics and other organised crime).

2.4. Tourism

In 2001, Turkey hosted 11.6 million foreign tourists and earned US$ 8 billion in revenues. The number increased in 2002 by 14% to 13.25 million. Turkey is ranked 20th in the world in terms of the numbers of its tourists and the 14th with respect to tourism revenues generated. In the year 2000, the share of these revenues in total exports was 27.8% and in the national income 3.8%. The tourism sector employs about 1 million people. The volume of domestic tourism is estimated to be around 20 million persons per year. While the volume of world tourism has grown by 4% over the last decade, tourism in Turkey has grown by an annual rate of 10%.

With the exception of the Metropolitan City of Istanbul, the majority of tourism activities that presently takes place in Turkey are of the "mass tourism" type, utilizing the facilities located along the coastal areas of the Aegean and the Black Sea. These facilities are concentrated in a number of locations. Antalya and its environs is by far the most important region for coastal tourism. Along the Aegean coast, Kusadasi, the Bodrum Peninsula, Marmaris and Fethiye are the main tourism centres attracting foreign tourists.

2.5. Exploitation of natural resources

The geographic distribution of quality agricultural land in coastal regions is unbalanced. Thirty percent is in the Marmara and central-north regions where population density and non-agricultural activities (such as urbanization and industry) are comparatively much more intensive. The inappropriate use of quality agricultural land, such as the deltas and alluvial planes occupying several coastal stretches, has been a significant issue for several decades. Nearly 172,000 ha of agricultural land have been lost to urbanization, tourism, commercial and industrial development. Over the past 20 years, the rate of loss has accelerated considerably.

Overall, Turkey is well endowed with freshwater resources. However, the geographic and temporal distributions are both highly uneven. The total renewable fresh water potential of Turkey is 234 billion

cubic meters per year. Currently, 45% of it is classified as "exploitable", and only about 35% of that capacity is actually exploited. Groundwater resources are used for the freshwater needs of several tourism centres along the Aegean and the Mediterranean coast. The water extraction rates and the conditions of the aquifers are not properly monitored. As the result of overexploitation, there are already cases of significant salinization of the ground water reservoirs (such as in the Cesme Peninsula).

In terms of biodiversity, Turkey is one of the richest countries in Europe and the Middle East, and ranks the ninth on the European Continent in this respect. There are a number of different ecological regions each with its own endemic species and natural ecosystems. The richness of biodiversity in Turkey is expressed in its 120 mammals, more than 400 bird species, 130 reptiles, and nearly 500 fish species. The deltas formed by the Meric, Gediz, Buyuk Menderes and Kucuk Menderes rivers that discharge into the Aegean Sea, and the Goksu, Seyhan, Ceyhan Deltas along the Mediterranean are suitable habitats for a large number and variety of waterfowl. There are 472 fish species in Turkey and 50 of these are at risk of extinction. There are about 20 species of mammals including the Mediterranean monk seal, whales and dolphins with mostly decreasing populations. The pristine coastal dunes and beaches on the Mediterranean coast of Turkey are of great importance as the breeding grounds of the two endangered marine turtle species: the loggerhead and the green. The Eastern Mediterranean coast of Turkey is the most important breeding grounds for the critically endangered Mediterranean population of the green turtle in the whole of the Mediterranean. The southern Aegean and the western Mediterranean beaches are, together with several beaches in Greece, among the most important breeding habitats of the loggerhead turtle

2.6. Environmental and spatial impacts

Marine pollution along the Turkish shoreline is mainly due to major land-based sources such as untreated wastewater from domestic and industrial settlements, pollutants brought from inland areas by rivers, coastal agricultural practices, tourism activities, extensive concentrations of secondary, holiday homes, port and marina establishments, and to some extent, mariculture facilities. The sewage generated by the congested population has caused pollution of bathing waters to exceed the standards relating to human health and environmental protection. According to 1998 estimates, 994,940,000 m3 of domestic wastewater of which 28.8% is treated, enters coastal waters annually. So far, in coastal settlements, the final disposal by deep-sea outfall of collected wastewater after preliminary treatment has been a common practice.

A number of early industrial facilities that were developed in the 1960s and '70s along the shores of relatively sheltered sea areas such as the northern Marmara coast, Izmit Bay, Izmir, Aliaga and Nemrut Bays, and Iskenderun Bay are responsible for the major coastal "hot spots". The estimate of the total wastewater discharge from manufacturing coastal industries was 467,155,000 m3/year in 1997. Of this figure, about 11 % received some kind of treatment.

Maritime transport is an additional source of marine pollution originating from accidents in areas with heavy traffic, particularly involving petroleum transports, and the improper disposal of ballast and bilge waters and solid waste. In 1996, about 140 cargo vessels and 1,000-1,500 passenger boats navigated through the Strait of Bosporus and the Sea of Marmara each day, transporting an annual average of 42 million tons of cargo (SPO, 1998). 35% of the vessels were tankers and 38% of their total cargo was petroleum. From 1970 to 1991, there were 3 to 35 oil spills per year releasing 50,000-700,000 tons of oil. In Istanbul alone, 94 ferries make about 750 roundtrips a day and carry 125 million passengers a year. Sea accidents have declined in number, dropping from 43 incidents in 1990 to 12 in 1994 and only 2 in 1996.

Despite the existence of rules and regulations prohibiting the discharge of pollutants into rivers and lakes, the fresh water pollution is a significant environmental issue in Turkey. Rivers and creeks that pass through large settlements invariably suffer from human-induced pollution. Occasional massive fish mortality due to intolerable levels of toxic pollutant concentrations and/or low dissolved oxygen

contents resulting from excessive organic pollutant intake is observed. Although relatively li◎le information is available on the quality of groundwater resources, there is enough evidence to point out the following pollution issues: (a) sewage infiltration from poorly maintained septic tanks and sewerage pipe networks, (b) leakage from solid waste dump sites; (c) percolation of toxic industrial chemicals such as cyanide observed in the groundwater of Kemalpasa Valley; (d) contamination from pesticides and fertilizers from agricultural uses as seen in the groundwater of Cukurova, Bursa and the Bornova Valleys; (e) salt enrichment due to the over-extraction of groundwater in the Lakes Region, the Iskenderun-Ulupınar-Arsuz Plain and Corum, where groundwater passes through brine, mineral waters or geological formations with high salt and sulphite content, and (f) sea water intrusion due to excessive ground water extraction for tourist facilities and residential units.

Policies and anthropogenic developments and activities in Turkey that contribute to pressures on biodiversity are: pressure from rapid population growth, urbanization, industrialization, and tourism development; illegal forest clearing, overgrazing, the ploughing of pastureland, and the unsustainable harvesting of threatened plant species; construction of dams, wetland drainage, re-routing of surface waters, poor irrigation practices and civil unrest in the east and southeast; ineffective governmental policies regulating land use and ineffective natural resource management; pricing policies that place pressures on biodiversity through excessive irrigation and fertilizer use; rapid and uncontrolled tourism development and associated coastal habitat degradation caused by land speculation; introduction of alien crops, cultivators and livestock.

Significant negative impacts and damages to natural and cultural resources have occurred in the coastal zone due to anthropogenic development, mainly as a result of urbanisation and tourism. There are examples of towns and tourism facilities developed in the prime coastal areas, destroying important coastal units like wetlands (Izmir) and beaches and dunes (Belek, Antalya). This type of destructive development has either taken place before the present Shore Law was put into force in 1990, or in its wake, due to defects in the proper implementation of this legislation.

Solid waste is an environmental management issue in Turkey, which has grown significantly in importance since the 1970s due to increases in urbanization, industry and tourism activities. It is estimated that household solid waste generation per capita is 0.6 kg/day and that the average municipal solid waste per capita is approximately 1 kg/day. Thus, the average municipal solid waste generated from residential sources is 68,000 tons per day and 24.8 million tons per year. The most important problem regarding solid waste is that the bulk of municipal solid waste is dumped in uncontrolled rubbish dumps that are insufficiently regulated. As a response to the advantages of large-scale environmental infrastructures, the Ministry of Tourism has been pushing some neighbouring coastal municipalities to form “infrastructure unions” for the building of and operating of common facilities. The manufacturing industry in Turkey generates over 13 million tons of industrial waste annually. Approximately 57% of this amount is not recycled. Approximately 30% of the disposed wastes are taken to municipal dumping grounds and the remainder is disposed of in an uncontrolled and unregulated manner. In this way, close to 5 million tons of industrial waste is discharged into the environment each year. An estimated 300,000 tons of hazardous waste (corresponding to 1.6 kg. per $1,000 of GDP) is produced annually.

On the Aegean and Mediterranean coasts one of the effects of tourism has been the transformation of agricultural lands into tourism areas because of its high revenue in the short run. A striking example of this can be seen specifically in Antalya in recent years. Farmers started to use intensive agricultural methods because the agricultural land has lessened, which leads to overuse of fertilizers resulting in the pollution of soil and water resources

3. LEGAL AND INSTITUTIONAL ARRANGEMENTS

A comprehensive framework law for integrated coastal management is not available in Turkey. Several pieces of legislation in existence, however (laws and by-laws) do address various issues of coastal zone management: Shore Law, Harbours Law , Environmental Law, Fisheries Law, National

Parks Law, Law on the Protection of Cultural and Natural Wealth, Council of Ministers' Decree for the Establishment of an Agency for Specially Protected Areas, Bosphorous Law, Coastal Security Force Law, Settlements Law, Tourism Incentives Law, and Forestry Law.

The Shore Law is the most important law. Responsibility for the enforcement of the Shore Law is given to municipalities within their borders and in their annexed areas, and to the provincial governors in all other localities. The rights of the related ministries relating to the control and enforcement of shore and shore strip areas are to be respected (Art. 13). The final authority for planning in these areas is generally the Ministry of public works and Settlements. In coastal areas declared as tourism centres by the Council of Minister's decrees, this authority is transferred to the Ministry of Tourism.

The Shores Law gives definitions of the 'shoreline' and the 'shore'. The 'shoreline' is defined as: 'the line along which water touches the land the shores of seas, natural or artificial lakes, and rivers, excluding the inundation periods'. The 'shore' is the area between the shoreline and the 'shore edge line', which is defined as 'the natural limit of the sand beach, gravel beach, rock, boulder, marsh, wetland and similar areas, which are created by water motions in the direction of land starting from the shoreline'. It is observed that, although the location of the shore edge line is very important for managing development at the shore, its definition is far from being clear and exact. The 'shore strip' is set to have a minimum of 100 m width horizontally, starting from the 'shore edge line', according to the amendment-dated 1.7.1992.

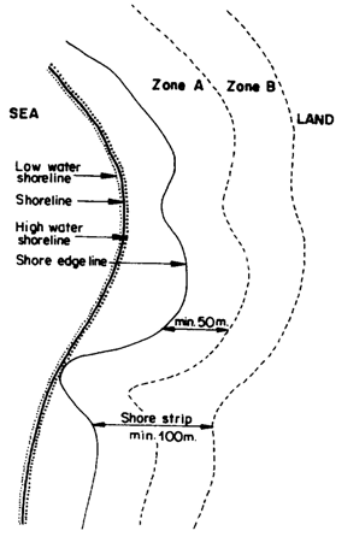


Fig. 1. Sketch describing shoreline, shore edge line, shore, and shore strip.

The Settlement Law, although this act is not specific to the coastal zone, has been misused by land developers for construction of secondary housing cooperatives during the last two decades especially along the Aegean and Mediterranean coast. This act that enables the municipalities to prepare local settlement plans orientated by real estate developers has been the most important legal basis for construction.

The Forestry Law: Forest and land registry studies carried out till today have not been efficient. Furthermore, the Ministry of Forestry may allow real and legal persons to construct buildings when there is a social benefit. This clause supported by one of the tourism incentive act enables the Ministry of Forestry to allocate forests to related institutions and sometimes they do not use for public servitude.

The Tourism Incentives Act is the milestone in the development of tourism related investments and also the beginning of noticeable degradation of coastal areas in most cases since State lands having

high environmental values have been allocated to investors for long periods, i.e. 49–99 years as part of the incentives.

The delay in enacting appropriate, adequate and efficiently enforced legislation over the years has resulted in failure with regard to the implementation of rational and sustainable decisions concerning coastal zone management. The reasons for this failure are political and institutional. The fact that more than 20 acts and decrees are enforced in coastal management issues results in the involvement of more than 15 institutions, generating biased solutions due to plurality and fragmentation in the decision-making process. The degradation of coastal areas started in the early 1980s mainly because of the construction of intensive secondary housing cooperatives and hotels. This is mainly due to legal gaps in the provisions of the Settlements Law, Forestry Law, Tourism Incentives Law and ever- changing Shores Law.

Main public authority in charge	Related legislation
Ministry of Reconstruction and Se◎lements	Shore Law SettlementsLaw
The Prime Minister's Office,Under Secretariat for Maritime Affairs	Harbours Law
Ministry of Transportation	Harbours Law
Ministry of Environment (Ministry of Environment and Forestry)	Environment Law The Ministerial Decree for SPAs
Ministry of Agriculture	Fisheries Law
Ministry of Forestry (Ministry of Environment and Forestry)	National Parks Law Forest Law
Ministry of Domestic Affairs	Coastal Security Force Law Municipal Law
Ministry of Culture (Ministry of Tourism and Culture)	Law for the Conservation of Cultural and Natural Wealth
Municipalities	Municipal Law
Ministry of Tourism (Ministry of Tourism and Culture)	Tourism Incentives Law

Table: Main public authorities and legislation related to coastal zone management

4. POLICIES AND STRATEGIES

The Ministry of public works and Settlements has the final authority for planning in coastal areas, except in areas declared as tourism centres where the authority is transferred to the Ministry of Tourism. The General Directorate of Bank of Provinces is affiliated to the Ministry of Public Works and settlement and has the responsibility to provide infrastructure projects on a turn key basis for municipalities, to provide credit for financing these projects, to prepare urban development plans, to provide technical assistance for construction, mapping, selling or renting materials and equipment, to insure property and to train the staff of the municipalities.

The coastal policies, in terms of spatial planning, are defined by the following:

- To redefine planning hierarchies, responsibilities and authorities; to integrate an ecological perspective into planning practices; to strengthen planning instruments by amending the Land-use and Development Law.
- To redefine coastal strips through an amendment to the Shores Law. This amendment will take into account topographic conditions and natural resources and cover all ICZM issues. Coasts can not be owned privately and are open to the benefit of all, equally and freely.

- There are some restrictions on land use within the 100-meter wide coastal strip. The Shores Law (1990) outlines the conditions related to land use, filling of the sea, the types of functions, buildings and special facilities that can take place within the coastal zone.

The Ministry of Environment is designated as the main responsible body for environmental management and charged with co-ordinating all national and international activities concerning water resources. It was established as Undersecretariat of Environment attached to the Prime Ministry in 1978 and was elevated to Ministry status in 1991. The General Directorate of State Hydraulic Works is affiliated to the Ministry of Energy and Natural Resources. It is a leading body carrying out most of the sub-sector's activities at all stages of water resources development. SHW ensures the long-term supply of drinking and industrial water and also plans, executes and in most cases co-operates works for flood protection, irrigation, drainage and hydropower generation. The responsibilities of SHW also include performing basic investigations such as, flow gauging, soil classification, water quality monitoring, and preparation of river basin development plans and formulation of proposals for construction financing and subsequent operation of these works. In addition, Water and Sewage Administration connected to the municipalities (15 out of 80 provincial capital municipalities) have taken part in the implementation of pollution control policies, including water supply and construction and operation of wastewater treatment facilities. The environmental Policies are characterized by the following:

- To structure industrial and urban wastewater and solid waste administration and investments that may help to decrease pollution caused by highly prioritised polluting resources.
- To establish a monitoring system for pollution control and monitoring especially at wastewater discharge points.
- To carry out a research project on coastal erosion in the Black Sea coastal zone and implement pilot projects.
- To prepare emergency response plans.
- To prepare a new law for planning, protection, appropriation, and administration of water resources.

Three ministries namely the Ministry of Environment, the Ministry of Forestry, and the Ministry of Culture are responsible for nature conservation through three different laws, dealing with specially protected areas, national parks and other designations, cultural and natural sites. There are no arrangements for co-ordination of these efforts, which, causes confusion at the local level. There are efforts in order to maintain biological diversity through expanding aerial extent of the protected natural sites. National parks, Nature Reserves and specially protected areas are some of these attempts undertaken by the Turkish Government. There are 6 national parks, 2 natural parks and 10 natural protection sites in the Black Sea region. Also, there are 4 wetlands and several natural bird habitats. The Turkish National Committee on Coastal Zone Management (KAY) is legally set up under the framework of the Higher Education Law. The efforts for establishing it were started in the second half of 1990, and concluded on 18 January 1993. The Committee is administered from the Middle East Technical University (METU, Ankara). The Committee has only an advisory role, and its statutory rights are quite limited.

5. INSTRUMENTS

National development plans were started to be prepared in Turkey in 1963. These plans are mandatory for public investments and guiding principles for private investments. They guide and set objectives for other plans in the country.

Environmental Impact Assessment (EIA) has been applied to individual investments in Turkey since 1993. Today, parallel to the developments in the world, it has been discussed that it is necessary to strengthen project-level Environmental Assessment (EA) and to practice Strategic Environmental Assessment (SEA). The interest in SEA has grown significantly since 2000 in the country. Discussions and preparations have started about regulation, which provides the legal and institutional framework for SEA in The Ministry of Environment and Forestry. The subjects that required strategic decision-

making process have been gathered in five groups for Turkey: (1) National Five-Year Development Plans (FYDPs) and Sectoral Plans: socioeconomic plans including macro-economic targets and sectoral development policies prepared by Prime Ministry State Planning Organization (SPO); (2) Regional Development Plans: plans, aiming to improve the socioeconomically underdeveloped regions, to provide the effective use of sources in the region and to improve income distribution in the country such as Southeastern Anatolia Project—SAP and Eastern Anatolia Project—EAP; (3) Legal Regulations: laws and international convention for especially effective uses of natural sources such as the Forest Law, Tourism Encouragement Law, Shores Law, etc.; (4) Privatization Policies: privatization activities have been in progress with the effect of laissez-faire economy since 1985 in Turkey. Especially privatization policy in the energy and tourism sectors is effective in the environment; and (5) Physical Plans: urban developmental plans and other land use plans, environmental plans prepared by the Ministry of Environment and Forestry, urban master plans by municipalities, infrastructure plans, tourism plans, etc.

The land use plans involve the Ministries of Reconstruction and Settlements and of Tourism together with the local administrations (municipalities and governorates). In the specially protected areas that include human settlements, the Ministry of Environment (the Agency for the Specially Protected Areas) is the planning authority. The South-Eastern Anatolia Project (SAP) Regional Development Administration is responsible for planning in the SAP Region. The Ministry of Culture has control over land use plans for settlements next to the sites protected due to their cultural and historical significance.

In addition to the land use plans, various other types of planning activities exist in Turkey. These include the management plans of the Ministry of Forestry in national parks and in other forest areas, and of the Ministry of Environment (Agency for SPAs) in specially protected areas. Furthermore, the nationwide planning of major infrastructures, such as highways, railways, airports, harbours, dams and irrigation canals, power transmission lines etc is carried out by the relevant authorities under the auspices of several different ministries. Sectoral developments plans are another significant planning effort in Turkey. Important examples of this type of planning include tourism, ports (maritime transportation), marinas and fisheries

The types of spatial plans that have been utilised in Turkey are the “environmental profile plans”, “framework land use (development) plans”, and “detailed land use (application) plans”. Environmental profile plans, a macro planning effort at scales of 1/100000, 1/50000 and/or 1/25000, are a potentially significant tool for coastal management. In the coastal zone, such plans could aim towards the following:

- application of national and regional policies and decisions;
- optimal uses of and benefits from natural and social resource potentials;
- protection of natural, cultural and historic resources and values like watersheds, forests and agricultural land, etc;
- provision of spatial decisions for location, size, density and distribution of urban centres, industry, tourism, commerce and other uses, as well as for regional infrastructural facilities such as transport, energy production, etc.;
- achievement of compatibility of uses (sectors), and of the balance between use and protection and;
- description of the principles of collaboration and coordination among different administrations.

6. COASTAL PRACTICE (PROJECTS, INITIATIVES)

The ICAM projects and initiatives in Turkey are many, and some of them are listed below:

- A relatively early effort in Turkey on coastal zone management is a report sponsored by the Priority Actions Program (PAP) of UNEPMAP.

- The Sixth Ordinary Meeting of the Contracting Parties of MAP (October 1989) decided to continue the four country pilot projects from a broader perspective of coastal management, and renamed the Priority Actions Program as the Coastal Areas Management Program (CAMP)? The study named 'Integrated Management Study for the Area of Izmir' was carried out by a team of Turkish and UNEP-MAP PAP experts during 1991-1993, and was more or less concluded by presentation and discussion of the draft report to an invited audience in September 1993.
- In 1990, a project was started through a grant of the World Bank's METAP Program to the Turkish Government (Undersecretariat of Environment).
- In 1990, OECD was also involved in a country review of a number of environmental issues in Turkey, including coastal zone management.
- In 1993 the National Committee on Turkish Coastal Zone Management (KAY) was established. It plays an important role in the ICZM approach at the national level through the organisation of seminars, courses and projects.
- Bodrum Peninsula Coastal Zone Management Project' was carried out by Middle East Technical University with the support of two local environmental NGOs and with contributions from two speciality NGOs from Ankara (under the umbrella of the Turkish National Committee on Coastal Zone Management), through a grant of the GEF NGO Small-Grants Programme.
- Mersin Coastal Zone Management Project, which is presently being conducted by a private company through a contract by the Ministry of Environment which uses a World Bank METAP grant for this study.
- The Coastal Management and Tourism Project in Cirali (Figure 2.3.1) was initiated by WWF-DHKD in April 1997 and concluded in 2000. The project was financed by the European Union (LIFE TC Programme) and technically supported by The Ministry of Tourism, Environment and Culture.

The organisations such as the chambers of architects, city planners, civil engineers, etc. or the chambers of commerce and industry, the Bar, the unions of various professions have been actively performing well-recognised functions for rather long time. The contributions of the NGOs, which add an environmental concern edge to governmental functioning, however, have only grown to be significant since the late1980s. Currently, there exist a good number of environmental NGOs, several of them conducting nationwide activities, and the bulk focusing on regional or local concerns. As illustrated in the previous paragraph, some of these NGOs have been actively involved in coastal zone management issues, such as the locating of power plants, the preservation of important habitats and of endangered species, coastal tourism development, and the management of ecologically significant coastal areas. Good examples of the NGO role in coastal conservation and integrated management are the national committees for monk seals and sea turtles, set up within the Ministry of Environment and Forestry.

7. NEEDS FOR ICZM

EUCC lists the following problems and constraints for the development of ICZM:

- Institutional organisation and the capacity of professionals are quite limited. Efforts to improve activities within the scope of the BSEP ICZM program have proven insufficient in many respects. Particularly, the establishment of a database research studies, institutional and professional education, public awareness and enhanced participation of the public could not be satisfactory achieved. Past activities on the National level were mostly focused on giving information. No study was conducted with regard to the legal and institutional organisation within the scope of the project.

- There is neither a wide scope ICZM law nor a special institutional development in this area and there for efforts do not go far beyond the project level.

- In Turkey, since there is neither a law that covers all respects related to coastal zones, nor a special institutional structure for this purpose, various organisations happen to be authorised and responsible in coastal zones. As a result, the authorities are overlapping in some respects and there are some gaps in other areas.

- Due to disorder and multiplicity in institutional structure, there is also deficiency in co-ordination. Deficiency exists in horizontal as well as in vertical co-ordination at central, regional, and local level.

- In Turkey, local organisations are weaker than central organisations. There are deficiencies in local administrations and in local organisations of the central government, especially with regard to decision-making, budgeting and getting financial aid. Although Turkey has assumed the principle of being administered locally as a policy, the necessary arrangements to fully implement this policy have not been realised yet.

- Legal mechanisms with regard to public participation and access to information are not sufficient. Legal arrangements in this respect (EIA, etc.) provide limited possibility to the public to participate in few areas. On the other hand, NGO initiatives and public consciousness are more and more developing and becoming widespread.

- In the process of EIA, which has been applied since 1993, there are still problems with regards to its application, supervision and monitoring. There is no legal basis and criteria in strategic EIA and environmental.

General objectives for environmental management in Turkey in the coming years are to:

- Implement environmental policies and strengthen enforcement capabilities;
- Invest in an environmental infrastructure;
- Provide for public participation and increase public awareness of environmental problems;
- Integrate environmental concerns into economic decisions;
- Meet the country's international commitments; and
- Complete harmonisation with EU standards.

The National Report on Coastal Management in Turkey puts forward the following proposals with regard to the future ICAM activities in Turkey:

- There is a clear need for an "umbrella law" that aims at the integration of coastal management. This new legislation should create an institutionalised mechanism for addressing the coastal area demands of different sectors through a coordinated decision making process. Such a coordinating mechanism would facilitate the development of more rational decisions on coastal land use and development on the one hand, and would minimise the conflicts between different sectors on the other.
- A coordinating institution at the same hierarchical level as the ministries should be created to achieve the coordinating role described above.
- New regulations should be created to increase the role and involvement of local administrations in coastal management. The capacity of local administrations to use important coastal management instruments such as EIA, land use planning, specially protected areas and the enforcement of laws and regulations need to be enhanced. Better incentives (financial and other) should be created for the municipalities to ensure the effective use of these instruments (such as levies on polluters and the collection of revenue from the management of special areas).
- As a priority action, necessary arrangements should be made for more effective use of existing and available instruments, rather than creating new ones. As another priority, pilot projects with important targets such as public education and participation, the management of

special coastal areas and greater integration in the decision making process would aid in the development of a coastal management culture and strategy by utilising the lessons learned.

- The management of special coastal areas requiring higher levels of protection should not be restricted to central administrative institutions. This should be a joint task, shared between institutions at different hierarchical levels, giving more emphasis and responsibilities to local administrations (municipalities) and to the NGOs.

Strategic overview: Palestinian Authority

May 2006

I. INTRODUCTION

The West Bank and Gaza are geographically separate areas that together form the Palestinian political entity. The West Bank is situated between Israel and Jordan (on the West Bank of the River Jordan); and Gaza, which has a short coastline on the eastern shores of the Mediterranean, is between Egypt to the South and Israel to the north. The total area of the West Bank (including East Jerusalem) covers 5,820 km^2, while Gaza covers 365 km^2.

The two areas of "the West Bank/Gaza" had a turbulent, and changing political status during the 20th century. At present, the West Bank and Gaza do not function as a 'country' in the typical sense, which limits the institutional ability to enforce environmental regulations. It also limits the ability for reliable information and record keeping. Before the occurrence of the Oslo peace talks (1993), there were no administrative powers for the Palestinian

Authority (PA) over land in the West Bank and Gaza. Until May 1995, the Israeli Civil Administration held all environmental responsibilities in the Occupied Palestinian Territories, and especially in the West Bank.

After the Oslo Accords, the Palestinian and Israeli parties agreed, among others, on specified geographical areas for which administrative authority was transferred to the Palestinian Authority. The parties also agreed to establish a number of ministries and authorities. Based on these agreements, a Palestinian authority responsible for environmental issues was established, followed by official designation of Palestinian Ministry of Environmental Affairs (MEnA). However, after administrative reforms, Presidential Decree No. 6 in 2002 established the Environmental Quality Authority (EQA) as the successor of the Ministry of Environmental Affairs.

II. ENVIRONMENTAL BACKGROUND

The West Bank has a varied topography consisting of central highlands, where most of the population lives, and semi-arid rocky slopes, an arid rift valley and rich plains in the north and west.
Gaza is a narrow, low-lying stretch of sand dunes along the eastern Mediterranean Sea. It forms a foreshore plain that slopes gently up to an elevation of 90 metres. The sea is warm and saline and is affected by water outflow from the Nile River.

The Israeli occupation of the Palestinian Territories, has negatively affected the environment in many ways. There have been direct impacts, caused by military activities; indirect impacts, caused by the war-like situation, and an overall environmental degradation due to a lack of administrative management and public awareness. In particular, this caused great impact on narrow, highly populated coastal area of Gaza Strip. The Gaza Strip is one of the most densely populated areas in the world, with an estimated 1.3 million people living in an area of 365 km^2, or around 3,600 people per km^2.

The only attraction for relaxation is the 40 km long coast and beaches that is important from marine ecological, land resources, fishery, transport, recreation and tourist perspectives. However, a major coastal problem is continuous degradation by pollution, dumping of solid waste, sand quarrying and construction activities. The main source of pollution is sewage system outfalls and individual sewage and sludge drains, ending either on the beach and cliffs or a short distance away in the swimming zone. The open dune areas are strongly threatened by indiscriminate sand quarrying which occurs on an industrial scale. Construction of buildings, petrol stations and other facilities directly on, or near the coast, decreases the visual and natural value of the coastal landscape. The main factor beyond landscape and coastal degradation of the Gaza Strip can be attributed to the lack of land use planning and coastal zone management.

II. PRESSURES AND OPPORTUNITIES TO THE COASTAL ENVIRONMENT

In December 2001, the Palestinian Ministry of Environmental Affairs published the comprehensive "Gaza Coastal and Marine Environmental Action Plan", prepared with the Netherlands consulting company DHV with European Commission funding through the LIFE Third Countries programme. The plan identifies key coastal and marine issues for Gaza, such as:

- Impacts of liquid and solid waste;
- Depletion of sand resources and coastal erosion;
- Disturbance of marine and coastal ecology through intense fishing pressure, including trawler damage to the seabed;
- Lack of co-operation among different Palestinian authorities and coastal zone stakeholders; and
- Lack of information.

Wastewater discharge. In Gaza, availability to sewerage facilities at present varies from areas where more than 80% of the households are served by well-functioning sewerage systems, to areas where there is no sewerage system at all. On average, it is estimated that about 60% of the population is connected to a sewerage network.

The larger urban centres, with the exception of Khan Yunis, are equipped to some extent with a sewerage network. The densely populated refugee camps of El Nuseirat, El Bureij, El Maghazi and El Zawida do not have any sewerage facilities, whereas the Jabalya camp is well served.

There are three treatment plants in Gaza, at Beit Lahia, Gaza City and Rafah, but none is functioning effectively. Approximately 80% of the domestic wastewater produced in Gaza is discharged into the environment without treatment, either directly, after collection in cesspits, or through leakage and overloaded treatment plants (50,000 cubic meter per day).

Industrial use constitutes only 2% of overall water demand in Gaza, and industrial wastewater is correspondingly low as a proportion of overall discharges. At present, most of the industrial wastewater generated in Gaza is similar to domestic wastewater. This is because many industries in the area are small-scale, and 60% do not use water in their production processes.

The total annual wastewater production in the area is estimated to be 30 million m^3, of which 20 million m^3 passes into sewerage networks and the rest to cesspits or pit latrines. Untreated wastewater discharges can cause public health risks through direct exposure, as well as through being reused on irrigated crops.

Solid waste. The widespread dumping of solid waste**,** especially on the beaches, further increases health problems. Under non-conflict conditions, approximately 95% of the population in Gaza and, approximately 67% of the West Bank population is serviced by a municipal solid waste collection system. However, solid waste is dumped in all areas of the West Bank and Gaza, at sites close to or inside the cities and villages, due to number of special restrictions. None of the dumping sites are fenced, lined or monitored, and the scattered sites pollute the land, resulting in emissions to water and air, pollution of groundwater and distortion of the Palestinian landscape. Coastal cliffs are often covered by waste as a result of widespread dumping of concrete, metal, car wrecks and rubble, which contributes to coastal erosion and causes visual deterioration of landscapes and contamination of beaches.

Health hazards due to water pollution have not been studied in detail. However, the problem remains that the sewage entering the beaches and in the sea is not treated and that people swimming and bathing are exposed to contaminated sea water. The prevalence of a number of diseases in Gaza can be partly explained by the relation of water quality conditions and beach recreation.

Depletion of sand resources. The sand resources in Gaza, especially the coastal sand dunes, represent important environmental values. These dunes traditionally protect the coastal areas against the sea and they are the habitat for flora and fauna. Still, destruction of sand dunes and erosion caused by coastal infrastructure construction that disrupts shore sand movements, and threatens buildings and roads constructed close to the shore is another major coastal issue. The open dune area is strongly threatened by commercial sand extraction for building purposes, and through agricultural expansion. Sand quarrying is hardly recognised by the public as actively responsible for large-scale destruction of natural landscapes in the Gaza Strip. A total amount of at least 25 million m^3 is estimated to have been excavated in the last 30 years. Almost 45% of this amount is exported, while the rest has been used locally. Only 12% of sand excavations is licensed.

Coastal erosion. New structures along the present coastline, like breakwaters, jetties, marinas, commercial ports and fishing harbours, have blocked the along shore sand transport and have caused an erosive effect on the coast downstream. Buildings and roads that have been constructed close to the waterline are faced already with stability problems and other related negative impacts.

Biodiversity is one of the pillars of future sustainable development in the Palestinian Territories. Still, there are many risks, mainly due to direct degradation arising from military operations, increasing population leading to uncontrolled settlements growth, and threats from solid waste and wastewater pollution.
The impact of the conflict on ecosystems or individual species has not been evaluated in detail. Even though, there have been no reported sightings in the past years of the marine turtles, there are two known turtle nesting beaches in Gaza. In the past, these species and their eggs have been under extreme pressure from hunting and collecting, thus their existing status is uncertain. Only a very limited number of other marine reptiles have been reported. Little is documented on the status of marine mammals in the Gaza area. Similarly, for marine flora, very little information is available. The exception to this is the recording of losses of natural forest, losses that are especially significant given that forests make up only a small proportion of the natural landscape. The impacts on natural systems and wild biodiversity may appear to be of low priority when compared to the parallel human suffering caused by the escalating conflict. However, the impacts on ecosystems should not be set aside, as these impacts can themselves have economic consequences.
The 42 km of Gaza shoreline and 74 km^2 coastal zone is already under intense pressure, with substantial environmental degradation of terrestrial and marine resources. In addition to that, great impact on marine

biodiversity is caused by Israeli security measures that are limiting the sea area available to Palestinian fishing boats to within 12 miles off the shore. This resulted in intensified overfishing of near-shore marine environments. Namely, there are strong indications that the coastal fish population is diminishing due to overfishing, though exact data on the sustainable yield of the fisheries is not available. There is evidence that the fishing trawlers are damaging the seabed with their nets, affecting the ecological status of the marine areas and there are also indications that the quality of fish is affected by marine pollution.

One of the areas recently designated (June 2000) for protection status by the Palestinian Authority is Wadi Gaza. Historically the Wadi is reputed to have been an area rich in biodiversity, and it is still important as a stopover point for birds on the Africa-Eurasia migratory route. However, its most recent status is that of a wasteland, and as an effluent channel for the raw sewage from refugee camps adjacent to the watercourse, estimated at 6,000-8,000 m^3 day.

There are some initiatives that aim to rehabilitate the Wadi Gaza to re-establish its biodiversity values, protect and promote archaeological sites, develop recreational and tourist activities, and deliver socio-economic benefits to the 10,000 people living adjacent to the wadi in Bedouin settlements, refugee camps and Al Zahra town. However, 'on-the-ground' progress to date appears to be limited.

Since the events of September 2000, Palestinian access to area B[3] has been restricted by Israel. This means that the Palestinian management agency could not access most of the protected areas on the West Bank for management purposes. Also, current suspension of financial assistance to Palestinian Authority by European Union and United States, due to a new Palestinian Government, leads to a conclusion that much-needed *in situ* protected area management training and capacity building cannot take place effectively.

Lack of co-operation. As stated in the Gaza Coastal and Marine Environmental Action Plan, coordination between different parties does not take place sufficiently. As a result, different authorities and stakeholders may have different agendas on coastal and marine development issues. Also the awareness on environmental matters by the general public is not sufficient. This is partly caused by that fact that public information campaigns on environmental matters are only of very recent date, partly due to the fact that actual socio-economic problems tend to 'over rule' other issues, such as the environmental one.

Lack of information. Currently, data and information on coastal and marine environmental matters are scattered throughout different authorities' project offices and donor organisations. An information system on the coastal and marine environment is needed to support actions and coordination among the different agencies.

Despite all these pressures, **tourism development** was promoted under the Oslo Agreement. The potential for improvement and intensification of tourism sector exists, but it is largely dependent on provision of tourism infrastructure and services. Beach tourism depends on the image of clean and healthy beaches and seawater. The present environmental conditions, tourism infrastructure and investment capacity are far from optimal and to attract tourists from the Arab countries and from the West Bank. Tourism development in Gaza will largely depend on the extent to which the beaches and coastal cliffs could be cleaned from solid waste and the extent to which the sewage effluents in the sea will be reduced. Only then, tourism can start to become an economic pillar of the local economy.

III. EXISTING LEGAL & INSTITUTIONAL FRAMEWORKS

One of the main challenges to the environmental sector in Gaza, in addition to difficult circumstances of living under the occupation, is the political unrest in the region. This causes continuous changes in the

[3] The Oslo II Accord, formally entitled 'Interim Agreement on the West Bank and the Gaza Strip of 1995', created three territorial zones in The West Bank: area A where the Palestinian Authority has responsibility for public order and internal security; area B where the Palestinian Authority assumes responsibility for public order for Palestinians, while Israel controls internal security; and area C, where Israel maintains exclusive control.

government, hence the continuous weakness of institutions, lack of environmental legislation and absence of environmental procedures.

Legislation

The Palestinian Environmental Law No. (7) of 1999 establishes the general legal framework for environmental protection in the West Bank and Gaza Strip. It is, in essence, a framework law adopted by the Palestinian Legislative Council in 1999 and approved by the President of the Palestinian Authority, on 28 December 1999. The Law is divided into five parts, with 10 chapters and 82 articles, concerning a wide range of environmental protection and management issues.
Among the specific issues covered under the Law are protection of the environment (land, air, water, marine environment) and of the natural historical and archaeological area, environmental planning and enforcement tools (including environmental impact assessment, licensing, inspection and administrative procedures, and penalties). The Law also incorporates the 'polluter pays' principle and sets out government/public sector duties, including the basis for intersectoral co-ordination.

Water sector. Legislation for the regulation and management of the water sector is encompassed in the recently approved Water Law No. 3, on 17 July 2002.

The objectives of Water Law No. 3 are to:
- Secure sustainable development of water resources based on environmentally sound and enabling bases;
- Provide and satisfy societal and individual needs for water in an optimal and equitable way;
- Protect all water resources from pollution and secure water quality, an environment not harmful to human health or well-being, and sufficient water for production and self-renewal.

In addition to the Water Law No. (3) of 2002, several articles in the Environmental Law No. (7) of 1999 provide for the protection conservation and the protection of water resources, i.e. Articles 28, 29 and 30.

Biodiversity. Many of the biodiversity conservation challenges in the West Bank and Gaza Strip (for example, sustainable management of water and forests) are regional in extent, giving special importance to the potential role of multilateral environmental agreements (MEAs). Although the Palestinian Authority is unable to adhere to such treaties, there are clear environmental benefits from applying this treaties in the region. Israel is a party to many MEAs of special relevance to conservation and sustainable development, which have an important regional significance, and which could be relevant for biodiversity conservation in West Bank and Gaza Strip:
- Convention for the Protection of the Mediterranean Sea Against Pollution (1978) and its Protocol Concerning Mediterranean Specially Protected Areas;
- Convention on International Trade in Endangered Species of Wild Fauna and Flora – CITES (1980);
- Convention on Migratory Species – CMS (1983);
- Convention on Biological Diversity – CBD (1995);
- Convention to Combat Desertification – CCD (1996);
- United Nations Framework Convention on Climate Change – UNFCCC (1996);
- Ramsar Convention on Wetlands of International Importance (1999);
- Convention Concerning the Protection of the World Cultural and Natural Heritage (2000).

Solid waste. There is no single law for solid waste; the Environmental Law No. (7) of 1999 sets the legal framework for Solid waste, under the articles 7, 8, 9 and 10.

Institutions

Following Presidential Decree No. 2 (1998) designating a new Cabinet, a Palestinian Ministry of Environmental Affairs was established, and it took overall responsibility for policy-setting and coordination of activities amongst a number of other partner institutions and stakeholders.

However, due to administrative reforms, a Presidential Decree in 2002 established the Environmental Quality Authority as the successor body to the Ministry of Environmental Affairs.

In addition to the Environmental Quality Authority, many other ministries and authorities have environment-related tasks. Among those are:
- Ministry of Planning and International Co-operation and the Higher Planning Council;
- Ministry of Local Government;
- Ministry of Health, and its Department of Environmental Health;
- Ministry of Tourism and Antiquities;
- Palestinian Water Authority.

