

PROJECT BRIEF

1. IDENTIFIERS

PROJECT NUMBER:	[Implementing Agency Project number to be assigned]
PROJECT NAME:	Integrating Watershed and Coastal Area Management (IWCAM) in the Small Island Developing States of the Caribbean.
PROJECT DURATION:	5 Years
IMPLEMENTING AGENCIES:	United Nations Environment Programme United Nations Development Programme
EXECUTING AGENCIES:	The Secretariat of the Cartagena Convention The Caribbean Environmental Health Institute
REQUESTING COUNTRIES:	Antigua and Barbuda, The Bahamas, Barbados, Cuba, Grenada, Dominica, Dominican Republic, Haiti, Jamaica, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago.
ELIGIBILITY:	The countries are eligible under para. 9 (b) of the GEF Instrument
GEF FOCAL AREA:	International Waters
IW STRATEGIC PRIORITIES:	IW 3 – Undertake Innovative Demonstrations for Reducing Contaminants and Addressing Water Scarcity

GEF PROGRAMMING FRAMEWORK: OP 9 - Integrated Land and Water Multiple Focal Area

2. SUMMARY

Small Island Developing States (SIDS) have special conditions and needs that were identified for international attention in the **Barbados Programme of Action for the Sustainable Development of Small Island Developing States** and through the **World Summit for Sustainable Development's Johannesburg Plan of Implementation**. In its Operational Programme 9: SIDS Component, the GEF recognised the unique water-related issues that are common to most SIDS, e.g. coastal area management and biodiversity, sustainable management of regional fish stocks, tourism development, protection of water supplies, land and marine-based sources of pollution, and vulnerability to climate change. Consequently GEF has confirmed the eligibility of international waters projects that address the special conditions and needs of SIDS. These projects are included in the operational programmes for two reasons:

1. Integrated freshwater basin-coastal area management is essential for a sustainable future for these island states, and
2. This approach can produce benefits in other GEF focal areas, especially biodiversity, climate change and land degradation.

Key features of each regional SIDS International Waters project are improvements in integrated freshwater basin-coastal area management on each island of the regional groupings of SIDS, a

multiple GEF focal area approach, testing of mechanisms to facilitate broad stakeholder participation, and a coordinated, approach among Executing and Implementing Agencies according to the comparative advantage of each agency.

The overall objective of this Project is to strengthen the commitment and capacity of the participating countries to implement an integrated approach to the management of watersheds and coastal areas. The long-term goal is to enhance the capacity of the countries to plan and manage their aquatic resources and ecosystems on a sustainable basis. This will be addressed within the context of the currently limited economic opportunities, coupled with an urgent need for development and expansion of trade and commerce, within the Caribbean SIDS. In particular, project activities will be focusing on improvements in integrated freshwater basin-coastal area management on each island of the regional groupings of Caribbean SIDS.

The project recognises the integrated and interlinked nature of watersheds and coastal areas in small islands and aims to develop a more sector-coordinated management approach, both at the national and the regional level, with a strong emphasis on an expanded role for all stakeholders within a participatory management framework. The project further recognises the constraints on such an integrated and sectoral-coordinated management approach within an environment, which lacks applicable and cost-effective solutions to many of the primary threats and their root causes at the grass-roots level.

Paramount to addressing the lack of solutions available to SIDS on key issues such island-based sources of pollution, water resource conservation and management, unsustainable land-use and inappropriate agricultural practices, etc. is the inclusion of a major project component delivering on-the-ground demonstrations targeted at national hotspots where specific threats to national, regional and global environmental amenities have been identified. These demonstrations stress the need for development of a cross sectoral management approach and address the requirements for institutional and infrastructure realignment and policy reform; adoption of modalities for sectoral participation and coordination; capacity building; linkages to social and economic root causes of environmental degradation; and the overall need for sustainability. One of the critical requirements of these demonstrations is to develop mechanisms for the replication of activities and for the transfer of best lessons and practices, both nationally and regionally.

In view of the urgency for policy and legislative reforms, alongside institutional improvements, the project will focus one component specifically at these issues. In particular, high priority will be given to assisting the countries to meet the commitments required in the ratification process for important regional legal agreements such as the Cartagena Convention and its protocols (especially the Protocol on Land-Based Sources of Pollution).