Overview institutions and organisations dealing with environmental and coastal issues is presented in tables 1 and 2.

Table 1: Government bodies of relevance to governance and management in coastal areas in PA

MINISTRY	- Ministry of Planning - Ministry of Tourism & Antiquities - Ministry of Local Government - Ministry of Health/Department of Environmental Health
OTHER INSTITUTIONS	- Environmental Quality Authority (EQA) - Palestinian Water Authority (PWA)
COMMITTEES	- Coastal and Marine Protection Committee - Committee for Environmental Affairs
REGIONAL/LOCAL LEVEL PUBLIC INSTITUTIONS	- Coastal Municipalities Water Utility - Governorates of Gaza Strip - Municipalities of Gaza Strip

Table 2: Other important stakeholders

SCIENTIFIC INSTITUTIONS (UNIVERSITIES AND RESEARCH CENTRES)	- AL-Azher University - Islamic University of Gaza - IUG - Birzeit University - Environmental Protection and Research Institute
CIVIL SOCIETY ORGANISATIONS	- Green Peace Association - Friends of the Earth Middle East (FoEME) - The Local Committee for the Protection of the Environment - Palestinian Society for the Protection of Environment and Nature
INTERNATIONAL ORGANISATIONS	- UNDP Programme of Assistance to the Palestinian People (UNDP/PAPP)
MEDIA	- Al-Ayyam Newspaper - Al Hayat Al Jadida - Alquds Newspaper - Arab Media Internet Network (AMIN) - BZU Outloud - Palestine News Agency - WAFA - The Palestinian Information center - Palestine Times - Palestine Report - International middle east media center

Applied instruments

Environmental Impact Assessment. There is no single law for Environmental Impact Assessment (EIA): the Environmental Law No. (7) of 1999 sets the legal framework for EIAs, under Article 45. According to this article, the Ministry, in co-ordination with the competent agencies, shall set standards to determine which projects and fields shall be subject to the environmental impact assessment studies. It shall also prepare lists of these projects and set the rules and procedures of the environmental impact assessment.

Policies & strategies

The Palestinian Authority is committed to supporting international environmental agreements and it has prepared several strategic documents to strengthen the principles and objectives of environmental protection, underlined within these agreements.

MEnA, in co-operation with the Netherlands Development Agency (NEDA) has developed a Palestinian Environmental Strategy Plan for both the West Bank and Gaza, a ten-year environmental strategy document to be updated every three to five years, until 2010. The document identifies and analyses the causes of current environmental problems, defines targets and proposes prioritised measures required for meeting these targets. It has adopted a National Environmental Action Plan (NEAP) in 2000 as an instrument to translate the general themes and priorities set out in the national environmental strategy.

PA has prepared a "National Biodiversity Strategy and Action Plan" (NBSAP), whose aim is to provide a strategic basis for the conservation and sustainable use of Palestinian biodiversity. It was funded by Global Environment Facility (GEF) through the United Nations Development Programme /Assistance to the Palestinian People (UNDP/PAPP) and implemented by EQA:

Recommendations stressed out with NBSAP are:
- Coordination and co-operation among government responsible authorities should be strengthened and systemised;
- The role of the civil society and the local community is still at minimum in biodiversity related issues and needed to be activated;
- The opportunity of Israel withdrawal from potential biodiversity rich sites in Gaza and the West Bank should be well benefited through wise planning and management of such areas.

In 2001, the “Gaza Coastal and Marine Environmental Action Plan”, has been prepared as part of the project funded through the LIFE Third Countries programme. The overall objective of the plan was "to reverse and prevent further depletion and deterioration of the Gaza Coastal Zone and Marine Environment".
The project resulted with "establishment" of the Coastal and Marine Protection Committee, drawn up from representatives of the most important ministries with regard to marine affairs. Also it established three smaller Environmental Protection Taskforces on erosion, sand exploitation and marine pollution. The project also resulted with preparation of several plans:

- Sand exploitation plan;
- Coastal erosion protection plan;
- Marine ecology protection plan;
- Coastal and marine information system;
- Coastal and marine protection committee.

Still, these plans are yet to be implemented.
The most important legal and policy documents are presented in Table 3.

Table 3: National legislation and policy documents dealing with coastal area

Legal framework dealing with coastal zone	No
Laws applying to coastal zone (like planning; delineation; authorisation of activities, etc)	No
Sectoral legislation dealing with coastal z.	- Palestinian Environmental Law No. 7 (1999) Water: - Water Law No. 3 (2002) - Environmental Law No.7 of (1999), Articles 28, 29 and 30 Solid Waste: - Environmental Law No. 7 of (1999), Articles 7, 8, 9 and 10 EIA - Environmental Law No. 7 of (1999), Article 45
Coastal legal code for consolidation of all applicable laws	No
Strategies and approaches	- The Palestinian Environmental Assessment Policy in 1999. - National Biodiversity Strategy and Action Plan (NBSAP) in 1999 - Environmental Strategy 2000-2010 - National Environmental Action Plan (NEAP) in 2000 - National Water Plan (2000) - Gaza Coastal and Marine Environmental Action Plan (2002)

INTERNATIONAL CO-OPERATION

International co-operation in the Middle East plays an important role, especially in the process of conflict resolution. Also, it carries enormous potential benefits for environmental protection, particularly in a region such as the Mediterranean, where common problems and shared resources are subject to intense human pressures.

Pending further progress of the peace process and final status negotiations, the Palestinian Authority has not been able to become a signatory to the multilateral environmental agreements (MEAs). However, in view of its observer status in the United Nations General Assembly, the Palestinian Authority has participated in MEA conferences and meetings.

The Palestinian Authority participated in the regional arrangements on transboundary environmental issues such as water, and has been able to secure funds to implement specific national components of regional or subregional projects from the Global Environment Facility (GEF).
Also, PA regularly participates in the Mediterranean Action Plan's (MAP) activities, in particular the activities of the Mediterranean Commission on Sustainable Development (MCSD) and the Mediterranean Pollution Action Programme (MED POL), which is the environmental assessment of the Mediterranean

Action Plan. Co-operation includes the agreement with the Palestinian Authority for the preparation of an assessment of the state of marine pollution in its territories. The assessment was successfully prepared and is now being used for the formulation of a national pollution monitoring programme to be implemented as part of the MED POL programme.

But, even though the PA previously received considerable financial assistance from the European Union as well as from the United States (approximately USD $1,000,000,000 combined in 2005), both suspended all direct aid on April 7, as a result of the Hamas victory in parliamentary elections.
This put additional pressure on environmental and social difficulties within West Bank and Gaza Strip.

NEEDS FOR ICZM

In order to develop and implement integrated management of coastal areas the following issues should be addressed:

- Improve monitoring/assessment schemes, especially in terms of water-quality;
- Improve treatment of municipal wastewater, as its the main source of pollution of the coastal zone of Gaza Strip;
- Improve solid waste management, through separation of hazardous and non-hazardous waste, improvement of waste collection, introduction of recycling and stopping the open burning of waste;
- Increase nature protection, as the existing protected areas are in many cases too small to maintain their ecological integrity and long-term viability, and ensure proper management of the existing protected areas. In particular, efforts to rehabilitate the Wadi Gaza should be intensified;
- The results and recommendations of the "Gaza Coastal and Marine Environmental Action Plan" should be taken into account;
- Stop overfishing. Ways and means must be sought to provide Palestinians with greater access to fishing grounds, both to prevent damage to local fish populations, and also to ensure that Palestinians traditionally reliant on fish do not, driven by necessity, resort to overexploiting other natural resources as well;
- Increase capacity for environmental, and especially, coastal management;
- Build awareness on a necessary vision of the coastal region as a development and planning spatial unit.

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ANNEX J

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ANNEX K

Stakeholder Involvement Plan

Stakeholder Participation through MAP and the Barcelona Convention

Stakeholder participation is an inherent part of the structure of MAP and the Barcelona Convention (see Box's 3 and 4 of the Project Brief), where all countries (represented by the MAP focal point) form the Contracting Parties to the Barcelona Convention. Within each country MAP and its RACs have designated focal points that are responsible for the co-ordination of specific actions. In addition about 100 NGO's and IGO's, termed "partners" are participants to the meetings of the Barcelona Convention. It should also be stressed that prior to the PDF-B phase of the project, key stakeholders participated in the formulation of the TDA-MED, SAP-MED, SAP-BIO and countries NAPs, on which the present project activities are based. These activities have been fully developed (see Annex F) by the executing and co-executing agencies of the project: UNEP, MAP (and its RACs), FAO, UNIDO, UNESCO, MIO-ECSDE, WWF, GWP-MED, METAP and MEDPOL, all of which have a long history of working with the private and public sector in the Mediterranean, and ensured that activities complemented present and future iniatives and projects, and have been designed to involve all key stakeholders on a number of levels, from implementation, knowledge transfer, dissemination and replication.

Stakeholder Participation in the Strategic Partnership

The purpose of the project is to start the process of NAP implementation in a coordinated manner, and stakeholder involvement is essential for the future successful completion of NAP implementation and replication of project demonstrations. Stakeholders will participate in the project implementation through the following mechanisms:

<u>1) Involvement of the public sector through the SP focal points, the Steering Committee and the SP Country Support Programme (SPCSP)</u>

The participating countries, through the GEF Focal Points, have nominated Focal Points for the purpose of the Strategic Partnership. The SP Focal Points through their involvement in the Steering Committee and SPSC meeting's, will ensure continued country ownership of the project. Full contact details for the focal points are presented in Annex J. In addition a SP Country Support Programme, will be developed that will assist the SP Focal Points to effectively support the projects activities, and responsibilities will include to co-ordinate information exchange and participation in the project of national stakeholders including the MAP and RAC Focal Points, NGOs and CBO's and the general public.

<u>2) Co-ordination of public sector through the involvement of relevant focal points of MAP and its RACs</u>

All focal points from the countries governmental and institutional departments will be informed on a regular basis on project activities. These include the focal points for MAP, MEDPOL (for pollution control), SPA/RAC (biodiversity), REMPEC (marine pollution from ships), CP/RAC (cleaner production) and PAP/RAC (priority actions and coastal zone management). These focal points will be informed via the SP Focal Point, UNEP-MAP, the co-executing agencies (particularly SPA/RAC, PAP/RAC, CP/RAC and INFO/RAC) and through the activities under Component 4.2. Information and Communication Strategies.

<u>3) Involvement of civil society through activities of Component 5. NGO mobilization and small grants programme</u>

To ensure that the NGO community of the Mediterranean is fully involved in the SP, it was decided during the PDF-B phase to include activities regarding NGO mobilization (Activity 4.1.10), to be executed by MIO-ECSDE, the Federation of Mediterranean NGOs working on environment and sustainable development. The full description of activities to be undertaken are included in Annexes F and H.

4) Information disseminated to all key stakeholders through the activities of Sub-Component 4.3. Communication Strategy

Public opinion exerts pressure on governments and institutional stakeholders, as well as on the business/private sector, and therefore represents considerable added value to achieving full implementation of international and national legislation and developing new and more sustainable rules for economic development. In order to make the SP and its products more widely appreciated, particular attention will be devoted to the use and adaptation of modern information and communication approaches in line with the recent recommendations of the World Summit on Information Society. Exchange of information will be achieved through the development of an Intranet/Internet site and on-line magazine, the production of leaflets, brochures, etc. for selected audiences and the participation in yearly national and international environmental events.

5) Active participation of relevant stakeholders in the implementation of project activities and demonstration projects

As previously mentioned all activities and demonstration projects have been developed to include the participation of stakeholders at various levels in the design, implementation, dissemination and replication of actions. Below is a summary of some of the key stakeholders involved with each component.

Component 1. Integrated approaches for the implementation of the SAPS and NAPS: ICM, IWRM and management of coastal aquifers

Component 1 will involve a diverse number of stakeholders related to land, sea and freshwater management in the Mediterranean, therefore requiring strong co-ordination. These include stakeholders from a regional to local level and include national authorities, local authorities, the private sector, NGO's, international and regional organizations and concerned citizens. To assist UNESCO, GWP-MED and PAP/RAC in the co-ordination of public stakeholders, the SP, MAP and a number of other focal points will have a key role in co-ordinating ministries and institutions. As detailed in Annex F, a number of organizations will collaborate directly in the implementation of activities. Some of the key stakeholders already identified and involved in project activities include the following:

- The governments of the participating countries, with the environmental, water resources / irrigation and agricultural Ministries and/or authorities at national level and as appropriate,
- Governorates / regional authorities,
- National water partnerships,
- River Basin Organizations (and the Mediterranean Network of Basin Organizations – MENBO at the regional level) and similar organizations managing water at the watershed level, including international water commissions for shared water resources,
- Local authorities and municipalities, including MedCities at the regional level,
- Water users associations, including irrigators (and the Euro-Mediterranean Irrigators Communities – EIC at the regional level), industries and tourism development groups,
- Utilities and professional organizations, including the Mediterranean Water Institute (IME) at the regional level,

- Non-Governmental Organizations (NGOs), including the Mediterranean Information Office for Environment, Culture and Sustainable Development (MIO-ECSDE) and the Arab Office for Environment and Development (RAED) at the regional level,
- Academia and research centres, including OSS, ACSAD and CIHEAM at the regional level,
- Information systems on water, including the Euro-Mediterranean Information System on Know-How for Water (EMWIS) at the regional level,
- Journalist and the media at large, including the Circle of Mediterranean Journalist for Sustainable Development (COMJESD),
- Members of Parliaments and active politicians, including the Circle of Mediterranean Parliamentarians for Sustainable Development (COMPSUD),
- International and regional institutions and environmental convention secretariats and networks, including MedWet, Centre for Environment and Development in the Arab Region and Europe (CEDARE), IUCN Office for Mediterranean Cooperation, etc.
- Professionals and water experts, including the Arab Water Council at the regional level,
- Multi and bilateral donors active in the project countries,
- International and regional development banks, including World Bank, European Investment Bank, European Bank for Reconstruction and Development, Islamic Development Bank, etc.
- UN organizations, including UNDP, UN ESCWA, UN ECA, UN ECE, UNESCO and its programmes, etc
- The competent Regional Activity Centres of MAP/UNEP, including Blue Plan, PAP, SPA, INFO.
- Sub-category implementation partners: IGRAC, IGME, INWEB, Technical University of Turin with Italian University Team of Hydrogeologists.
- International and regional water resources /groundwater professional organizations, associations and networks; IHP international and regional networks/National IHP committees; IAH; national water resources professional associations
- EU regional cooperative partnership initiatives and water programs (e.g. ENP, EUWI, Petersburg and Athens process etc.), with cooperating Mediterranean and European Governments (i.e. Greece, Germany)

Component 2. Pollution from land-based activities, including persistent organic pollutants: implementation of SAP-MED and related NAPS

Overall the national authorities, local authorities, the private sector, NGO's and concerned citizens will be the main stakeholders participating in the project. A number of institutional, policy and legislative reforms necessary for the implementation of the SAP-MED NAPs will be identified and key to the success in drafting and adopting reforms will be the active involvement and agreements reached of the governments ministries and institutions at a national and local level. To assist MEDPOL and UNIDO in the co-ordination of public sector stakeholders, the SP, MAP and MEDPOL focal points will have a key role in co-coordinating communication between ministries and institutions, through the inter-ministerial committees, to be formed in each country at the beginning of the project. In addition all activities have been designed to be complementary with existing and planned activities on a national and regional level, therefore there will be close collaboration throughout the project implementation with various partners such as MEDPOL, the WB, GEF, IUCN, UNEP-GPA, UNDP, the EU and a number of other inter-governmental agencies previously discussed.[1]

Regarding the specific activities and demonstrations stakeholders will include the following:

[1] See section on "Other Activities relevant to the protection of the Mediterranean Sea"

- Phosphate fertilizer production companies (both national or private) at the selected demonstration sites
- Local leather tanneries at the selected demonstration sites
- The involvement of oil companies, local authorities, national co-coordinating institutions in the recycling of lubricating oil
- Industrial companies from all participating countries to participate in the adoption of emission limit values (ELV) for industrial effluents and environmental quality standards (EQS)
- The inspectorates within the national and local authorities of the participating countries in order to improve the permit, inspection and compliance systems
- Local authorities responsible for coastal solid waste management, local and national NGO's working on the management of marine litter and reduction of solid wastes
- Industries in selected countries to participate in the adoption of environmental sound technology, including BAT, cleaner production etc that will improve the environmental performance and productivity of industrial installations
- National electricity companies to participate in the management of PCB contaminated equipment, stocks and wastes in national electricity companies

Component 3. Conservation of biological diversity: implementation of SAP-BIO and related NAPS

Main stakeholders at the national level will be the relevant national institutions (Fisheries, Environment, Tourism and Transport), with scientific institutions and with nation-wide environmental NGOs. At the local level stakeholders included will be the local government, local delegations of national Ministries, fishermen, citizen groups, NGOs and other possible affected or beneficiary stakeholders. After a stakeholder analysis, multilateral meetings or local workshops will be organized, through the local and national authorities, to inform and consult about the MPA limits and zoning and regulations, and in a later phase, establishing a local advisory committee of representatives that may assist the MPA authorities thereafter. To assist SPA/RAC, FAO and WWF in the co-ordination of public sector stakeholders, SP, MAP and SPA/RAC focal points will have a key role in co-coordinating communication between ministries and institutions, through the inter-ministerial committees.

There will be close collaboration with various organizations and institutions working on biodiversity, MPAs and fisheries management in the Mediterranean region such as the UNESCO, EU/DG Environment, Organization international de la Francophonie, WWF, UNEP Regional Programme, MedWet, CFA, IUCN/EESP and WCPA programmes, ATEN, Conservatoire du littoral, Tour du Valat, Plan bleu, ACCOBAMS, Ramsar Convention, Council of Europe/Emerald network, FAO and GFCM

Regarding the management of MPA's, a specific activity has been developed for the thematic exchange for MPA managers and other stakeholders of existing MPAs which aims to develop the capacity of MPAs managers, practitioners and relevant authorities, in the eligible countries and to involve stakeholders in the MPA management. Stakeholders will include MPA fisheries management and fishermen, MPA tourism activities management and tourism operators, local decision makers and the local population.

REPUPLIQUE TUNISIENNE

MINISTERE DE L'ENVIRONNEMENT
ET DU DEVELOPPEMENT DURABLE

Direction Générale de l'Environnement et de la Qualité de la Vie

n°1478

29 SEPT 2005

TO : Mr. Paul MIFSUD

MAP COORDINATOR

Fax: 254-20-624618-624300

Subject: Endorsement of PDF Block Project entitled: Strategic Partnership for the Mediterranean Large Ecosystem-Regional Component- Implementation of agreed actions for the protection of the environmental resources of the Mediterranean Sea and its coastal areas.

Reference: Your correspondence of the 17th of June 2005.

Dear Mr. Mifsud,

Reference made the above mentioned PDF Block B proposal attached to your letter of the 17th of June 2005.

In my capacity as GEF Operational Focal Point, I am pleased to endorse the above mentioned project on behalf of my government for submission to the GEF Secretariat.

Signature

The GEF Operational Focal Point

LE DIRECTEUR GÉNÉRAL DE L'ENVIRONNEMENT ET DE LA VIE

UNEP COORDINATING UNIT OF THE MEDITERRANEAN ACTION PLAN
RECEIVED
-5 OCT 2005
ACTION ..... File .....
completed .....
acknowledged ..... info .....
no action required ..... ☐

REPUBLIC OF TURKEY
MINISTRY OF ENVIRONMENT AND FORESTRY
Department of Foreign Relations and EU

Ref.: 3532

20 Eylül 2006

F28-79-699

RE-ENDORSEMENT LETTER

UNEP CO-ORDINATING UNIT OF THE MEDITERRANEAN ACTION PLAN
RECEIVED
21 SEP 2006
ACTION..... Files.....
completed..... .....
acknowledged..... Info.....
no action required ☐ .....

Mr. Paul MIFSUD
UNEP/MAP Coordinator
Mediterranean Action Plan
Vassileos Konstantinou Ave., 48
11635 Athens
Greece
Tel: 30 210 7273122
Fax: 30 210 7253196

Re: The re-endorsement of "Strategic Partnership for the Mediterranean Large Marine Ecosystem – Regional Component – Implementation of agreed actions for the protection of the environmental resources of the Mediterranean Sea and its coastal areas" Project.

Dear Mr. Mifsud,

In my capacity as GEF Operational Focal Point of Turkey, I hereby re-endorse the above mentioned Project on behalf of my Government for submission to the GEF Secretariat. I am pleased to inform you that Turkey's allocation to this Project will be USD 80.000 per year and this makes the total allocation of USD 400.000 for the duration of five years.

We look forward to your kind consideration in this matter.

Sincerely,

Prof.Dr.Hasan Zuhuri SARIKAYA
GEF Operational Focal Point of Turkey

Prof.Dr. Hasan Zuhuri SARIKAYA
E-mail:mustesar@cevreorman.gov.tr
Fax:+90 312 207 63 03
Tel:+90 312 207 62 53
Address:Çevre ve Orman Bakanlığı
Söğütözü Cad. No:14/E 06560 Beştepe-Ankara

UNEP OCA/PAC
MEDITERRANEAN ACTION PLAN
RECEIVED
29 SEP 2006
ACTION..... Files.....
completed..... .....
acknowledged..... info..... 23 SEPT 2006
no action required ☐ .....

REPUBLIQUE TUNISIENNE

---❖---❖---❖---

MINISTERE DE L'ENVIRONNEMENT ET DU DEVELOPPEMENT DURABLE

---❖---❖---❖---

Le Point Focal du FEM

F28-90-711

Objet: Lettre d'endossement du Projet "The GEF Strategic Partnership for the Mediterranean Large Marine Ecosystem"

Monsieur,

J'ai le plaisir de vous confirmer, par la présente, l'intérêt que nous accordons à la mise en œuvre du projet "The GEF Strategic Partnership for the Mediterranean Large Marine Ecosystem". Ce projet permettra, certes, de conjuguer les efforts des pays méditerranéens et contribuera à la consolidation de tous les efforts déployés dans le domaine de la protection de l'environnement et la préservation des ressources naturelles de la Méditerranée, notamment par le biais des Plans d'Action Stratégiques pour la protection de la Méditerranée contre la pollution d'origine terrestre (PAS MED) et pour la préservation et le développement de la Diversité biologique marine (PAS BIO).

Néanmoins, et eu égard à la limitation des allocations accordées par le Fonds de l'Environnement Mondial à la Tunisie par le Dispositif d'Allocation des Ressources (RAF), le montant total attribué à l'exécution des activités du projet dans le domaine de la biodiversité ne pourra pas dépasser 200 milles USD pour la totalité de la période du projet.

Egalement, une concertation plus élargie avec tous les partenaires s'avèrerait très utile pour mieux identifier les moyens qui pourraient être engagés à l'échelle nationale pour la mise en œuvre du projet. Ces informations vous seront communiquées dans les plus brefs délais.

En comptant fortement sur votre collaboration pour la bonne mise en œuvre du projet en Tunisie, nous vous prions de bien vouloir agréer nos meilleurs remerciements.

LE POINT FOCAL NATIONAL DU FEM

Le Directeur Général de l'Environnement et de la Qualité de la Vie

Dali Najeh

Najeh DALI
Directeur Général de l'Environnement
et de la Qualité de la Vie

Mr Paul MIFSUD
Co-ordinateur PNUE/PAM
Vas.Konstantinou Avenue, 48, P.O Box 18 019,
ATHEN 116 10, GREECE
Fax: + 30 210 7253196-7

F28-81-701

UNEP CO-ORDINATING UNIT OF THE MEDITERRANEAN ACTION PLAN
RECEIVED
22 SEP 2006
ACTION..... Files.....
completed..... .....
acknowledged..... Info.....
no action required ☐ .....

ROYAUME DU MAROC

MINISTERE DE L'AMENAGEMENT DU TERRITOIRE DE L'EAU ET DE L'ENVIRONNEMENT

SECRETARIAT GENERAL

DIRECTION DU PARTENARIAT, DE LA COMMUNICATION ET DE LA COOPERATION

المملكة المغربية
وزارة إعداد التراب الوطني
و الماء و البيئة
الكتابة العامة
مديرية الشراكة و التواصل و التعاون

1590/6100

21 SEP. 2006

To : Pr Paul Mifsud
Coordinator
Mediterranean Action Plan
Vassileos Konstantinou, 48
11635 Athens
Greece

SUBJECT : Endorsement letter for the Project « Strategic Partnership for the Mediterranean Sea Large Marine Ecosystem- Regional Component : Implementation of agreed actions for the protection of the environmental resources of the Mediterranean Sea and its coastal areas.

Dear Mr. Mifsud,

In my capacity as GEF Operational Focal Point, I am pleased to endorse the above mentioned project. Morocco considers this project as an important tool for the protection and sustainable development of the Mediterranean marine and coastal area.

Due to the new Resources Allocation Framework program approved by GEF for the fourth replenishment of the GEF Trust Fund, we are not in position to allocate any financial resources for the moment from the Moroccan allocation in the biodiversity focal area.

We look forward to your kind consideration in this matter.

Sincerely,

Le Directeur du Partenariat, de la Communication et de la Coopération

Signé : Taha BALAFREJ

Mr Taha BALAFREJ
GEF, Operational Focal Point

4 place Abou Baker Esseddik, Avenue Fal Ould Amir – Agdal - RABAT
Tél : 212-37-77 27 59 / Fax : 212-37-77 26 40 Email : dpcc@minenv.gov.ma

F28-76-696

Republic of Montenegro
Government of the Republic of Montenegro
Ministry of Environmental Protection
and Physical Planning

Ref/No. 04-3093/05-2
Podgorica, 14.09.2005

Mr. Alex Lascaratos
GEF/PDF-B Project manager
Mediterranean Action Plan
Vassileos Konstantinou 48
11 635 Athens
Greece

Subject: Re-endorsement of the GEF project entitled: Strategic Partnership for the Large Marine Ecosystem

Dear Mr. Lascaratos,

Reference is made to the above mentioned GEF project attached to Your letter of 11 September 2006.

In my capacity as the GEF Operational Focal Point for Montenegro, I am pleased to re-endorse the above mentioned project for submission to the GEF Council.

Respectfully,

MINISTER
Boro Vučinić

REPUBLIC OF CROATIA
MINISTRY OF ENVIRONMENTAL
PROTECTION AND PHYSICAL PLANNING
10000 Zagreb, Croatia, Ulica Republike Austrije 20
Phone: +385 1 3782-444 Fax: +385 1 3772-822

UNEP CO-ORDINATING UNIT OF THE
MEDITERRANEAN ACTION PLAN
RECEIVED
19 SEP 2006
ACTION..... Files.....
completed.....
acknowledged..... info.....
no action required ☐ .....

Class: 018-04/06-09/7
Reg. No: 531-09-2-05-2

Zagreb, 14 September 2006

F28-78-698

Mr. Paul Mifsud
Coordinator
Mediterranean Action Plan
48, Vas. Konstantinou Ave.
11635 Athens, Greece

Subject: **GEF Strategic Partnership for the Mediterranean Large Ecosystems – Regional Component – Implementation of agreed actions for the protection of the environmental resources of the Mediterranean Sea and its coastal areas**

Dear Mr. Mifsud,

In accordance with the newly established GEF Resource Allocation Framework, in our capacities of GEF Focal Points, we hereby re-endorse the Project proposal: **Strategic Partnership for the Mediterranean Large Ecosystems – Regional Component – Implementation of agreed actions for the protection of the environmental resources of the Mediterranean Sea and its coastal areas.**

We find it important to mention that, out of the allocation available to Croatia for Biodiversity, we wish to utilize the amount of 80.000 USD per year throughout five years of the project's duration, or 400.000 USD in total for the biodiversity component of this project.

Sincerely yours,

Nikola Ružinski
GEF Political Focal Point

Gordana Ruklić
GEF Operational Focal Point

REPUBLIKA HRVATSKA
MINISTARSTVO ZAŠTITE OKOLIŠA, PROSTORNOG UREĐENJA I GRADITELJSTVA
ZAGREB

Ministry of Environmental
Protection, Physical Planning and Construction
Republic of Croatia

BOSNA I HERCEGOVINA
MINISTARSTVO VANJSKE TRGOVINE I
EKONOMSKIH ODNOSA

БОСНА И ХЕРЦЕГОВИНА
МИНИСТАРСТВО СПОЉНЕ ТРГОВИНЕ И
ЕКОНОМСКИХ ОДНОСА

BOSNIA AND HERZEGOVINA
MINISTRY OF FOREIGN TRADE AND ECONOMIC RELATIONS

GEF FOCAL POINT

Broj: 06-03-_____/06
Sarajevo, 21.09.2006. godine

F28-82-702

TO: Mr. Paul Mifsud,
Coordinator, Mediterranean Action Plan
UNEP – United Nations Environmental Programme
Coordinating Unit for the Mediterranean Action Plan
48, Vassileos Konstantinou Ave.
11635 Athens, Greece

UNEP CO-ORDINATING UNIT OF THE MEDITERRANEAN ACTION PLAN
RECEIVED
27 SEP 2006
ACTION..... Files.....
completed..... .....
acknowledged..... info.....
no action required ☐ .....

CC: Mr. Alex Lascaratos
GEF/PDF-B Projecat Manager
MAP/UNEP
48, Vassileos Konstantinou Ave.
11635 Athens, Greece

Subject: ***Re-endorsement for PDF-B Project "Strategic Partnership for the mediterranean Large Ecosystems – Regional Component – Implementation of agreed actions for the protection of the environmental resources of the mediterranean Sea and its coastal areas"***

Dear Mr. Mifsud,

Reference is made to request for the endorsement of the above mentioned PDF – B project proposal attached on e-mail on 13.September 2006.

On behalf of the Government of Bosnia and Herzegovina and in my capacity as GEF Operational Focal oint, hereby I am pleased to endorse the PDF – B Project "Strategic Partnership for the mediterranean Large Ecosystems – Regional Component – Implementation of agreed actions for the protection of the environmental resources of the mediterranean Sea and its coastal areas".

Please Sir accept the accept the assurance of my highest consideration.

Sincerely Yours,

Senad Oprašić, Ph.D.
GEF Operational Focal Point

Adresa: Musala br. 9, 71000 Sarajevo; Tel./fax: ++387 33 552-365

الجمهورية الجزائرية الديمقراطية الشعبية

Ministère de l'Aménagement du Territoire et de l'Environnement

وزارة تهيئة الإقليم و البيئة

REF. N: 070/IGE

INSPECTION GENERALE DE L'ENVIRONNEMENT

F28-77-697

UNEP CO-ORDINATING UNIT OF THE MEDITERRANEAN ACTION PLAN
RECEIVED
14 SEP 2006
ACTION..... Files.....
completed.....
acknowledged..... info.....
no action required ☐ .....

2006 سبتمبر 14

To Mr. Paul Mifsud
Coordinator
Mediterranean Action Plan
MAP/UNEP
Athens-Greece

Subject : (Re)Endorsement of PDF Block B Project proposal for the Mediterranean Large Marine Ecosystems.

Dear Mr Mifsud,

On behalf of the Government of Algeria and in my capacity as GEF Operational Focal Point, I am pleased to (re)endorse the request of funding for the above mentioned PDF Block B Project proposal entitled : "GEF Strategic Partnership for the Mediterranean Large Marine Ecosystems"(GEF International Waters, Biodiversity, Climate Change, POP'S and Land Degradation focal areas),for submission to the GEF Secretariat, and to allocate 80 000USDper year to this project .

Sincerely yours

Mr. Djamel Echirk
GEF Operational Focal Point
Ministére de l'Aménagement du Territoire et de l'Environnement
ALGERIA

REPUBLIC OF ALBANIA
MINISTRY OF ENVIRONMENT, FORESTS AND WATERS ADMINISTRATION

F28-75-695

Tirana, on ___.___.2006

To: Mrs. Monique Barbut
Chief Executive Officer and Chairperson
Global Environmental Facility

SUBJECT: Endorsement letter for RAF Albania

Dear Mrs. Barbut,

I take the advantage of this opportunity to thank you for the work done in informing us about the fourth replenishment of the GEF Trust Fund and in the same time let me express my thanks and gratitude for the excellent document elaborated by your staff regarding the RAF.

Based on the existing information received on the budget limits for Albania in two focal areas (biodiversity and climate change) for the next replenishment period of the GEF (July 1, 2006 – June 30, 2010),
and taking into accounts the country priorities approved by the government and in the letter endorsement sent for the project proposal presented,
I am pleased to reconfirm to the following project:

Biodiversity conservation
1. WB/GEF MSP "Butrinti National Park: Biodiversity and Global Heritage Conservation" – estimated budget 0.95 US$
2. WB/GEF MSP "Conservation and Sustainable Management of Karavasta Lagoon" – estimated budget 0.95 US$
3. UNEP/GEF MSP "Implementation of National Biosafety Frameworks" - estimated budget 0.95 US$

Climate change
1. UNDP/GEF MSP "Market Transformation for Solar Thermal Heating" – estimated budget 0.95 US$

Address: Rruga e Durrësit, Nr.27,Tirana, Tel:+ 3554270630, Fax:+3554270627, www.moe.gov.al

2. UNDP/GEF MSP "Support Sustainable Transport System in key urban areas" – estimated budget 0.95 US$
3. UNDP/GEF MSP "Removing barriers for expansion of Energy Efficient housing in Albania" – estimated budget 0.95 US$

We would like also to inform you that the need for additional fund allocation to SGP country Program from RAF was brought up to our intention by the SGP country National Coordinator. Based on our understanding and appreciation for the important role that SGP plays in assisting local communities and civil society to contribute to environmental management at the local level, we are pleased to earmark funds from RAF country allocation accordingly. In my capacity as GEF-Operational Focal Point in Albania I hereby agree that an annual allocation to SGP from RAF will be included as US$ 140,000 for each focal area of Biodiversity and Climate Change. This makes the total allocation for SGP country program for the upcoming (GEF- 4) four year replenishment period to US$ 280,000 (70 thousand US Dollars per year shared by each focal area).

Based on the proposed projects mentioned and the Resources Allocation Framework, Albania is near completing the budget allocated for the 4th replenishment. For the future possible cooperation with GEF, we are including in this letter also two other proposal as potential project to be foreseen for any future budget reallocated to Albania:

1. UNDP/GEF "Strengthening National Capacities for sustainable management and conservation of Marine Biodiversity;
2. UNDP/GEF "Mainstreaming Biodiversity management consideration into Medicinal and Aromatic Plants Production Processes.

Looking forward to a fruitful cooperation,
Sincerely,

Pellumb ABESHI

GEF Operational Focal Point - ALBANIA

Address: Rruga e Durrësit, Nr.27,Tirana, Tel:+ 3554270630, Fax:+3554270627, www.moe.gov.al

UNEP CO-ORDINATING UNIT OF THE MEDITERRANEAN ACTION PLAN
RECEIVED
21 SEP 2006
ACTION..... Files.....
completed.....
acknowledged..... info.....
no action required ☐ .....

REPUBLIC OF ALBANIA
MINISTRY OF ENVIRONMENT, FORESTS AND WATERS ADMINISTRATION

F28-80-700

Tirana, on 20.9.**2006**

To: Mr Paul Mifsud
Coordinator
Mediterranean Action Plan
Vassileos Konstantinou, 48
11635 Athens
Greece

SUBJECT: Endorsement letter for the Project "Strategic Partnership for the Mediterranean Sea Large Marine Ecosystem - Regional Component: Implementation of agreed actions for the protection of the environmental resources of the Mediterranean Sea and its coastal areas

Dear Mr. Mifsud,

In my capacity as GEF Operational Focal Point, I am pleased to endorse the above mentioned project on behalf of the Ministry of Environment, Forest and Water Administration for submission to the GEF Secretariat. Albania considers this project as an important tool for the protection and sustainable development of the marine and coastal area.

Due to the new Resources Allocation Framework program approved by GEF for the fourth replenishment of the GEF Trust Fund we are not in position to allocate any financial resources for the moment from the Albanian budget.

Pellumb ABESHI

GEF Operational Focal Point

REPUBLIKA E SHQIPERISE MINISTRIA E MJEDISIT, PYJEVE DHE ADMINISTRIMIT TE UJERAVE TIRANE

Address: Rruga e Durrësit, Nr.27,Tirana, Tel:+ 3554270630, Fax:+3554270627, www.mpe.gov.al

MEDITERRANEAN ACTION PLAN
RECEIVED
-4 OCT 2005
ACTION ..... Files .....
acknowledged ..... info. .....

الجمهورية الجزائرية الديمقراطية الشعبية

REPUBLIQUE ALGERIENNE DEMOCRATIQUE ET POPULAIRE

MINISTERE DE L'AMENAGEMENT DU TERRITOIRE
ET DE L'ENVIRONNEMENT

وزارة تهيئة الإقليم و البيئة

2005 سبتمبر 17

المفتش العام للبيئة

INSPECTEUR GENERAL
DE L'ENVIRONNEMENT

To Mr. Paul Mifsud
Coordinator
Mediterranean Action Plan
MAP/UNEP
Athens-Greece

REF: N° 16/IGE

Subject: Endorsement of PDF Block B Project proposal for the Mediterranean Large Ecosystems.

Dear Mr Mifsud

On behalf of the Government of Algeria and in my capacity as GEF Operational Focal Point, I am pleased to endorse the request of funding for the above mentioned PDF Block B Project proposal entitled:"Strategic Partnership for the Mediterranean Large Ecosystems- Regional Component- Implementationof agreed actions for the protection of the environmental resources of the Mediterranean Sea and its coastal areas,for submission to the GEF Secretariat.

Sincerely yours

Mr. Djamel Echirk
GEF Operational Focal Point
Ministere de l'Amenagement du Territoire et de l'Environnement
ALGERIA

State of Palestine
Environment Quality Authority
EQA

دولـــــة فلســطــين
ســلــطـــة جـــــودة الـبـيـئـة

No. : 884/2005
Date : 25/07/2005

الرقـم :
التاريخ :

UNEP CO-ORDINATING UNIT OF THE MEDITERRANEAN ACTION PLAN
RECEIVED
- 8 AUG 2005
ACTION FSC/FA/SLB/ Files
completed
acknowledged info.
no action required

Mr. Paul Mifsud
coordinator
UNEP/MAP
Athens-Greece

Fax: +30-210-7253196/7

Subject: Strategic Partnership for Mediterranean Sea Large Marine Ecosystem

Dear Mr. Mifsud,

The Palestinian Environment Quality Authority (EQA) would like to extend its appreciation and gratitude to the GEF, World Bank and UNEP for their continuous instrumental support to the Palestinian people.

With reference to the above mentioned subject, the Palestinian Environment Quality Authority (EQA) has the pleasure to join this Strategic Partnership. The protection of the marine ecosystem is considered one of the top priorities within our strategy.

This significant partnership will enable EQA to promote and induce policy, legal and institutional reforms aimed at reversing marine and coastal degradation trends and living resources depletion.

It will also strength the Palestinian monitoring and enforcement capabilities of our institutions; and establishes technical mechanisms for supporting transboundary pollution prevention and abatement originating in the coastal areas of the Mediterranean Sea.

Thank you and please accept the assurance of our highest considerations.

Sincerely Yours,

Y. Abu Safieh

Minister, Dr. Yousef Abu Safieh,
Chairman of Environment Quality Authority

السلطة الوطنية الفلسطينية
سلطة جودة البيئة
مكتب الوزير

Palestine - Gaza - Elnasser - Elthawra St.
Tel: 08-2822000/2823000 Fax: 08-2847198
Ramallah - AlBeirah - Alsharafeh
Tel:02-2403495/6-7-8 Fax: 02-2403494
E-mail: environment@gov.ps

فلسطين - غزة - تقاطع شارع النصر مع شارع الثورة
هاتف: 08-2823000/2822000 فاكس: 08-2847198
البيرة - حي الشرفة
هاتف: 02-2403495/6-7-8 فاكس: 02-2403494

BOSNA I HERCEGOVINA
Ministry of Foreign Trade and Economic Relations
GEF National Focal Point

No: 06-03-50-6326-1 /05

Date: 15.07.2005.

UNEP CO-ORDINATING UNIT OF THE MEDITERRANEAN ACTION PLAN
RECEIVED
22 AUG 2005
ACTION ..... Files .....
completed .....
acknowledged ..... info. .....
no action required ..... ☐ .....

Mr. Paul Mifsud
Coordinator, Mediterranean Action Plan
UNEP-United Nations Environment Programme
Coordinating Unit for the Mediterranean Action Plan
48,Vassileos Konstantinou Ave.
11635 Athens, Greece

Subject: Endorsement for PDF Block B Project "Strategic Partnership for the Mediterranean Large Ecosystems-Regional Component-Implementation of agreed actions for the protection of the environmental resources of the Mediterranean Sea and its coastal areas"

Dear Mr. Mifsud,

Reference is made to your request for endorsement of the above-mentioned PDF Block B Project proposal attached to your letter dated 17 June 2005.

On behalf of the Government of Bosnia and Herzegovina and in my capacity as GEF Operational Focal Point, hereby I am pleased to endorse the PDF Block B Project "Strategic Partnership for the Mediterranean Large Ecosystems-Regional Component-Implementation of agreed actions for the protection of the environmental resources of the Mediterranean Sea and its coastal areas".

Please Sir accept the assurance of my highest consideration.

Sincerely Yours,

Minister

Dragan Doko
GEF Operational Focal Point

Address: Musala 9, Sarajevo; Tel/Fax: (387 33) 47 31 23; 44 59 11

BOSNA I HERCEGOVINA
Ministarstvo vanjske trgovine i ekonomskih odnosa
GEF Nacionalni Fokal Point

Br: 06-03-50-6926-1 /05

Datum: 15.07.2005.

Mr. Paul Mifsud
Coordinator, Mediterranean Action Plan
UNEP-United Nations Environment Programme
Coordinating Unit for the Mediterranean Action Plan
48,Vassileos Konstantinou Ave.
11635 Athens, Greece

Predmet: Odobrenje za PDF blok B projekta "Strateško partnerstvo za mediteranske velike eko-sisteme-regionalna komponeneta- Implementacija dogovorenih aktivnosti za zaštitu okolinskih resursa Mediteranskog mora i njegovog obalnog područja"

Poštovani gospodine,

Ovim odgovaramo na vaš zahtjev za odobrenjem gore pomenutog PDF blok B prijedloga projekta priloženog u vašem dopisu od 17 juna 2005.

U ime Vlade Bosne i Hercegovine i u svojstvu GEF operativnog fokal pointa, ovim sa zadovoljstvom odobravam PDF blok B projekt "Strateško partnerstvo za mediteranske velike eko-sisteme-Regionalna komponeneta- Implementacija dogovorenih aktivnosti za zaštitu okolinskih resursa Mediteranskog mora i njegovog obalnog područja".

S poštovanjem,

Ministar

Dragan Doko
GEF Operativni Fokal Point

Adresa: Musala 9, Sarajevo; Tel/Fax: (387 33) 47 31 23; 44 59 11

Arab Republic of Egypt
Cabinet of Ministers
Ministry of State for Environmental Affairs
Egyptian Environmental Affairs Agency

جمهورية مصر العربية
رئاسة مجلس الوزراء
وزارة الدولة لشئون البيئة
جهاز شئون البيئة

Code:123 / /

Cairo, 18 July, 2005

Paul Misfsud
Coordinator
Mediterranean Action plan

Subject: Endorsement of PDF Block B project entitled : strategic Partnership for the Mediterranean Large Ecosystems-Regional Component- Implementation of agreed actions for the protection of the environmental resources of the Mediterranean Sea and its Coastal areas.

Dear Mr Mifsud,

Reference is made to the above mentioned PDF Block B Project proposal attached to you letter dated 17 June2005.

In my capacity as GEF Operational Focal Point, I am pleased to endorse the above mentioned project on behalf of my Government for submission to the GEF Secretariat.

Sincerely,
M. S. Khalil
Dr. M. S. Khalil
GEF Operational Focal Point
Chief Executive Officer

UNEP CO-ORDINATING UNIT OF THE MEDITERRANEAN ACTION PLAN
RECEIVED
21 JUL 2005
ACTION..... Files.....
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٣٠ طريق مصر حلوان الزراعى – خلف فندق سوفيتل المعادى – القاهرة الرقم البريدى ١١٧٢٨ ت : ٥٢٥٦٤٥٢ فاكس : ٥٢٥٦٤٩٠
30.Misr Helwan El-Zyrae Rd., Maadi - Cairo Egypt. P. O. 11728 Tel.: 5256452 - Fax : 5256490

Syrian Arab Republic
Ministry of Local Administration and Environment

الجمهورية العربية السورية
وزارة الإدارة المحلية والبيئة

UNEP CO-ORDINATING UNIT OF THE MEDITERRANEAN ACTION PLAN
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14 JUL 2005
ACTION..... Res.....
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To: Mr. Paul Mifsud
Coordinator, Mediterranean Action Plan
Vassileos Konstantinou, 48
11635 Athens
Greece
Fax: +30 210 7253196/7

From: Eng. Imad Hassoun
Deputy Minister of Local Administration and Environment
Tel-fax :+ 963 11 3316104
E-Mail: imadh@gmx.net , imadhassoun51@yahoo.co.uk

Subject: Endorsement of PDF Block B Project entitled: Strategic Partnership for the Mediterranean Large Ecosystems – Regional Component – Implementation of agreed actions for the protection of the environmental resources of the Mediterranean Sea and its coastal area.

Date:13.7.2005

Dear Mr. Mifsud,

Reference is made to the above mentioned PDF Block B Project proposal attachment to your letter dated 17 June 2005

In my capacity as GEF Operational Focal Point, I am pleased to endorse the above mentioned project on behalf of my Government for submission to the GEF Secretariat.

I looking to hearing from you very soon

With best regards

Yours sincerely

Deputy Minister of Local Administration and Environment
GEF Operational Focal Point

Eng. Imad Hassoun

Syria, Damascus, Mazraa. Eman Mosque Seq. Joul Jammal Str P.O. Box 3773, Telefax:+ 963 11 3316104
Deputy Minster of Local Administration and Environment/ GEF Operational Focal Point. E-mail: imadh@gmx.net

REPUBLIC OF TURKEY
MINISTRY OF ENVIRONMENT AND FORESTRY
Department of Foreign Relations and EU

Ref.: 2484

Ankara, 11.11.2005

ENDORSEMENT LETTER

Mr. Paul Mifsud
Coordinator
Mediterranean Action Plan
Vassileos Konstantinou, 48
11635 Athens
Greece

Subject: Endorsement of PDF Block B Project entitled: Strategic Partnership for the Mediterranean Large Ecosystems – Regional Component – Implementation of agreed actions for the protection of the environmental resources of the Mediterranean Sea and its coastal areas.

Dear Mr. Mifsud,

Reference is made to the above mentioned PDF Block B Project Proposal attached to your letter of 17 June 2005.

In my capacity as GEF Operational Focal Point, I am pleased to endorse the above mentioned Project on behalf of my Government for submission to the GEF Secretariat.

We look forward to your kind consideration in this matter.

Sincerely,

Prof.Dr.Hasan Zuhuri SARIKAYA
Undersecretary of Environment and Forestry
GEF Operational Focal Point of Turkey

Prof.Dr.Hasan Zuhuri SARIKAYA
E-mail:mustesar@cevreorman.gov.tr
Fax:+90 312 417 02 37
Tel:+90 312 425 12 85-418 32 47
Address:Çevre ve Orman Bakanlığı
Atatürk Bulvarı no:113 Bakanlıklar/Ankara

UNEP CO-ORDINATING UNIT OF THE MEDITERRANEAN ACTION PLAN
RECEIVED
12 JUL 2005
ACTION FSC Files
completed
acknowledged info
no action required ☐

REPUBLIC OF ALBANIA
MINISTRY OF ENVIRONMENT

Rruga Durresi, Nr. 27, Tirana , Tel. +355 42 70 623 Fax. +355 42 70 623

Date: 11 07. 2005

Subject: Endorsement of PDF Block B Project entitled: Strategic Partnership for the Mediterranean Large Ecosystems – Regional Component- Implementation of agreed actions for the protection of the environmental resources of the Mediterranean Sea and its coastal areas.

Dear Mr. Mifsud,

Reference is made to the above mentioned PDF Block B Project proposal attached to your letter of 17 June 2005 for the letter of endorsement by the Albanian GEF authority.

In my capacity as GEF Operational Focal Point, I am pleased to endorse the above mentioned project on behalf of the Ministry of Environment for submission to the GEF Secretariat. Albania considers this project as an important tool for the protection and sustainable use of the marine and coastal area.

Pellumb ABESHI

The GEF Operational Focal Point

REPUBLIKA E SHQIPERISE MINISTRIA E MJEDISIT TIRANE

Mr Paul Mifsud
Coordinator
Mediterranean Action Plan
Vassileos Konstantinou, 48
11635 Athens
Greece

REPUBLIC OF CROATIA
MINISTRY OF ENVIRONMENTAL
PROTECTION AND PHYSICAL PLANNING
10000 Zagreb, Croatia, Ulica Republike Austrije 20
Phone: +385 1 3782-444 Fax: +385 1 3772-822

Class: 018-04/05-09/3
Reg. No: 531-09-2-05-2

Zagreb, 4 July 2005

Mr. Paul Mifsud
Coordinator
Mediterranean Action Plan
48, Vas. Konstantinou Ave.
11635 Athens, Greece

Subject: Endorsement of PDF Block B Project: **Strategic Partnership for the Mediterranean Large Ecosystems – Regional Component – Implementation of agreed actions for the protection of the environmental resources of the Mediterranean Sea and its coastal areas**

Dear Mr. Mifsud,

Thank you for your letter of 17 June 2005 and the attached PDF Block B Project proposal: **Strategic Partnership for the Mediterranean Large Ecosystems – Regional Component – Implementation of agreed actions for the protection of the environmental resources of the Mediterranean Sea and its coastal areas.**

On behalf of the Government of the Republic of Croatia and in our capacities of GEF Focal Points, we hereby endorse this Proposal for submission to the GEF Secretariat.

Sincerely yours,

Nikola Ružinski
GEF Political Focal Point

Gordana Ruklić
GEF Operational Focal Point

REPUBLIKA HRVATSKA MINISTARSTVO ZAŠTITE OKOLIŠA, PROSTORNOG UREĐENJA I GRADITELJSTVA ZAGREB

Ministry of Environmental
Protection, Physical Planning and Construction
Republic of Croatia

Republic of Montenegro
Government of the Republic of Montenegro
Ministry of Environmental Protection and Physical Planning

Date: 04. 07 2005.
Ref/No: 04-3093/05

Mr. Paul Mifsud
Coordinator
Mediterranean Action Plan
Vassileos Konstantinou, 48
11635 Athence
Greece

Subject: Endorsment of PDF Block B Project entitled: Strategic Partnership for the Mediterranean Large Ecosystems-Regional Component-Implementation of agreed actions for the protection of the environmental resources of the Mediterranean Sea and its coastal areas

Dear Mr. Mifsud,

Reference is made to the above mentioned PDF Block B Project Proposal attached to your letter of 17th June 2005.

In my capacity as the GEF Operational Focal Point for Serbia and Montenegro, I am pleased to endorse the above mentioned project for submission to the GEF Secretariat.

Respectfully,

MINISTER
Branko Vučinić

UNEP CO-ORDINATING UNIT OF THE MEDITERRANEAN ACTION PLAN
RECEIVED
07 JUL 2005
ACTION.....SC..... Files.....
completed.....
acknowledged..... info.....
no action required ☐ .....

Royaume du Maroc
Ministère de l'Aménagement du Territoire
de l'Eau et de l'Environnement
Secrétariat Général
Direction du Partenariat, de la Communication
et de la Coopération

001637

30 JUIN 2005

المملكة المغربية
وزارة إعداد التراب الوطني
و الماء و البيئة
الكتابة العامة
مديرية الشراكة والتواصل
والتعاون

Endorsement letter

Object : ***Endorsement of PDF Block B Project entitled : Strategic Partnership for the Mediterranean Large Ecosystems - Regional Component- Implementation of agreed actions for the protection of the environmental resources of the Mediterranean Sea and its coastal areas.***

Reference : Your letter of 17 June 2005

Dear Mr MISFUD,

Reference is made to the above mentioned PDF Block B Project proposal attached to your letter of 17 June 2005.

In my capacity as GEF Operational Focal Point, I am pleased to endorse the above mentioned project on behalf of my Government for submission to the GEF Secretariat.

Signature

The GEF Operational Focal Point

Le Directeur du Partenariat, de la Communication et de la Coopération
Signé : Taha BALAFREJ

01 JUL 2005

ACTION ... files
completed ...
acknowledged ... info
no action required

Mr Paul Mifsud
Coordinator
Mediterranean Action Plan
Vassileos Konstantinou, 48
11635 Athens
Fax : +30 210 72 53 196
Greece

الديمقراطية
هو رقابة الشعب
على نفسه

الجماهيرية العربية الليبية الشعبية الاشتراكية العظمى
اللجنة الشعبية العامة
الهيئة العامة للبيئة

2005/6/23

الرقم الاشاري هـ . ع . ب /
ملف رقم /

Subject: Endorsement of PDF Block B Project entitled: Strategic Partnership for the Mediterranean Large Ecosystems – Regional Component-Implementation of agreed actions for the protection of the environmental resources of the Mediterranean Sea and its coastal areas.

Dear Mr. Paul Mifsud,
Coordinator
Mediterranean Action Plan

Reference is made to the above mentioned PDF Block B Project proposal attached to your letter of 17 June 2005.

In my capacity as GEF Operational Focal Point, I am pleased to endorse the above mentioned project on behalf of my Government for submission to the GEF Secretariat, such endorsement should help us to obtain assistance to my country from such project.

Signature
Dr. Mohamed M. Amer
The GEF Operational Focal Point
23/6/2005

العنوان : الفرجان – طرابلس ص . ب 5618 – هاتف 5600013 – برقياً مصور 5600011 – بريد الكتروني 5600015
شفري هاتف 5600050 – 5600060 برقياً مصور 5600047 – المشتراة هاتف 5600025 برقياً مصور 5600021
الجبل الأخضر هاتف 5600187 برقياً مصور 5600067

F28-48-512

REPUBLIC OF LEBANON
MINISTRY OF ENVIRONMENT

DIRECTORATE GENERAL OF ENVIRONMENT

Beirut, 10 May 2006

Our Ref: 1953/B

TO : Mr. Alex Lascaratos
GEF/PDF-B Project Manager
MAP/ UNEP

Fax no : (30210) 725 31 96/7

Subject: Nomination of National Focal Point for the GEF Strategic Partnership for the Mediterranean Large Marine Ecosystem.

Dear Mr. ~~Lascaratos~~, Alex

The Directorate General of Environment (DGoE) would like to seize this opportunity to acknowledge the continuous support of the Global Environment Facility especially its implementing agency the United Nations Environment Programme to environmental activities in Lebanon.

After reviewing the project document by the concerned services at DGoE, and since this project covers two major sub-components: the first deals with the SAP-BIO, while the other deals with the SAP-Med, and for a better and comprehensive coordination to assure that the proper data information is conveyed to the project implementation, thus favoring its integration within the national policies, the DGoE nominates:

1- The **"Service of Conservation of Nature"** to follow-up on activities falling under **SAP-BIO.**

2- The **"Service of Protection of Urban Environment"** to follow-up on activities falling under **SAP-Med.**

Kindly note that these two services, which could be reached on the below-mentioned addresses, will ensure internally a better coordination for the sake of this project.

1-Service of Conservation of Nature

Directorate General of Environment
Ministry of Environment
P.O.Box: 11-2727
Beirut, Lebanon

Tel: +(961)-1-976 555 ext: 417
Fax: +(961)-1-976 530
e-mail:scn@moe.gov.lb

REPUBLIC OF LEBANON
MINISTRY OF ENVIRONMENT

DIRECTORATE GENERAL OF ENVIRONMENT

2-Service of Protection of Urban Environment

Directorate General of Environment
Ministry of Environment
P.O.Box: 11-2727
Beirut, Lebanon

Tel: +(961)-1-976 555 ext: 510
Fax: +(961)-1-976 530
e-mail:spue@moe.gov.lb

The Directorate General of Environment recognizes the importance of this project, which is in full synergy with the national priorities set by the Barcelona Convention and its relative Protocols giving special recognition to the protection, and sustainable management of the Mediterranean Sea.

We look forward for continuous cooperation between the UNEP and the Directorate General of Environment.

Sincerely yours,

Best Regards

Republic of Lebanon
Minister

Berj Hatjian Ph.D.
Director General

Cc: Mrs Lina Yamout, Acting Chief of Service: Protection of Urban Environment, DGoE
Miss Lamia Chamas, Acting Chief of Service: Conservation of Nature, DGoE
Mrs. Nancy Khoury, Acting Head of Division: Public Relations & External Affairs, DGoE

NK

ANNEX M

MEDITERRANEAN COUNTRIES' NEEDS FOR LEGAL, POLICY AND INSTITUTIONAL REFORMS TO STRENGTHEN THE MANAGEMENT OF EXISTING MARINE PROTECTED AREAS

Phase 1. Preliminary baseline study[1]

Table of Contents

[1] SPA-RAC, 30 April 2006

Abbreviations

ACCOBAMS	Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area
Barcelona Convention	Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean
Bern Convention	Convention on the Conservation of European Wildlife and Natural Habitats (Bern, 1979)
CBD	Convention on Biological Diversity
CFP	Community Fisheries Policy
COP	Conference of the Parties
EEZ	Exclusive economic zone
EU	European Union
FAO	United Nations Food and Agriculture Organisation
GEF	Global Environment Facility
Habitats Directive	Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Council Directive 92/43/EEC of 21 May 1992)
ICCAT	International Commission for the Conservation of Atlantic Tunas (Rio de Janeiro, 14 May 1966)
IMO	International Maritime Organization
IUCN	The World Conservation Union
MedPAN	Mediterranean Protected Areas Network
MPA	Marine Protected Area
n.m.	Nautical mile
PSSA	Particularly Sensitive Sea Area
RAC/SPA	Regional Activity Centre for Specially Protected Areas, Tunis
SAC	Special Area of Conservation
SAP BIO	Strategic Action Programme for the Conservation of Biological Diversity in the Mediterranean Region
SPA Protocol	Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean (SPA Protocol)
SPAMI	Specially Protected Area of Mediterranean Importance

1. International context for the creation and management of marine protected areas (MPAs)

A. What is an MPA?

A marine protected area (MPA) can be broadly defined as an area of marine water which is granted a special protection regime because of its significance for a number of reasons (ecological, biological, scientific, historical, educational, recreational, etc.).

The following definition has been suggested by the Ad Hoc Technical Group on Marine and Coastal Protected Areas, established within the framework of the Convention on Biological Diversity (CBD):

> " 'Marine and coastal protected areas' means any defined area within or adjacent to the marine environment, together with its overlying waters and associated flora, fauna and historical and cultural features, which has been reserved by legislation or other effective means, including custom, with the effect that its marine and/or coastal biodiversity enjoys a higher level of protection than its surroundings"[2].

Eight different kinds of marine specially protected areas have been identified within the Mediterranean context:

1) Scientific Reserve, Strict Nature Reserve, Strict Marine Reserve;
2) National Park, Marine National Park;
3) Natural/Cultural Monument;
4) Managed Natural Reserve, Wildlife Sanctuary, Marine Sanctuary;
5) Protected Landscape/Seascape;
6) Resources Reserve;
7) Natural Biotic Area/Anthropological Reserve;
8) Multiple Use Management Area, Managed Resource Area, Fisheries Reserve[3].

At the national level, legislation may use different names and categories for MPAs. However, the objectives for such areas will usually correspond to one or more of the above categories.

MPAs can be used to target a wide range of conservation and management objectives consistent with the overall purpose of safeguarding essential ecological processes. For individual sites, objectives may vary from the general to the very specific. Common objectives are to preserve marine and coastal biodiversity, to protect marine productivity (especially fisheries resources and critical habitats) from overexploitation, to restore degraded areas and to accomodate diverse types of uses and improve cooperation between different groups of marine stakeholders (local communities, tourists, fishermen, sportsmen, NGOs etc.).

In 2004, the Conference of the Parties (COP) to the Convention on Biological Diversity noted that marine and coastal protected areas contribute to:

a) protecting biodiversity;
b) sustainable uses of components of biodiversity; and
c) managing conflict, enhancing economic well-being and improving the quality of life[4].

However, the COP also noted that

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[2] The definition appears in the report of the Group (doc. UNEP/CBD/SBSTTA/8/INF/7) and is recalled in note 11 of Decision VII/5 (2004) on "Marine and coastal biological diversity" of the Conference of the Parties to the CBD.
[3] Appendix 2 of the Guidelines for the Selection, Establishment, Management and Notification of Information on Marine and Coastal Protected Areas in the Mediterranean (adopted at the first meeting (1987) of the Focal Points of the 1982 Protocol Concerning Mediterranean Specially Protected Areas).
[4] Par. 12, Decision quoted *supra*, note 1.

"according to available data, *marine and coastal ecosystems are severely underrepresented as protected areas,* and these protected areas probably protect a very small proportion of marine and coastal environments globally and consequently make a relatively small contribution to sustainable management of marine and coastal biodiversity"[5] (emphasis added).

B. Jurisdictional status of MPAs

MPAs can be located in different marine jurisdictional zones (maritime internal waters, territorial sea, contiguous archaeological zone, exclusive economic zone, fishing zone, ecological zone, continental shelf, high seas, seabed beyond the limits of national jurisdiction). While some fragile ecosystems - wetlands, lagoons, estuaries - are found along the coastal belt, other kinds of special ecosystems - such as seamounts, hydrothermal vents or submarine canyons - are likely to be found at a certain distance from the coast.

The legal regime applicable to MPAs may be established under domestic legislation (the most common case) or directly under an international treaty.

From an international law perspective, the regime of MPAs depends on the extent of the powers that the State(s) concerned may exercise over the marine area in which they are established.

On land, the State on whose territory a protected area is located is entitled to exercise full sovereign powers over that area. The situation is different at sea because the content of a coastal State's rights in relation to the rights of other States varies significantly depending on the legal status of the marine waters in question:

- in the **territorial sea**, an area in which the coastal State has sovereignty, the ships of all other States enjoy the right of innocent passage;

- in the **exclusive economic zone**, where the coastal State exercises sovereign rights with regard to the exploitation of natural resources and has jurisdiction with regard to the protection and preservation of the marine environment, other States enjoy freedom of navigation, overflight, powers to lay submarine cables and pipelines and other uses recognised under the international law of the sea. This is something more than a mere right of passage;

- on the **high seas**, where by definition there is no coastal State, all States are under a general obligation to cooperate for the protection and preservation of the marine environment and no State can impose its own legislation on other States. This means that no State can unilaterally establish a MPA and require ships flying a foreign flag to comply with the relevant provisions. In consequence, the further an MPA is located from the coast, the greater the need to consider issues related to the international law of the sea and to secure international cooperation and agreement for the establishment and management of that area.

C. Global and regional instruments that support MPAs

i. International law of the sea

It would be a mistake to think that customary international law, and in particular the traditional principle of freedom of the high seas, are insurmountable obstacles to the establishment and sound management of MPAs beyond the limit of the territorial sea. On the contrary, existing international law strongly supports the establishment of MPAs.

All States are under a general obligation, arising from customary international law and restated in Art. 192 of the **United Nations Convention on the Law of the Sea** (UNCLOS) (Montego Bay, 1982), "to protect

[5] Par. 13, Decision quoted *supra*, note 1.

and preserve the marine environment". This obligation applies everywhere in the sea, including the high seas.

Another customary obligation, reflected in Art. 194(5) of UNCLOS, specifies that measures taken to protect and preserve the marine environment "shall include those necessary to protect and preserve rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life". This obligation is not limited in the scope of its application and thus covers any kind of vulnerable marine ecosystems and species, wherever they are located.

States are also bound by obligations to cooperate regarding protection of the marine environment (as confirmed by Art. 197, UNCLOS) and conservation and the management of high seas living resources (as confirmed by Arts. 117-118, UNCLOS). The concept of an obligation to cooperate is not devoid of legal meaning. It implies a duty to act in good faith in entering into negotiations with a view to arriving at an agreement and in taking into account the positions of other interested States[6].

ii. Other maritime instruments

The International Maritime Organization (IMO) is the United Nations' specialised agency with primary responsibility for the safety of life at sea and the protection of the marine environment. It has adopted a comprehensive framework of conventions, under which technical rules, standards and navigational practices are developed to prevent pollution from international shipping and improve maritime safety. Member Governments of IMO are required to implement and enforce these international rules and to ensure compliance by ships registered under their flag, including on the high seas.

Two IMO instruments are of particular relevance to protective measures for specific areas.

The **International Convention for the Prevention of Pollution from Ships**, known as MARPOL (London, 1973, as amended in 1978) provides for the establishment of "special areas" where particularly strict standards are applied to discharges from ships. Special areas provisions are contained in Annexes I (Regulations for the Prevention of Pollution by Oil)[7], II (Regulations for the Control of Pollution by Noxious Substances in Bulk) and V (Regulations for the Prevention of Pollution by Garbage from Ships) to the MARPOL[8]. The whole Mediterranean Sea area has been designated as a "special area" for the purposes of Annexes I and V.

Particularly sensitive sea areas (PSSAs) may be designated pursuant to IMO Assembly *Guidelines for the Designation of Special Areas under MARPOL 73/78 and Guidelines for the Identification and Designation of Particularly Sensitive Sea Areas*, first adopted on 6 November 1991[9]. A PSSA is defined "as an area that needs special protection through action by IMO because of its significance for recognized ecological or socio-economic or scientific reasons and which may be vulnerable to damage by international maritime activities". It is intended to function as "…a comprehensive management tool at the international level that provides a mechanism for reviewing an area that is vulnerable to damage by international shipping and determining the most appropriate way to address that vulnerability"[10].

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[6] The International Court of Justice has noted that States "are under an obligation so to conduct themselves that the negotiations are meaningful, which will not be the case when either of them insists upon its own position without contemplating any modification of it" (judgments of 20 February 1969 on the North Sea Continental Shelf cases; I.C.J., Reports of Judgments, Advisory Opinions and Orders, 1969, para. 85 of the judgment). The International Tribunal for the Law of the Sea notes that "the duty to cooperate is a fundamental principle in the prevention of pollution of the marine environment under Part XII of the Convention and general international law" (para. 82, Order rendered on 3 December 2001 in the MOX Plant case). Note that Part XII of UNCLOS deals with Protection and Preservation of the Marine Environment.

[7] Under Regulation 1, para. 10, of Annex I, "Special area means a sea area where for recognized technical reasons in relation to its oceanographical and ecological condition and to the particular character of its traffic the adoption of special mandatory methods for the prevention of sea pollution by oil is required".

[8] Note that Annex VI (Regulations for the Prevention of Air Pollution from Ships) allows for the establishment of special emission control areas.

[9] Resolution A.720(17), revised by Resolutions A.927(22) of 29 November 2001 and A.982(24) of 1 December 2005.

[10] *Guidance Document for Submitting PSSA Proposals to IMO* (MEPC Cir/398).

To address the identified vulnerability of a PSSA, associated protective measures must be proposed. These can take many forms, provided that they come within the competence of IMO, and should be specifically tailored to meet the need of the area at risk.

The PSSA concept offers the opportunity to enable the development of common jurisdictional and enforcement regimes for environmentally significant marine areas like the Great Barrier Reef (Australia) and the trilateral Wadden Sea (Denmark, Germany, The Netherlands), respectively designated as PSSAs in 1990 and 2002.

In the Mediterranean context, the Contracting Parties to the Barcelona Convention[11] mandated an exploratory study to assess whether Specially Protected Areas of Mediterranean Importance (SPAMIs, see 3.B *infra*) might be suitable for designation as PSSAs. Preliminary consultations between the RAC/SPA Secretariat and IMO's Marine Environment Division indicated that PSSA designation could be an appropriate way to notify shipping of SPAMIs whose geographic and/or regulatory situation potentially affects shipping activities.

iii. General environmental agreements

Several multilateral instruments support the creation of protected areas as a tool for protection of the marine environment under the jurisdiction of their Parties, although they do not have a specific marine focus.
Wetlands covered by the **Ramsar Convention on Wetlands** (Ramsar, Iran 1971) may include marine areas located in the vicinity of the coast[12]. In addition to general conservation and management obligations, the Convention requires each Party to designate at least one wetland for inclusion on this internationally-recognised List of Wetlands of International Importance (Art. 2, para. 4). Over 700 of the 1600 existing Ramsar Sites on this List are found in coastal, inshore and tidal systems and provide important building blocks of protected area networks in these environments. Guidance developed by the Ramsar COP systematically covers matters related to coastal and marine wetland biodiversity.[13]

The **Convention Concerning the Protection of the World Cultural and Natural Heritage** (Paris, 1972) provides that the Parties shall endeavour "to take the appropriate legal, scientific, technical, administrative and financial measures necessary for the identification, protection, conservation, presentation and rehabilitation" of their cultural and natural heritage (Art. 5.d). Cultural or natural heritage which is assessed by the international World Heritage Committee as of "outstanding universal value" may be inscribed on the World Heritage List. It is then granted special protection in accordance with the Convention's provisions.

The term "natural heritage" is broadly defined and implicitly covers marine sites[14], provided that they are situated in the "territory" of States Parties (Art. 11, par. 1)[15]. Some very well known MPAs have been

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[11] Thirteenth Ordinary meeting (Catania, November 2003).

[12] Wetlands are defined as "areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres" (Art. 1, para. 1).

[13] e.g. Resolution IX.22 on systems of protected areas and Resolution IX.1 annexing *Guidelines for the rapid assessment of inland, coastal and marine wetland biodiversity*, both adopted at the 9th Meeting of the COP to the Convention on Wetlands (Kampala, Uganda, 8-15 November 2005).

[14] "For the purpose of this Convention, the following shall be considered as "natural heritage": natural features consisting of physical and biological formations or groups of such formations, which are of outstanding universal value from the aesthetic or scientific point of view; geological and physiographical formations and precisely delineated areas which constitute the habitat of threatened species of animals and plants of outstanding universal value from the point of view of science or conservation; natural sites or precisely delineated areas of outstanding universal value from the point of view of science, conservation or natural beauty" (Art. 2).

[15] How far does the "territory" of States Parties extend seaward? It certainly includes marine internal waters, archipelagic waters and the territorial sea where the coastal State is entitled to exercise its sovereignty. But does the "territory" of States Parties include the archaeological contiguous zone, the exclusive economic zone, the ecological zone or the continental shelf – in other words,

designated as World Heritage Properties under the Convention. These include the Galapagos Islands National Park (Ecuador), the Tubbataha Marine Park (Philippines), the Belize Barrier Reef Reserve (Belize) and the Great Barrier Reef Marine Park (Australia).

Biosphere Reserves are an international designation made by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) on the basis of nominations submitted by countries participating in UNESCO's Man and the Biosphere Programme established in 1971. They are defined as "areas of terrestrial and coastal-marine ecosystems which are internationally recognized for promoting and demonstrating a balanced relationship between people and nature". They have three functions (conservation; ecologically and culturally sustainable development; research, monitoring, training and education) and consist of three zones (core area, buffer zone and outer transition area or area of cooperation).

Of the 482 biosphere reserves currently listed on the World Network of Biosphere Reserves, 80 are classifed as marine biosphere reserves of which 13 are located in Mediterranean riparian States. At the pan-European level, a UNESCO-EuroMAB Working Group on coastal & marine biosphere reserves has been set up to improve the coverage and functioning of coastal and marine biosphere reserves in Europe.

The Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) is discussed in the context of ecological networks (see 3.E *infra*).

iv. Multilateral environmental agreements with an explicit marine focus

Under the **Convention for the Regulation of Whaling** (Washington, 1946), the International Whaling Commission (IWC) may adopt regulations with respect to the conservation and utilization of whale resources, fixing *inter alia* "open and closed waters, including the designation of sanctuary areas" (Art. V, para. 1)[16].

The United Nations **Convention on Biological Diversity** (Rio de Janeiro, 1992) sets out a series of appropriate measures for *in-situ* conservation[17]. It provides *inter alia* that the Parties shall, as far as possible and as appropriate:

> "establish a system of protected areas or areas where special measures need to be taken to conserve biological diversity" (Art. 8.a);
>
> "develop, where necessary, guidelines for the selection, establishment and management of protected areas where special measures need to be taken to conserve biological diversity" (Art. 8.b); and
>
> "regulate or manage biological resources important for the conservation of biological diversity whether within or outside protected areas, with a view to ensuring their conservation and sustainable use" (Art. 8.c). Art. 8 of the Convention,

The CBD applies explicitly to the marine environment[18], irrespective of the legal condition of the waters

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marine areas in which the coastal State can exercise only some kinds of rights? The answer should be an affirmative one, considering that under the UNCLOS the rights granted to the coastal State in such zones also relate to cultural or natural matters.

[16] Sanctuaries where commercial whaling is prohibited were established by the IWC in the Indian Ocean (1979) and the Southern Ocean (1994). They comprise extremely large extents of high seas waters, where commercial whaling is prohibited.

[17] See generally GLOWKA, BURHENNE-GUILMIN, SYNGE, McNEELY & GÜNDLING, A Guide to the Convention on Biological Diversity, IUCN Environmental Policy and Law Paper No. 30, 1994; GLOWKA, SHINE, REY SANTOS, FARROOQUE & GÜNDLING, A Guide to UndertakingLegal and Institutional Profiles, IUCN Environmental Policy and Law Paper No. 35, 1998.

[18] See De FONTAUBERT, DOWNES & AGARDY, Biodiversity in the Seas - Implementing the Convention on Biological Diversity in Marine and Coastal Habitats, IUCN Environmental Policy and Law Paper No. 32, 1996; Secretariat of the Convention on Biological Diversity, Technical Advice on the Establishment and Management of a National System of Marine and Coastal Protected Areas, CBD Technical Series No. 13, 2004.

and seabed concerned[19]. In 1995, its Parties agreed on a programme of action to implement the Convention in marine and coastal ecosystems. This **Jakarta Mandate on Marine and Coastal Biological Diversity** was reviewed and updated in 2004.[20] It provides guidance on integrated marine and coastal area management, the sustainable use of living resources and marine and coastal protected areas[21].

Several CBD decisions underline the importance of marine and coastal protected areas as one of the essential tools and approaches in the conservation and sustainable use of biodiversity and provide detailed guidance to the States concerned. The most recent guidance recommends that the legal or customary framework of marine and coastal protected areas clearly identify:

> a) prohibited activities that will be contrary to the objectives of the marine and coastal protected areas;
> b) those activities which will be allowed with clear restrictions or conditions to ensure that they will not be contrary to the objectives; and
> c) a decision-making process for all other activities[22].

Integrated networks of marine and coastal protected areas should consist of

> a) marine and coastal protected areas, where threats are managed for the purpose of biodiversity conservation and/or sustainable use and where extractive uses may be allowed; and
>
> b) representative marine and coastal protected areas where extractive uses are excluded, and other significant human pressures are removed or minimized, to enable the integrity, structure and functioning of ecosystems to be maintained or recovered[23].

v. Establishment of MPAs in certain regional seas

In addition to the Mediterranean[24], environmental agreements for specific regional seas include:

- the Protocol Concerning Protected Areas and Wild Fauna and Flora in the Eastern African Region (Nairobi, 1985)[25];
- the Protocol for the Conservation and Management of Protected Marine and Coastal Areas of the South-East Pacific (Paipa, 1989)[26];
- the Protocol Concerning Specially Protected Areas and Wildlife in the Wider Caribbean Region (Kingston, 1990)[27];
- Annex V concerning the Protection and Conservation of the Ecosystems and Biological Diversity of the Maritime Area (added in 1998 to the Convention for the Protection of the Marine Environment of the North East Atlantic, known as the OSPAR Convention (Paris, 1992)[28].

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[19] Under Art. 22, para. 2, "Contracting Parties shall implement this Convention with respect to the marine environment consistently with the rights and obligations of States under the law of the sea".
[20] Decision VII/5 on Marine and coastal biological diversity (Seventh Ordinary Meeting of the COP to the Convention on Biological Diversity (Kuala Lumpur, Malaysia (9 - 20 February 2004)).
[21] See Technical Advice on the Establishment and Management of a National System of Marine and Coastal Protected Areas, CBD Technical Series No. 13, 2004.
[22] Par. 6, Annex II (Guidance for the Development of a National Marine and Coastal Biodiversity Management Framework) to Decision VII/5, *supra*, note 1.
[23] Par. 5, Appendix 3 (Elements of a Marine and Coastal Biodiversity Management Framework) to Decision VII/5, *supra*, note 1.
[24] See *infra*, par. 3.B.
[25] Concluded within the framework of the Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region (Nairobi, 1985).
[26] Concluded within the framework of the Convention for the Protection of the Marine Environment and Coastal Area of the South-East Pacific (Lima, 1981).
[27] Concluded within the framework of the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (Cartagena de Indias, 1983).
[28] The Parties to Annex V commit themselves to take the necessary measures to protect and conserve the ecosystems and the biological diversity of the maritime area and to restore, when practicable, marine areas which have been adversely affected.

D. MPAs as a policy tool for ecologically sustainable development

The establishment of MPAs as a key element of marine environmental protection is linked to the most advanced concepts of environmental policy, such as sustainable development, integrated coastal zone management, ecosystem approach and transboundary cooperation.

i. Sustainable development

Agenda 21, the Action Programme adopted in Rio de Janeiro by the 1992 United Nations Conference on Environment and Development, calls on States, acting individually, bilaterally, regionally or multilaterally and within the framework of IMO and other relevant international organizations, to assess the need for additional measures to address degradation of the marine environment. It stresses the importance of protecting and restoring endangered marine species as well as preserving habitats and other ecologically sensitive areas, both on the high seas (para. 17.46, e, f) and in the zones under national jurisdiction (para. 17.75, e, f). In particular,

> "States should identify marine ecosystems exhibiting high levels of biodiversity and productivity and other critical habitat areas and provide necessary limitations on use in these areas, through, inter alia, designation of protected areas" (para. 17.86).

The Plan of Implementation of the World Summit on Sustainable Development (Johannesburg, 2002) confirms the need to promote the conservation and management of the ocean and "maintain the productivity and biodiversity of important and vulnerable marine and coastal areas, including in areas within and beyond national jurisdiction" (para. 32.a). To achieve this aim, States are invited to "develop and facilitate the use of diverse approaches and tools, including (...) the establishment of marine protected areas consistent with international law and based on scientific information, including representative networks by 2012 and time/area closures for the protection of nursery grounds and periods (...)" (para.32.c).

ii. Integrated coastal zone management

MPAs are an essential element of the concept of "integrated coastal zone management" which may be interpreted as

> "a dynamic process of the sustainable management and use of coastal zones, taking into account at the same time the fragility of coastal ecosystems and landscapes, the diversity of activities and uses, their interactions, the maritime orientation of certain activities and uses and their impact on both the maritime and land parts".

This definition comes from the Draft Protocol on the Integrated Management of Mediterranean Coastal Zones (Art. 2.f), prepared by a Group of Experts and as of April 2006, under discussion by the Contracting Parties to the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention (adopted 1976, amended 1995).

Several international instruments (treaties, recomendations, declarations, plans of actions, etc.) relating to the environment or the sea provide a basis for normative action to secure integrated management of coastal zones. It is particularly significant that the Parties to the Barcelona Convention have decided to start negotiations to draft a specific instrument within the framework of the 'Barcelona system' (the Mediterranean Action Plan and the Convention and its Protocols). If adopted, this Protocol would be the first treaty in the world specifically devoted to integrated coastal zone management.

The preamble to the Draft Protocol emphasizes that "the increase in anthropic pressure on the coastal zones of the Mediterranean Sea is threatening their fragile equilibrium" and that the process of coastal degradation should be halted and reversed. The substantive part of the Draft Protocol includes the

establishment of MPAs in the list of suitable measures to ensure "that the utilization of the coastal zone is such as to preserve the integrity of coastal natural habitats, landscapes, natural resources and ecosystems" (see Art.7.b)[29].

iii. Ecosystem approach

The ecosystem approach has been endorsed by the CBD Conference of the Parties as "a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way"[30]. It does not preclude specific conservation and management options, such as protected areas, but rather provides a framework to integrate such tools and other methodologies to deal effectively with complex situations.

The approach is designed to achieve an appropriate balance between conservation and sustainable use of biological diversity. In particular:

> "There has been a tendency in the past to manage components of biological diversity either as protected or non-protected. There is a need for a shift to more flexible situations, where conservation and use are seen in context and the full range of measures is applied in a continuum from strictly protected to human-made ecosystems"[31].

The *Advanced and Unedited Reporting Material to Be Issued as the Report of the [United Nations] Secretary-General on Oceans and the Law of the Sea* for the year 2006 elaborates on the subject of "Ecosystem Approaches and Oceans"[32]. The same subject will be discussed at the 2006 meeting of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea[33] [to update].

iv. Transboundary cooperation

In some cases, the establishment of MPAs is a way for States to fulfil their general obligation to cooperate for the protection of the marine environment. Because MPA boundaries should be based on ecological and social criteria rather than political factors, an MPA may straddle maritime boundaries between two or more States or may be entirely located on the high seas where no State may exercise jurisdiction over foreign ships. In such cases, all States concerned should endeavour to cooperate with a view to reaching agreement on the measures to be taken. The Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean provides important mechanisms for implementing this kind of advanced cooperation[34].