Consequently, the project aims to demonstrate the development of an effective regional strategy for IWCAM, in parallel with demonstrating and replicating geographically targeted national solutions to common Caribbean SIDS issues, through a series of interconnected components that capture best practices and translate these into replicable actions.

The Project consists of 5 components. These will undertake regional management, coordination and evaluation of IWCAM objectives; demonstrate technological and management approaches

and policy and legislative reforms within selected hotspots; identify impact indicators for measuring IWCAM efficacy and implement a programme of measurement and monitoring which will drive policy reforms; and establish networking sharing of knowledge, and partnerships within the Caribbean SIDS for IWCAM.

3. COSTS AND FINANCING (MILLION US\$)

GEF:	Project	:	US\$ 13.383
	PDF - B	:	US\$ 0.608
	Subtotal GEF	:	US\$ 13.991
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Co-financing:	Sec. of Cartagena (in cash & kind)	:	US\$ 3.075
	UNEP (in cash & kind)	:	US\$ 0.116
	CEHI (in cash & kind)	:	US\$ 1.908
	UNDP (in cash & kind)	:	US\$ 1.771
	Governments (in cash & kind)	:	US\$ 82.899
	NGOs (in cash & kind)	:	US\$ 7.091
	Private Sector	:	US\$ 1.409
	Subtotal Co-financing	:	US\$ 98.269
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Total Project Cost		:	US\$ 112.260
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4. GEF OPERATIONAL FOCAL POINT ENDORSEMENTS

Antigua and Barbuda

*Diann Black-Layne, Ministry of Tourism and Environment
Endorsement received 28/01/02 and reconfirmed 2004*

Bahamas

*Donald Cooper, Ministry of Agriculture and Fisheries
Endorsement received 17/01/02 and reconfirmed 2004*

Barbados

*Leonard Nurse, Permanent Secretary, Ministry of Physical Development and Environment
Endorsement received 28/02/02 and reconfirmed 2004*

Cuba

*Jorge L. Fernández Chamero, Director, Ministerio de Ciencia, Tecnología y Medio Ambiente
Endorsement received 13/01/04*

Dominica

*Davis Letang, Permanent Secretary, Ministry of Agriculture and the Environment
Endorsement received 26/02/04*

Dominican Republic

*Frank Moya Pons, Secretario de Estado, Secretaria de Estado de Medio Ambiente y Recursos Naturales,
Endorsement received 02/10/01 and Reconfirmed 2004*

Grenada

Lennox Andrews, Ministry of Finance

Endorsement received 26/2/2004

Haiti

Lionel Parisien, Ministere de l'Environnement

Endorsement received 28/9/01 reconfirmation pending

Jamaica

Leonie Barnaby, Ministry of Land and Environment

Endorsement received 14/01/02 and reconfirmed 2004

St. Kitts and Nevis

Hilary Hazel, Ministry of Finance, Development and Planning

Endorsement received 05/02/02 and reconfirmed 2004

St. Lucia

Martin Satney, Permanent Secretary, Ministry of Physical Development, Environment and Housing, Endorsement received 24/02/04

St. Vincent and the Grenadines

Reynold Murray, Ministry of Health and the Environment

Endorsement received 26/02/04

Trinidad and Tobago

Anthony Bartholomew, Ministry of Public Utilities and the Environment

Endorsement received 06/02/02 and reconfirmed 2004

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LIST OF ACRONYMS

AOSIS	Alliance of Small Island States
BPOA	Barbados Programme of Action for the Sustainable Development of SIDS
CARICOM	Caribbean Community of Nations
CAST	Caribbean Alliance for Sustainable Tourism
CBWMP	Caribbean Basin Water Management Programme
CEHI	Caribbean Environmental Health Institute
CHA	Caribbean Hotels Association
CIDA	Canadian International Development Agency
CCA	Caribbean Conservation Association
CEP	Caribbean Environment Programme
CPACC	Caribbean Planning for Adaptation to Climate Change
CREP	Caribbean Regional Environment Programme
CSME	CARICOM Single Market and Economy
CTO	Caribbean Tourism Organisation
GEF	Global Environment Facility
GIWA	Global International Waters Assessment
IDP	Integrated Development Plan/Planning
ISM	Island System Management
IWCAM	Integrated Watershed and Coastal Area Management
MACC	Mainstreaming Adaptation to Climate Change
NFP	National Focal Point
NIPC	National Inter-ministerial Policy Committee
NRCA	Natural Resources Conservation Authority of Jamaica
NRMU	Natural Resources Management Unit of the OECS
NTAG	National Technical Advisory Group
OAS	Organisation of American States
OECS	Organisation of Eastern Caribbean States
PCU	Project Coordination Unit
PDF	Project Development Facility of the GEF
POA	Programme of Action
RPC	Regional Project Coordinator
SIDS	Small Island Developing States
SLR	Sea Level Rise
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
USAID	United States Agency for International Development
UWI	University of the West Indies
UWICED	University of the West Indies Centre for Environment and Development
WSSD	World Summit on Sustainable Development