As regards the high seas, the U.N. General Assembly decided "to establish an Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction" (Resolution 59/24 of 4 February 2004). The Working Group met in February 2006. The summary of trends prepared by the Co-Chairpersons notes that:

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[29] The Draft Protocol mainly focuses on measures not related to MPAs as the obligation to establish MPAs is already provided for in the Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean (Barcelona, 1995; see infra, par. 3.B).
[30] Decision V/6 of 2000, para. A.1.
[31] Principle 10, Decision V/6 of 2000.
[32] Paras. 106-199.
[33] The meeting is expected to discuss the following issues: a) How the ecosystem approach has been defined, why ecosystem approaches are needed, and the goal of the ecosystem approach; b) The legal and policy framework at the global level: legally binding instruments, non-binding instruments and arrangements; c) The development of an ecosystem approach; d) How ecosystem approaches have been implemented at the regional and national levels; d) Capacity-building activities.
[34] *Infra*, para. 3.B.

> "area-based management tools such as marine protected areas, including representative networks, and temporal and spatial closures for fisheries management are widely accepted and further elaboration of criteria for identification, establishment and management is required[35].

An important tool to facilitate transition to ecosystem-based management of marine systems shared by two or more coastal States is the Large Marine Ecosystem (LME) approach.

At the global level, a broad collaborative effort is under way (World Conservation Union (IUCN), the Intergovernmental Oceanographic Commission of UNESCO (IOC), other United Nations agencies, and the US National Oceanic and Atmospheric Administration (NOAA)) to assist developing countries in planning and implementing an ecosystem-based strategy focused on LMEs as the principal assessment and management units to restore and protect coastal and marine ecosystems, coastal ocean resources and linked watersheds.

At the Mediterranean level, GEF is spearheading the development of a Strategic Partnership for the Mediterranean Large Marine Ecosystems, which consists of a Regional Component and an Investment Fund.

2. The special case of the Mediterranean

As regards MPAs and international law of the sea in general, the present situation of the Mediterranean is characterized by some peculiarities.

A. The trend towards extending State jurisdiction over marine areas

A trend is currently developing among the Mediterranean States to extend their maritime jurisdictional areas beyond the limit of the territorial sea (12 n.m., in most cases[36]). Not only have some exclusive economic zones been established but a number of Mediterranean States have resorted to *sui generis* zones, such as the fishing zone or the ecological zone. Examples of the different approaches are given below:

i. Fishing zones

Some cases of fishing zones have been declared beyond the limit of the territorial sea.

- Tunisia claims along its southern coastline (from Ras Kapoudia to the frontier with Libya) a fishing zone delimited according to the criterion of the 50-meter isobath[37], based on legislation dating back to 1951 (Decree of the Bey of Tunis of 26 July 1951) which was subsequently confirmed (Laws No. 63-49 of 30 December 1963 and No. 73-49 of 2 August 1973). The recent 2005 legislation on the Tunisian exclusive economic zone[38] does not affect the fishing zone.

- In 1978, Malta established a 25-mile exclusive fishing zone (Territorial Waters and Contiguous Zone Amendment Act). More recently, Act No. X of 2005 provides that fishing waters may be designated beyond the limits laid down in the 1978 Act and that jurisdiction may also be extended to artificial islands, marine scientific research and the protection and preservation of the marine environment.

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[35] See the Advance and Unedited Report of the Working Group, Annex I, para. 10.

[36] The exceptions are the United Kingdom (3 n.m. for Gibraltar and the Sovereign Base Areas of Akrotiri and Dhekelia), Greece (6 n.m.) and Turkey (6 n.m. only in the Aegean Sea). Several Mediterranean States - namely Albania, Algeria, Croatia, Cyprus, Egypt, France, Italy, Libya, Malta, Morocco, Serbia-Montenegro, Spain, Tunisia and Turkey - have enacted legislation measuring the breadth of the territorial sea from straight baselines joining specific points located on the mainland or islands.

[37] Note that the area where the Tunisian fishing zone is located is considered by Italy as a high seas zone of biological protection where fishing by Italian vessels or nationals is prohibited (Decree of 25 September 1979).

[38] *Infra*, sub-para. iv.

- In 1994, Algeria created a fishing zone whose extent is 32 n.m. (nautical miles) from the maritime frontier with Morocco to Ras Ténés and 52 n.m. from Ras Ténés to the maritime frontier with Tunisia (Legislative Decree No. 94-13 of 28 May 1994).

- In 1997, Spain established a fishing protection zone (*zona de protección pesquera*) in the Mediterranean (Royal Decree 1315/1997 of 1 August 1997, modified by Royal Decree 431/2000 of 31 March 2000). The zone is delimited according to the line which is equidistant between Spain and three opposite or adjacent countries (Algeria, Italy and France)[39].

- In 2005 (equivalent), Libya established a fisheries protection zone extending for a distance of 62 n.m. measured from the external limit of the territorial sea (General People's Committee Decision No. 37 of 1373).

ii. Ecological zone

This is a new *sui generis* marine jurisdictional zone which first appeared in 2003.

- In 2003, France adopted Law No. 2003-346 of 15 April 2003 which provides that an ecological protection zone (*zone de protection écologique*) may be created where France exercises only some of the powers granted to the coastal State under the exclusive economic zone regime (those relating to the protection and preservation of the marine environment, marine scientific research and the establishment and use of artificial islands, installations and structures)[40]. A zone of this kind was established along the French Mediterranean coast by Decree No. 2004-33 of 8 January 2004 which specifies coordinates to define the external limit of the zone.

- In 2005, Slovenia provided for the establishment of an ecological protection zone (Law of 12 October 2005)[41].

- In 2006, Italy also provided for the establishment of ecological protection zones (Law No. 61 of 8 February 2006), to be established by decree on the basis of the limits to be agreed with the neighbouring States. No zones have been established to date. Within these ecological zones, Italy will exercise powers which are not limited to the prevention and control of pollution, but also extend to the protection of marine mammals, biodiversity and the archaeological and historical heritage.

iii. Ecological and fishing zone

In Croatia, the Maritime Code adopted on 27 January 1994 includes provisions on the exclusive economic zone (Arts. from 33 to 42). These provisions become applicable when the Croatian Parliament takes the decision to proclaim such a zone (Art. 1042).

On 3 October 2003, the Croatian Parliament adopted a "decision on the extension of the jurisdiction of the Republic of Croatia in the Adriatic Sea" and proclaimed "the content of the exclusive economic zone related to the sovereign rights for the purpose of exploring and exploiting, conserving and managing the living resources beyond the outer limits of the territorial sea, as well as the jurisdiction with regard to marine scientific research and the protection and preservation of the marine environment, whereby the

[39] No fishing zone was established as regards the Spanish Mediterranean coast facing Morocco.
[40] The simple but sound argument that those who can do more, that is establish an exclusive economic zone, can also do less (*in plus stat minus*) is sufficient to lead to the conclusion that the establishment of an ecological zone is fully compatible with the international law of the sea.
[41] For geographical reasons, Croatia has objected to the right of Slovenia to establish maritime juridictional zones beyond the territorial sea.

ecological and fisheries protection zone of the Republic of Croatia is established as of today" (Art. 1). Parliament also decided that "the implementation of the legal regime of the ecological and fisheries protection zone shall commence twelve months after its establishment" (Art. 3), that is on 4 October 2004.

On 3 June 2004, Parliament amended the 2003 decision to postpone implementation of the ecological and fishing zone with regard to member States of the European Union.

iv. Exclusive economic zone (EEZ)

- In 1981, Morocco created a 200-mile EEZ (Dahir No. 1-81-179 of 8 April 1981), which applies without distinction to both its Atlantic and Mediterranean coasts.

- Egypt declared upon ratifying the UNCLOS (26 August 1983) that it "will exercise as from this day the rights attributed to it by the provisions of parts V and VI of the (...) Convention (...) in the exclusive economic zone situated beyond and adjacent to its territorial sea in the Mediterranean Sea and in the Red Sea".

- In Syria, Law No. 28 adopted on 19 November 2003 provides for the establishment of an EEZ (Arts. 21-25).

- Cyprus proclaimed an EEZ under the Exclusive Economic Zone Law adopted on 2 April 2004[42].

- Tunisia established an EEZ under Law No. 2005-60 of 27 June 2005. The modalities for the implementation of the law will be determined by decree.

v. Archaeological zone

- Within their 24-mile contiguous zones, Algeria, France and Tunisia also exercise rights in the field of archaeological and historical objects found at sea, as allowed by Art. 303. para.2 of UNCLOS.

- In Cyprus, the recent Contiguous Zone Law adopted on 2 April 2004 provides that the Council of Ministers may make regulations "aiming at the control, the avoidance or prevention of traffic of objects of an archaeological and historical nature found in this zone and at the licensing procedures for their removal" (Art. 5, para. 2, b).

- Italy has recently established a 24-mile archaeological zone (Art. 94 of Legislative Decree 22 January 2004, No. 41), providing for the application in this zone of the Annex to the Convention on the Protection of the Underwater Cultural Heritage (Paris, 2001)[43].

vi. General trend

As no sea point in the Mediterranean is located at a distance of more than 200 n.m. from the nearest land or island, the high seas will disappear from the Mediterranean once the trend towards extending coastal States' jurisdiction has been completed. This is an important element when discussing the appropriate legal regime for future MPAs in the region.

B. The specific regional framework for MPAs under the Barcelona Convention

[42] The law was given a retroactive application, entering into force on 21 March 2003 (Art. 12).
[43] To which Italy is not yet a party!

The so-called 'Barcelona system' is a remarkable example of how States can fulfil their obligation to cooperate for the protection of the environment in a regional sea.

On 16 February 1976 the Convention on the Protection of the Mediterranean Sea against Pollution and two protocols were opened for signature in Barcelona[44]. The Convention is a framework treaty which is supplemented by implementing protocols relating to specific aspects of environmental protection.

During the last decade, the Barcelona system has undergone important additions and changes to several of its components. On 10 June 1995, the Convention was amended and its name changed to the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean. The same day, the **Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean (SPA Protocol)** was adopted to replace the previous Protocol Concerning Mediterranean Specially Protected Areas (Geneva, 1 April 1982). The new protocol entered in force on 12 December 1999.

These developments within the Barcelona system confirm that the Mediterranean is already endowed with a very advanced regional regime covering the protection of the marine environment, in particular for the establishment of MPAs[45].

The SPA Protocol is applicable to all the marine waters of the Mediterranean, irrespective of their legal condition, as well as to the seabed, its subsoil and to the terrestrial coastal areas designated by each party, including wetlands. This is an important expansion of scope compared to the earlier 1982 Protocol, which was limited to the Parties' territorial sea and did not cover the high seas. The extension of the Protocol's geographical coverage was necessary to strengthen protection for highly migratory marine species (such as marine mammals) which, by definition, do not respect the artificial boundaries drawn by man on the sea.

The decision to extend the SPA Protocol to the high seas gave rise to some difficult legal problems related to political and legal conditions in the Mediterranean. At the time when it was negotiated, many Mediterranean States had not yet established marine jurisdictional zones beyond the territorial sea. Moreover, in the Mediterranean many maritime boundaries still have to be agreed upon by the States concerned,. In several cases, delimitation is particularly difficult because of local geographic characteristics.

To overcome these difficulties, the SPA Protocol includes some very elaborate disclaimer clauses (Art. 2, paras. 2 and 3)[46]. The idea behind this display of juridical complications is simple. On the one hand, the establishment of intergovernmental cooperation in the field of the marine environment does not prejudice outstanding legal questions of a different nature. On the other hand, the existence of such legal questions (which are not likely to be resolved in the short term) should not jeopardize or delay the adoption of measures necessary for the preservation of the ecological balance of the Mediterranean.

The SPA Protocol contains a series of broad provisions which apply to all kinds of MPAs (Arts.3-7). They relate to general obligations, objectives, establishment of specially protected areas, protection measures, planning and management. Other provisions deal with protection and conservation of species, inventories, environmental impact assessment, integration of traditional activities, publicity, information, public awareness and education, scientific technical and management research, mutual cooperation and assistance.

The SPA Protocol also provides for the establishment of a **List of Specially Protected Areas of**

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[44] The Convention, which entered into force on 12 February 1978, is chronologically the first of the so-called regional seas agreements concluded under the auspices of UNEP.

[45] See SCOVAZZI (ed.), Marine Specially Protected Areas - The General Aspects and the Mediterranean Regional System, The Hague, 1999, p. 81.

[46] The disclaimer provisions recall the legal devices used for the instruments of the Antarctic system.

Mediterranean Importance (SPAMI List). This is intended to include only sites which "are of importance for conserving the components of biological diversity in the Mediterranean; contain ecosystems specific to the Mediterranean area or the habitats of endangered species; are of special interest at the scientific, aesthetic, cultural or educational levels" (Art. 8, para. 2)[47]. The procedures for the establishment and listing of SPAMIs are described in detail in Art. 9. For instance, as regards areas located partly or wholly on the high seas, the proposal must be made "by two or more neighbouring parties concerned" and the decision to include the area in the SPAMI List must be taken by consensus by the Parties during their periodical meetings.

Once an area is included in the SPAMI List, all Parties agree "to recognize the particular importance of these areas for the Mediterranean" and - even more important – "to comply with the measures applicable to the SPAMIs and not to authorize nor undertake any activities that might be contrary to the objectives for which the SPAMIs were established" (Art. 8, para. 3). This gives an *erga omnes partes* effect to the SPAMIs and the measures adopted for their protection, as far as the Parties to the Protocol are concerned.

As regards third countries, Parties shall "invite States that are not Parties to the Protocol and international organizations to cooperate in the implementation" of the SPA Protocol (Art. 28, para.1)[48]. Parties are also required to "undertake to adopt appropriate measures, consistent with international law, to ensure that no one engages in any activity contrary to the principles and purposes" of the Protocol (Art. 28, para.2).

The SPA Protocol is completed by three annexes adopted in Monaco on 24 November 1996. They are the Common Criteria for the Choice of Protected Marine and Coastal Areas that Could be Included in the SPAMI List (Annex I), the List of Endangered or Threatened Species (Annex II) and the List of Species whose Exploitation is Regulated (Annex III).

In 2001, a great achievement took place at the XIIth Meeting of the Contracting Parties (Monaco, 2001) when the first twelve SPAMIs were inscribed in the List. These are:

- the island of Alborán, the sea bottom of the Levante de Almería, cape of Gata-Nijar, Mar Menor and the oriental coast of Murcia, cape of Cresus, the Medas islands, the Coulembretes islands (all proposed by Spain);
- Port-Cros (proposed by France);
- the Kneiss islands, La Galite, Zembra and Zembretta (all proposed by Tunisia); and
- the French-Italian-Monegasque Sanctuary for marine mammals jointly proposed by the three States pursuant to the trilateral agreement signed in Rome on 25 November 1999[49].

Other SPAMIs have subsequently been added to the SPAMI List.

C. ACCOBAMS and the trilateral Sanctuary for Marine Mammals

The Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS) (Monaco, 1996) entered into force on 1 June 2001. Parties are required to "take co-ordinated measures to achieve and maintain a favourable conservation status for cetaceans" and to "prohibit and take all necessary measures to eliminate, where this is not already done, any deliberate taking of cetaceans" (Art. II, para.1). They must also "endeavour to establish and manage specially protected areas for cetaceans corresponding to the areas which serve as habitats of cetaceans and/or which provide important food resources for them" (Annex II, Art. 3).

The SPAMI shared between France, Italy and Monaco (see 3.B above) creates a trilateral sanctuary for marine mammals The area covered by the sanctuary, which extends over 96,000 km², is inhabited by the eight cetacean species regularly found in the Mediterranean, namely the fin whale (*Balaenoptera*

[47] The existence of the SPAMI List does not exclude the right of each party to create protected areas which are not intended to be listed as SPAMIs.
[48] This provision is also modelled on a precedent within the Antarctic system.
[49] See 3.C *infra*.

physalus), the sperm whale (*Physeter catodon*), Cuvier's beaked whale (*Ziphius cavirostris*), the long-finned pilot whale (*Globicephala melas*), the striped dolphin (*Stenella coeruleoalba*), the common dolphin (*Delphinus delphis*), the bottlenose dolphin (*Tursiops truncatus*) and Risso's dolphin (*Grampus griseus*).

The Sanctuary, located between the continental coasts of France, Monaco and Italy and the islands of Corsica and Sardinia, encompasses waters which have the legal status of maritime internal waters, territorial sea, ecological zone and high seas. The Parties undertake to adopt measures to ensure a favourable state of conservation for all species of marine mammals and to protect them and their habitat from negative impacts, both direct and indirect. Any deliberate taking or disturbance of mammals in the Sanctuary is prohibited.

D. Role and mandate of other key institutions

i. Regional fisheries organisations

The General Fisheries Council for the Mediterranean was established in 1949 as a UN institution under the auspices of the FAO to coordinate activities related to fishery management, regulations and research in the Mediterranean and Black Seas and connecting waters[50]. In 1998, the institution was reformed and renamed the **General Fisheries Commission for the Mediterranean (GFCM)**. It now has 24 Members, including one non-Mediterranean State (Japan) and one regional economic integration organisation (the European Community)[51]. The Region covered by the Agreement includes both the high seas and marine areas under national sovereignty or jurisdiction.

Environmental protection is covered by the GFCM's three main functions:

- to promote the development, conservation and management of living marine resources;
- to formulate and recommend conservation measures; and
- to encourage training cooperative projects.

Specific functions and responsibilities laid down by Article III.1 of the GFCM Agreement include powers to establish open and closed fishing seasons and areas; to encourage, recommend, coordinate and, as appropriate, undertake research and development activities, including cooperative projects in the area of fisheries and the protection of living marine resources; to assemble, publish or disseminate information regarding exploitable living marine resources and fisheries based on these resources; and to promote programmes for marine and brackish water aquaculture and coastal fisheries enhancement.

The Commission is required to apply the precautionary approach when formulating and recommending conservation and management measures, and take into account the best scientific evidence available and the need to promote the development and proper utilization of marine living resources (Art.III.2). Recommendations for such measures must be adopted by a two-thirds majority of Members of the Commission. Each Member undertakes to give effect to such recommendations unless it has entered an objection within one hundred and twenty days from the date of notification of a recommendation (Art.V).

A Scientific Advisory Committee has been established within the GFCM and is advised by various sub-committees, including the Sub-Committee on Marine Environment and Ecosystems.

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[50] Agreement of 24 September 1949, in force from 20 February 1952 and amended in 1963, 1976 and 1997 (FAO, Basic Texts, III, No. 7, 3rd ed., 1977). The Agreement was developed pursuant to Art.14 of the FAO Constitution.

[51] Albania, Algeria, Bulgaria, Croatia, Cyprus, Egypt, European Community, France, Greece, Israel, Italy, Japan, Lebanon, Libya, Malta, Monaco, Morocco, Romania, Serbia and Montenegro, Slovenia, Spain, Syria, Tunisia, Turkey.

The GFCM works in close cooperation with the International Commission for the Conservation of Atlantic Tunas (ICCAT), established under the International Convention for the Conservation of Atlantic Tunas (Rio de Janeiro, 14 May 1966) [52]. The ICCAT has jurisdiction regarding fisheries of tuna and tuna-like fishes in the Convention Area, which includes the whole of the Atlantic as well as the Mediterranean as a connected sea. Its mandate is to manage stocks of tuna and other associated species in these waters and has the power to adopt resolutions that are binding on its Parties. Management recommendations increasingly take account of environmental protection aspects.

Mention should also be made of the **FAO Code of Conduct for Responsible Fisheries**, a non-binding global Code adopted unanimously by FAO Member Nations on 31 October 1995. It sets out principles and standards to ensure effective conservation, management and development of living aquatic resources, with due respect for marine and coastal biodiversity. The Code is addressed to States, international governmental and non-governmental organisations and all those involved in the conservation of fishery resources and management and development of fisheries. It is directly relevant to MPA establishment and management in that it addresses conservation of critical habitats, integration of fisheries into coastal area management, regulation of damaging processes such as pollution and the need for participative approaches with fishing communities.

ii. European Community

The European Community has exclusive competence for fisheries management and conservation within Community waters, with some minor exceptions, and shared competence with Member States in the field of environmental protection. European legal norms are thus the foundation on which Mediterranean countries that are European Union Member States develop and implement many marine environmental measures.

There are currently eight Mediterranean EU Member States: Croatia, Cyprus (Greek part), France, Italy, Greece, Malta, Slovenia and Spain. In addition, Mediterranean countries that are candidates for future EU membership must progressively align their legal frameworks with Community legislation. This is the case for Turkey which has now embarked on pre-accession negotiations with the European Commission.

EU Member States are bound to implement legal instruments adopted by the various Community institutions, designed to secure harmonised implementation of agreed policies throughout the EU. Whereas Regulations are directly applicable in Member States, Directives must be transposed into national legal systems within a defined period of time. "Transposition" refers to legislative, regulatory or administrative measures taken by any competent authority of a Member State to incorporate the obligations, rights and duties enshrined in Community directives into the national legal order. It also includes any additional provisions, such as the amendment or repeal of conflicting national provisions which are necessary to ensure that national law as a whole properly reflects the provisions of a directive[53].

Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora[54]

The European Community is a Contracting Party in its own right to the Barcelona Convention, the CBD, the Convention on the Conservation of Migratory Species of Wild Animals (Bonn, 1979) and the Convention on the Conservation of European Wildlife and Natural Habitats (Bern, 1979) and a signatory to the Mediterranean Action Plan.

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[52] The Convention entered into force on 21 March 1969. Mediterranean States party to the Convention include Algeria, European Community, Croatia, Libya, Morocco and Tunisia.
[53] Communication on implementing Community environmental law, Com(96)500 Final.
[54] Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora as amended.

The 1992 Habitats Directive is the main Community instrument laying down biodiversity-related measures consistent with these treaties for implementation by EU Member States. It provides for the establishment of a coherent ecological network, known as Natura 2000, which comprises "special areas of conservation" (SACs) designated by Member States in accordance with the provisions of the Directive, and "special protection areas" designated pursuant to Directive 79/409/EEC on the conservation of wild birds. Network-related measures are complemented by species-based and more general conservation provisions.

The Habitats Directive sets out detailed rules on SAC selection, conservation, management planning and impact assessment rules. One of the criteria for site selection relates to sites that represent outstanding examples of typical characteristics of specific biogeographical regions, including the Mediterranean. Guidance on the interpretation of habitat types is given in the 'Interpretation Manual of European Union Habitats' as approved by the Habitats Committee set up under Article 20 of the Directive. A *Reference list of habitat types and species of Mediterranean Region* was reissued in 2004[55].

Annexes I (Natural habitat types of Community interest) and II (Animal and plant species of Community interest) list habitats and species which must be conserved through the designation of SACs. Species listed include several Mediterranean marine animal species, including seals, cetaceans and the two species of marine turtle known to nest on the beaches of EU Member States and to reproduce in Community waters (*Caretta caretta*, *Chelonia mydas*). The Directive specifies that for aquatic species that range over wide areas, SACs should be proposed only where there is a clearly identifiable area representing the physical and biological factors essential to their life and reproduction (Art 4.1).

Marine Strategy and future Maritime Policy

The European Commission's proposed Marine Strategy Directive[56] aims to achieve good environmental status of the EU's marine waters by 2021 and to protect the resource base upon which marine-related economic and social activities depend.

European Marine Regions would be established on the basis of geographical and environmental criteria. Each Member State, in close cooperation with other Member States and third countries within a Marine Region, will be required to develop Marine Strategies for its marine waters. These Marine Strategies will contain a detailed assessment of the state of the environment, a definition of "good environmental status" at regional level and the establishment of clear environmental targets and monitoring programmes.

The proposed Marine Strategy is consistent with the Water Framework Directive[57] which requires that surface freshwater and ground water bodies (lakes, streams, rivers, estuaries, coastal waters…) achieve a good ecological status by 2015.

The Strategy constitutes the environmental pillar of the EU's draft maritime policy currently under development. In 2005, a Steering Group of seven Commissioners with sea-related competencies (fisheries and maritime affairs, environment, transport, industry, energy, research and regional development) was set up to provide guidance to an inter-disciplinary Task Force of Commission representatives. A Green Paper, "Towards a future Maritime Policy for the Union - A European vision for oceans and seas", will be published on 31 May 2006 [update].

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[55]http://europa.eu.int/comm/environment/nature/nature_conservation/natura_2000_network/biogeographic_regions/mediterranean/index_en.htm.

[56] Proposal for a Directive of the European Parliament and of the Council establishing a Framework for Community Action in the field of Marine Environmental Policy (Marine Strategy Directive) [SEC(2005) 1290] (Brussels, 24.10.2005, COM(2005) 505 final.

[57] Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy.

Fisheries

The Community has competence for fisheries management and conservation within Community waters: outside Community waters, its core responsibilities are to make proposals and to negotiate on behalf of the Community in international fora and to monitor the implementation of control and enforcement rules applied by the Member States. As noted, the Community is a Contracting Party to the two regional fisheries organisations relevant to the Mediterranean (GFCM, ICCAT).

Fisheries measures are developed within the framework of the Common Fisheries Policy. This was revised with effect from 1 January 2003 to include long-term objectives for attaining and/or maintaining safe levels of adult fish in EU stocks, a simpler fleet policy to address chronic overcapacity of the EU fleet, more uniform national control systems and sanctions, and much greater stakeholder involvement through new regional advisory councils to achieve sustainable fisheries.

A specific Regulation laying down certain technical measures for the conservation of fishery resources in the Mediterranean[58], periodically updated, requires Member States to provide for the conservation of listed fragile or endangered species or environments, including all marine turtle species occurring in the Mediterranean, coastal wetlands and beds of marine phanerogams.

In 2001, the Commission published a Biodiversity Action Plan for Fisheries[59], a medium term Action Plan that identifies three levels of measures to preserve or rehabilitate biodiversity where it is under threat due to fisheries and aquaculture activities. These relate to the conservation and sustainable use of fish stocks, the protection of nontarget species, habitats and ecosystems from fishing activities and reduction of aquaculture impact on different ecosystems.

In 2002, the Commission adopted a **Community Action Plan for the conservation and sustainable exploitation of fisheries resources in the Mediterranean Sea under the Common Fisheries Policy**[60]. The Plan identifies the two main environmental threats posed by fisheries in the Mediterranean as damage to biodiversity and damage to habitats. It emphasizes that a responsible fishing industry should ensure not only the conservation of the target species but also of species belonging to the same ecosystem or associated with or dependent upon the target species. This is essential to preserve the biodiversity and integrity of marine ecosystems and, hence, the production features of the essential fish habitats with positive effects also for fishery resources and fishing activities.

The Plan provides that the regulation of Mediterranean fisheries should be upgraded to the same degree of development and priority as other CFP areas, albeit with certain specific instruments where necessary. It notes that CFP objectives are the same in the Mediterranean as in other Community waters, namely to ensure the exploitation of living aquatic resources that provides sustainable environmental, economic and social conditions

The Plan establishes eight objectives for the CFP in the Mediterranean. One objective provides that account must be taken of the environmental dimension in implementing the CFP in the Mediterranean. By-catches of protected species (monk seals, turtles, sea birds and cetaceans) must be reduced. Effective protection of habitats and the reduction of environmental risks which can harm fishing

[58] Council Regulation (EC) No 1626/94 of 27 June 1994, amended by COUNCIL REGULATION (EC) No 2550/2000 of 17 November 2000.

[59] Commission Communication of 27 March 2001 to the Council and the European Parliament: Biodiversity Action Plan for Fisheries (Volume IV), adopted within the framework of the Community Strategy on Biological Diversity (COM(1998)42, endorsed by the Council on 21 June 1998).

[60] Communication from the Commission to the Council and the European Parliament laying down a Community Action Plan for the conservation and sustainable exploitation of fisheries resources in the Mediterranean Sea under the Common Fisheries Policy (Brussels, 09.10.2002, COM(2002) 535 final).

activities will be needed. This can be achieved through cooperation among the various authorities responsible.

E. Development of Mediterranean MPA networks

The Barcelona system (see 3.B above) is complemented by other advanced initiatives for MPA networking in the Mediterranean region. These provide additional mechanisms through which individual States can pool expertise and work together to achieve goals jointly agreed for the region. The main programmes are briefly outlined below.

i. Mediterranean Protected Areas Network (MedPAN)

MedPAN was created in 1990 under the Mediterranean Technical Assistance Programme and is driven by Mediterranean country line agencies with the support of UNEP-MAP RAC/SPA, IUCN, donors, private sector, various NGOs and scientific institutions.

In 2005 it was revived through a three-year project (2005-2007) funded by the EU Interreg IIIC South programme in partnership with the WWF Mediterranean Programme Office. WWF-France has taken over the Secretariat.

MedPAN's strategic mandate is to promote implementation of major priority conservation activities on the ground (notably through MPAs) as well as knowledge management and a regional monitoring system to measure the impact of pollution on ecosystems and species and address invasive species issues.

Its network of MPA managers in the Mediterranean currently brings together 23 partners from 11 States around the basin who manage over 20 existing MPAs and are working towards the creation of several new sites. The network aims to build capacity of MPA managers through the exchange of good practices and by making available tools on particular aspects of MPA management.

ii. MedWetCoast

The MedWetCoast Project for conservation of Wetlands and Coastal Ecosystems in the Mediterranean Region is a 5-year United Nations Development Programme project (1999-2005) funded by the Global Environment Facility and the *Fond Français pour l'Environnement Mondial*.

Its goal is to enhance conservation and effective management of wetlands and coastal ecosystems of six Mediterranean countries (Albania, Egypt, Lebanon, Morocco, Palestinian Authority, Tunisia) by strengthening national policy and institutional frameworks and demonstrating integrated and sustainable management practices at 15 key sites which contain Mediterranean biodiversity of global and regional importance. Lessons learnt have been disseminated through a series of regional meetings and technical publications[61].

At the Mediterranean level, the project aims to catalyse a sustainable mechanism for the conservation of wetlands and coastal areas for the whole basin. Regional objectives of the programme include strengthening capacities through training and technical assistance and developing and sharing Mediterranean experiences through improved networking. The Project's Regional Coordination Unit, hosted by the Station Biologique de la Tour du Valat, has coordinated its activities with existing regional activities under the Ramsar Convention's MedWet Initiative and the Barcelona system.

[61] MEDWETCOAST Project: FINAL Report of the fifth Regional Advisory Committee meeting (Cairo, Egypt, 26 – 28 September 2005).

iii. European networks applicable to the Mediterranean

Further support for network development and policy support exists within the Council of Europe framework.

Pan-European Ecological Network

"Marine and coastal biodiversity and protected areas" was the theme of the 4th International Symposium of the Pan-European Ecological Network in 2003 (see Box)[62].

Final Declaration of the Symposium: recommendations to governments

1. prioritise halting the decline in biodiversity of Europe's coastal and marine areas by 2010;

2. prioritise the establishment of the European Coastal and Marine Ecological Network by 2008 as part of the implementation of the Kyiv Ministerial Resolution on Biodiversity… in order to provide a conceptual and scientific framework to support the many activities in various *fora* for the protection of Europe's marine environment;

3. implement instruments to protect the coastal and marine environment in the framework of theCBD, Pan-European Biological and Landscape Diversity Strategy and UNCLOS and in synergy with the EU Marine Strategy;

4. encourage long-term research and monitoring of the coastal and marine environment, supporting decisions based on clear policy targets, taking into account the needs of local human communities;

5. promote and enhance co-operation at regional and sub-regional level for the preservation and management of marine and coastal environment amongst all interested parties: national and local authorities, global and regional conventions, specialised institutions and networks, NGOs and stakeholders;

6. encourage the setting-up of an informal platform of dialogue, which could meet every two to three years, and a liaison mechanism for regular exchange of information, in order to strengthen co-operation and synergies amongst the above-mentioned parties. This dialogue could be organised by a State or an organisation - on a rotational basis - in co-operation with other interested governments, organisations and regional conventions.

Council of Europe Emerald Network

The Emerald Network, made up of "areas of special conservation interest", was launched by the Council of Europe as part of its work under the Bern Convention. It is based on the same principles as the EU Natura 2000 network and represents its *de facto* extension to non-EU States.

The Network is relevant to the whole Mediterranean basin as Parties to the Bern Convention include not only almost all European States but also some African States (currently Tunisia, Morocco, Senegal and Burkina Faso: Algeria, Cape Verde, and Mauritania have been invited to accede).

Areas of special conservation interest should meet one or several of the following conditions: contribute substantially to the survival of threatened species, endemic species, or any species listed in Appendices I and II of the convention; support significant numbers of species in an area of high

[62] "Marine and coastal biodiversity and protected areas" (4th International Symposium of the Pan-European Ecological Network (Dubrovnik, Croatia, 16-17 October 2003) Council of Europe Publishing, Environmental Encounters Series n°56.

species diversity or supports important populations of one or more species; contain an important and/or representative sample of endangered habitat types; contain an outstanding example of a particular habitat type or a mosaic of different habitat types; represent an important area for one or more migratory species; or otherwise contribute substantially to the achievement of the Convention's objectives of the Convention.[63]

3. Critical issues for national frameworks

Global and regional tools in support of Mediterranean MPAs can only be effective if they are followed up by the necessary implementing actions at national and local level.

The **Strategic Action Programme for the Conservation of Biological Diversity in the Mediterranean Region (SAP BIO)** identified a series of constraints to effective implementation of the SPA Protocol and related instruments. These include:

- insufficient legal system, lack of adequate legislation;
- confusion of competency or fragmentation of responsibility, leading to problems of implementation of existing laws;
- lack of coordination between administrations, overlapping competencies;
- conflicts with other human activities in the coastal zone, mainly tourism;
- low or non-existent stakeholder participation in the decision-making process;
- poor efforts to improve public awareness on marine conservation issues;
- lack of effective enforcement measures in some cases;
- lack of effective scientific monitoring;
- lack of sufficient economic resources to achieve the protection measures, so that a number of MPAs receive only nominal management and protection ("paper MPAs");
- problems of mismanagement and deterioration caused by the limited experience of the people administrating the MPAs;
- lack of effective conservation measures to protect particular species (monk seal, sea turtles, cetaceans, etc.) and/or plant communities (e.g. seagrass meadows);

The SAP BIO also identifies the need to set up a network of MPAs, for which goals, mechanisms and management arrangements should be defined, and to develop integrated coastal zone planning and management.

[63] Recommendation 16 adopted by the Standing Committee in 1989. See also Resolution No. 3 (1996).

Taking account of these constraints and needs, the consultants have developed outline criteria that they will further develop and apply during Phase 2 of the GEF PDF-B project to assess Mediterranean countries' needs for legal, policy and institutional reforms to strengthen existing MPA frameworks. Some of these criteria are directly based on Arts. 6 and 7 of the 1995 SPA Protocol which is of course binding on its Parties.

A. Coordinated implementation of international and regional commitments

In the Mediterranean, as with any other regional sea, the MPA regime established under the domestic legislation of coastal States should fully comply with:

- general obligations under international law; and
- specific obligations laid down by relevant global and regional instruments (see Parts 2 and 3 of this report).

There are basically no contradictions between the provisions of different treaties applying to MPAs. However, there may be differences in the standards and degree of precision of instruments adopted at different levels. In the field of environmental protection, treaties that are globally applicable are often followed by treaties concluded at the regional or sub-regional level. These regional/sub-regional instruments are usually concluded to ensure better or more specific protection (e.g. for specific habitat types and species) than can be delivered under the more general provisions of global treaties. The more detailed focus of regional instruments (e.g. the MPA provisions under the SPA Protocol) provides a basis for regionally harmonised approaches to implementation.

Even greater precision can be delivered through *ad hoc* treaties between neighbouring States to establish specific MPAs. The best example in the Mediterranean context is the 1999 agreement between France, Italy and Monaco to establish a sanctuary for the protection of marine mammals[64].

Mediterranean States should where possible become Parties to all the international instruments relevant for MPAs and, as a minimum, to the CBD[65], the Ramsar Convention[66] and the 1995 SPA Protocol[67]. Indicators for coordinated implementation include:

- consultation between national fisheries/maritime and environment sectors, through the various focal points for different treaties/regional organisations, in advance of international negotiations and when developing domestic implementation arrangements;

- adoption of adequate legislation for protected areas in general, and MPAs in particular, that corresponds to the more specific protection obligations laid down by regional treaties;

- prompt enactment of any regulations necessary to actually establish MPAs.

B. Specific legislation for MPA establishment and management

Many States implement MPA-related obligations by means of existing sectoral legislation or regulations which make no particular distinction between terrestrial and marine protected areas.

In the shorter term, existing legal processes and tools should be used to make practical progress on the

[64] See *supra*, par.3.C
[65] See *supra,* par. 2.C.
[66] See *supra*, par. 2.C.
[67] *Supra*, par. 3.B.

ground and comply with regional commitments. In the longer term, however, States need to consider whether MPA-specific approaches may be more effective:

- MPAs are fundamentally different from terrestrial protected areas, even if it is debatable whether these differences are in kind or degree. An important factor underlying these differences is the nebulous nature of boundaries in the fluid marine environment and the presence of many species that do not respect paper boundaries (highly migratory species; anadromous and catadromous species; straddling stocks) and other natural features[68].

- Legal differences may support the establishment of a special regime for MPAs as private property rights cannot be exercised in marine areas: as noted in 2.B above, rules of international law are fundamentally different depending on the terrestrial or marine nature of the area involved. Long-established rules and concessions may apply in the 'public maritime domain', depending on each country's legal system..

- States that use generic nature conservation/forestry legislation to create MPAs may run into difficulties if the law is not applicable beyond e.g. the highwater line. Where different regimes administered by different authorities apply each side of the land/sea interface, it is harder to deliver integrated planning and management for all components of a coastal-marine protected area.

- Fisheries laws may also be too narrow in scope to support true MPAs. They generally provide for designation of single-purpose reserves (e.g. closure of defined areas to fishing to support recovery of target stocks) but objectives do not extend to conservation of non-target species or marine habitats or for regulation of non-fisheries activities (powered pleasure boating and jet-skiing, marine pollution, dumping etc.).

- As a general rule, older laws tend not to provide an adequate basis to support modern concepts of zoning and multiple use.

The policies and legal framework of the Barcelona system provide a good starting point for drafting legislation specifically related to MPAs. Options and approaches will be further developed during Phase 2 of this assignment.

C. Integration of MPAs into coastal and marine spatial planning policies

One MPA is obviously better than nothing but ideally MPAs should not be established in a vacuum and in isolation. The fluid nature of the marine environment makes it particularly important to establish MPAS as part of a comprehensive long-term approach to planning and managment of activities that affect fragile coastal and marine ecosystems.

As noted above, international treaties support the integration of MPAs within cross-sectoral marine and coastal planning. The CBD's Jakarta Mandate[69] recognizes that sectoral activities in the coastal zone,

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[68] "In the sea, habitats are rarely precisely or critically restricted. Survival of species cannot usually be linked to a specific site. Many free swimming species have huge ranges and water currents carry the genetic materials of sedentary or territorial species over large distances, often hundreds of kilometres. The same genetic community is likely to be represented throughout a large geographic range, occurring wherever substrate and water quality are suitable. As a consequence endemism is rare and is usually confined to species which brood or care for their young rather than have them dispersed by currents. There is no authenticated record of recent extinction of a completely marine species with planktonic larvae. The concept of critical habitats of endangered species is thus restricted in application to areas critical to marine mammals, sea turtles and sea birds and to the habitats of the occasional endemic species. Therefore, in the sea, the ecological case for protection of an area can less often be based on concepts of critical habitat of endangered species or threat of extinction but it may more probably be based on protection of critical or important habitat for commercially or recreationally important species, or for protection of a particularly good example of a habitat type with its associated genetic diversity of its communities" (IUCN, Guidelines for Establishing Marine Protected Areas, Gland, 1991, p. 13).

[69] See 2.D *supra*.

including construction, mining, shipping, tourism and fishing, can adversely affect biodiversity. Effective solutions should consider all sectors simultaneously, so that changes in policies or practices in one area are consistent with and complementary to those adopted in another. The FAO Code of Conduct calls on States to ensure that their fisheries interests, including the need for conservation of the resources, are taken into account in the multiple uses of the coastal zone and are integrated into coastal area management, planning and development[70]. In 2005, Parties to the Ramsar Convention on Wetlands who are also Parties to the CBD were invited to review their national processes for implementing the CBD Jakarta Mandate to ensure full integration of the identification and designation of Ramsar sites[71].

MPAs should be selected and established within a logical and integrated network, in which the various components aim at protecting different portions of biological diversity. Protected area systems or networks offer advantages in comparison to individual MPA site establishment because they can encompass representative examples of regional biodiversity as well as an appropriate number and spread of critical habitats (e.g. for migratory species or straddling stocks moving between the territorial waters of neighbouring countries). MPA network creation should take place at both the national and regional levels.

As part of ecologically sustainable development policy, the coastal State should adopt national strategies, plans and programmes applying to the coastal area and marine areas under its jurisdiction, which include a list of MPAs and steps to fill identified gaps. This can be done within the broad framework of strategies for integrated coastal zone management or large marine ecosystem management, which can cater for the establishment of large mixed protected areas covering both coastal and marine components.

D. Adoption of appropriate protection measures

Under Art. 6 of the 1995 SPA Protocol, States are required to take a number of protection measures applying to specially protected areas. Many of these measures are explicitly listed in the different sub-paragraphs of Art. 6. They cover activities such as dumping, passage of ships, introduction of species, exploration and exploitation of the seabed, scientific research, fishing and hunting.

The measures in question have to be selected on a case-by-case basis, taking into account the characteristics of each MPA. For instance, any decision to regulate the passage of ships, if needed, must comply with the right of innocent passage provided for by international law and may not totally prohibit navigation in an extended area where main maritime routes occur. The coastal State is also given a margin of discretion as regards the nature of the measure to be adopted: the activity may be either prohibited or regulated (which is the case when the activity is not prevented but subject to certain general conditions or special permits).

However, it can be taken for granted that some kind of special protection measures have to be established in a MPA and that the coastal State should adopt and implement relevant legislation or regulations in accordance with the precautionary approach enshrined in international law.

The establishment of effective MPAs requires a firm legal basis, where the conservation and management objectives are clearly defined and the extent of the protected area is clearly delimited (together with a zoning system and buffer zones, if necessary). Scientific information is needed to determine the size, shape, conservation objectives and management prescriptions for each area. Once established, the MPAs require continuous monitoring of ecological processes, habitats, population dynamics, landscapes and the impact of human activities. This information is essential for periodic updating of applicable regulations/management plans. The legal procedure used to establish an MPA (primary/secondary legislation, public enquiry etc.) should also be followed if there is a proposal to abolish the MPA or to reduce its size. Equivalent safeguards against changing SPAMI boundaries are laid down by the

[70] Section 6.9 (see 3.D *supra*).
[71] Par.12, Resolution IX.22 on systems of protected areas (Kampala, Uganda, 8-15 November 2005).

Barcelona Protocol (Art.10). This is very important to secure long-term conservation of the area, even if there is a change of political direction.

Apart from the concrete requirements listed in Art. 6, States are generally required to regulate and, if necessary, prohibit activities or acts likely to harm or disturb the species or that may endanger the state of conservation of the ecosystems or species or might impair the natural or cultural characteristics of MPAs (see Art. 6, h). Other measures aimed at safeguarding ecological and biological processes and the landscape are also suitable (see Art. 6, i).

Environmental impact assessment procedures will need to be used in accordance with Art.17, SPA Protocol to ensure that sectoral activities and programmes take account of the MPA's special status and objectives.

E. Institutional coordination

A critical aspect in the legislation of several countries is the sharing of competencies between various State authorities[72.] Competencies can overlap:

- in a horizontal way between different authorities of the central administration (e.g. Minister of the Environment, Minister of Food and Fisheries, Minister for Shipping); or

- in a vertical way between central and subnational authorities. In countries which have a decentralized structure of government, legal responsibility for nature conservation is often devolved to the regions but national government usually retains competence for fisheries and activities in the public maritime domain. Efficient administrative coordination will be particularly important for mixed coastal-marine protected areas where local and national authorities each have different functions and responsibilities.

Fragmented distribution of competencies, whether at the regulatory or the management level, does not help the management of MPAs. Ideally speaking, sharing competences between two or more authorities ought to encourage useful collaboration through the pooling of their respective experience and expertise. Sometimes, however, the sharing of responsibilities deteriorates into a situation of confusion and overlapping of powers, delay in the adoption of the appropriate measures and potential disputes.

For these reasons, where more than one administration is involved in an MPA, special measures to ensure cooperation and coordination and accountability should be envisaged. There are many options for this purpose, ranging from integrated management committees to regular meetings between the competent authorities.

The relationship between an MPA institution/responsible agency and other authorities also needs attention. Regulations should support coordination between all agencies with responsibilities for activities affecting the MPA and establish a procedure for resolution of any conflicts.

F. Adoption of a management plan

Each MPA has to be endowed with a specific and sufficiently detailed management plan. Many of the elements found in Part D (Protection, Planning and Management) of Annex I to the 1995 SPA Protocol (Common Criteria for the Choice of Protected Marine and Coastal Areas that Could Be Included in the SPAMI List) have a general scope of application and can be extended also to MPAs which do not qualify

[72] International instruments say nothing about how the contracting parties should organize the distribution of powers among their respective national entities when setting up and managing MPAs. This would be an unwarranted invasion of the sphere of domestic jurisdiction of the parties. It is left to each party to determine whether the obligation to establish and manage MPAs can be better fulfilled at the central or regional level, or at both levels.

for inclusion in the SPAMI List.

Protection, planning and management measures must be based on an adequate knowledge of the elements of the natural environment and of socio-economic and cultural factors that characterize the area. Management plans should prescribe appropriate regulatory and management measures for different zones within the MPA. The plan should also include contingency measures to respond to incidents.

To ensure policy consistency, it should be specified that the regulatory provisions of zoning and management plans override any inconsistent provisions in local land-use and sectoral plans.

G. Involvement of all stakeholders

Far from being a mere formality, public participation is a vital element in environmental decision-making generally and in matters related to MPAs. It enables the authority in charge of the decision to know how the project is seen by local inhabitants, economic concerns and non-governmental organizations (NGOs). Constructive working relationships with fisheries and tourism operators, local authorities, nature conservation interests and other interested parties can facilitate the establishment and management planning for MPAs and reduce instances of non-compliance.

All relevant stakeholders should be identified and efforts made, preferably through the adoption of specific regulations, to encourage public participation in the decision-making procedures relating to MPAs.

The public participation component could include disclosure of understandable information without having to request it, convening meetings at the local level and reimbursement of expenses incurred by individuals and NGOs.

States should recognise the positive contribution that NGOs active in the field of the environment can make through their educational, campaigning and monitoring activities. Where feasible, there should be close cooperation between responsible agencies and competent NGOs close to the ground, including the possibility to entrust NGOs with the management of some MPAs under appropriate contracts. Specific legislation on the right of the individuals or NGOs to bring actions to courts for the protection of the environment could also be adopted.

H. Financing mechanisms

The financial constraints which affect effective full operation of MPAs should, wherever possible, be addressed by the States concerned. In several countries, also for understandable policy choices, the budgetary funding of protected areas is significantly lower than planned and foreign assistance is often insufficient. This prevents the recruiting of sufficient staff, the purchase of equipment for performing basic tasks (which can be particularly costly in the case of marine areas), the promotion of research.

Appropriate funding should be granted, wherever possible, by the State or the public institutions involved to meet the needs of existing protected areas. Fundraising mechanisms involving visitors or the private sector may also be put into effect as an alternative source of financing, provided that they do not conflict with the basic objectives of the protected area.

I. Compliance and enforcement

Wherever possible, incentives and non-regulatory approaches should be considered to encourage voluntary compliance and a culture of self-enforcement of rules by user groups. This is particularly important at sea where monitoring and detection are often harder than on land. Such approaches are

likely to work best within a context that encourages informed public participation, education and awareness-building.

Notwithstanding, the MPA management body must have authority to delegate and enforce the rules and regulations it promulgates. Relevant legislation/regulations should therefore provide adequate powers for personnel to take enforcement action, backed by meaningful penalties. Under appropriate circumstances, coastal or marine conservation officers should have the authority to impose on-the-spot fines for minor resource and environmental offences. For more serious violations, their authority should extend to the gathering of evidence, impounding and confiscation of equipment, imposing a court summons, and when appropriate, arrest and detention powers.

5. [Overview of existing national legislation]

As noted (see Part 1 above), important documents and information on legal and institutional frameworks were either not available or became available too late to be analysed by the deadline for this preliminary report. The following sections are therefore incomplete and provisional. They will be expanded into a set of detailed country-specific evaluations early in Phase 2 of the project, in close liaison with national Focal Points and other relevant institutions and experts.

A. Albania [to insert]

B. Algeria[73] [to be expanded]

i. General aspects

Algeria's coastline is 1200 km in length. There are currently three coastal MPAs, two of which include a marine component.

- El Kala National Park and Biosphere Reserve, covering terrestrial, wetland and marine environments (about 83,000 hectares)[74];
- Réghaia Nature Reserve;
- Habibi Islands Marine Nature Reserve[75]. This is Algeria's first marine nature reserve and covers some 2700 hectares, of which 40 hectares are terrestrial. It was proposed for designation as a SPAMI at the 7th meeting of the National Focal Points to the SPA Protocol. A management plan is currently being developed with the help of the French national Coastal Conservancy (*Conservatoire de l'espace littoral et des rivages lacustres*).

Three feasibility studies are being carried out concerning possible extension of coastal national parks to the maritime domain. These relate to the National Parks of El Kala (*wilaya d'El Tarf*), Gouraya (*wilaya de Béjaia*) and Taza (*wilaya de jijel*).

Another marine nature reserve, Ile Rechgoun, has also been proposed for SPAMI listing. This site does not yet have national legal protection but the proposals for its designation have just been

[73] This summary is provisional and subject to further elaboration. The consultants thank Ms. Nadia Chenouf for providing copies of requested documentation and assisting with their enquiries.
[74] Established by Decree No. 83-462 of 23 July 1983.
[75] Established by Decree n° 03-147 of 29 March 2003 (JORA n° 23/2003).

finalised. Provision has been made for site protection during the period 2006-2009.

ii. Laws relevant to environmental protection

In 2003, Algeria adopted a new Law on Environmental Protection within the context of Sustainable Development (n° 2003-10 of 19 July 2003)[76] This is a modern and comprehensive environmental law in line with accepted principles of international environmental law and modern biodiversity-related concepts. It appears to be equally applicable to the marine and terrestrial environments

Article 31 et seq. covers the establishment of six categories of protected areas which correspond to the IUCN protected area categories. The Law does not limit their application to terrestrial or marine environments though one category does explicitly refer to the sea:

- strict nature reserves;
- national parks;
- natural monuments;
- managed areas for habitats or species;
- protected land- or seascapes;
- protected areas for natural resource management.

[to complete].

The 2003 Law also contains framework provisions for marine protection and prevention of pollution of the aquatic environment (Arts.52-58). These will operate in a complementary way to other instruments for marine environmental protection. In this context, it may be noted that Algeria now has modern fisheries legislation which takes account of marine environmental considerations. The Law on Fishing and Fish Farming (n° 1-11 of 3 July 2001) provides, for example, that fishing zones should be managed within the context of the sustainable use of biological resources (Article 19).

[At the policy level, a sustainable development strategy has been adopted together with a National Environmental Action Plan (NEAP). Formal structures are in place to ensure interministerial coordination on environmental issues. The High Council for the Environment and Sustainable Development, created on 25 December 1994, is chaired by the Head of the Government and includes the Ministry for Spatial Planning and Environment[77] and other key ministries].

iii. Nature conservation legislation

Although the 1983 Environmental Protection Law[78] was repealed by the 2003 Environmental Law, the decree adopted thereunder laying down the rules and procedures for establishing national parks and nature reserves (Decree n° 83-458 of 23 July 1983)[79] is currently still in force. However, the Algerian Government is currently considering a new draft law on protected areas.

[insert details of Decree and/or proposed draft legislation as appropriate].

Two different bodies have powers related to establishment and management of protected areas: the General Forestry Directorate and the Ministry for Spatial Planning and Environment (MATE). For the marine part of the coastal zone, powers are clearly vested in MATE (see also below). For the terrestrial

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[76] Loi n° 2003-10 du 19 juillet 2003 relative à la protection de l'environnement dans le cadre du développement durable (JORA N° 43 du 20-07-2003) which replaced the earlier Loi n° 83-03 du 5 février 1983.

[77] Ministère de l'aménagement du territoire et de l'environnement.

[78] Loi n° 83-03 du 5 février 1983.

[79] Décret n° 83-458 du 23 juillet 1983 fixant le statut type des Parcs nationaux (JORA n° 31 du 26 juillet 1983).

part of the coastal zone (e.g. coastal forests), the the General Forestry Directorate seems to exercise concurrent powers [insert further details].

iv. Specific marine/coastal legislation

Algeria is one of the minority of Mediterranean States to have adopted special coastal protection legislation in the form of the Coastal Protection and Enhancement Law (Law n°2 of 5 February 2002)[80] [insert provisions of law]. The Law provides *inter alia* for criminal sanctions and significant fines for those convicted of damaging coastal heritage.

The 2002 Law establishes a special Shoreline National Commission (*Commissariat national du littoral*) under the auspices of MATE. The Commission is the lead body for coastal planning and management. Its functions were established by decree in 2004[81] and range from research into human impacts on the coastal and marine environments to the formulation of measures to control coastal urbanisation and industrial development.

The Commission acts as implementing agency for MATE with regard to management of [some] coastal and marine protected areas, notably the Habibi Islands Marine Nature Reserve.

C. Bosnia and Herzegovina[82]

i. General aspects

Bosnia and Herzegovina's coastline is only 24 km long and its territorial sea is relatively small, shallow (maximum depth is 26m) and closed. Its Mediterranean zone is a mosaic of various habitats, ecosystems and numerous forms and levels of human activity. The shoreline is mostly rocky, without pebbly beaches or sandy dunes.

Despite its small size, this zone contains valuable habitats and plant communities which form a significant part of national biodiversity. The country's aim is to preserve and upgrade its valuable marshy and water biotopes and communities and where justified and feasible, to restore some of the lost habitats and taxa.

There are still major knowledge gaps regarding the actual state of endangered habitats and coastal/marine biodiversity. Bosnia and Herzegovina does not yet have a List of Habitat Types prepared according to CORINE-Biotopes[83] but according to the CORINE classification, its Mediterranean region would have significant habitats in most of the main classes: coastal and marine habitats, mainland waters, marshes, scrubs and rocky grassland (-meadows), rocky, agricultural and artificial habitats.

Factors that contribute to damage or destruction of coastal habitats and plant communities include marine pollution from waste water flowing from the Neretva River system; changes to the Neretva River's water regime due to construction of hydropower plants; urban sprawl; new infrastructure operations and certain agricultural activities (intensification, monoculture, cutting of woods, etc.).

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[80] Loi 02-02 du 05 Février 2002 relative à la protection et à la valorisation du littoral.

[81] Décret exécutif n° 04-113 du 13 avril 2004 portant organisation, fonctionnement et missions du Commissariat National du Littoral.

[82] This analysis is provisional and subject to further elaboration when copies of legislation are available. The consultants thank Ivan Buntić for having provided the information on which the following summary is based.

[83] Devilliers, P., Devilliers-Terschuren, J., 1996. A classification of the Palearctic habitats. Nature and environment 78 (Council of Europe), Strasbourg.

The country has no designated MPAs. However, an Action Plan for the Bosnia-Herzegovina Marine and Coastal Areas[84] has been prepared within the framework of the SAP BIO Project and is currently awaiting implementation and funding.

Transboundary cooperation on coastal and marine management is particularly important for a country with as short a coastline as Bosnia and Herzegovina.

With respect to the coastal belt, about 30% of the broad Neretva River delta is located on national territory. In 1995, the country protected a key part of the delta by designating the Hutovo Blato wetlands (7411 hectares, 20 km inland from the river mouth and seashore) as a natural park. The site, which was included in the Ramsar List of Wetlands of International Importance in 2001, contributes significantly to national diversity of plant species and ecosystems and its marsh plant communities provide suitable biotopes for the breeding and resting of water birds. Identified threats include lower water tables which need to be addressed through appropriate regulation of water flow. A large-scale EU-LIFE programme under the auspices of the Canton Ministry for Civil Engineering, Physical Planning and Environment[85] has recently been completed (see also below).

With respect to the sea, the Bays of Mali Ston and Neum are adjacent to Croatian waters. Crossborder issues to be addressed include management of economic activities, especially mariculture and tourism, and regulation of damaging processes (sewage disposal etc.). The joint construction of the Neum-Pelješac Peninsula waste water system twenty years ago made a significant contribution to conserving the Mali Ston Bay ecosystem of great importance for mariculture.

Two joint thematic workshops addressed the topics of "Priorities in the conservation of coastal ecosystems in the frontier region of Bosnia and Herzegovina and Croatia" and "The future of life along the shore".

ii. [Legislation]

There is no national nature and environmental protection policy in Bosnia and Herzegovina nor has existing legislation been adapted to European and international standards.

The competent national ministry is the Ministry of Land Management and Environment but existing legislation[86] is mainly implemented at the subnational (canton) level, led by the Canton Ministry for Civil Engineering, Physical Planning and Environment. Identified constraints include poor vertical coordination between local, county and state administrations and inadequate application of legislation.

For Mali Ston Bay, Croatia's legal framework includes a protection instrument that dates back to the ex-Yugoslavia era and therefore applies to the Bosnia and Herzegovina coast around Neum. However, Bosnia and Herzegovina has not enacted separate legislation for this purpose. The Bay and related issues are covered by another Action Plan developed within the framework of the SAP BIO programme.

For the Hutovo Blato wetlands, a legal framework to implement a new management policy is [being developed - update] under the EU-LIFE programme mentioned above. Because the biological area of the lower part of the Delta is divided by the boundary with Croatia, the Final Symposium to the Project notes the importance of developing appropriate mechanisms to manage each national

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[84] JASPRICA, N. Identification and preservation of endangered marine, freshwater and terrestrial habitats, and plant communities in the Mediterranean zone of Bosnia and Herzegovina, February 2003.

[85] LIFETCY 1999/Bih/035 Project, "Development Of New Management Policy For The Hutovo Blato Wetlands, Bosnia And Herzegovina". A symposium presenting the findings of the project was held in December 2002.

[86] Not yet available to the consultants.

component of this shared coastal wetland in an integrated way.

The Action Plan for the Bosnia-Herzegovina Marine and Coastal Areas (see above) takes a broad approach to implementation. The lead bodies for implementation are the responsible central and local government authorities, in coordination with relevant scientific institutions, business entities, NGOs and other stakeholders.

D. Croatia[87]

i. General aspects

Croatia has a territorial extension of 56,542 square km and a population of 4,437,460 inhabitants (2001). It borders the Adriatic Sea. The Croatian coast, with a length is 5,835 km, is one of the most indented in the world. It is fringed by 1,185 islands and islets (66 inhabited, 652 uninhabited, 389 rocks, 78 reefs)[88]. The State is composed of 21 counties (including the city of Zagreb) and a number of towns and municipalities. Seven counties (Istarska, Primorsko-Goranska, Lieko-Senjska, Zadarsko-Kninska, Sibenska, Splitsko-Dalmatinska, Dubrovaeko-Neretvanska) border the Adriatic Sea.

The Croatian seashore is separated from the hinterland by a chain of medium-high karstic mountains that follows the coast along its entire length. The coastal and insular region is among Croatia's most important assets, which makes the region extremely valuable and highly sensitive from the environmental point of view. While the quality of the majority of coastal waters has been preserved, some sites are exposed to strong pollution due to discharges from industries located along the coast (Rijeka and Kastela bays, Sibenik) or discharges of oily or wastewaters in large harbors (Rijeka, Split, Ploce).

In the coastal area, navigation, tourism and fishing are well developed[89]. Recent decades have seen a sharp rise in coastal development. In the summer months, the population of the coastal region multiplies several times. Due to a long tradition of coastal planning, several valuable island and coastal environments have been preserved despite intense pressures for urban development, industrialization and tourism. However,

> "(...) the Adriatic region, even if one of the best preserved in the Mediterranean, suffered a certain amount of damage, due to badly planned and/or uncontrolled tourism construction, urban spreading, and inadequate location of roads in some segments of the coast"[90].

Building works, untreated waste waters of municipal or industrial origin, intensive nautical tourism, overexploitation of marine living resources, introduction of non-indigenous species from ballast water discharges, mariculture and fish-farming (tuna breeding in cages) and mucilage events have been identified amongst the constraints which can affect the quality of Croatian coastal waters[91].

Three Croatian national parks are situated on islands or groups of islands and islets (Brijuni[92], Kornati[93],

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[87] This analysis is provisional and subject to further elaboration. The consultants thank Ms. Maja Palkovic for having provided an provisional English translation of the 2005 Law on Nature Protection.

[88] "The coefficient of indentedness of the Croatian coast, i.e. the ratio between the actual length of the coastline of its mainland and islands (5835.3 km) and the shortest air distance between the outermost points on the coast (the air distance between the mouth of the River Dragonja in the Bay of Piran and Cape Ostro at the entrance to the bay of Boka Kotorska = 526 km), is 11.10. This is a very high coefficient. By comparison, the coefficient of indentedness of the coastline of Norway is 20, while the Greek coast has a coefficient figure of 6" (BARIC PUNDA, Delimitation of the Maritime and Submarine Areas of the Republic of Croatia, paper presented at a course held in 1998 at the Inter-University Centre of Postgraduate Studies, Dubrovnik, p. 2).

[89] See the publication edited by the State Directorate for the Protection of Nature and Environment, Coastal Area Management in Croatia, Split, 1998.

[90] *Ibidem*, p. 4.

[91] See RADOVIC, KRALJ, JUKIC-PELADIC & PETRICIOLI, SAP-BIO National Report of the Republic of Croatia, 2002, p. 33.

[92] The laws on Brijuni national park and Memorial Ground were adopted in 1983 and 1999. Brijuni is a group of 14 islands and islets along the western coast of the Istrian peninsula in the northern Adriatic.

[93] The laws on Kornati national park were adopted in 1980, 1988 and 1998. Kornati is a group of 140 islands and islets in the

Mljet[94]) and include the surrounding sea[95]. One nature park is insular (Telascica[96]). The coastal area of the delta of the river Neretva is included in the Ramsar Convention's List of Wetlands of International Importance.

ii. Laws relevant to environmental protection

Environmental objectives are integrated in many aspects of Croatian legislation.

The Constitution of the Republic of Croatia, adopted on 22 December 1990, includes several provisions devoted to "the preservation of natural and cultural wealth and its utilization" (Art. 2, para. 4). Conservation of nature and human environment is listed among "the highest values of the constitutional order of the Republic of Croatia" (Art. 3).

Under Art. 69, paras. 1 and 2, everyone shall have the right to a healthy life and the Republic shall ensure citizens the right to a healthy environment. The protection of the environment is a responsibility vested in every component of the society:

> "Citizens, government, public and economic bodies and associations shall be bound, within their powers and activities, to pay special attention to the protection of human health, nature and the human environment» (Art. 69, para. 3).

Special protection is conferred on nature and its components:

> "The sea, seashore and islands, waters, air space, mineral wealth and other natural resources, as well as land, forests, fauna and flora, other parts of nature, real estate and things of special cultural, historic, economic or ecological significance which are specified by law to be of interest of the Republic, shall enjoy its special protection.
>
> The way in which goods of interest to the Republic may be used and exploited by holders of rights to them and by their owners, and compensation for the restrictions imposed on them, shall be regulated by law" (Art. 52).

A balance between private rights and the public interest towards the protection of the environment is struck in Art. 50:

> "Ownership may be restricted by law in the interest of the Republic, or property may be taken over against indemnity equal to its market value.
>
> Entrepreneurial freedom and property rights may exceptionally be restricted by law for the purposes of protecting the interests and security of the Republic, nature, the human environment and human health".

In addition to the 2005 Law on Nature Protection[97], provisions for sustainable development may be found in many sectoral enactments, such as the Law on Forests (1990), the Law on Physical Planning (1994), the Law on Marine Fisheries (1994), the Maritime Code (1994), the Law on Waste (1995), the Law on Water (1995), the Law on Air Quality Protection (1995) and the Law on Subsoil Protection (1998).

Particularly important are the regulations adopted on 9 September 2004 on the management and

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central Adriatic.

[94] The laws on the proclamation of the western part of the island of Mljet as a national park were adopted in 1960, 1976 and 1997. Mljet is the most densely forested island in the southern Adriatic.

[95] For example, in the case of Kornati the extent of the surrounding sea varies from 200 m to 1 n.m.

[96] The law on Telascica nature park was adopted in 1988.

[97] *Infra*, sub-para. c.

protection of the coastal zone, an area which includes all the islands and a coastal belt of 1000 m landward and 300 m seaward.

The Croatian framework Law on Environmental Protection was adopted on 27 October 1994. It reflects recent developments in the field of international environmental law, such as the concepts of sustainable development, intergenerational equity and the precautionary approach. The law, which is expressly based "on honouring the principles of international environmental law, the generally accepted principles acknowledging scientific achievements, and the best global environmental practice" (Art. 10), lists seven basic environmental protection principles:

- prevention;
- natural resources and biodiversity conservation;
- replacement or substitution by other interventions;
- environmental integrity;
- the principle of honouring rights;
- the polluter pays principle; and
- public participation.

The Law deals with a number of subjects, such as environmental programming and planning (including contingency plans), reporting, environmental impact assessment, environmental standards, monitoring, environmental protection information system, economic incentives, public information and participation, environmental damage, inspection, funding, international cooperation and sanctions.

iii. Nature conservation legislation

A new Law on Nature Protection was adopted on 20 May 2005 to regulate "the system of protection and integrated conservation of nature and its assets" (Art. 1, par. 1). It is composed of 206 articles. The 2005 Law replaces a previous law on the same subject from 1994. Under Art. 5, para. 2, nature protection is to be effected through various means, including "identification of natural assets and protected natural assets; instituting the system for natural assets and protected natural assets management; linking and harmonising the national and international nature protection systems".

The Law (Art. 10, para.1.1) identifies nine categories of protected areas[98] (strict nature reserve, national park, special nature reserve, nature park, regional park, nature monument, important landscape, forest park, park architecture monument) which can be of international, national or local importance[99]. Although there is no specific category devoted to marine or coastal areas, sea areas may be protected under six out of the ten categories laid down by the Law[100]. The relevant classification is the following:

> "Strict nature reserve means an area of land and/or the sea distinguished by unaltered or slightly altered overall natural environment, earmarked exclusively for the conservation of its original natural character, scientific research which does not affect biological diversity, monitoring the state of nature, and education which does not endanger the free development of natural processes" (Art. 10, para. 1).
>
> "A national park is a large, predominantly unaltered area of land and/or sea characterised by exceptional and multifold natural assets, comprising one or several preserved or predominantly unaltered ecosystems, and is primarily earmarked for conservation of original natural assets" (Art. 11, para. 1).

[98] Protected areas, together with protected taxa and protected minerals, speleothems and fossils, are considered as protected natural assets.
[99] Transboundary protected areas are also envisaged (Art. 9).
[100] The categories which do not seem to apply to sea spaces, at least as defined in the Law, are those of "important landscape" (seascapes are not envisaged), "forest park" and "park architecture monument".

> "A special nature reserve is an area of land and/or sea of particular importance for its uniqueness, rarity or representative character, or is a habitat of endangered wild taxon, having a particular scientific significance and intended purpose" (Art. 12, para. 1).
>
> "A nature park is a large natural or partly cultivated area of land and/or sea distinguished by ecological features of international and national importance with marked landscape, educational, cultural-historical, tourist-recreational values" (Art. 13, para. 1).
>
> "A regional park is a large natural or partly cultivated area of land and/or sea distinguished by ecological values of international, national or regional importance and landscape features characteristic for the area in which it is located" (Art. 14, para. 1).
>
> "A nature monument is the individual unaltered segment or a group of segments of living or non-living nature distinguished by ecological, scientific, aesthetic or educational value" (Art. 15, para. 1).

The Law specifies a number of activities which are prohibited, restricted or permitted, depending on the category of protected area.

Specific provisions relate to the designation procedure for protected areas. Depending on the category, they can be established by: a law enacted by Parliament (national park and nature park); by a regulation of the Government following a proposal of the Ministry competent for nature protection[101] (strict and special nature reserve); or by decision of a county assembly subject to prior approval of the central State administration competent for the environment and, in certain cases, agriculture (remaining categories of protected areas). In the latter case, where the Ministry proposes protection and the relevant representative body fails to adopt the necessary protection instrument within three months of receiving the proposal, the natural asset will be designated as protected by the Government (Art. 21, para. 6).

The proposal for designation is based on an expert assessment drawn up by the National Institute for Nature Protection (Art. 22, para. 1). The public, which is granted access to the relevant information, may submit observations (Art. 22, paras. from 3 to 6). The Law sets out detailed provisions on the elements of the act of designation, the procedure for terminating protection where the original features disappear, measures for preventive protection, the register of protected natural assets, environmental impact assessment for planned interventions, areas of influence[102], planning within protected areas (spatial, governance and management plans), public participation, funding, the issue of concessions where allowed[103], visits and tourism, promotion, control, compensation for damage to nature and penal sanctions.

The Law also envisages a network of "ecologically important areas" as "a system of mutually interrelated or contiguous ecologically important areas, which by their balanced biogeographic distribution substantially contribute to conservation of natural balance and biological diversity" (Art. 58, para. 2). Ecological corridors, defined as "an ecological component or a series of such components that allow for migration of the populations of living organisms from one site to another and constitute an integral part of the ecological network" (Art. 7, para. 9), link the components of the network. International ecologically important areas must be established in accordance with international standards (Art. 60, para. 1).

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[101] Hereinafter referred to as "the Ministry". This is currently the Ministry of Culture but was previously the Ministry of Environmental Protection and Physical Planning.

[102] An area of influence, defined as "the area outside the limits of the protected area which prevents negative impact on the protected area" (Art. 7, para. 44), corresponds to what is usually called a buffer zone.

[103] Particularly interesting is Art. 146, para. 6, according to which "the income earned from concession approval fees shall under this Act be the income of a public entity administering the protected area in which the concession approval has been granted and shall be designated for nature protection".

A few provisions specifically address marine biodiversity, such as Art. 52, para. 1[104], and Art. 53[105].

The basic policy documents for nature protection are the Strategy and Action Plan for the Protection of Biological and Landscape Diversity of the Republic of Croatia and the programmes for nature protection adopted by the counties.

The Nature Protection Law can be considered as a very advanced and detailed enactment. The crucial aspect of the sharing of competences among different public entities seems addressed in a sufficiently clear manner. The aim of the Croatian legislator to emphasize the general interest in the protection of nature is evident not only in single provisions, such as Art. 72, para. 1[106], and Art. 73, para. 1[107], but throughout the whole text of the Law.

Perhaps more attention could have been granted to the case of marine and coastal protected areas and their specific needs, particularly considering the importance of the Adriatic for Croatia. However, if greater attention is given in the future to such areas, the National Protection Law will be a solid basis to build upon.

E. Egypt

i. General aspects

[to insert]

Egypt has several MPAs. Those with the most developed marine components are situated along the Red Sea coast (e.g. Wadi El Gemal – Hamata Protectorate, Ras Mohamed National Park). On the Mediterranean coast, there are [four] protectorates which are essentially coastal wetlands with small marine components:

- Ashtoom El Gameel (Lake Manzala)[108];
- Zaraneek and the Bardaweel Lake[109];
- El Omayed; and
- Burullus.

The latter three sites have participated in the MedWetCoast project (see 3.E *supra*) and are now covered by management plans drawn up with full public and stakeholder participation. A management council has been appointed for each of these sites.

Proposed MPAs include Mersa Matrouh and [update].

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[104] "The activities at sea and in its subsoil must not endanger, degrade nor destroy marine habitats".

[105] "If protection of individual strictly protected types or habitat types so requires, the Minister may by an order, subject to prior approval of the minister competent for fisheries, temporarily or permanently exempt parts of the sea and its subsoil from fishing and other uses".

[106] "Protected areas shall be administered by public entities".

[107] "Public entities referred to in Article 72 of this Act shall carry out the activity of protection, maintenance and promotion of protected area with the purpose of protection and conservation of authenticity of nature, safeguarding the undisturbed running of natural process and sustainable use of natural resources, as well as control the enforcement of nature protection requisites and measures in the area they administer".

[108] Established by Decree no. 459 of 1988. It occupies the northeastern corner of Lake Manzala close to Port Said, and covers an area of about 35 km^2, extending southwards for 3 km into the Lake and westwards for ca 7 km along the Mediterranean shore. A narrow sand bar separates this part of the Lake from the sea. The lake is one of the important fisheries in Egypt as it contributes 50-60% of the total catch of the northern lakes. The protectorate is considered as an internationally important wetland as large numbers of birds winter there.

[109] Shallow water body in the northern coastal part of Sinai Peninsula covering an area of 595 km2 and recently listed as a Ramsar site. A narrow sand bar separates the shallow lake from the Mediterranean, with a number of openings joining them.

ii. Laws relevant to environmental protection

Law 4/1994 for the Protection of the Environment is a framework law covering all aspects of pollution and environmental impact assessment procedures. It is not specifically concerned with conservation and management of biodiversity and natural ecosystems.

The State of the Environment report 2004 indicates that a new executive regulation for its implementation was being prepared [Pending further information, this Law is therefore not analysed in more detail at this stage].

The competent line ministry is the Ministry of State in charge of Environmental Affairs, supported by the Egyptian Environmental Affairs Agency (EEAA). The EEAA was established by Decree n° 631 in 1982 and saw its mandate reinforced by the 1994 Law. Its responsibilities specifically include managing and supervising the natural reserves of Specially Protected Areas and overseeing implementation of multilateral environmental agreements.

iii. Nature conservation policy and legislation

The Law on Nature Protectorates (n° 102 of 1983) governs the establishment of protected areas and sets out basic principles for their management and the preservation of their resources. It empowers the Prime Minister to issue decrees designating specified territories as protected areas and outlining their statutes. 24 Protectorates were established between 1983 and 2003. Management of these areas comes within the responsibilities of EEAA (Nature Protectorates division) in collaboration with local authorities.

The 1983 Law applies to coastal waters (which are not defined), inland water and land. This has provided an adequate legal basis for the creation of existing coastal/marine MPAs but it needs to be verified whether exclusively marine areas located further from the coast could be designated as protectorates under this instrument. The Law does not specify different categories of protectorates [if applicable, insert details of separate regulations for the creation of national parks].

[detailed analysis to insert].

Law n° 101 of 1985 was enacted to secure a suitable source of funding for the protected areas: it provides for the levy of an additional tax on aeroplane tickets issued locally to generate income to finance programmes for developing tourism and environmental protection.

A National Strategy and Action Plan for Biodiversity Conservation was adopted in 1998. It identified institutional and capacity constraints in the Nature Conservation Section of the EEAA and other administrations concerned with natural heritage as well as weaknesses in coverage and effectiveness of the national protected areas network. [update concerning progress in implementation].

A National Wetland Strategy was adopted in 2004-2005 [insert details].

iv. Specific marine/coastal frameworks

There is no specific framework law dealing with the coastal zone but an Integrated Coastal Zone Management Steering Committee was set up in 2004 pursuant to the Environmental Protection Law of 1994.

The EEAA is currently preparing an integrated national plan for coastal zone management of the Mediterranean and the Red Sea areas. This builds on recommendations in the National Strategy and

Action Plan for Biodiversity Conservation for the development of a National Marine and Coastal Management Programme.

The State of the Environment report 2004 refers to "implementing a Integrated Coastal Management Programme, protecting the sea for a 200 meters distance and preventing filling up or changing the coast" [insert update on policy/legislative progress].

F. Lebanon [to insert]

G. Libya

i. [General aspects]

At least three coastal/marine MPAs have been established, namely the El Kouf National Park, the Garabulli National Park and the New Hisha Nature Reserve.

In addition, there are proposals to extend El Kouf National Park and create new MPAs at Farwa Lagoon, Ain Elgaza, El-Bardyya, Part of Sirte Gulf, Bard'ah Island, Gara Island and the coastal and marine part of Naggaza Park.

ii. [Relevant legislation]

At least three legal instruments may be relevant to MPA creation. These are:

- General Popular Committee Law ((Minister Council) No. 631/1992 on natural reserves and national parks;
- Law No.15/2001 on environment protection;
- General People Committee (GPC), Decision No. 37/2005 concerning a declaration of a protected fishing zone along the Libyan coastline

H. Morocco

i. General aspects

Within the framework of national environment policy, Morocco has begun the creation of a network of protected areas covering representative ecosystems and habitats in the country.

Its Mediterranean coastline, which is 512 km long, currently has one MPA. The Al Hoceima National Park (43,400 hectares of which 19,600 ha is marine)[110] has been proposed for designation as a SPAMI.

Two new coastal/marine MPAs have been proposed: Jbel Moussa and La Moulouya (both to be designated as National Parks).

Several coastal wetland sites have participated in the MedWetCoast programme (see 3.E *supra*) and [are to be proposed] for listing as Ramsar sites.

[110] Created by Décret n° 2/04/781 du 8 octobre 2004.

ii. Laws relevant to environmental protection

The Environmental Protection and Enhancement Law of 12 May 2003[111] is a comprehensive framework law based on internationally accepted principles of environmental law. It incorporates a general obligation to protect and sustainably use species and biological diversity in order to preserve all species and safeguard the ecological balance (Art.20). The Law specifically applies to the marine and coastal environments as well as the land. Protection of the country's historic and cultural heritage is stated to be an integral part of environmental protection and enhancement policy.

Section V covers marine areas and resources, including the coast, that are come under Morocco's sovereignty or national jurisdiction.

- "Marine resources" are defined as "marine and fresh groundwaters in the coastal area and all biological and non-biological resources occurring in marine areas under national sovereignty or jurisdiction as defined by relevant legislation" (Art.3.14).

- "Maritime areas" are separately defined as "natural maritime biological and maritime resources on the seabed or in adjacent waters or beneath the seabed (Art 3.27) [clarify].

Section V provides for the adoption of legislative/regulatory measures for the following purposes:

- prevention and cessation of activities that adversely affect the quality of marine waters and resources, public health, fauna and flora, related interests and the marine and coastal environment in general (Art.33);

- definition of criteria for the selection and designation of specially protected areas (Art.34, third line); [update]

- protection, enhancement and conservation of the coast to support integrated and sustainable management of coastal ecosystems and the prevention of all forms of degradation of its resources (Art.35);

- mechanisms and modalities for protection of marine areas and resources, including procedures for coastal planning; criteria for the designation of coastal areas as "specially protected areas" (in accordance with Art.38, see below); and conditions for the exploitation, enhancement and development of coastal resources.

For MPAs, the provisions of Section V need to be read in conjunction with those of Section VI on Specially Protected Areas, Parks, Nature Reserves and Protected Forests. These complement earlier (1934) legislation for establishment of national parks (see below).

- *Specially protected areas* are defined as "terrestrial or maritime areas of special natural or cultural importance within which essential measures for protection and management of the environment must be taken" (Art.3.7).

- *Parks and nature reserves* are defined as "any area of national territory, including the public maritime domain, that is designated because the ecological balance depends on the preservation of its animals, plants, soil, sub-soil, air, waters, fossils, mineral resources and its natural environment in general. Such parks and nature reserves are of special interest that necessitates protection of their environment against any human activity liable to damage their form, composition or development. (Art.3.13).

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[111] Dahir n° 1-03-59 du 10 rabii I 1424 (12 mai 2003) portant promulgation de la loi n° 11 -03 relative à la protection et à la mise en valeur de l'environnement (Bulletin Officiel n° 5118 du Jeudi 19 Juin 2003).

The procedure for selection and designation of specially protected areas (SPAs) is governed by Art.38. SPAs may be declared by regulations, after consultation with local authorities and relevant bodies and a public enquiry, in terrestrial and marine areas of national territory whose human or natural environment is of special importance and should be conserved. SPAs must be protected and preserved from any intervention or activity likely to alter or damage them.

For SPAs of particular importance, the competent authority may upgrade them to the status of park/nature reserve in accordance with the procedures laid down by relevant texts (see below).

Art.39 provides for compensation of those owning or holding rights over areas that are designated as specially protected areas, parks or nature reserves, in accordance with applicable legal texts.

The Law also contains framework provisions for environmental management instruments, notably environmental impact assessments (Arts.49-50), financial and fiscal incentives to support investment and funding of projects for environmental protection and enhancement (Arts.58-59) and a National Fund for Environmental Protection and Enhancement whose objects are aligned with the broad objectives of the Law (Arts.60-62).