LIST OF ANNEXES & APPENDICES

APPENDIX 1: THE IWCAM DEMONSTRATION PROJECTS

REQUIRED ANNEXES

- Annex A Incremental Cost Analysis
- Annex B Logical Framework Analysis
- Annex C STAP Roster Technical Review and Response

OPTIONAL ANNEXES

- Annex D Root Cause Analysis
- Annex E Public Involvement Plan Summary
- Annex F Reference Documents
- Annex G Implementation Arrangements and Project Management
- Annex H Profile of Executing Agencies
- Annex I List of IWCAM-related, GEF supported or funded initiatives within the Caribbean
- Annex J: Endorsement Letter from NFPs and Co-Financing letters (separate file)

BACKGROUND & CONTEXT

GLOBAL SIGNIFICANCE

1. The watersheds and coastal areas of the Caribbean contain some of the world's most diverse and productive habitats and encompass extensive areas of complex and unique eco-systems. The coastal areas include mangroves, coral reefs, sea grass beds and river deltas, which are an important source of food production and support a variety of economic activities such as fisheries, tourism and the related uses of recreation and transportation.

2. The Caribbean has extensive wetlands of global significance as attested to by a Ramsar Mission to the Caribbean in September 2002, which noted the vulnerability of these wetlands, and the urgent need for efforts toward their conservation and sustainable use, through the joint commitment of national governments and the international community. Over 13 percent of the world's coral reefs are found in the Caribbean region. Many Caribbean species are endemic only to this region. Some 30% of these are now considered to be either destroyed, or at extreme risk from anthropogenic threats¹. Another 20% or more are expected to be lost from the Caribbean over the next 10-30 years if significant action is not taken to manage and protect them over and beyond existing activities. Mangroves are the most poorly supported (funding-wise) of all the globally-significant habitat types throughout the entire Latin America and Caribbean region and are also the least well-managed and are disappearing fast under development pressures. Seagrass beds are poorly mapped and badly managed.

3. As all terrestrial areas in the 13 Caribbean small island developing states (SIDS – see Figure 1) fall within a watershed, their protection and integrated management is critical to the protection of terrestrial biodiversity. A recent survey of the world's biodiversity hotspots² has ranked these terrestrial areas as among the three highest priorities in any global strategy for biodiversity conservation and sustainable management. As a result of their isolation, the Caribbean islands have developed a high level of endemism amongst their flora and fauna. Scientific estimates support evidence that up to 40 percent of the plant life in Caribbean forests is found nowhere else on the planet, and the entire area is renowned as a migratory route for birds moving between North and South America. Endemism and its resultant highly significant biodiversity is the key to the importance of natural habitats in the terrestrial, watershed and coastal environs of these Caribbean Islands, and is directly linked to human health and well-being through priority ecosystem functions (such as clean water, agricultural capacity, availability of food, etc).

¹ Wilkinson, C. 2000. **The status of coral reefs of the world**. Report of the Global Coral Reef Monitoring Network.

² Mittermeier, R.A., et al. **Hotspots: Earths' Biologically Richest and Most Endangered Terrestrial Ecoregions**. 1991, CEMEX and Conservation International. 430 pp. ISBN 968-6397-58-2.