[Cross-sectoral insitutional coordination: Inter-ministerial Committee. National Environment Council – update].

iii. Nature conservation legislation

The Law for the Creation of National Parks of 11 September 1934[112] is apparently still in force. Although there is no explicit reference to marine areas, it is sufficiently general to apply to coastal/marine areas as well as terrestrial ones.

This short instrument sets out the procedures for their creation, lists activities which are prohibited and establishes penalties for infractions. The exercise of property and other rights within the park must not entail the modification of its condition or outward appearance. It confers powers of expropriation on the State with regard to land situated within the park. The Law provides for the creation of a National Parks Consultative Committee (established by Decision dated 20 March 1946).

This Law provides the legal basis for regulations establishing individual parks, including most recently the 2004 Decree establishing the marine national park of Al Hoceima. The competent line ministry for this MPA is the High Commission for Water Resources, Forests and Fight Again Desertification. The MPA is managed by a public institution specially created by the Decree [update].

iv. [Specific coastal/marine frameworks]

National Action Plan for the Protection of the Coastal Environment (PANPEL) [update]

A coastal unit (Cellule Littoral) was created during the MedWetCoast programme within the Environment Ministry in 2003 and is due to be strengthened in 2006 to take the lead role in developing a national coastal zone policy.

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[112] Loi du 11 septembre 1934 sur la création des parcs nationaux.

I. Serbia and Montenegro[113]

i. General aspects

[There are currently no designated MPAs along the country's 313 km coastline, in which many Mediterranean types of landscapes and habitats occur.]

ii. Environmental protection frameworks

The 1996 Law on Environment[114] sets out basic principles of environmental protection, including the conservation of natural assets and biological diversity, and substantive measures to implement such protection. "Natural assets of interest for the Republic, which merit special protection" are defined to "include nature reserves, national parks, protected plant and animal species, nature monuments and landscapes with remarkable characteristics"(Article 15).

The National Report prepared for the SAP-BIO Programme[115] notes that Montenegro's existing legal framework for environmental protection is not adapted to EU requirements in many areas, including environmental protection and biodiversity protection. Constraints identified include the lack of measures to incorporate biodiversity considerations at an early stage in the physical planning process, which has negative consequences such as inappropriate intensive urbanisation and development of tourism zones in the coastal area. Low levels of law enforcement are identified as a problem not only for nature conservation but also for forestry, freshwater and marine fisheries.

The Ministry for Environmental Protection and Physical Planning[116] has general environmental responsibilities, including for protection of nature and protected natural resources, including biodiversity. In parallel, the Ministry of Agriculture, Forestry and Water Management has responsibility for implementation of fisheries, mariculture and certain mechanisms devoted to management of nature resources, including protected areas, protected plant and animal species, forests management, fishing and hunting. Matters related to trade and control of exploitation of wild plant species come under this Ministry [insert clarification of respective remits].

The 2004 Law on Marine Fisheries regulates commercial fishing and mariculture and explicitly references protection of marine biodiversity. It includes for example a prohibitionon collection and selling of endangered molluscs *Litophaga litophaga*.

Montegro currently has no national Biodiversity Strategy and Action Plan but these are under development.

iii. Nature conservation legislation

The older 1989 Law on Nature Protection[117] [insert details] confers particular protection on areas of special natural values, natural landmarks and natural rarities, including protection of the areas

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[113] This analysis is provisional and subject to further elaboration. The consultants thank Ms. Ana Pajevic for having provided copies of relevant documents.

[114] Official Gazette of the Republic of Montenegro", no. 12/96.

[115] Buskovic, V., Macic, V., Ivanovic, A., 2004: Status, problems and conservation of Coastal and Marine Biodiversity in Montenegro (State Union Serbia and Montenegro), National Report produced within the project Strategic Action Programme for the Conservation of Biological Diversity in the Mediterranean Region (SAP BIO). Mediterranean Action Plan – UNEP, Regional Activity Centre for Specially Protected Areas, Tunisia and Ministry of Environmental Protection and Physical Planning of Montenegro, Podgorica.

[116] Created in July 2001 (formerly the Ministry of Environmental Protection).

[117] Official Gazette of the Republic of Montenegro ", no. 36/77 (2/89)).

important for plant and animal species, and promotes sustainable use of natural resources. Article 2 defines principles related to nature conservation, including: sustainable use of natural resources; prevention of activities that directly or indirectly damage natural assets and their characteristics; creation of favourable conditions for conservation and maintenance of natural values. Article 3 mandates local authorities, the Republic and individuals to take care of the nature protection. Destruction of or damage to natural assets is prohibited (Article 9).

The SAP-BIO National Report identifies important gaps in the legal framework for protected areas. The main protection category used to date is that of "Natural Monument". Protected areas in the coastal strip were designated and established predominantly in 1968 and the system has not kept up with modern developments.

Because of its recent history, the country lacks appropriate institutions for protected area management except for National Parks. Management planning for protected areas is also under-developed. The Report therefore identified "Assessment and revision of the status, regime and management practice of Protected Areas" as Priority Action 4. This is currently being developed as National Action Plan 3 for implementation during the forthcoming phase of the SAP-BIO programme.

iv. Specific coastal/marine frameworks

Interestingly, Montenegro has both legislation and institutions specific to the coast, although these are in need of revision to reflect modern ecologically-based concepts of integrated coastal zone management.

Montenegro's coastal zone is recognised as a coastal area with defined geographical border and specific functional characteristics which, due to its exceptional importance and value, merits a special management and use regime.

The Public Enterprise Coastal Zone Management Agency (PE CZMA) was established in 1992 by the Coastal Zone Law. This Law defined the Coastal Zone as the dry land belt, territorial sea, and all living and non-living resources within that zone, and lays down guidelines for use, protection and management of the coastal zone. It envisaged the establishment of the PE CZMA to manage the coastal zone directly in accordance with the provisions laid down by the Law. In practice, however, these provisions are broad, ambiguous and not sufficient for setting up a sound coastal management strategy at the local and national levels.

The PE CZMA comes under the auspices of the Ministry of Maritime Affairs. Its main responsibilities include: protection, restoration and development of coastal and marine resources; management of coastal and marine resources; contracting and leasing of areas within the coastal zone; and development and maintenance of infrastructure objects for the management of coastal and marine resources. The Agency currently takes a market-oriented approach to use of the coastal zone through tools such as contracted leasing of coastal areas. Profits are reinvested in protection and improvement of the coastal zone.

There is currently no management plan nor a strategy for the development and protection of the coastal zone that could underpin an integrated approach. However, a draft Spatial Plan on Maritime Public Domain[118], based on studies including reports on marine and coastal biodiversity, is now at the stage of a revised Draft.

The National Report designated "Identification of new protected areas needing appropriate status of protection in the coastal zone" as Priority Action 7, specifying that in addition to new coastal protected areas, MPAs should be evaluated in order to enlarge the percentage and size of protected areas across

[118] *"Prostorni Plan Podrucja Posebne Namjene za Morsko Dobro Crne Gore".*

the whole of Montenegro's coastal zone. This will be implemented as National Action Plan 4 in the next phase of SAP BIO implementation.

Based on the National Report, the PE CZMA will play an important role in preparing management plans for certain coastal protected areas, in coordination with the Institute for the Protection of Nature and other key stakeholders, and take the lead on establishing appropriate management structures. It is intended that outcomes should be capable of replication in other protected areas in the coastal zone under the jurisdiction of PE CZMA and facilitate revision of existing legal instruments on protected areas.

The National Report notes that some of the problems identified in the coastal zone are caused by overlapping of jurisdiction at central and local levels whilst some land use conflicts are caused by ambiguous land ownership at certain locations, including previous military sites.

J. Syria

i. General aspects

There are currently three coastal/marine protected areas for which management plans are currently being developed:

- Fanar Ibn Hani, with a marine component covering 1000 ha[119];
- Om Al Toyour, also with a marine component covering 1000 ha [120];
- Ras El Bassit, with a marine component covering 3000 ha [121].

Proposals to designate additional MPAs are currently under preparation.

ii. Laws relevant to environmental protection

The Environment Protection Law No. 50 of 2002 (full text not yet available) is a comprehensive framework law covering the following matters:

- terms and definitions (Art.1);

- functions and objectives of the General Authority for Environment Affairs (Arts.2-5)[122]. The Authority's responsibilities include: identifying environmental problems and supporting research and scientific studies to treat and solve them; preparing the national strategy for environment protection; developing public awareness for environmental protection and safety; environmental standards and criteria; matters related to environmental impact assessments; regulation of environmentally damaging activities; monitoring; environmental emergency planning; determining the basis for creating protected areas; developing environment-related legislation; and strengthening the relationship between Syria and other States and international and regional organizations in environmental affairs;

- powers conferred on the Minister for Environmental Affairs (Arts.12-14);

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[119] Resolution n°23/T, on July 19th, 2000, issued by Ministry of Agricultural and Agrarian Reform.

[120] Resolution n°15/T, on May 13th, 1999, issued by Ministry of Agricultural and Agrarian Reform (for the coast part and the coastal forest of the protected area).

[121] Resolution n°26/T, on May 29th, 1999, issued by Ministry of Agricultural and Agrarian Reform (for the coast part and the coastal forest of the protected area).

[122] Established by Legislative Decree No. 11 of 1991. Articles 6-11 concern the formation and management of the Authority.

- establishment and functions of the Environment Protection Council (Arts.15-17)
- creation of the Environment Protection and Support Fund (Arts.18-21);
- liability and compensation for environmental damage and offences and penalties (Arts.22-32).

iii. Nature conservation legislation

Each of the three existing MPAs was established by a Resolution enacted by the Ministry of Agricultural and Agrarian Reform, covering at least the terrestrial component.

The competent government authority for management of these areas is now the Biodiversity and Protected Areas Directorate of the Ministry of Local Administration and Environment.

[The analysis in Phase 2 will clarify how competencies for the coastal and marine environment are allocated between ministries and how any necessary coordination of functions within mixed MPAs is to be carried out].

K. Tunisia

i. General aspects

Tunisia has a Mediterranean coastline of 1,250km. Three MPAs have been established to date. All are designated as SPAMIs and are now covered by management and zoning plans:

- Zembra and Zembretta National Park and Biosphere Reserve[123] (4700 ha marine surface area out of a total area of 5090 ha) is located in the territorial sea around two islands north-east of the Gulf of Tunis. The islands are surrounded by a 1.5 mile marine protection zone[124]. The Park's main objectives are protection of puffin colonies and the monk seal. [Management comes under General Forestry Directorate, Ministry of Agriculture, but the Environment Ministry has the right to be consulted over management of the National Park.] The Ministry of Defence (present on the island) carries out several Park functions, including surveillance of Park's marine component.

- Kneiss Islands nature reserve (5850 ha in archipelago consisting of 4 islands of varying size, located about 2 n.m. from the continent (Baie de la Skhira, Sfax *gouvernorat*)[125]. [This is managed by General Forestry Directorate, Ministry of Agriculture, in cooperation with the coastal agency APAL (see below)].

- Galiton Marine Reserve[126] (1900 ha in archipelago of 6 islands 60km north of Tunisian coast, located in the territorial sea) is currently being upgraded to the status of National Park[127] and will be managed by APAL.

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[123] Décret n° 77-340 du 1er avril 1977 portant création du Parc National de Zembra and Zembretta.

[124] Arrêté du Ministère de l'Agriculture du 9 octobre 1973.

[125] Arrêté/décret du 18 décembre 1993 portant création de la réserve de l'Archipel des îles Kneiss

[126] Arrêté du ministère de l'agriculture du 4 juillet 1980 portant création de la réserve naturelle de l'Archipel de la Galite .

[127] The new Park (confirmed February 2005) is being established with funds from the *Fonds Français pour l'Environnement Mondial*. It is intended to constitute the first step towards a network of Protected Marine and Coastal Areas in Tunisia and provide a model replicable at scale of Maghreb and Middle East. Park objectives include protection of monk seal and other species of Mediterranean importance and the replenishment of fish stocks to stabilise fisheries resources on the continental plateau north of Tunisia

New MPAs have been proposed for the north-east part of the Kerkennah Islands; the Kuriates Islands; and the coast between the Cap Negro and the Cap Serrat.

ii. Environmental protection frameworks

[insert details of legislation]

Tunisia has undertaken major institutional reorganisation with regard to environmental protection and management and the attribution of competencies with regard to the coast and the public maritime domain.

As of 2005, the lead ministry is the Ministry of Environment and Sustainable Development (MEDD) whose functions are laid down by a Decree adopted in 2005[128]. These cover development of policy for general environmental protection and nature conservation and a comprehensive mandate to ensure integration of ecologically sustainable use and development into all sectoral policies and their implementation (Art.1).

MEDD has specific competencies with regard to the protection and promotion of areas reserved for wild species, nature reserves and open spaces essential for the development of future generations. Its mandate covers oversight of actions for the development and protection of natural ecosystems and areas and the coast as well as controlling the management of such areas and ecosystems and the public maritime domain (Art.2).

Implementing agencies of the MEDD include:

- *Agence Nationale de Protection de l'Environnement* (ANPE). This cross-sectoral Agency, created in 1988, has functions that include pollution control, matters related to environmental impact assessments for coastal development and infrastructure projects and environmental enforcement.

- *Agence de Protection et d'Aménagement du Littoral* (APAL) (see below)

Tunisia's policy framework includes a National Biodiversity Strategy adopted in 2001[129] and a new National Wetland Strategy finalised in 2005 [insert details].

iii. Nature conservation legislation

The legal basis for establishing the three MPAs in Tunisia was the Forest Code as laid down by Law n° 20-88 adopted on 13 April 1988[130]. This applied the legal regime for forests to national parks and nature reserves and defined general principles for conservation of nature and wild species. Decrees for the establishment of existing national parks and ministerial decisions for the establishment of nature reserves have been issued under this Law.

The 1988 Law has now been [replaced] by Law n° 2005-13 of 26 January 2005 [analysis to be inserted].

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[128] Décret n° 2005-2933 du 1er novembre 2005, fixant les attributions du ministère de l'environnement et du développement durable.

[129] Stratégie nationale de conservation et de développement de la flore et de la faune sauvage et des aires protégées, adopted by the Direction Générale des Forêts, Ministère de l'Agriculture (2001).

[130] Loi n° 20-88 du 13 avril 1988 portant code forestier (JORT n° 30 du 3 mai 1988, pp. 678 à 692).

iv. Special coastal/marine frameworks

The Coastal Protection and Planning Agency (APAL) is a public body established in 1995[131] and comes under what is now the Ministry for Environment and Sustainable Development (MEDD). Its statutory duties are to implement government policy for coastal protection and planning. The coastal zone is defined as "the zone of contact which enables the ecological, natural and biological relationship between the sea and land and their direct and indirect interaction" (Art.1).

The APAL's primary focus is on coastal planning and development, in accordance with environmental considerations specific to the coast. It seeks to ensure consistency between all projects and programmes affecting the coast. Its current mandate does not extend to all aspects of integrated coastal zone management.

Amongst its specific fundtions, the APAL handles EIA procedures and the issue of permits for all coastal planning and development; defines buffer zones around ecologically sensitive areas in which land use may be controlled; has powers of expropriation to protect such areas against property speculation and uncontrolled urban development; and enforces the law to prevent encroachments and unlawful occupation of the public maritime domain. The APAL carries out measures to identify, protect and restore natural and sensitive areas and may conclude partnerships with landowners in sensitive areas to secure management in accordance with agreed prescriptions. It conducts regular monitoring and has established a coastal observatory. Priorities and actions are determined under five-year management plans.

On the same day in 1995, special legislation was adopted for Tunisia's public maritime domain[132]. Natural elements of this domain are defined to include the shoreline, lakes and lagoons that are naturally connected to the sea, the exclusive fishing zone, the exclusive economic zone etc. [insert details]

[Update : new legislation on marine and coastal protected areas ; policy on integrated coastal zone management].

L. Turkey

i. General aspects

The Turkish Mediterranean coast is of high importance for the protection of the monk seal and of sea turtles as well as for biodiversity in general. Turkey currently has [two] MPAs:

- Datcha Botzburum Specially Protected Area[133] (147,400 hectares including a marine surface area of 76,300 ha);
- Kekova Specially Protected Area[134], with a marine surface area of 11,500 ha.

There are proposals to create [six] new MPAs (details awaited).

ii. Laws relevant to environmental protection

[131] Loi n°72-95 du 24 juillet 1995.
[132] Loi n° 95-73 du 24 juillet 1995, modified by Law n°2005-33 du 4 avril 2005.
[133] Created by Special Decree published in OG n° 20702, November 21st, 1990.
[134] Created by Decree n° 90/77 on 18 January 1990 (OG n° 20449 (02/03/1990)).

Turkey's general Environment Law was adopted in 1983[135] [update]. Its objectives are to provide for the improvement of use of land and natural resources and preserving the country's plant and livestock assets and natural and historical riches (Art.1). The six sections of the Law cover:

(1) objectives, definitions and principles;
(2) central and local administrative divisions and their functions;
(3) precautions and prohibitions regarding environmental protection, including declaration of "Special Environmental Protection Areas" (the legal basis for creating the mpas mentioned above) and environmental impact assessment procedures;
(4) Environmental Pollution Prevention Fund (art.17);
(5) penal provisions; and
(6) miscellaneous provisions.

The competent line ministry is the Ministry of Environment and Forestry (MEF), whose mandate and functions are laid down by the Law on the institution of the Ministry of Environment and Forestry adopted on 8 August 2003[136]. These include definition of principles and policies on environment protection and measures to define, manage, protect, improve, and operate natural parks, nature parks, nature monuments, protection sites, biodiversity and wild life. Departments established within the Ministry include the General Directorate of Nature Protection and Natural Parks.

The Authority for the Protection of Special Areas, which has management responsibility for the Turkish MPAs mentioned above, is accountable to this Ministry [insert detail].

In 2005, Turkey issued a Regulation on Wetlands[137] to define the principles and rules for protecting wetlands and their habitats and ensuring their wise use and management. It is prohibited to dry natural wetlands larger that 8 ha, while natural wetlands smaller than 8 ha can be drained subject to a permit from MEF. Discharging surface and underground waters from wetlands as well as diverting streams and other surface waters feeding wetlands is prohibited. A MEF permit is required to extract sand, gravel or peat from protected areas or to cut and transport reeds (seasons and quantities are defined). The Regulation prohibits collection of plant species and hunting except for scientific research purposes and with a permit. The 10-member National Wetlands Committee has lead responsibility for preparing national wetland policies and strategies, and resolving conflicts regarding wetlands.

iii. Nature conservation legislation

The National Parks Law, also adopted in 1983[138], sets out the principles governing the selection and designation of national parks, natural monuments, nature parks, and nature reserve areas of national and international value, and the development and management of such places (Art.1). Its eight parts respectively cover Purpose and definition (I); Designation, planning and nationalisation (II); Granting of permits (III); Duties (IV); Protection, including regulation of various activities in designated areas (V); National Park Fund (VI); Penalties (VII); and Final provisions (VIII).

The different categories of legally protected areas are defined in Article 2. The Law does not state explicitly that these protected areas may include zones of marine water, but implicitly provides a broad enough legal basis for this purpose. National parks are designated by the Council of Ministers upon a proposal of the Ministry of Agriculture and Forestry (Art. 3). A development plan and implementation plan must be prepared or approved by the Ministry for each national park. Article 5 provides for the nationalization (expropriation) of immovable property within the boundaries of designated areas.

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[135] N° 2872-83 of 9 August 1983,
[136] Official Gazette No. 25102, 8 May 2003.
[137] Official Gazette No. 25818, 17 May 2005.
[138] Law n° 2873-83 of 10 August 1983.

Part III covers the grant of permits for all types of plans, projects and investments to be carried out by 'public institutions and organizations'. No permit for use may be granted nor any rights established in natural monument/nature reserve areas "by reserving the applicable provisions of Law No. 2863 for the Protection of Cultural and Natural Assets" of 21 March 1983 (art. 10).

[Update as necessary, including Regulation on National Parks (1986-12-12) and Regulation on National Parks Fund (1986-12-12 as amended)]

ANNEX N

REVIEW OF EXISTING FINANCIAL CONSTRAINTS AND MEASURES AND PROPOSAL FOR A UNEP/GEF PROGRAMME ON STRENGTHENING SUSTAINABLE ENVIRONMENTAL FINANCIAL MECHANISM FOR THE IMPLEMENTATION OF THE NAPS[1]

[1] MEDPOL, May 2006

I. INTRODUCTION

1. The challenge of implementation

The implementation of the NAPs is the main vehicle for the reduction of pollution from land-based sources in the countries of the Mediterranean as set by the targets of the SAP. Following the preparation of the NAPs, the task is now to confront the challenge of implementation through which to achieve concrete, and hopefully lasting, results on the ground. Attention must now be directed towards the establishment and strengthening of the framework necessary to support the implementation of the NAPs. Central in this framework is the issue of environmental finance. Although the need for financial resources and the importance of including an Investment Portfolio have been stressed to various degrees in the NAPs, the creation of the supporting institutional and legislative conditions to facilitate and realize the flow of the required amount and type of finance most suitable for the actions envisaged by the NAPs remains a major and specialized challenge within the whole process of ensuring the reduction of the land based sources of sea pollution in the Mediterranean.

2. Environmental finance

The protection of the marine environment from pollution from land based sources entails complex objectives and combined actions. These objectives cannot be achieved with conventional assumptions that investment resources will be made available to match the estimated costs at current or even increased availability of finance. In order to match the financial needs detailed investment planning is needed to show the particular nature, duration and operational characteristics of the environmental asset, infrastructure or intervention called for to reduce pollution over the next 20 or so years. Particular type of finance is required according not only to the type, size and risk of environmental investment considered but also to the administrative, legal and social context within which the investment will be undertaken, operated and utilized. The specific characteristics of each financing source need to be taken into consideration when developing the financial packages for implementation. For example:

- Currently, long term finance most suitable for high cost and long lasting infrastructure is either unavailable without government guarantees or insufficient in the needed amounts without national co-financing (public and private), or, without provisions made for ensuring at least partial cost recovery charges over time.
- Private sector participation is unrealistic if recovery charges are not secured.
- Commercial finance most suitable for bridging revenues and expenditure flows require prior financial planning and accountability of the financial plans implementation. In addition there is a need to assess needs and administrative and legal capacity for early repayments. Payment of salaries should be covered by budget sources rather than by high interest commercial loans intended for bridge finance.

- Donor funds are mostly intended for start-up actions until domestic financial strategies and legislation are in place rather than available on a continuous basis. Again, donor or concessionary funds often fall into larger bilateral or multilateral programmes focusing on particular investments or measures and not on those high in the list of pollution control.
- Most importantly, national budget funds needed for continuous activity may not be made available without demonstrating the socio-economic significance of such activities in terms of employment, community level welfare or poverty alleviation among underprivileged groups necessary to justify diversion of scarce budget funds from other pressing uses.

In short, environmental finance is a mixture of finance corresponding to the diversity and timeframe of environmental problems and the institutional structure responsible for their prevention, management, solution and monitoring.

3. Existing problems and constraints in the NAP process

A straight forward interpretation of the NAPs prepared reveals several issues of concern from the environmental finance point of view. Primary among them is the sheer size of the implied financial requirement presented as needs corresponding to the problems at hand. There is very little prospect that such amounts will be forthcoming. The NAPs present a listing of financing needs which in many cases has been done outside the context of a sound strategic financial strategy thus reflecting the perpetuation of the conventional approach that 'we have done our good work and now we expect that the Ministry of Finance will do his duty'. This approach combined with the enormous amount of reported financing needs is in fact a recipe for inaction and a course towards the continuation of pollution to the detriment of national and regional sea and marine resources. This approach is unsuitable as an implementation vision and has to change.

Part of the reason for the observed separation of the financial needs presented in the SAP and the NAPs and the hard reality of the implementation process is the fact that the preparation of the NAPs reflects the collaboration and work effort of science-based environmental specialists within the responsible Environmental Departments or Ministries, or within specific units in those agencies. Collaboration with, and exposure to, Finance or Economic Ministries necessary to tackle implementation related issues was not foreseen. The concentration of the NAPs on the 'science' of pollution overshadowed the equally important concern for the 'economics' of tackling pollution.

The effective implementation of the NAPs should involve both tracks such that would highlight more sharply the priorities for action and the adjustment of the reported financing needs in terms of financial demand and financial supply considerations. While finance experts may not grasp sufficiently the environmental pollution risks, equally environmental experts may not by themselves appreciate the process of activating financial resources tailored to the needs of what they describe.

4. Prioritization

Prioritization is inherent in any programme. In the NAPs there is prioritization relative to the severity of pollution abatement needs, the timing of the commitment to meet set targets and the desirability to improve technical skills for the future. Prioritization is an entry point into implementation. The effectiveness of prioritization in this sense much depends on whether priorities are defined in terms of finance with a view to getting closer to what is likely to be available for the programme, what is possible by the administrative machinery and feasible to attract cooperation by a wider group of participants. This kind of financial prioritization needs to become a core activity in the implementation of the NAPs. Its essential role will be to 'close the gap' between the reported financial needs and the supply of financial resources. The 'closing of the gap' calls for a double sided effort: to screen the needs and bring them down to a phased programme by scrutinizing ways of increasing the supply of financial resources to bring them up to the level of achieving core environmental and social pressing concerns. This double sided effort has to operate under a unified financial strategy. Bringing down the estimated costs can be achieved not by numerical downward adjustment of the figures but by looking closer at the least-cost investments to achieve the same desired results, scrutinizing the demand projections to avoid over-design solutions, taking into account the replacement of old equipment with new with savings in operating costs, separating public from private investment costs, and cost adjustments in real terms taking account of expected income growth over time.

In addition to the prioritization based on financial constraints there is likewise a need to priorities actions based on projects readiness and possible legislative, institutional and capacity constraints. Such prioritization will be important in developing the specific implementation plan with rolling pipelines of projects.

5. Institutional issues

It is optimistic to expect financial realism to be at the forefront of attention in Environmental

Ministries whose mandate is primarily to investigate, document and propose actions for pollution control. The fragmentation of administrative responsibilities for environment management in different departments and ministries makes for scattered responsibilities for policies and measures pertaining to the various pollution sources (wastewater, agriculture, land use planning, energy, industry, etc.). Coordination with 'sibling' departments can be difficult even for technical issues, let along financial investment planning. Budgeting, financial analysis and investment costing are conventionally confined to the economic ministries and this is how they are perceived by the environment ministries.

Likewise, information about charges for water, industrial pollution abatement investment, taxes and levies, etc., is either inaccessible or of limited direct interest to departments dealing with pollution. Similarly, the legal framework and its capability to provide for financial instruments for the environment, or for reaching out to the international lending institutions for securing funds for particular projects is not fully understood by pollution scientists. It is important to recognize that these issues are related but distinct from the 'science' of pollution.

II THE ROLE OF MAP AS REGIONAL CENTRE

6. MAP's central role in promoting an enabling framework for environmental finance in the region

MAP is the regional centre of the Barcelona Convention promoting and managing several programmes that aim to fulfill its mandate under the various Conventions for the prevention of pollution from land-based sources. MAP is managing the SAP and promoting activities leading to the preparation of the NAPs by country specialists and will undertake a similar promoter role in the implementation of the NAPs.

MAP in its capacity as the regional centre has a wide network of professional-level contacts with all the countries of the region and cooperates frequently with leading public sector policy makers in the Environment Ministries. In the same capacity it has an outreach to the wider UN System, the European Union institutional network and the international lending institutions under the World Bank. Its accumulated knowledge and position justify the role it assumes with regard to this Project for the implementation of the NAPs..

To perform this role MAP, an institution with a regional scope and programme development capacity, has to initiate a regional level programme for establishing and strengthening over the next 5 years an **enabling policy framework for sustainable environmental finance and a mechanism to introduce and apply environmental finance at the country level**. As MAP at present lacks such as specialized focus within its structure, it is essential that first steps are taken, which could lead to an Environmental Finance Unit (EFU) to be established in MAP to assist countries in their efforts to create an enabling policy framework for environmental finance to implement the NAPs. MAP will be well placed to build up expertise and to be perceived by countries as an honest broker as its objectives are not financial (profits) but is pollution reduction. This gives MAP unique opportunity to assist countries with unbiased and objective information on regional and global opportunities and experience on financing SAP and NAP implementation.

III SUMMARY OF PROGRAMME COMPONENTS AND ACTIVITIES

7. Summary

The enabling policy framework for sustainable environmental finance, focusing on capacity strengthening and knowledge transfer necessary to support the activities of countries towards the implementation of SAP and NAPs, should be put in place and operate within the following components corresponding to programme activities:

At national level

a) Financial strategy focused on closing the financing gap
b) Institutional and legal reviews
c) Socio-economic uses and limitations of environmental investment

At national and regional level

d) Review of existing financial resources
e) The role of the private sector

Financial strategies will create the overall umbrella under which to take a hard look at ways of matching and bringing a balance in the demand for funds and the supply of funds. On the demand side, it will examine the projects and their costs proposed under the NAPs, will examine the environmental expenditure in each country and establish a sound picture of the current capability for implementation and propose how to identify those actions which can start as soon as possible to begin the implementation process. On the supply side, it will examine where environmental expenditure goes at present and the opportunities for diverting domestic resources towards the NAPs, opportunities for enlarging the domestic sources of revenue that may be channeled to the NAPs, and examine additional sources from regional and / or international institutions. The strategies will be based on ensuring sustainability in the long term financing arrangements as well as ensure continuous affordability at household level (also see below).

The *institutional and legal reviews* will concentrate on how to support the NAPs to develop the necessary links with the centres of financial decision making (Finance and Economic Ministries), assess if institutional adjustments and legal improvements will be needed to facilitate a more effective role of financial planning and management in the Environmental Ministries, review if revenue raising fiscal instruments can be applied and in which sectors, and how to create a more direct relationship with financial ministries and other ministries with responsibilities for environmental policy and expenditure.

The *review of existing financing sources* will pull together information on the experience and performance in each country so that a more realistic picture will emerge about phases of implementation and priorities, which is essential to know when approaching outside donors for financial support. Only with a good knowledge of domestic financial matters it is most likely to increase donor financing.

The *socio-economic aspects* will keep into consideration the issue of affordability and the importance of environmental investment in promoting wider socio-economic national goals such as poverty issues, employment generation, health, cultural heritage, etc. Whilst it is important to promote private sector financing for environmental investment equally important is the need to ensure affordable services, access to water, as well as demonstrate the added social value of environmental investment for benefits which may or may not translate into revenues for reuse.

The mobilization of *private sector resources* is a major consideration in the establishment of sustainable domestic flow of resources. It will look at how public sector responsibilities can and should encourage private sector involvement in investment, how good governance can help reduce private sector risks in engaging in long term investment and create and maintain the framework for changes and levies that will recoup private sector investment. Specifically issues on risk sharing between private sector and public sector will be addressed and the different type of public private partnerships.

IV PROGRAMME ACTIVITIES

8. Enabling policy framework

An enabling policy framework is essential for increasing environmental finance. An enabling policy framework does not mean a total shift to commercial operations and market finance. It focuses on strengthening governance, clarity and enforcement of fiscal rules and creation of an investment drive understandable to key financial stakeholders (finance ministries, the corporate sector and to industry).

8.1 Understanding environmental investment and financing needs

Contrary to what is often maintained in many countries of the region, environmental investment is not a homogeneous category of expenditure. Likewise, finance comes in different forms and sizes. Matching investment requirements to financing sources entails a financing strategy operating within an institutional and policy framework in which it is common practice to identify the different types of environmental investment financing sources as a tool for implementation.

In many countries of the region there is a tendency to present overambitious investment needs to national budget committees under conditions of scarcity of budget funds, Such practices lead to under-provision of funds for the environment and for many other sectors. Insufficient understanding of investment planning, inadequate estimation of the value of environmental resources and administrative rigidities in public sector budgetary procedures are among the core reasons for under-investment in environmental protection.

The problems are compounded by entrenched public sector policy approaches that continue to favour regulatory 'command and control' methods of addressing pollution issues. Finance delivered to environment ministries through the fiscal system will always be limited relative to needs. Policy responses and reforms are needed to bridge the gap by mobilizing other sources of finance through the financial market. An enabling policy framework, in which finance-based costing, valuation and prioritization are primary concerns, is fundamental to perceiving and attracting additional financing for the environment.

8.2 What is Sustainable Financing?

Sustainable finance means arrangements for the continued flow and generation of funds to support the implementation and operation of an investment or a programme. The underlying requirements include:

- That financing covers the economic life of the investment (or programme) as designed at the beginning. For example, the planning of a sewerage system with a planned life of, say, 25 years, should include arrangements for its operation for that period.
- Arrangements for covering the costs not only of the services from the investment but also the costs of the programmes or policies associated with its effective operation. For example, the costs of the monitoring programme of pollutants by the authorities, or, in the case of recycling schemes, the costs of the collection centres and the delivery of materials to centres for reuse and processing.
- That financing plans are prepared identifying the sources of finance and the competent authorities responsible for the operation of infrastructure and the enforcement of rules of standards.

Typical problems in securing sustainable financing arise mainly for the following reasons: (a) Over-design of infrastructure capacity without adequate estimation of the real demand for services, leading to high investment costs, (b) Over-optimism about the availability of finance for implementation, (c) Underestimation of the maintenance and operation costs, and (d) insufficient attention given to the institutional arrangements for putting in place the financial plan for implementation.

8.3 What is environmental investment?

Understanding environmental investment is necessary to overcome the recurrent argument of the 'financial unprofitability' of costly environmental investment which creates notions that private sector involvement is excluded and only the public sector can finance it at a loss. This may be true but under certain conditions where environmental investments are perceived as 'total packages' reaching high cost figures. What is environmental investment? Typically they include the following:

- Building new infrastructure
- Expanding the coverage of existing infrastructure
- Improving the efficiency of existing infrastructure

Looking at such investment from the public sector point of view several problems become prominent, including:

- Environmental infrastructure is capital-intensive and long-term;
- The revenues collected from operations are small relative to the initial capital cost;
- The ownership and management of the infrastructure remains in the public sector, usually in public corporations;
- Social factors often impede the application of commercial criteria in infrastructure investment;
- The benefits of environmental investment are under-estimated and public authorities cannot capture them in terms of actual cash revenues.

8.4 Definition of responsibilities

Alternatively, an investment-minded governance will confront this issue by establishing a clear understanding and definition of the basis for 'public private partnerships' and the responsibilities of each side; in other words establishing the responsibilities of the public sector to set rules and regulations and a secure policy context for enabling private investment to operate profitably within limits defined by affordability and social vision. This approach is the basis for public-private ventures modeled on the principles of BOT, BOOT, etc.

8.5 Political willingness to tax

A crucial objective in the process of policy reforms is to establish that the financing of environmental infrastructure is not an 'all or nothing' venture but a decomposable mix of expenditure and responsibilities. The public sector will need to clearly understand that to create an enabling climate for environmental finance should identify the areas where public responsibility and intervention will continue to be needed to stimulate willingness for private sector participation. Obstacles to private investment are typically social which restrict full cost revenues and increase the investment risk. Public sector resources will always be needed to supplement and support private investment, requiring political will and administrative efficiency to maintain an effective environmental tax system to address obstacles including following:

- Low income users of water or wastewater infrastructure, if they are willing to pay the user traffics, may be unable to pay the capital connection charges;
- When full cost pricing for the infrastructure is unaffordable to low income users, governments respond by providing access to infrastructure below cost.
- Even when low income users may be willing to pay the full cost for the infrastructure, they are not willing to pay the full cost of wastewater collection and treatment.

9. Financial strategy

The core issue that needs urgent attention in all the countries is the development of capacities for

preparing and implementing a financial strategy to carry the NAPs into the realm of action. Financial strategy means matching investment demand with available financing resources. This is urgent because of the shortage of national financial resources to fulfill the investment needs presented in the NAPs. In almost all the NAPs in which investment needs are presented, the costs are enormous both in terms of the country's real financing capability and in terms of prospects for external financing. The response to this imbalance is not to assume that the financing needs are constant and adopt a supply-driven effort to, somehow, increase the financial resources to match them, but to formulate a *financial strategy to close the gap*. The core objective of the financing strategy is to translate financing needs into manageable and feasible investment programme(s) corresponding to the phased actions to fulfill the most important targets of the SAP. A financing strategy should include all cost elements, including operations and maintenance as well as institutional and capacity related costs.

The financial strategy should be conceived as a two-pronged exercise: A demand side exercise of reducing needs to demand for financing, and a supply side exercise of increasing / mobilizing resources.

(A) Demand side actions (cost review and prioritization)

- Review the list of financing needs identified in the NAPs and clarify those that are already under implemented or will soon start.

- Categorize the top most urgent investments as 'baseline' investments, including those which are technically ready to start and those which are scheduled by the relevant ministry to start soon and represent existing commitments that can proceed on the basis of existing laws and regulations.

- Update and scrutinize financial costs with a view to reducing gross overestimations. Closer attentions should be given to (a) choosing a least-cost alternative, (b) avoiding over dimensioning of technical capacity in line with effective demand for created environmental services / infrastructures, (c) cost sharing opportunities by distinguishing public costs and private costs.

- Clarify what each project / expenditure proposal will actually achieve and whether it may be technically disaggregated / adjusted to lower its cost.

- Identify investments with the highest social and developmental benefit (according to the *Investment Portfolio* methodology, so that the benefit/cost ratio will be higher than other high cost investments).

  - Identify barriers to implementation from institutional and capacity related issues and ensure funding for these activities.

- Likewise, prioritize those for the medium and the longer term.

- Develop a 'baseline' NAP investment package, showing the immediate and short term implementation programme that can be defended and justified as essential environmental investment for the NAP as well as for promoting socially desirable benefits for society and the economy at large. In parallel, ensure that medium and longer term investments beyond the 'baseline' highlight the opportunities for private cost sharing reducing to a lower level the impact on the public budget.

- Demand should include all costs annualized in order to ensure positive cash flows at all times.

(B) Supply side actions (available resources)

- Review existing financial resources and programmes currently in use from official budgets, committed donor funds, sub-regional assistance funds, etc.

- Identify and quantify possibilities for increased financing from existing tax sources or charges related to the environment.

- Identify and quantify possibilities for transferring funds from other programmes or from projects delayed or redesigned.

- Identify and quantify possibilities of forthcoming reductions in subsidies which may release funds for the NAP.

(C) Development of financing gap assessment

The financing gap assessment emerging from the demand / supply side analysis will need to look ahead towards a long term sustainable financing strategy, highlighting the need to bridge the short term financing gap as well as the expected long term financial surpluses following from actions taken.

(D) Specific Implementation Plan

The output of the proposed sustainable financial strategy will fundamentally lead to the development of an Investment plan which will:

- Qualify and quantify a financing gap for a 'baseline' investment programme on an annual basis for the first 5 years.

- Estimate the financing gap for the following 5-year period (on a 5-year rolling basis) and scrutinize opportunities for mobilizing domestic and external resources on the basis of a credible financing strategy designed to close the gap. Financial mobilization will be a more realistic process when a country demonstrates the commitment to develop capacity for operating a financial strategy.

10. Mobilizing resources

10.1 Mobilization of domestic resources

Domestic resource mobilization has three important aspects:

10.1.1 V*aluing the environment*. Environmental resources, coastal and marine resources in particular, are highly valuable and provide diverse services to income-generating sectors like tourism, agriculture, fisheries, water, etc. Preserving environmental quality (by avoiding damages and losses) generates human health, recreation, beach quality and cultural benefits that need to be assessed as a tool for demonstrating the justification for increasing budget and other financial resources to prevent land based sea pollution. In some countries of the region where cost of degradation studies have been carried out (Lebanon, Egypt, Morocco, Tunisia) the cost of degradation of the coastal zone has been estimated roughly just under 1% of the GDP per year. Valuation of coastal resources can be a powerful tool for reaching the attention of financial decision-makers and justifying increased budget allocations. If the environment is not shown to have a value why then spend resources to protect and improve it.

Resource valuation is an equally powerful tool for the *protection of biodiversity* where market forces are weak in giving market price signals for its value to society. Degradation and resource losses

nevertheless remain un-priced and work through the reduced productivity of tourism, recreation, cultural heritage ultimately impacting negatively on revenues and local income. Environmental economics has developed methodologies (travel cost approach, willingness to pay, etc.) to assess and in some cases monetize the cost of biodiversity damages. It is therefore justified to apply resource valuation to demonstrate the need for increased expenditure on biodiversity. Of particular interest for environmental finance however is the use of practical fiscal instruments to capture the benefits of biodiversity values and transform and mobilize them into revenues for investment.

10.1.2 Applying market-based instruments. In the Mediterranean few countries (Croatia and Slovenia), have in place a set of market-based instruments for mobilizing private sector resources. A recent study carried out by MAP-PAP/RAC (GEF SAP MED) has shown that most of the economic instruments concern water changes for partial cost recovery. Other economic instruments (tradable permits, etc.) that create markets for clean environment in the industrial sector are limited to Croatia, Slovenia and Egypt.

As market based instruments together with public sector transfers are the only long term sustainable financing mechanisms available it is important that countries devise a strategy of how to integrate and strengthen these mechanism. In expanding infrastructure services and enforcing pollution prevention there is an increased need for sustained financing for operations and maintenance. In addition introducing MBI or increasing their use is a very political and contentious process. Phasing in instruments take many years. Therefore if there is an urgent need for countries to start the preparatory work strengthening such mechanisms in order to ensure sustainability in the long term financing.

10.1.3 Institutional strengthening. Both the above can operate effectively if the legal and fiscal system is strengthened to enforce legislation and promote research. Resource valuation and cost benefit analysis for the environment is rarely undertaken by environmental ministries except when initiated by donors or international lending institutions. Finance and economic ministries have the capacity to incorporate the conclusions of such studies but communication and cooperation between those ministries and the environment ministries remains weak.

10.2 Mobilization of financial resources through the application of market-based instruments

There are various market-based instruments that can be applied to promote environmental objectives which require flexibility and private sector cooperation. They are often packaged under categories intended to denote their primary target area. They are: (a) taxes, fees and charges, (b) user charges, (c) product charges, (d) non-compliance fees, (e) deposit funds, (f) performance bonds, and (g) liability payments. The choice of instruments depends on the priority assigned to the combination of results or the primary result aimed at relative to the within the framework of the country's environmental policy. Unlike command and control regulations, instruments, when applied correctly, can (a) correct market distortions that cause environmental harm, (b) raise revenue, and, (c) mobilize private resources to supplement inadequate budget allocations. Ideally, all three policy aspects should be served by a combination of instruments. In practice, the instruments mostly used are those that may be enforced with existing legislation, such as charges and taxes, while policy reviews which take time to achieve are expected to be undertaken to create an enabling administrative context and capacity and legislation for those which seek to mobilize private financing for on-going investment on technology and new infrastructure development (non-compliance fees, deposit funds, performance bonds and liability payments.

The experience in the Mediterranean shows that this channel of domestic resource mobilization is at present of limited importance. They are confined to revenue raising charges with emphasis on partial recovery of public sector investment costs without an overall vision for sustainable environmental finance mobilization aiming at a phased financial strategy to deal with the gross mismatch between financing needs and the supply of financial resources. A Report prepared by MAP's Priority Actions Programme Regional Activity Centre under the SAP MED Programme for the GEF eligible countries (Analysis of the Application of Economic Instruments for Combating Land Based Pollution in the

Mediterranean Coastal Areas, 2002) reveals that

> '*the most often used economic instruments are charges (70%) followed by subsidies (25%) and the deposit refund (5%). No market creation or financial enforcement incentives were reported. Compared to 1993, it can be concluded that no significant change in the number or structure of economic instruments used in environmental protection has occurred. As far as the charges are concerned, all countries reported the use of these instruments, mainly in the fields of transport, natural resources and water. Deposit refunds are in operation in only four countries: Egypt, Slovenia, Tunisia and Turkey*'.

Another part of the same Report refers to the lack of linkage of the charges system to any environmental financial strategy.

> '*Wastewaters, industrial and municipal, present the biggest issue in pollution of the Mediterranean Sea. It can be said that the use of economic instruments in this field in our region is not at a satisfactory level. On the other hand, because of the huge capital investment needed in this sector, the need for financing resources is extremely high. The Percentage of the population connected to sewage system was reported as low as in Albania 35%, in Bosnia and Hezegovina ranging from 91.4 to 1.9, in Egypt and in the area of Beirut 60%, in the rest of Lebanon 10%, 62% in Turkey, 74% in Morocco. The sewage user charges are the instruments reported by most countries. The revenues from these charges are aimed at the operation and maintenance of the sewage system and the wastewater treatment plants. These revenues should provide possibilities for investment in the sector, which happens very rarely. In Lebanon, there is no sewage charge. Moreover, currently, there are no economic instruments planned in this field. In Albania, no sewage water treatment exists. The revenues from user charges are collected in 3 towns only, while in 2000 sewage charges started to be introduced in 6 more cities. In Croatia, Egypt and Turkey the sewage user fees are liked within the same bill together with the water use charges. The water pollution charge in Morocco was introduced with the objective of financing actions and operations intended to reduce pollution of water. These charges are paid for all kinds of dumping, discharge, direct or indirect disposal into surface and ground water, etc. The Slovenian water pollution tax is the most advanced instrument reported in this field*'.

10.3 National budget environmental expenditure

There is very little information on the environmental expenditure in the countries of the region. Part of the problem is the scattered nature of such expenditure under the budgets of different ministries with diverse sectoral responsibilities and obligations towards conventions and protocols. The NAPs do not include any information as an indicator of the current expenditure outlay and investment capability. Any financial strategy should refer to such information as a starting point in the presentation of financing needs for implementation.

10.4 Mobilization of external resources

In the region there is heavy dependency on external financial assistance. This is partly due to the scarcity of domestically mobilized financial resources, lack of introduction of user and polluter pays principles and socio-economic factors, but also because of the perception that environmental infrastructure is costly and unprofitable as a commercial venture. The summary of the activities and programmes operating under the ambit of the regional lending institutions tends to illustrate this tendency.

It is important to clarify that external financing falls mainly under two categories: short term financing suitable for bridging cash flow problems until the country or the sponsor investment agency takes action to build its internally generated revenues (legal rules, enforcement, tax administration, financial

planning, etc.), and long term capital lending for part-financing large infrastructure development. This distinction is often overlooked with consequences for the efficient use of financial resources. Analysis of the type of financing needed for different investments is an essential part of a financial strategy.

10.4.1 Existing financing channels

The **European Investment Bank (EIB)** is the EU's long-term financial institution. It has been established to finance investment projects in support of EU policies, including the achievement of, or moving towards, sustainable development, promoting an appropriate balance between economic growth, protection of the natural environment and fostering social well–being and cohesion. Recent examples of EIB Activities in the Water Sector in the Mediterranean include:

- Algeria – Construction of drinking water supply network linking Taksebt Dam and Algiers
- Morocco – Improving drinking water supplies in a number of towns
- Tunisia – Upgrading of drinking water supplies to the coastal regions of Sahel and Sfax

EIB Activities in other Mediterranean countries:

Turkey – EIB lending currently comes under two facilities; Facility for Euro-Mediterranean Investment Partnership (FEMIP), and the Special Action Programme. In the field of environmental infrastructure loans have financed wastewater and effluent treatment systems projects in Bursa, Adana, Mesin, Diyarbakir, Izmit and Trasus.

Malta – EIB has provided pre-accession lending facility amounting to about EUR 8.5 million. The largest amount of funds has gone in support of private sector investment through the Central Bank of Malta and the Valetta Investment Bank to finance the acquisition of equity and small and medium size enterprises (SMEs) in industry and tourism.

Cyprus – Since 1978 more than EUR 500 million was provided under the EU-Cyprus Cooperation Agreement. The largest amount of EIB finance has gone to protect and enhance the environment; EUR 56.2 million for expanding and upgrading the supply of drinking water (Nicosia, Famagusta and Larnaca), a further EUR 60 million helped finance sewage / sewerage systems (Nicosia, Limassol, Paralimni, Ayia Napa and Paphos), energy sector investment (Dekelia and Vassiliko power plants) and 'global loan for private sector development through the Cyprus Development Bank.

Syria – Since 1979, EIB has lent a total of EUR 326.4 million under four Financial Protocols, principally for transport links, environmental protection (water and wastewater treatment) and energy. Since 2002, EIB has provided EUR 190 million for health care, transport (upgrading of the Port of Tartous) and a 'global loan' to support SMEs.
Lebanon – Most of EIB activities (about EUR 456 million) has been carried out since 1993 in cooperation with the Lebanese Council for Development and Reconstruction (CRD) under the EU 'horizontal facility'.

EIB – Facility for Euro-Mediterranean Investment and Partnership FEMIP. *FEMIP* was established by the Barcelona EU Council in March 2002 to give fresh impetus to private sector growth. EIB has over 30 years experience in private sector lending with loads amounting to over EUR 14 billion spanning a wide range of sectors and financial instruments. The FEMIP was established in 2003 to strengthen private sector investment in areas where until recently were dominated by public sector institutions, including the environment.

- Long term loans
- Structured funds tailored to the rate of return on investments made by innovative companies (a financial facility largely under-developed in the MPC)
- Lines of credit (or global loans) to the local financial and bunking sectorfor on-lending to

SMEs
- Risk capital financing to strengthen company equity and act as catalyst for joint ventures
- Financial instruments such as leasing, guarantees, etc.
- Technical assistance funds earmarked for project identification , design and management and reforms leading to privatization

FEMIP lends to 10 Mediterranean Partner Countries (Algeria, Egypt, Gaza and the West Bank, Israel, Jordan, Lebanon, Morocco, Syria, Tunisia and Turkey) reached the record figure of EUR 2.1 billion in loans signed in 2003, the full operational year since its launch. In 2004 a new instrument was introduced 'the reinforced FEMIP' providing additional opportunities geared to private sector lending:

- Risk-capital financing through the creation of a 'special FEMIP Envelope' based on the model developed in the EU to support investment with high risk profile,
- The creation of a Trust Fund, built up with voluntary contributions for EU members states, for specific needs including subsidized rate loans for sectors undergoing privatization, such as drinking water supply infrastructure, wastewater management, industrial pollution abatement, solid waste processing, irrigation, health and education and urban transport.
- Extension of FEMIP's presence in the Maghreb region. In addition to the EIB Cairo office, the first to be opened outside the EU, it now has offices in Tunis and Rabat.

Non-EU Mediterranean countries there are already 64 partner banks administering Global Loans include: Egypt 5, Gaza and West Bank 2, Jordan 2, Lebanon 13, Morocco 6, Tunisia 30, Turkey 3.

Bilateral Relations Bilateral relations are one of the two complementary tracks of the global Euro-Mediterranean partnership, the other being multilateral relations (regional cooperation). EU bilateral relations and cooperation with Southern and Easter Mediterranean countries and territories are currently either governed by first generation Association Agreements, 1970s Cooperation Agreements or 1990s Euro-Mediterranean Association Agreements. Nine of the twelve Mediterranean Partners are eligible for bilateral MEDA funds as set out in the National Indicative Programmes: Algeria, Egypt, Jordan, Lebanon, Morocco, Palestinian Authority, Syria, Tunisia and Turkey. The Mediterranean Partners of Cyprus, Malta (now EU countries) and Turkey benefit from a pre-accession strategy.

EIB (Urban Development Facility) *EIB* operates a facility for strengthening private-public partnerships (*PPP*) where the private sector is encouraged to contribute in innovative ways to the funding, construction and upgrading of infrastructure schemes and to their operation. Under the UDF the focus of lending is PPP-driven investments geared to sustainable development, in practice borrows are municipalities, local authorities, banking intermediaries, and most importantly, utility agencies undergoing privatization in need of both traditional medium and long term financing and equity funding. Funds are available for investments costing over EUR 25 million normally up to a maximum of half of the capital cost with loan maturities up to 20-25 years and grace periods to suit the needs of large investments.

European Bank of Reconstruction and Development EBRD (Municipal and Environmental Infrastructure Facility) The EBRD is committed to improve municipal and environmental services in its countries of operations which are mostly former command economies of central and Eastern Europe, the Balkans and the CIS. In the Mediterranean region these economies include Albania, Bosnia & Herzegovina, Croatia. Part of EBRD's priorities is to provide financing directly to municipalities or regional governments to undertake environmental investment, where the revenues from user charges are insufficient to amortize the capital cost, where a group of municipalities are involved in investment and operation of a large project, and where guaranties are needed to a municipality's contractor to entice a PPP arrangement. The financial facility offered includes loans with maturities reflecting the economic life of the investment, equity funds to support privatization, guarantees and loan enhancement to mobilize private sector involvement, support for the issue of municipal revenue bonds and 'green equity funds".

Maribor – Slovenia wastewater loan case: The EBRD is providing a EUR 14.8 million loan to finance the construction of a wastewater treatment plant in Slovenia's second largest city. Without this project municipal wastewater would continue to discharge untreated into Drava River. The EBRD Loan has been extended to Aquasystems d.o.o., a private company which will construct and operate a wastewater treatment plant for 22 years under a build-operate-transfer (BOT) contract with the city government of Maribor. Once the BOT agreement has expired, legal ownership and operation responsibility for the plant will be transferred to the city. An additional loan of EUR 13.3 million has been syndicated by EBRD to participant banks.

Zagreb – Croatia wastewater treatment concession case: EBRD loan of EUR 55 million has been given to Zagrebacke Otbandne Vode (ZOV) a private company chosen through an international tender to build, operate and maintain the treatment plant. Co-financing of EUR 115 million has been provided by a German Bank. By lending directly to the concessionaire the EBRD is allowing the city to use its credit capacity for other important projects. The city will control the private company through a long term concession contract setting out the discharge standards that the treatment plant must meet. The project is an example of how PPP can produce important environmental benefits. Without this project, the wastewater of Zagreb's nearly 1.0 million population would be discharged untreated into the Sava River.

World Bank – GEF The World Bank as the leading International Lending Institution develops many financing programmes and credit schemes with diverse scope by geographical area, sectoral emphasis and financing structure. GEF represents a major programme for environmental financing geared towards the needs of eligible countries and the weaving of partnerships between counties and between cooperating international agencies (WB,UNEP, UNDP).

GEF financing extends from project preparation to implementation. In the Mediterranean well over USD 100 million grants have been disbursed as part-financing in the environment sector in the region.

LIFE Programme (The Financial Instrument for the Environment) *LIFE* co-finances environmental initiatives in the EU and certain Third Counties bordering on the Mediterranean and the Baltic Sea and in Central and East Europe accession candidate countries that have decided to participate in LIFE. LIFE is an instrument designed to work towards the implementation of EU policy defined in the Sixth Action Programme for the Environment. It is open to all natural and legal persons and projects financed must meet the following general criteria:

- Accord with the priorities established by EU
- Submitted by financially and technically sound participants
- Be feasible in terms of technical, timetable and institutional support and offer good value for money.

LIFE has three thematic components: LIFE Nature, LIFE Environment, and LIFE Third Countries. LIFE has been implemented in phases 400 million EUR in the First Phase (1992-95) 450 million EUR in the Second Phase (1996-99) and a budget allocation of 649 million EUR in the current Third Phase (1999-2002). A total of 2,050 LIFE Projects were supported from 1992-2002 as follows: 700 LIFE Nature Projects, 1,200 LIFE Environment Projects, and 160 LIFE Third Countries Projects.

11. Affordability

In seeking greater private sector involvement in environmental investment equally greater attention must be given to socio-economic objectives and the country's social policy, such as poverty alleviation, employment generation, uplifting of particular deprived areas and human development. Environmental investment imposing unaffordable charges or costs will not be sustainable or accessible to all social groups.

Affordability concerns may seem to constrain the application of commercial criteria in environmental

finance. Affordability may seem to put a break on commercially-oriented investments in environmental services. Commercially determined charges for access and use of water and sewage treatment may be unaffordable to lower income groups which, rightly, government are committed and wish to serve on social grounds. Private sector capital is not attracted in sector where cost recovery plus profit revenues cannot be achieved. This is common in long lasting water and wastewater infrastructure with large upfront capital investment. Good governance is required to clarify and assign responsibilities and feasible options to public and private sectors so that social policy and the sound use of environmental finance are reconciled as a prerequisite for public/private cost sharing under conditions of reduced risk and uncertainty. Privatization is in conflict with affordability only if seen as a 'package deal', resolved when selected components are entrusted to private sponsors under a financing strategy.

Affordability issues should however not be used as an excuse for not introducing polluter and user pays principles as it is possible to design the implementation of these principles and their mechanisms compatible with socio-economic objectives.

V. PROPOSED ENVIRONMENTAL FINANCE MECHANISM

12. Rationale

The present approach to the implementation of NAPs perceives and treats the supply of finance as an issue to be taken for granted. This process sees the availability of finance as a natural response to the reported investment needs arising from the documentation of the sources, impacts and consequences of pollution is unsatisfactory and likely to cripple the implementation process.

Treating the supply of finance as a matter of fact and a separate issue outside the project cycle encourages a tendency to minimize the importance of the financial implications of the proposed solutions to address pollution and with consequent difficulties in appreciating the need to incorporate a sound investment process as a key parameter in the feasibility of the solutions proposed in the NAPs. Developing NAPs with out considering the financial constraints that exist can lead to the impossibility of real priority setting. Priority setting should at all times be undertaken based on the scientific information and political decision but with a clear understanding of the financial constraints in implementing the over all programmes.

Leaving the challenges of raising and attracting financial resources to stakeholders responsible for the allocation of national budget funds, who are not involved in the whole NAP project cycle, creates additional problems from the point of view of the supply of finance mainly because late engagement of economic and finance ministries causes a double awareness problem: The financial decision makers may fail to fully appreciate the technical and scientific importance of the proposed solutions while at the same time the environmental specialists may equally fail to present their solutions in terms of investment priorities justified by a sound financial strategy. A similar problem may occur when financial support is sought by regional or international donors where, in addition to the awareness problem, one has to consider and reconcile national environmental investment needs with often diverse sectoral and operational priorities characterizing such assistance programmes.

At the national level, financial analysis for implementation must be an integral part of the NAP preparation and review process in which the documentation of pollution problems and their solutions are developed and presented under a coherent investment strategy emerging from a careful consideration of the level and mixture of financial resources that the country is willing to invest and able to attract within its administrative and legal framework.

At the regional level, it must be remembered that although several financial assistance programmes are active in the region, bilateral and multilateral lending institutions are not, as implied above, a homogeneous group of lending institutions providing the same financial assistance 'products' suitable

for all types of financing needs required for the implementation of NAPs. Here lies the importance of MAP in acting as a 'clearing house' providing the mechanism for communication and aligning regional resources with national priorities.

The role of MAP as part of the UN System with strong and active links with all countries of the region has a comparative advantage in networking, as part of its mandate, on behalf of the countries with International Lending Institutions and other financing sources whose orientation or programme outreach might otherwise exclude or limit access to particular countries, national economic ministries or nationally prioritized environmental investments. MAP with its established legitimacy as a centre for the environment in the Mediterranean and ease of communication and access to all stakeholders in the region can give added value to the effort required for the mobilization of financial resources over and above the already on-going programmes.

13. Main objective

To achieve this integration and streamlining of environmental finance as a core issue in the implementation effort of NAPs an *Environmental Finance Mechanism* (EFM) should be established within MAP focusing on assisting the countries to strengthen their capacities for long term sustainable financing for SAP and NAPs implementation. Ensuring environmental finance is a prerequisite for the implementation of NAPs. The overriding *mission* of the EFM will be to ensure that the countries build up and operate sound environmental financial strategies whereby the required amounts, type and sources of finance are mobilized at the right time for the required uses. In other words, to bring strategic financial planning and management within the NAP project cycle and overcome the present difficulties of implementation.

To fulfill this mission, the EFM will perform three main related functions:

(a) *Enabling framework* – Establishing the parameters for a regional level enabling environmental policy framework geared towards gradual institutional and financial reforms conducive to 'resource consciousness' and strategic approaches to environmental finance in support of implementation actions.

(b) *Capacity building* - Establishing capacities for financial strategies at the country level.

(c) *Networking mechanism* - Establishing links with International and Regional Financial Institutions (bilateral and multilateral) currently relevant or potentially relevant to the needs of the NAPs and more widely on environmental investment including biodiversity management.

14. Structure of the Environmental Finance Mechanism

The mechanism will be instituted as part of the MAP structured as an *Environmental Finance Unit* (EFU). It will have a staff of three professionals with full time engagement as follows:

- 1 Manager / Head of the EFU who will be a senior-level Environmental Finance Specialist, professionally qualified in Economics / Finance with sound background / knowledge in the design, implementation and review of environmental policy issues in the Mediterranean, with particular reference to land based sources of pollution.

- 2 middle-level professional Programme Officers acting as assistants to the manager / Head of the EFU;

    - 1 with qualifications and relevant experience in finance and /or public administration, and
    - 1 with qualifications in water and sea pollution from land-based sources.

The EFU will operate in close collaboration with the GEF Programme Manager and the MED POL

Coordinator. The Manager will however seek to create a 'finance culture' within MAP with a professional and communication outreach capable of transferring such culture to all the countries included in the GEF Programme. For this purpose he/she must operate with the necessary degree of flexibility and initiative as the actor responsible for creating a new environmental finance function within MAP and new partnerships with high level national decisions makers in Finance and Economic Ministries, budget units within these Ministries and regional / international finance institutions. In this line of work he/she will be assisted primarily by the two Programme Officers.

Two important proposals relating to the activities of the EFU are strongly put forward:

- The EFU will also seek to provide strategic financial approaches needed for the other components of GEF Project particularly on biodiversity;

- The EFU will be retained within MAP after the completion of the present GEF Project and provide inputs into the on-going work of MED POL;

15. Main activities – functions of the EFU

15.1 Overview

Following from the role of the EFM, its main activities will include three main interrelated tracks or windows:

(a) *Policy reforms* – Establishing, detailing and promoting the parameters of an enabling policy framework based on the programme outlined above (Section IV).

(b) *Capacity building* - Establishing capacities for financial strategies at the country level.

(b) *Financial Networking mechanism* - Establishing links with International and Regional Financial Institutions (bilateral and multilateral) currently relevant or potentially relevant to the needs of the NAPs and more widely on environmental investment including biodiversity management.

15.2 Actions

(a) Policy reforms

Development of a regional level document including two main parts:

- Detailing the rationale for policy reforms in response to the challenges of the implementation of the NAPs,
- Proposing phased and targeted institutional and policy reforms pertaining to individual countries or groups of countries to achieve an enabling implementation framework for NAPs according to the Programme outlined in Section IV.

(b) Establishing capacities for financial strategies at the country level

This track will include:

- *Work programme* - Design and regularly update a work programme focused on environmental finance at the country level. This work programme will include capacity building activities such as:

- *Focal persons* - Establishment of a network of environmental finance focal persons at the regional level and in each country within the Finance / Economic Ministries;

- *Toolkit* - Preparation of a practical 'toolkit' on environmental finance (***See Section 9***);

- *Workshops* - Preparation and conduct of national, sub-regional and regional workshops on environmental finance (including invited resource persons from regional and international finance institutions / donors);

- *Pilot applications* - Demonstration on the preparation of appropriate financial strategies for the relevant NAPs in selected countries (e.g. Syria, Turkey, Tunisia, Israel) as practical application of simple environmental finance pilot projects for wider dissemination in workshops;

- *Policy briefs* - Preparation of short policy briefs on the international and regional environmental investment process and opportunities.

(c) Establishing links with International and Regional Financial Institutions (bilateral and multilateral)

- *Action plan* – Preparation of an action plan for networking among the donor and finance community;

- *Focused networking and promotion* - Establish, revive and mobilize the interest of institutions in the GEF Programme and the NAPs in particular;

- *Developing legitimacy and contacts* - Create personal level contacts with responsible persons who can act as partners;

- *Liaison with countries* - Ensure their periodic participation on National sub-regional and regional workshops;

- *Assistance* – Assisting the countries to meet the requirements and interests of donors and other financial institutions, and *vice versa;*

- *Support* – Support country efforts to prepare investment portfolio for attracting outside finance;

- *Brainstorming* - Initiate 'brainstorming' sessions with institutions on funding opportunities to the countries.

ROYAUME DU MAROC

MINISTERE DE L'AMENAGEMENT DU TERRITOIRE DE L'EAU ET DE L'ENVIRONNEMENT

SECRETARIAT GENERAL

DIRECTION DU PARTENARIAT, DE LA COMMUNICATION ET DE LA COOPERATION

...../ 6100

المملكة المغربية

وزارة إعداد الترابة الوطني

و الماء و البيئة

الكتابة العامة

مديرية الشراكة و التواصل و التعاون

0369

07 MARS 2007

M. Paul Mifsud
Coordonnateur du PAM
Vassileos Konstantinou, 48
11635 Athens
Fax : +30 210 72 53 196

Lettre d'endossement

Objet : Cofinancement en nature du Projet FEM intitulé : « Partenariat stratégique pour le grand écosystème marin de la Méditerranée – Composante régionale : Mise en œuvre d'actions convenues pour la protection des ressources environnementales de la mer Méditerranée et de ses zones côtières ».

Cher Monsieur Mifsud,

Nous sommes heureux d'apprendre par votre lettre en date du 27 février 2007 que la phase PDF-B, approuvée par le Maroc en 2005, arrive à son terme et que le Projet à grande échelle proprement dit sera soumis pour approbation au prochain Conseil du FEM qui se tiendra au début du mois de juin prochain.

Je souhaite vous réaffirmer, à cet effet, l'intérêt que porte le Maroc au Projet et l'appui qu'il entend lui donner, puisqu'il va amorcer pour une large part le processus de mise en œuvre des deux Programmes d'actions stratégiques (PAS MED et PAS BIO) précédemment élaborés par le PAM/PNUE et adoptés par les Parties contractantes à la Convention de Barcelone.

Dans cette optique, j'ai le plaisir de vous informer que le Maroc appuiera les activités à entreprendre dans le cadre dudit projet avec une contribution en nature de 200.000 dollars par an, durant les cinq années de sa mise en oeuvre.

Je vous prie d'agréer, Monsieur le Coordonnateur, l'expression de mes sincères salutations.

Le Directeur du Partenariat, de la Communication et de la Coopération

Signé : Tayeb BELAFREJ

UNEP CO... OF THE MEDITE... PLAN
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08 MAR 2007
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4, Place Abou Bakr Essedik – Avenue Fal Ould Oumeir, Agdal-Rabat
Tél. (212) 37 77 27 59 ; Fax : 37 77 26 40

REPUBLIC OF ALBANIA
MINISTRY OF ENVIRONMENT, FORESTS AND WATERS ADMINISTRATION

Tirana, on 3 .03.2007

To: **Mr. Alexandros Lascaratos**
GEF/PDF-B Project Manager
MAP/UNEP
48, Vas. Konstantinou Avenue
11635, Athens, Greece
Tel: +302107273122,
Fax: +302107253196/7

SUBJECT: GEF- UNEP Strategic Partnership for the Mediterranean LME Project

Dear Sir,

We are pleased to confirm our interest in issues relating to biodiversity conservation in the Mediterranean and express our support for the Strategic Partnership for the Mediterranean Large Marine Ecosystem Project, prepared by the Global Environment Facility (GEF), the United Nations Environmental Programme through UNEP GEF and the Mediterranean Action Plan (UNEP-MAP) in cooperation with the Partnership members. We recognize the Strategic Partnership to be a timely and much needed initiative to address the launching of regional priority activities adopted within the SAP BIO and concerning the Conservation and Sustainable Use of the Biological Diversity of Vulnerable Coastal and Marine Resources of the Mediterranean Large Marine Ecosystem.

It is our expectation that one of the main objectives of this initiative will be to assist participating countries to strengthen the effective conservation of regionally important coastal and marine biodiversity resources through the creation of an ecologically coherent MPA network in the Mediterranean region as well as the strengthening of their legal, policy and institutional frameworks to deal with this ever-growing concern.

Our country will be dynamically contributing in activities concerning marine and coastal protected areas development, which we consider as a major subject to be implemented

Address: Rruga e Durresit, Nr.27, Tirana, Tel.+ 3554270630, Fax:+3554270627, www.moe.gov.al

within the Project. We have valued our national contribution in kind for those activities to approximately 20,000 USD for each of the five years of the project period.

We are very confident that the other riparian countries of the region would be very welcoming and supporting the biodiversity component of the *Strategic Partnership* and willing to see our country involvement in the biodiversity activities proposed in the Project (with MAP as a regional coordinating organisation for the Partnership in the Mediterranean), as this initiative is fundamentally a regionally agreed one developed with a participative approach.

Yours sincerely,

Pellumb XHESTI

General Secretary and GEF OFP

Ministry for the Environment, Land
And Sea
Department for Environmental Research and Development
Director General

- 8 MAR. 2007

Prot. 1340/RAS/2007

Dr. Alice Aureli
Responsible for Groundwater Activities
International Hydrological Program
UNESCO

Dear Dr. Aureli,

following your last communication I confirm you the intention of the Italian Ministry for the Environment Land and Sea to become an official partner and join the Steering Committee of the "full scale phase" of the GEF project "Strategic Partnership for the Mediterranean Large Marine Ecosystems".

In this regard I'm glad to communicate you that we have decided to provide a financial support to this project amounting to 600.000 US dollars . In terms of practical arrangements, we will place the contribution of 600.000 US dollars to UNESCO for the development of the component on the environmental management of water resources in coastal zones, including measures to link wetlands management with surface and groundwater management, climate change adaptation tools, sustainable land development.

As agreed also during our previous contacts, our contribution should also be used to open a position at UNESCO for an "administrative and technical support project manager officer", that should be dedicated only to an Italian expert.

The financial contribution to UNESCO will be transferred pending the final approval of the project by the GEF Council and the provision in the final documents of our membership in the Steering Committee.

Best regards

Corrado Clini

Global Water Partnership Mediterranean

GWP-Mediterranean Secretariat

c/o MIO-ECSDE, Kyristou 12, 10556 Athens, Greece
T: +30210-3247490, -3247267, F: +30210-3317127
E-mail: secretariat@gwpmed.org, Web: www.gwpmed.org

Mr. Paul Mifsud
Coordinator
Coordinating Unit for the Mediterranean Action Plan
48 Vassileos Konstantinou Avenue
PO Box 18019
11610 Athens
Greece

Athens, 05 March 2007

RE: Letter of Commitment for the GEF SPM

Dear Mr. Mifsud,

The Global Water Partnership – Mediterranean (GWP-Med), leader of the IWRM component of the Strategic Partnership for the Mediterranean LME, would like to hereby express its commitment to co-finance the component with the amount of 1,000,000 $US in cash or in kind, through projects' resources secured from institutions and agencies. This amount is a 2:1 ratio of the GEF contribution (500,000 $US) foreseen to be allocated to GWP-Med for the implementation of the activities in the IWRM component of the Strategic Partnership. The overall amount will be utilized over the period 2007 to 2011, starting 1 March 2007.

Sincerely,

Prof. M. Scoullos
Chairman of GWP-Med

Cc - Alex Lascaratos, GEF/PDF-B Project Manager, UNEP/MAP
- Vangelis Constantainos, Executive Secretary, GWP-Med

MEDITERRANEAN INFORMATION OFFICE
FOR ENVIRONMENT, CULTURE AND SUSTAINABLE DEVELOPMENT
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e-mail: info@mio-ecsde.org
www.mio-ecsde.org

Mr. Paul Mifsud
Coordinator
Coordinating Unit for the Mediterranean Action Plan
48 Vassileos Konstantinou Avenue
PO Box 18019
11610 Athens
Greece

Athens, 02 March 2007
Ref. no.: 19/2007

RE: Letter of Commitment

Dear Mr. Mifsud,

MIO-ECSDE would like to hereby express its commitment to co-finance the NGO involvement component of the Strategic Partnership for the Mediterranean LME with the amount of 150.000,00 $US in cash over a five-year period, on the condition that MIO-ECSDE continues to receive its annual funding from the European Commission and the Greek Government. This amount equals the GEF funds foreseen to be allocated to MIO-ECSDE for the activities which will ensure the effective NGO involvement in the Strategic Partnership.

Sincerely,

Prof. M. Scoullos
Chairman of MIO-ECSDE

Cc - Alex Lascaratos, GEF/PDF-B Project Manager, UNEP/MAP
- Anastasia Roniotes, Senior Programme Officer, MIO-ECSDE

الجـــــمهورية الجزائريـــــة الديمقراطيـــة الشعبيـــة

République Algérienne Démocratique et Populaire

Ministère de l'Aménagement du Territoire et de l'Environnement

وزارة تهيئة الإقليم و البيئة

Ref. n°098/IGE

Inspection Générale de l'Environnement

المفتشية العامة للبيئة

10 مارس 2007

Monsieur Paul Mifsud
Coordonnateur du PAM/PNUE
Athènes- Grèce

Objet : A/S Cofinancement en nature du Projet Régional FEM : « Partenariat Stratégique pour les grands Ecosystèmes Marins en Méditerranée ».
Ref : Votre correspondance AL/ic du 27 Février 2007.

Cher Monsieur Mifsud,

Par courrier visé en référence vous avez bien voulu nous informer de l'heureuse évolution dont a bénéficié le Projet Régional de Partenariat Stratégique pour la mise en œuvre des actions convenues pour la protection des ressources environnementales de la Méditerranée et de ses zones côtières, et notamment de ses écosystèmes marins fragiles .
Nous sommes particulièrement heureux d'apprendre que la phase PDF-B arrive à son terme , et que le Projet final proprement dit, sera présenté au Conseil du FEM , à sa prochaine session, en Juin 2007.

Il vous souvient que l'Algérie fut parmi les tous premiers pays à approuver et endosser la requête de financement,en 2005, pour le PDF-B.
Aussi, il m'est particulièrement agréable , aujourd'hui, de vous confirmer l'intérêt de l'Algérie envers ce grand projet , et de réaffirmer l'appui qu'elle envisage de fournir , au regard de ses impacts positifs pour la mise en œuvre réussie des Programmes d'Actions Stratégiques Régionaux(PAS-MED et PAS-BIO), ainsi que les Plans d'Actions Nationaux .

A ce titre, il me plait de vous informer que la contribution de l'Algérie, en nature, en particulier pour les frais locaux de mise en œuvre du projet, qui seront précisés d'un commun accord, sera équivalente à 200 000 USD/An, pour la durée de cinq (05) ans du projet.

En espérant pouvoir développer davantage notre coopération, je vous prie , *cher Monsieur Mifsud,* de croire en l'expression de ma parfaite considération.

Best regards.

Mr Djamel Echirk
EP Operationnal Focal Point
Ministère de l'Aménagement du Territoire et
de l'Environnement

Copie : Mr Alex Lascaratos
Project Manager
MAP/UNEP

Syrian Arab Republic
Ministry of Local Administration and Environment
General Commission for Environment Affairs

الجمهورية العربية السورية
وزارة الإدارة المحلية والبيئة
الهيئة العامة لشؤون البيئة

No: ٦٩٥ / SB/LM
Date: ١١ /3/2007

To : Mr.Paul Mifsud
MAP Coordinator
UNEP / MAP
Fax: 00 30 210 7253196 / 7

From : Ministry of Local Administration and Environment
Fax : 00 963 11 4461079

Subject: In –Kind co-financing of the GEF project entitled: "Strategic Partnership for the Mediterranean Large Marine Ecosystem-Regional Component: Implementation of agreed actions for the protection of the environmental resources of the Mediterranean Sea and its coastal areas

Dear Mr. Misfud,

The Syrian Arab Republic has already endorsed in late 2005 the PDF-B phase of the above mentioned Project .We are pleased to learn from your letter dated 23 February 2007 that the PDF-B phase is coming to its end and that the Full Scale Project will be submitted for approval to the next GEF Council in early June this year.

I wish to reiterate the Syrian Arab Republic's interest and support to the project, which will substantially initiate the process of implementation of the two Strategic Action Programs (SAP MED and SAP BIO) previously developed by UNEP/MAP and adopted by the Contracting Parties of the Barcelona Convention.

In this context, I am pleased to inform you that the Syrian Arab Republic will support the activities to be undertaken in the framework of the project with an in-kind contribution of (200 000 USD) per year , for the five year duration of the project.

We are looking very much forward to our future collaboration.

Thank you for your cooperation

With best regards

Minister Of Local Administration and Environment

Eng. Helal Al. Atrash

UNEP/MAP UNIT OF THE MEDITERRANEAN ACTION PLAN
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no action required ☐

Copy to:
- The Minister Office
- General Director of GCEA
- MAP National Focal Point

Mezra'a – Damascus – Syria – P. O. Box: 3773 – Tel: +963 11 4465905 – Fax: +963 11 4461079 – Email: env-min@net.sy

EUROPEAN COMMISSION
DIRECTORATE-GENERAL
ENVIRONMENT
Directorate E - International affairs & LIFE
ENV.E - The Director

Brussels, 9/03/2007
ENV-E-3/AB/cs D(2007) 4458

Mr. Paul Mifsud
MAP Coordinator
48, Vassileos Konstantinou Ave.
11610 Athens, Greece
fax: +30-210-7253196

Subject: GEF project for a Mediterranean LME Strategic Partnership

Dear Paul,

As you are aware and as announced in our Communication of last year on Environmental Cooperation in the Mediterranean, the Commission seeks to work with our partners to improve the coordination between environmental initiatives being carried out in the Mediterranean.

Following initial contacts with the team developing the GEF project for a Mediterranean LME Strategic Partnership, it has been suggested that the Commission should sit on the steering committee for this initiative, in the same way that we do for the Black Sea GEF project. We believe that this would further our efforts to improve coordination amongst the various donors in the Mediterranean and help ensure coherence between the GEF project and our work under Horizon 2020.

I would therefore like to confirm that the Commission is very pleased to participate in the steering committee of this important project of major significance for the Mediterranean, and look forward to receiving further information regarding upcoming meetings.

I look forward to further cooperating with you on this important project.

Yours sincerely,

Soledad BLANCO

c.c.: Mr. A. Lascaratos

Commission européenne, B-1049 Bruxelles / Europese Commissie, B-1049 Brussel - Belgium. Telephone: (32-2) 299 11 11.
Office: BU9 05/130. Telephone: direct line (32-2) 2995182. Fax: (32-2) 2994123.

Syrian Arab Republic
Ministry of Local Administration and Environment

الجمهورية العربية السورية
وزارة الإدارة المحلية والبيئة

315 / S
12 March 2007

To: **Alexandros Lascaratos**
GEF/PDF-B Project Manager
MAP/UNEP
48, Vas. Konstantinou Avenue
11635, Athens, Greece
Tel: +302107273122, Fax: +302107253196/7
Mobile: +306946156391
E-mail: alex.lascaratos@unepmap.gr

Subject: GEF- UNEP Strategic Partnership for the Mediterranean LME Project

Dear Sir,

We are pleased to confirm our strong interest in issues relating to **biodiversity conservation** in the Mediterranean and express our unreserved support for the Strategic Partnership for the Mediterranean Large Marine Ecosystem Project, prepared by the Global Environment Facility (GEF), the United Nations Environmental Programme through UNEP DGEF and the Mediterranean Action Plan (UNEP-MAP) in cooperation with the Partnership members. We recognize *the Strategic Partnership* to be a timely and much needed initiative to address the launching of regional priority activities adopted within the SAP BIO and concerning the ***Conservation and Sustainable Use of the Biological Diversity of Vulnerable Coastal and Marine Resources of the Mediterranean Large Marine Ecosystem.***

It is our expectation that one of the main objectives of this initiative will be to assist participating countries to strengthen the effective conservation of regionally important coastal and marine biodiversity resources through the creation of an ecologically coherent MPA network in the Mediterranean region as well as the strengthening of their legal, policy and institutional frameworks to deal with this ever-growing concern.

Our country will be dynamically contributing in activities concerning marine and coastal protected areas development, which we consider as a major subject to be implemented within the Project. We have valued our national contribution in kind for those activities to approximately 50,000 USD for each of the five years of the project period.

We are, very confident that the other riparian countries of the region would be very welcoming and supporting the biodiversity component of the *Strategic Partnership* and willing to see our country involvement in the biodiversity activities proposed in the Project (with MAP as a regional coordinating organisation for the Partnership in the Mediterranean), as this initiative is fundamentally a regionally agreed one developed with a participative approach.

Yours sincerely,

Eng. Imad Hassoun
Deputy Minister
Ministry of Local Administration and Environment

Mazra'a – Damascus – Syria – P. O. Box: 3773 – Tel: +963 11 4465005 – Fax: +963 11 4461079 – Email: env-min@net.sy

PRIORITY
ACTIONS
PROGRAMME

United Nations Environment Programme
Mediterranean Action Plan
Priority Actions Programme Regional Activity Centre (PAP/RAC)

Kraj Sv. Ivana 11, HR-21000 Split, Croatia
phone: +385 21 340 470, fax: +385 21 340 490
e-mail: pap@gradst.hr
www.pap-thecoastcentre.org

225/IT/AB

To:

Mr. Paul Mifsud
Co-ordinator
MAP Co-ordinating Unit

c.c.: Mr. Alexandros Lascaratos
GEF/PDF-B Project Manager
MAP / UNEP

LETTER OF COMMITMENT

This is to confirm that Priority Actions Programme Regional Activity Centre (PAP/RAC), Split, Croatia, will co-finance the Integrated Coastal Management component of the Strategic Partnership for the Mediterranean LME in the cash/kind amount of US$ 152,000 throughout the project implementation period of five years.