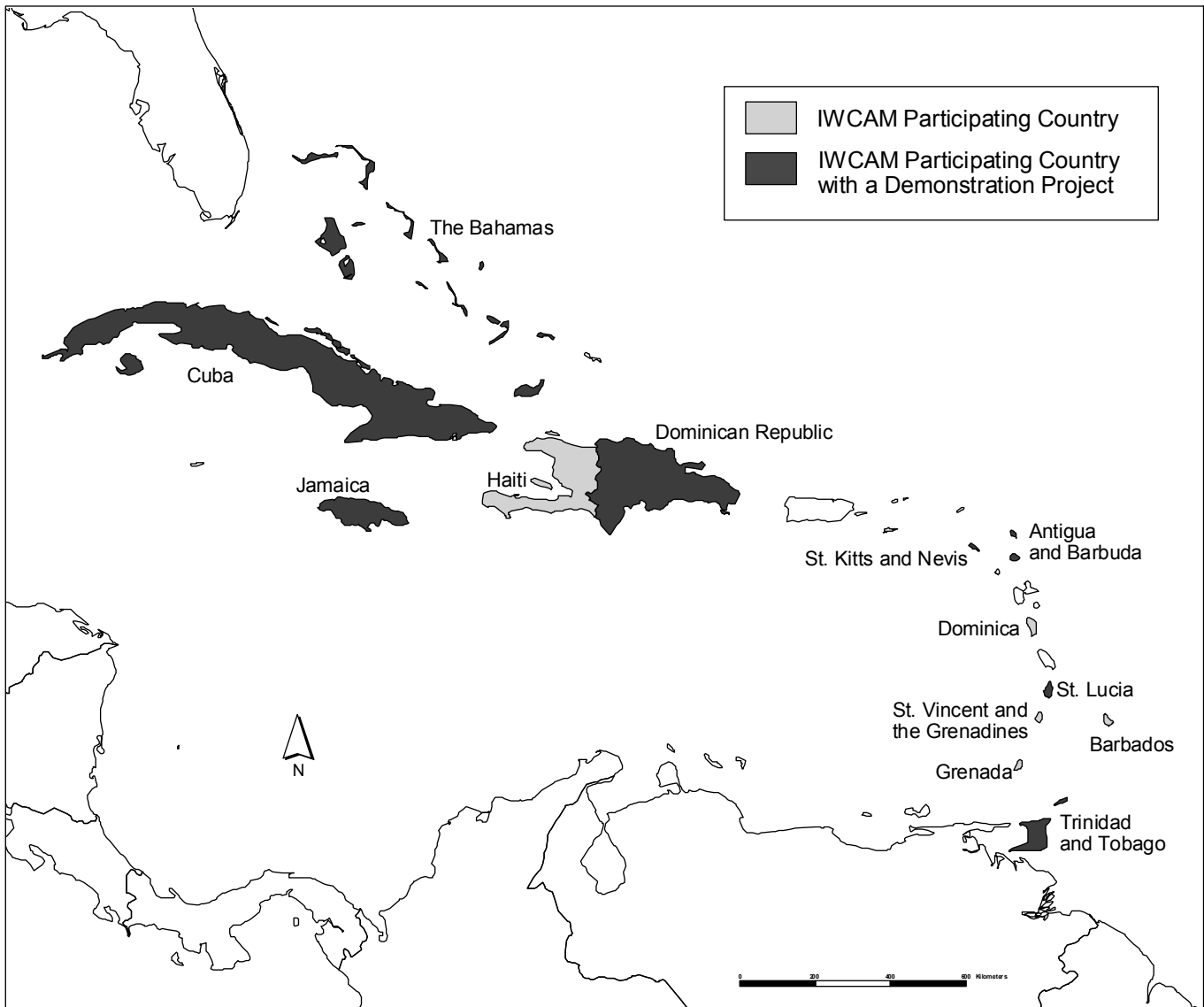


Figure 1: Distribution of Participating SIDS within the Caribbean

Clearly this region is of critical importance to global biodiversity from the point-of-view of the uniqueness of species and habitats. If this biodiversity is viewed in the context of the high degree of threat, along with the recognised inadequate coverage of protected areas, and the desperate need for more effective and sustainable resource planning and management, then the vital global significance of this project becomes apparent. The Caribbean has already lost nearly 90% of its original biological habitat (prior to human interference). The aforementioned survey² notes that “...some risk taking is justified; even if a top-priority project in one of these areas has some risk of failure, it probably should be attempted. It implies that special attention should be taken on strengthening local capacity as quickly as possible, but that outside technical assistance should also be provided if local capacity is not adequate; we simply cannot afford to wait until local capacity is fully developed... We simply are not likely to have a second chance in these areas if

our investments over the next few years fail to produce results. Very little remains, and every piece of natural habitat that has managed to survive is both especially fragile and tremendously important in global terms.”