Ivica Trumbic
Director

PAP Regional Activity Centre

Split, 7 March 2007

REPUBLIQUE TUNISIENNE

Ministère de l'Environnement
et du Développement Durable

Le Ministre

0876

15 MARS 2007

Objet : Cofinancement en nature du projet FEM « Partenariat stratégique pour le grand écosystème marin de la Méditerranée

Réf. : Votre correspondance du 27 février 2007.

Monsieur,

Comme suite à votre correspondance, citée en référence, relative à la contribution nationale pour le financement du projet « Partenariat stratégique pour le grand écosystème marin de la Méditerranée », j'ai le plaisir de vous confirmer l'intérêt que nous accordons pour la mise en œuvre de ce projet, qui contribuera à la protection de la diversité biologique marine et la préservation du littoral méditerranéen de toutes les formes de dégradation.

Egalement, je souhaiterais vous signaler, par la présente, notre accord préliminaire pour la contribution nationale, en nature, nécessaire pour la bonne exécution du projet, pour un plafond estimé à 200 milles USD annuellement durant la période d'exécution du projet.

Cette contribution sera confirmée, après l'approbation du projet par le conseil du FEM, et l'identification du programme d'activité détaillé qui sera exécuté, dans le cadre du présent projet.

Finalement, je vous prie, Monsieur, de bien vouloir agréer l'expression de mes meilleures salutations.

UNEP CO... OF THE MEDITERRANEAN ACTION PLAN
15 MAR 2007
ACTION ... copied ... info ...
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no action required ...

Le Ministre de l'Environnement
et du Développement Durable

Nadhir HAMADA

M. Paul Mifsud,
Coordonnateur du PAM,
Fax : (30210) 7273100

infoMAP
Barcelona Convention

Mr. **Paul Mifsud**
Coordinator UNEP/MAP
48, Vas. Konstantinou Avenue
P.O. Box 18019
11610 Athens - Greece

Mr. **Alexandros Lascaratos**
GEF Project Manager UNEP/MAP
48, Vas. Konstantinou Avenue
P.O. Box 18019
11610 Athens - Greece

Eng. **Giuseppe Incardona**
Director - Regional Department for Industry
Department for Industry – Sicilian Region
Via Ugo La Malfa, 152
90147 Palermo - Italy

UNEP CO-ORDINATING UNIT OF THE MEDITERRANEAN ACTION PLAN
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Rome, 14 March 2007

Subject: **Financial commitment to the co-financing costs of the Project *"Strategic Partnership for the Mediterranean Sea Large Marine Ecosystem – Regional Component: Implementation of agreed actions for the protection of the environmental resources of the Mediterranean Sea and its coastal areas"***

Following our communications, this is to confirm that INFO/RAC-MAP, as the executing agency in charge of the Information, Communication and Replication components of the above-mentioned project, will provide a co-financing, in cash and in kind, equal to 1,392,500 USD in total. Such amount is divided as follows:

- 343,216 USD in kind;
- 1,049,284 USD (800,000 Euros equivalent) in cash based on the financing secured by the Sicilian Region to INFO/RAC-MAP.

We look forward to hearing from you.

Kind regards,

Sergio Illuminato

Dr. Sergio Illuminato
Director General INFO/RAC

INFO/RAC-MAP United Nations Environment Programme
Via Cagliari, 40 - 00198 Roma - tel.06.85305147, fax 06.8542475
www.inforac.org - www.unepmap.org - info@inforac.org

BOSNA I HERCEGOVINA
MINISTARSTVO VANJSKE TRGOVINE I
EKONOMSKIH ODNOSA

БОСНА И ХЕРЦЕГОВИНА
МИНИСТАРСТВО СПОЉНЕ ТРГОВИНЕ
И ЕКОНОМСКИХ ОДНОСА

BOSNIA AND HERZEGOVINA
MINISTRY OF FOREIGN TRADE AND ECONOMIC RELATIONS

GEF Operational Focal Point

UNEP CO-ORDINATING UNIT OF THE MEDITERRANEAN ACTION PLAN
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No. 06-03-50-12891-2 /07
Sarajevo, 19th March.2007. godine

To: **Alexandros Lascaratos**
GEF/PDF-B Project Manager MAP/UNEP
48, Vas. Konstantinou Avenue
11635, Athens, Greece
Tel: +302107273122, Fax: +302107253196/7
E-mail: alex.lascaratos@unepmap.gr

Subject: GEF- UNEP Strategic Partnership for the Mediterranean LME Project

Dear Sir,

We are pleased to confirm our strong interest in issues relating to **biodiversity conservation** in the Mediterranean and express our unreserved support for the Strategic Partnership for the Mediterranean Large Marine Ecosystem Project, prepared by the Global Environment Facility (GEF), the United Nations Environmental Programme through UNEP DGEF and the Mediterranean Action Plan (UNEP-MAP) in cooperation with the Partnership members. We recognize *the Strategic Partnership* to be a timely and much needed initiative to address the launching of regional priority activities adopted within the SAP BIO and concerning the ***Conservation and Sustainable Use of the Biological Diversity of Vulnerable Coastal and Marine Resources of the Mediterranean Large Marine Ecosystem.***

It is our expectation that one of the main objectives of this initiative will be to assist participating countries to strengthen the effective conservation of regionally important coastal and marine biodiversity resources through the creation of an ecologically coherent MPA network in the Mediterranean region as well as the strengthening of their legal, policy and institutional frameworks to deal with this ever-growing concern.

Our country will be dynamically contributing in activities concerning marine and coastal protected areas development, which we consider as a major subject to be implemented within the Project. We have valued our national contribution in kind for those activities to approximately 50,000 USD for each of the five years of the project period.

We are, very confident that the other riparian countries of the region would be very welcoming and supporting the biodiversity component of the *Strategic Partnership* and willing to see our country involvement in the biodiversity activities proposed in the Project (with MAP as a regional coordinating organisation for the Partnership in the Mediterranean), as this initiative is fundamentally a regionally agreed one developed with a participative approach.

Senad Oprašić, PhD
GEF Operational Focal Point

Adresa: Musala br. 9, 71000 Sarajevo; Tel./fax: ++387 33 552-365

United Nations Environment Programme
Programme des Nations Unies pour l'environnement

UNEP

COORDINATING UNIT FOR THE MEDITERRANEAN ACTION PLAN
UNITE DE COORDINATION DU PLAN D'ACTION POUR LA MEDITERRANEE

Reference:

Athens, 20 March 2007

Dear Alex,

As a follow up to our recent communications, I am hereby confirming the commitment of the MED POL Programme to the co-financing of the five-year GEF project "Strategic Partnership for the Mediterranean Sea Large Marine Ecosystem".

The total financial participation of the MED POL Programme for the five-year period covered by the Project will be equal to 3,126,000. US $ of which 550,000. US $ in kind and 2,576,000. in cash from the MED POL annual budgets. The financial contribution is of course conditional to the annual approval by the Contracting Parties of adequate budgets for MED POL.

Looking forward to our cooperation, I thank you for the efforts deployed by you and your staff towards the finalization of the Project proposal.

Best regards

Francesco Saverio Civili
MED POL Programme Coordinator

Mr Alex Lascaratos
GEF Project Manager
UNEP/MAP
Athens

cc. Mr Paul Mifsud, MAP Coordinator

48, Vas. Konstantinou Ave., 11635 Athens, Greece • Tel: [+30] 210 7273106 • Fax: [+30] 210 7253196 or 7
E-mail: fscivili@unepmap.gr • URL: http://www.unepmap.gr

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RÉPUBLIQUE FRANÇAISE

Ministère de l'Ecologie et du Développement Durable

Secrétariat Général

Service des Affaires Internationales
Bureau de l'Appui aux Coopérations

Paris, le 15 MAR. 2007

Affaire suivie par :
Emmanuel MORICE
tél : 01 42 19 17 76
emmanuel.morice@ecologie.gouv.fr
SAI/0700196

Objet : Soutien français au programme "Strategic Partnership for the Mediterranean Sea Large Marine Ecosystem – Regional Component : Implementation of agreed actions for the protection of the environmental resources of the Mediterranean Sea and its coastal areas"

Monsieur,

Le projet soumis au FEM (GEF) relatif à la mise en œuvre du PAS MED et du PAS BIO et intitulé "Strategic Partnership for the Mediterranean Sea Large Marine Ecosystem – Regional Component : Implementation of agreed actions for the protection of the environmental resources of the Mediterranean Sea and its coastal areas" retient toute l'attention de mes services.

Ce programme s'inscrit pleinement dans le cadre d'intervention du Fonds Français pour l'Environnement Mondial. En effet, la Méditerranée constitue une zone d'intervention prioritaire pour la France et le Fonds Français pour l'Environnement Mondial (FFEM) y cofinance déjà plusieurs projets (Appui au Programme d'Action Stratégique du Plan d'Action pour la Méditerranée, Gestion intégrée du Système Aquifère du Sahara Septentrional, Aires Marines et Côtières Protégées en Tunisie ...).

Le Ministère de l'Ecologie et du Développement Durable (MEDD) est intéressé par l'initiative portée par le PNUE/PAM et est prêt à porter devant le FFEM une proposition de soutien bilatéral à cette initiative pour un montant de 2 millions d'euros.

Ce soutien bilatéral du FFEM ne sera toutefois validé qu'une fois que le MEDD aura soumis avec succès une fiche d'identification de projet (concept note) au comité de pilotage du FFEM. Conformément aux procédures du Fonds, un nouvel accord du comité de pilotage du FFEM sera ensuite nécessaire pour confirmer notre engagement.

Monsieur Alex Lascaratos
GEF/PDF-B Project Manager
MAP/UNEP
48, Vas. Konstantinou Avenue
11635, Athens, Greece

Ce dossier est suivi pour le MEDD par M. Emmanuel Morice, chargé de mission Financements Internationaux du Service des Affaires Internationales, avec l'appui au sein du secrétariat du FFEM de M. Christophe Ducastel.

Mes services restent à votre disposition pour tout renseignement complémentaire.

Je vous prie de bien vouloir croire, Monsieur, à l'assurance de ma considération la plus distinguée.

La chef du Service
des Affaires Internationales

Aline KUSTER-MENAGER

الديمقراطية
هي رقابة الشعب
على نفسه

الجماهيرية العربية الليبية الشعبية الاشتراكية العظمى
اللجنة الشعبية العامة للصحة والبيئة
الهيئة العامة للبيئة

التاريخ: / / 13 و . ر
الموافق: 20/ 3/ 2007 ف

الرقم الإشاري / .....
ملف رقم / .....

UNEP CO-ORDINATING UNIT OF THE MEDITERRANEAN ACTION PLAN
RECEIVED
20 MAR 2007
ACTION..... Files.....
completed..... .....
acknowledged..... Info.....
no action required ☐ .....

TO: Mr. Paul Mifsud
Coordinator
UNEP/ MAP

SUBJECT: In kind Co-financing of the GEF Project entitled: "Strategic Partnership for the Mediterranean Large Marine Ecosystem- Regional Component: "Implementation of agreed actions for the project for protection of environment resources of the Mediterranean Sea and its coastal area".

Dear Mr. Mifsud,

The Libyan Arab Jamahiriya's already endorsed in late 2005 the PDF-B Phase of the above –mentioned Project. We are pleased to learn from your letter dated 23 February 2007 that the PDF- B Phase is coming to its end and that the Full Scale Project will be submitted for approval to the next coming GEF Council in early June this year.

I wish to reiterate the Libyan Arab Jamahirya's interest and support to the project, which will substantially initiate the process of implementation of the two Strategic Action Programs (SAPMED AND SAPBIO) previously developed by UNEPMAP and adopted by the Contracting Parties of the Barcelona Convention.

In this context, I am pleased to inform you that the Libyan Arab Jamahiriya will support the activities to be undertaken in the framework of the project with an in-kind contribution of 200,000 USD per year, for the five-year duration of the project.
We are looking very much forward to our future collaboration.

Yours sincerely,

Dr. Abdul-Hakim ALWAER
Secretary of People's Committee
Environment General Authority
20.3.2007

العنوان / الغيران ــ طرابلس : ص.ب 83618 هاتف : 4873761 (021) بريد مصور : 4872160 (021) مبرق: 20138
سرت ــ هاتف: 63988 (054) بريد مصور: 63989 (054) الجبل الاخضر ــ هاتف637187 (084) بريد مصور: 636867 (054)
بنغازي ــ هاتف: 9080689 - 9080690 (061) بريد مصور: 70247 مصراته ــ هاتف615825 (051) بريد مصور: 615824 (051)
صرمان ــ هاتف: 620247 (0273) غريان ــ هاتف: 635161 (041) سبها ــ هاتف: 636470 (071) بريد مصور: 636471 (071)

United Nations
Educational, Scientific and
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منظمة الأمم المتحدة
للتربية والعلم والثقافة

联合国教育、
科学及文化组织

International Hydrological Programme

21 MAR 2007
Rules.....
completed.....
acknowledged..... info.....
no action required ☐ .....

Mr. Paul Mifsud
Coordinator
UNEP-MAP
11635, Athens
Greece

cc. Mr A. Lascaratos, GEF/PDF-B
Project Manager
cc. Mr A. Merla, GEF/SEC

March 21, 2007

Ref. : SC/HYD/110

Subject: GEF-MED/MAP SP Regional Component Project; Subcomponent 1.1 Management of Coastal Aquifers and Groundwater, Co-financing; status 15 March 2007

Dear Mr Mifsud,

As requested, please be informed of the co–financing situation under Subcomponent 1.1 as follows;

I. Co-financing under the Sub-component 1.1. confirmed by the donors is approximately US$ 1500 000, as:

Ministry of Environment, Government of Italy
US$ 100 000 – confirmed in PDF-B MED/MAP – UNESCO/IHP MoU, accepted as co-financing;
US $ 600 000 – endorsement letter enclosed

FFEM
US$ 500 000 – verbal confirmation, endorsement letter prior to 15 April 2007.

FAO-TCP (Legal Component)
$ 300 000 in kind, from 2008 and beyond – confirmed in principle – (endorsement letter not applicable for FAO-TCP).

II. Other UNESCO Co-financing; US$ 800 000
Funds available at UNESCO since November 2006 to be spent in 2007/2008/2009:

- US$ 100 000 from UNESCO in cash for the component on coastal aquifers in Tunisia.
- US$ 100 000 from UNESCO in cash for the component on coastal aquifers vulnerability and protection of wetlands in Morocco
- US$ 100 000 from UNESCO in cash for the component on coastal aquifers vulnerability and transboundary aquifer management in Montenegro. Montenegro Coastal Area in the Bojana River Catchment – preparation of the Coastal Aquifer Vulnerability Map. The catchment area is a transboundary area. Albania will also be involved in the project.

1, rue Miollis
75732 Paris Cedex 15, France
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www.unesco.org/science/water

- US$ 500 000 from UNESCO in cash for the feasibility study of the Reghaia and Constantine Coastal Wetlands in Algeria: « *Etude de faisibilité sur le système intègre de gestion du bassin pour le réutilisation des eaux usées et protection des zones humides de Constantine et Reghaia* ».
- Support integrated ICZM/IWRM/Groundwater demonstration in Algeria – provided under the UNESCO/IHP Programme.

III. Donor and pilot country co-financing [non-confirmed/under discussion/not for distribution] – targeted at approximately US$ 1 600 000, endorsement letters prior to 15 April 2007.

- Government of Sweden - US$ 200 000
- Government of Spain – US$ 200 000
- African Development Bank – African Water Facility (Land management activity); US$ 400 000
- European Space Agency (ESA) (coastal aquifer satellite information for the preparation of the vulnerability mapping) - US$ 500 000
- Government of Tunisia - US$ 100 000
- Government of Monte Negro – US$ 100 000
- Government of Croatia - US$ 100 000

Yours Sincerely,

Alice Aureli
Responsible for the Groundwater Resources Activities
Secretariat of the International Hydrological Programme

United Nations Environment Programme
Programme des Nations Unies pour l'environnement

UNEP

COORDINATING UNIT FOR THE MEDITERRANEAN ACTION PLAN
UNITE DE COORDINATION DU PLAN D'ACTION POUR LA MEDITERRANEE

MEMORANDUM

A-To:	Mr. Kakakhel Deputy Executive Director UNEP Nairobi	Ref: KBS
De – From:	Mr. P. Mifsud Coordinator UNEP/MAP Athens	Date: 16 Mar. 07 Page(s): 1 of 1
Objet-Subject:	Strategic Partnership for the Mediterranean Large Marine Eco-System - UNEP/MAP co-financing letter.	

Dear Mr. Kakakhel,

I wish to inform you that UNEP/MAP will co-finance the Strategic Partnership for the Mediterranean Large Marine Eco-System with an amount of one million dollars out of which two hundred & fifty thousand (250,000) will be in kind and seven hundred & fifty thousand (750,000) in cash.

Best regards

48, Vas. Konstantinou Ave., 11635 Athens, Greece • Tel: [30 210] 7273100 • Fax: [30 210] 725 3196/7
e-mail: unepmap@unepmap.gr • URL: http://www.unepmap.gr

MINISTERIO
DE ASUNTOS EXTERIORES
Y DE COOPERACIÓN

AECI
AGENCIA ESPAÑOLA DE
COOPERACIÓN INTERNACIONAL

SECRETARIO GENERAL

Madrid, 20th March 2007

Alexandros Lascaratos
GEF/PDF-B Project Manager
MAP/UNEP
48, Vas. Konstantinou Avenue
11635, Athens, Greece

Subject: GEF- UNEP Strategic Partnership Mediterranean LME Project

Dear Sir,

We are pleased to confirm our strong interest in issues relating to biodiversity conservation in the Mediterranean and express our support for the Strategic Partnership for the Mediterranean Large Marine Ecosystem Project, prepared by the Global Environment Facility (GEF), the United Nations Environmental Programme through UNEP Division of Global Environment Facility Coordination and the Mediterranean Action Plan (UNEP-MAP) in cooperation with the Partnership members. We recognize *the Strategic Partnership* to be a timely and much needed initiative to address the launching of regional priority activities adopted within the SAP BIO and concerning the *Conservation and Sustainable Use of the Biological Diversity of Vulnerable Coastal and Marine Resources of the Mediterranean Large Marine Ecosystem.*

It is our expectation that one of the main objectives of this initiative will be to assist participating countries to strengthen the effective conservation of regionally important coastal and marine biodiversity resources through the creation of an ecologically coherent Marine Protected Areas (MPA) network in the Mediterranean region as well as the strengthening of their legal, policy and institutional frameworks to deal with this ever-growing concern.

The Contracting Parties to the Barcelona Convention, as part of the Mediterranean Action Plan of the United Nations Environmental Programme (UNEP/MAP), and with the support of the GEF, adopted on November 2003 the Strategic Action Programme for the Conservation of Biological Diversity in the Mediterranean Region (SAP-BIO). The SAP BIO is the main regional policy framework to preserve Mediterranean biodiversity

The SAP identifies the major problems for protecting biodiversity and living resources and their habitats, indicates possible remedial measures and their cost and set concrete targets and deadlines for its implementation.

INTERNET:
http://www.aeci.es

AVDA. DE LOS REYES CATÓLICOS, 4
28040 MADRID, ESPAÑA
TELS. 91 583 81 00/01/02
FAX: 91 583 83 10/11/13

MINISTERIO
DE ASUNTOS EXTERIORES
Y DE COOPERACIÓN

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AGENCIA ESPAÑOLA DE
COOPERACIÓN INTERNACIONAL

SECRETARIO GENERAL

We are, then, very confident that all the riparian countries of the region would be very welcoming and supporting the *Strategic Partnership,* as this initiative is fundamentally a regionally agreed one developed with a participative approach.

The Spanish Agency for International Cooperation (Agencia Española de Cooperación Internacional, AECI), through its Azahar Programme, aims to generate a real impact on human development in the Mediterranean Basin countries, compatible with the preservation of their natural resources and environmental protection, contributing towards the fulfilment of the commitments assumed in the international environmental forums by the beneficiary countries.

In particular, Azahar is aimed at three large sub-regions of the Mediterranean Basin: the Maghreb, the Middle East and the South East of Europe and, within these regions, those countries considered as priority and included both in the Master Plan 2005-2008 and in the Annual Plans for Spanish Cooperation: Albania, Algeria, Bosnia and Herzegovina, Egypt, Jordan, Lebanon, Morocco, Mauritania, Serbia, Montenegro, Syria, the Palestinian Territories and Tunisia.

The Azahar Programme is based on a coordination effort of all public and private bodies involved in Spanish development cooperation in the field of sustainable development, environmental protection and preservation of natural resources in the Mediterranean.

In this context, we are taking into consideration the possibility of contributing in activities concerning marine and coastal protected areas development, which we consider as a major subject in the Mediterranean region to increase capacity and specialised education of human resources, the development of basic environmental infrastructure, the protection and sustainable use of natural resources, and the promotion of the environmental culture. We would be pleased to contact you again in order to specify the contents of our contribution, which is currently being studied so as to determine the most suitable administrative procedure.

We also welcome the opportunity to partner with other countries and organizations to address the very critical issue of protected areas improvement and networking in the Mediterranean and are confident that the Strategic Partnership for the Mediterranean Large Marine Ecosystem will make that way a positive contribution to the global effort for the conservation and sustainable use of the biological diversity of vulnerable coastal and marine resources.

Yours faithfully,

Juan Pablo de Laiglesia

INTERNET:
http://www.aeci.es

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TELS. 91 583 81 00/01/02
FAX: 91 583 83 10/11/13

BOSNA I HERCEGOVINA
MINISTARSTVO VANJSKE TRGOVINE I
EKONOMSKIH ODNOSA

БОСНА И ХЕРЦЕГОВИНА
МИНИСТАРСТВО СПОЉНЕ ТРГОВИНЕ
И ЕКОНОМСКИХ ОДНОСА

BOSNIA AND HERZEGOVINA
MINISTRY OF FOREIGN TRADE AND ECONOMIC RELATIONS

No. 06-03-50-2316 /07
Sarajevo, 19th March.2007

To: **Mr. Paul Mifsud**
Coordinator
UNEP/MAP

Subject: In kind co-financing of the GEF Project entitled: "Strategic Partnership for the Mediterranean Large Marine Ecosystem – Regional Component: Implementation of agreed actions for the protection of the environmental resources of the Mediterranean Sea and its coastal areas".

Dear Mr. Mifsud,

Bosnia and Herzegovina has already endorsed in late 2005 the PDF-B Phase of the above mentioned Project. We are pleased to learn from your letter dated 23 February 2007 that the PDF - B Phase is coming to its end and that the Full Scale Project will be submitted for approval to the next coming GEF Council in early June this year.

I wish to reiterate Bosnia and Herzegovina's interest and support to the Project which will substantially initiate the process of implementation of the two Strategic Action Programs (SAPMED and SAPBIO) previously developed by UNEPMAP and adopted by the Contracting Parties of the Barcelona Convention.

In this context, I am pleased to inform you that Bosnia and Herzegovina will support the activities to be undertaken in the framework of the project with an in-kind contribution of 200.000 USD per year for the five-year duration of the Project. We are looking very much forward to our future collaboration.

Yours sincerely,

MINISTER

Slobodan Puhalac

Adresa: Musala br. 9, 71000 Sarajevo; Tel./fax: ++387 33 552-365

REPUBLIC OF CROATIA
MINISTRY OF ENVIRONMENTAL PROTECTION, PHYSICAL PLANNING AND CONSTRUCTION
10000 Zagreb, Ulica Republike Austrije 20
Tel: +385 1 37 82-444 Fax: +385 1 37 72-822
Class: 351-01/07-05/8
Reg.No: 531-08-4-07-2

Zagreb, 16 March 2007

Mr. Paul Mifsud
Coordinator
Mediterranean action plan
48, Vas. Konstantinou Ave.
11635 Athens, Greece

Subject: **In kind co-financing of the GEF Project entitled: "Strategic Partnership for the Mediterranean Large Marine Ecosystem-Regional Component: Implementation of agreed actions for the protection of the environmental resources of the Mediterranean Sea and its coastal areas"**

Dear Mr. Mifsud,

Croatia has already endorsed in late 2005 the PDF-B Phase of the above mentioned Project. We are pleased to learn from your letter dated 23 February 2007 that the PDF-B Phase is coming to its end and that the Full Scale Project will be submitted for approval to the next coming GEF Council in early June this year.

I wish to reiterate Croatia's interest and support to the Project, which will substantially initiate the process of implementation of the two Strategic Action Programs (SAP MED and SAP BIO) previously developed by the UNEPMAP and adopted by the Contracting Parties of the Barcelona Convention.

In this context, I am pleased to inform you that Croatia will support the activities to be undertaken in the framework of the project with and in kind contribution of 500,000 USD per year, for the five-year duration of the Project.

We are looking very much to our future collaboration.

Yours sincerely,

Minister

Marina Matulović-Topulić

REPUBLIKA HRVATSKA MINISTARSTVO ZAŠTITE OKOLIŠA PROSTORNOG UREĐENJA I GRADITELJSTVA ZAGREB

CC. Mr. Alexandros Lascaratos, GEF/PDF-B Manager, UNEP/MAP

PNUE

CAR/ASP

FACSIMILE TRANSMISSION

Date : 22/03/2007

Fax number : + (216) 71 206.490

Ref: 101/07

To : Mr Alexandros Lascaratos
GEF/PDF-B Project Manager
MAP/UNEP
48, Vas. Konstantinou Avenue
11635, Athens, Greece

Fax: 302107253196/7

From : Mr Abderrahmen Gannoun
Director of RAC/SPA
Bd. Du Leader Yasser Arafat
B.P.337 - 1080 Tunis CEDEX
Tel: +216.71.206 649 / 206 485

Subject : GEF- UNEP Strategic Partnership for the Mediterranean LME Project.

Total number of pages : 01 | If you do not receive all transmitted pages, please call back immediately

Dear Mr. Laskaratos,

We are pleased to confirm our willing to contribute with RAC/SPA sources to the Strategic Partnership for the Mediterranean Large Marine Ecosystem Project, prepared by the Global Environment Facility (GEF), the United Nations Environmental Programme (UNEP) and the Mediterranean Action Plan (MAP).

RAC/SPA will be a major actor participating in activities concerning marine and coastal protected areas development and biodiversity preservation, which we consider as a key subject to be implemented within the Project.

In this framework, RAC/SPA agrees to contribute in-kind and in-cash to those activities with approximately 600,000 USD for the five years project period as co-financing.

Yours sincerely,

Abderrahmen Gannoun
Director of RAC/SPA

CENTRE RAC/SPA Le Directeur Tel: 206 485 - Fax: 71 206 490

Cc. Mr Paul Mifsud, Coordonator of UNEP/MAP, (Fax: 302107253196/7).

United Nations Environment Programme
Mediterranean Action Plan
Regional Activity Centre for Specially Protected Areas

Boulevard du Leader Yasser Arafat. B.P. 337,1080 Tunis Cedex ,Tunisia
Phone:+216 71 206 649/71 206 485/71 216 851. Fax: + 216 71 206 490
Email: car-asp@rac-spa.org

PNUE

C A R / A S P

FACSIMILE TRANSMISSION	Fax number : + (216) 71 206.490
Date : 22/03/2007	Ref: 102/07
To : Mr Alexandros Lascaratos GEF/PDF-B Project Manager MAP/UNEP 48, Vas. Konstantinou Avenue 11635, Athens, Greece Fax: 302107253196/7	**From : Mr Abderrahmen Gannoun** Director of RAC/SPA Bd. Du Leader Yasser Arafat B.P.337 - 1080 Tunis CEDEX Tel: +216.71.206 649 / 206 485
Subject : GEF- UNEP Strategic Partnership for the Mediterranean LME Project.	
Total number of pages : 02	If you do not receive all transmitted pages, please call back immediately

Dear Mr. Laskaratos,

We are pleased to transmit you herein the following information concerning certain donors support to the launching of regional priority activities adopted within the SAP BIO and concerning "***Conservation and Sustainable Use of the Biological Diversity of Vulnerable Coastal and Marine Resources of the Mediterranean Large Marine Ecosystem***", included within the Strategic partnership Regional Project.

As you know RAC/SPA (through the activities planned within the PDF B project) has been keeping contact with two important Spanish donors for the Mediterranean Region: the Spanish Agency for International Cooperation (AECI), from the Spanish Ministry of Foreign Affairs and the Andalusian Regional Government, through its General Direction for Environmental Participation and Information.

Last week RAC/SPA undertook a mission to Spain to further discuss financial implication of both institutions within the Biodiversity activities. The outputs of the mission are as follows:

The Spanish Agency for International Cooperation (AECI) has expressed its interest on the activities depicted in the biodiversity project component. They are now in internal procedures to consider the possibility to contribute to the component (RAC/SPA has proposed an estimated amount rounding **1 750 000 €** as a contribution by AECI for Protected Areas subcomponent activities and biodiversity activities coordination). One of the main objectives of supporting this initiative will be to assist participating countries to strengthen the effective conservation of regionally important coastal and marine biodiversity resources through the creation of an ecologically coherent MPA network in the Mediterranean region as well as the strengthening of their legal, policy and institutional frameworks to deal with the topic.

United Nations Environment Programme
Mediterranean Action Plan
Regional Activity Centre for Specially Protected Areas

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Email: car-asp@rac-spa.org

The General Direction for Environmental Participation and Information from the Andalusian Regional Government is analysing the ways of providing their contribution to the project. It seems after the discussions taken place in Seville last 15 March, that the most feasible way of support will be by providing international expertise to implement the activities needed for the creation of new protected areas and better management of the existing ones. It is estimated that achieving the Andalusian contribution in kind for those activities could help covering a cost of approximately **750,000 USD**. A possible contribution in cash has not been rejected. The negotiations on that direction keep going on.

We are very confident that the Spanish contribution to the biodiversity component of the *Strategic Partnership* will promptly confirm to be a sound one, as this part of the Partnership initiative has been much appreciated by those donors as a very important component. Furthermore, the next Meeting of the Contracting Parties will be held in Spain (December) and Spain will be the president of the Barcelona Convention for the next two years. This bears an important political significance and in that sense a financial support from Spain is very important.

Yours sincerely,

Abderrahmen Gannoun
Director of RAC/SPA

CENTRE RAC/SPA
Le Directeur
Tél. 206 705 - Fax: 71 206 490

Cc. Mr Paul Mifsud, Coordonator of UNEP/MAP, (Fax: 302107253196/7).

United Nations Environment Programme
Mediterranean Action Plan
Regional Activity Centre for Specially Protected Areas

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联合国粮食及农业组织
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ORGANISATION DES NATIONS UNIES POUR L'ALIMENTATION ET L'AGRICULTURE
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Cables: FOODAGRI ROME
Telex: 625852 FAO I, 610181 FAO I
Facsimile: +39 0657053152
Telephone: +39 0657051

Our Ref.:

Your Ref.: F29-50-757

Subject: Co-Financing Statement for the "Strategic Partnership for the Mediterranean Large Marine Ecosystem"

Dear Mr. Mifsud,

We are pleased to inform you that the Fisheries Management and Conservation Service of FAO (FIMF) and the General Fisheries Commission for the Mediterranean (GFCM) Secretariat hereby confirm their readiness to contribute to the implementation of the Component 3 "Conservation of biological diversity: Implementation of Strategic Action Plan for the conservation of Biological Diversity (SAP-BIO) and related National Action Plan" of the GEF Project "Strategic Partnership for the Mediterranean Large Marine Ecosystem" with an amount of US$ 800 000 as in-kind contribution over a period of five years.

We note that the FAO activities within the Project will be financed in-cash by GEF through the International Waters Operational Programme 9 with an equal amount of US$ 800 000.

Our support will be distributed among the following sub-components:

- **Sub-component 3.1. "Conservation of Coastal and Marine Diversity through the Development of a Mediterranean Marine Protected Areas (MPA) Network"**
  - 3.1.1.6. New fisheries-based MPAs in international waters (High Seas): Enhanced collaboration of riparian countries for the creation of up to three Special Protected Areas of Mediterranean Interest (SPAMIs) in international waters

FAO in kind co-funding: **US$ 35 500**
GFCM in-kind contribution: **US$ 7 000**

Mr. Paul Mifsud
Coordinator
Mediterranean Action Plan / United Nations Environment Programme
MAP/UNEP
48, Vas. Konstantinou Avenue
P.O. Box 18019
11635, Athens, Greece

- **Sub-component 3.2. "Promote the Sustainable Use of Fisheries Resources in the Mediterranean through the Development and Application of Ecosystem-based Management Approaches"**

  3.2.1. Establishment of the ecosystem approach to fisheries management at regional and sub-regional levels (covering activities 3.2.1.1; 3.2.1.2; 3.2.1.3)

  FAO in kind co-funding: **US$ 166 500**
  GFCM in-kind contribution: **US$ 33 500**

  3.2.2. Reduction of by-catch of regionally important species at a fleet level (covering activities 3.2.2.1; 3.2.2.2)

  FAO in kind co-funding: **US$ 335 500**
  GFCM in-kind contribution: **US$ 67 000**

  3.2.3. Identification and addressing unsustainable fishing practices at regionally representative MPA sites (covering activity 3.2.3.1)

  FAO in kind co-funding: **US$ 130 000**
  GFCM in-kind contribution: **US$ 25 000**

We are very much looking forward to our future collaboration in the framework of this very important Project.

Yours sincerely,

Jorge Csirke
Chief,
Fisheries Management and
Conservation Service, FIMF

Alain Bonzon
Executive Secretary,
General Fisheries
Commission
for the Mediterranean,
GFCM

cc: Alexandros Lascaratos, UNEP/MAP Athens
Giovanna Agostinelli, UNEP/MAP Athens
Jordi Lleonart, FIMF
KK, FIMF
Abdellah Srour, GFCM-FIEL
Marina Mansueti, FIMF

F29- 10-717

الديمقراطية
هي رقابة الشعب
على نفسه

الجماهيرية العربية الليبية الشعبية الاشتراكية العظمى
اللجنة الشعبية العامة للصحة والبيئة
الهيئة العامة للبيئة

الرقم الإشاري / .....

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21 February 2007

To: Alexandros Lascaratos
GEF/PDF-B Project Manager
MAP/UNEP
48, Vas. Konstantinou Avenue
11635, Athens, Greece
Fax: +302107253196/7

Subject: GEF- UNEP Strategic Partnership for the Mediterranean LME Project

Dear Sir,

We are pleased to confirm our strong interest in issues relating to ***biodiversity conservation*** *in the Mediterranean and express our unreserved support for the Strategic Partnership for the Mediterranean Large Marine Ecosystem Project, prepared by the Global Environment Facility (GEF), the United Nations Environmental Programme through UNEP DGEF and the Mediterranean Action Plan (UNEP-MAP) in cooperation with the Partnership members. We recognize the Strategic Partnership to be a timely and much needed initiative to address the launching of regional priority activities adopted within the SAP BIO and concerning the* ***Conservation and Sustainable Use of the Biological Diversity of Vulnerable Coastal and Marine Resources of the Mediterranean Large Marine Ecosystem.***

It is our expectation that one of the main objectives of this initiative will be to assist participating countries to strengthen the effective conservation of regionally important coastal and marine biodiversity

العنوان / الغيران – طرابلس : ص.ب 83618 هاتف : 4873761 (021) بريد مصور : 4872160 (021) مبرق: 20138
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الجماهيرية العربية الليبية الشعبية الاشتراكية العظمى
اللجنة الشعبية العامة للصحة والبيئة
الهيئة العامة للبيئة

الديمقراطية
هي رقابة الشعب
على نفسه

الرقم الإشاري / .....
ملف رقم / .....

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resources through the creation of an ecologically coherent MPA network in the Mediterranean region as well as the strengthening of their legal, policy and institutional frameworks to deal with this ever-growing concern.

Our country will be dynamically contributing in activities concerning marine and coastal protected areas development, which we consider as a major subject to be implemented within the Project. We have valued our national contribution in kind for those activities to approximately 50,000 USD for each of the five years of the project period.

We are, very confident that the other riparian countries of the region would be very welcoming and supporting the biodiversity component of the Strategic Partnership and willing to see our country involvement in the biodiversity activities proposed in the Project (with MAP as a regional coordinating organisation for the Partnership in the Mediterranean), as this initiative is fundamentally a regionally agreed one developed with a participative approach.

Yours sincerely,

Dr. Abdul- Hakim ALWAER
Secretary of People's Committee
Environment General Authority
Libya

21.2.2002

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صرمان ــ هاتف: 620247 (0273) غريان ــ هاتف: 635161 (041) سبها ــ هاتف: 636470 (071) بريد مصور: 636471 (071)

Palestinian National Authority
Environment Quality Authority
Minister Office

السلطة الوطنية الفلسطينية
سلطة جودة البيئة
مكتب الوزير

No. : 218/2007
Date : 27/3/2007

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التاريخ :

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Mr. Paul Mifsud,
Coordinator
UNEP/MAP
Athens – Greece

Fax: +30-210-7253196/7

Subject: In Kind co-financing of the GEF project "Strategic Partnership for the Mediterranean Large Marine Ecosystem

Regional Component: Implementation of agreed actions for the protection of the environmental resources of the Mediterranean Sea and its coastal areas

Dear Mr. Mifsud,

The Palestinian Authority has already endorsed in late 2005 the PDF-B Phase of the above –mentioned project. We are pleased to learn from your letter dated 23 February 2007 that the PDF-B Phase is coming to its end and that the Full Scale Project will be submitted for approval to the next coming GEF Council in early June this year.

I wish to reiterate the Palestinian Authority's interest and support to the Project, which will substantially initiate the process of implementation of the two Strategic Action Programs (SAPMED and SAPBIO) previously developed by UNEP/Map and adopted by the Contracting Parties of the Barcelona Convention.

In this context, I am pleased to inform you that the Palestinian Authority will support the activities to be undertaken in the framework of the project with an in-kind contribution of 1 Mil USD for five years duration of the project (200,000 USD per year).

We are looking very much forward to our future collaboration.

Yours Sincerely

Dr. Yousef Abu Safieh, The Minister
Chairman of Environment Quality Authority (EQA)

Palestine - Gaza - Elnasser - Elthawra St.
Tel: 08-2822000/2823000 Fax: 08-2847198
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فلسطين – غزة – تقاطع شارع النصر مع شارع الثورة
هاتف : ٢٨٢٣٠٠٠ / ٠٨-٢٨٢٢٠٠٠ فاكس : ٠٨-٢٨٤٧١٩٨
البيرة – حي الشرفة
هاتف : ٨-٧-٦/٠٢-٢٤٠٣٤٩٥ فاكس : ٠٢-٢٤٠٣٤٩٤

REPUBLIKA HRVATSKA
MINISTARSTVO KULTURE

Runjaninova 2
10 000 Zagreb
CROATIA

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Class mark: 612-07/07-44/27
Reg No: 532-08-02-01/3-07-2
Zagreb, 22nd March 2007

Mr Alexandros Lascaratos
GEF/PDF-B Project Manager
MAP/UNEP
48 Vas. Konstantinou Avenue
11635 Athens
Greece

Subject: GEF- UNEP Strategic Partnership for the Mediterranean LME Project

Dear Sir,

The Ministry of Culture is pleased to confirm its interest in issues relating to biodiversity conservation in the Mediterranean and to express support for the Strategic Partnership for the Mediterranean Large Marine Ecosystem Project, prepared by the Global Environment Facility (GEF), the United Nations Environmental Programme through UNEP GEF and the Mediterranean Action Plan (UNEP-MAP) in cooperation with the Partnership members. We recognize the Strategic Partnership to be needed initiative to address the launching of regional priority activities adopted within the SAP BIO and concerning the *"Conservation and Sustainable Use of the Biological Diversity of Vulnerable Coastal and Marine Resources of the Mediterranean Large Marine Ecosystem"*.

It is our expectation that one of the main objectives of this initiative will be to assist participating countries to strengthen the effective conservation of regionally important coastal and marine biodiversity resources through the creation of an ecologically coherent MPA network in the Mediterranean region as well as the strengthening of their legal, policy and institutional frameworks to deal with this ever-growing concern. Therefore we consider very important our active involment in further project preparation duo to its harmonization with our objectives and legal framework.

Ministry of Culture and other institutions responsible for nature protection in Croatia will be dynamically contributing in activities concerning marine and coastal protected areas development, which we consider as a major subject to be implemented within the Project. We have valued our contribution in kind (work of employees in Ministry of Culture and other institutions responsible for nature protection, use of existing equipment, use of rooms for meetings) for planned activities to approximately 50,000 USD for each of the five years of the project period.

Yours sincerely,

STATE SECRETARY

Jadran Antolović, PhD