MAJOR AREAS OF CONCERN

4. During the project preparation phase, supported by a GEF PDF-B grant, national reports were produced (see Annex I) summarising the problems of integrated watershed and coastal area management in each country. These were drawn together in a regional synthesis (Annex I) from which the Root Cause Analysis contained in Annex D was derived. In accordance with the aims and objectives of this project, it was found that the main problems transcend any differentiation across the coastal-watershed interface and, in reality, effect these SIDS from the highest points of their watersheds out into their coastal zone jurisdiction as delimited by their territorial waters. The national reports identified the country’s major concerns in relation to the integrity of natural resource protection and management, economic stability, and sustainable development within the Caribbean SIDS, to include *inter alia*:

Diminishing Freshwater Supplies

5. The Caribbean nations occupy a region of the world in which providing adequate supplies of freshwater presents a substantial challenge to local governments. In many countries, the annual *per capita* freshwater availability falls far below the 1,000 cubic meter commonly used to measure scarcity.

6. However, this region has a poor track record of water resource management within the watershed, and with respect to groundwater supplies. This lack of appropriate management is affecting the sustainability of the water resource itself as well as the associated biodiversity in the watershed and coastal zone, and is adding to land degradation within the Caribbean SIDS

7. The region is highly dependent on rainfall to feed surface intakes and replenish groundwater. Water resources management is further complicated by the local geology, which is dominated either by porous limestone, not useful for sustaining streams, or by dense volcanic rocks that limit infiltration. Changes in the rainfall patterns may cause more severe and longer droughts, limiting stream flow and reservoir storage or may increase flooding and inundation

8. The agricultural sector represents a significant economic sector in Caribbean SIDS and is heavily dependent on freshwater supplies for irrigation purposes. Supplies of irrigation water are often a principal controlling factor restricting agricultural expansion within the small island states of the Caribbean. In Barbados, irrigation is the second highest water consumer, after domestic use, amounting to 16.2 million m³ a year. This amount has been forecast to increase 15-20% over the next 10-15 years if export markets can be gained and less than half of that, if only local markets are supplied, resulting in an average increase rate of 1% annually. St. Vincent notes also that competitive banana markets and the demand for high-quality products are increasing the need for irrigation. Tourism, which is critical to the economies of the Caribbean SIDS, is another high consumer of freshwater for personal consumption and hygiene, laundry, irrigation and even aesthetics (fountains and waterfalls).

9. It is apparent that one of the most pressing concerns regarding freshwater resource management in the region is that of demand exceeding supply. Demand for water resources is increasing rapidly as a result of economic and demographic changes. Some countries such as Dominica and Guyana still have more than adequate water resources, but find that their infrastructure capacity is inadequate to provide the necessary services, and that efficient distribution and application is crippled by leakage and wastage. Other nations simply lack the necessary water resources. This problem is exacerbated by the structure or absence of water tariffs and rates. Generally, water is not treated as an economic good and consequently water rights, water markets and pricing are not used to improve management and, for the most part, there is no incentive for consumers to use water efficiently.

10. This overall trend toward mismanagement of freshwater supplies must inevitably affect downstream biological habitat conditions and biodiversity throughout the watershed. In contrast, the development of good water resource management practices, in coordination with a more integrated (cross-sectoral) approach to overall resource management, can only improve the chances for long-term, sustainable resource protection and use, and reduce the harmful effects of land degradation, along with the immediate and long-term threats to human welfare and health.

Degraded Freshwater and Coastal Water Quality

11. In the Caribbean SIDS, high population densities, combined with population growth, urbanisation and increased development, particularly residential and tourist resort development, has led to the contamination of underlying aquifers and surface water, and deterioration of coastal water quality. Sediments from soil erosion and over-utilisation of chemicals for agriculture and industrial use are generally considered the main causes for deterioration of water quality and public health. In addition, sea level rise may cause saltwater intrusion in coastal aquifers and may impair the water quality of shallow lenses, which are important sources for public water supplies.

12. Wastewater treatment facilities are inadequate in many locations. For instance, in Saint Lucia, only 13% of the population is connected to waste water treatment facilities. Jamaica, St. Kitts and Nevis, and St. Lucia note many problems with solid-waste disposal, in particular indiscriminate waste disposal and unlined landfills, which can allow hazardous leachate to enter the groundwater. Many of these threats to human health are a direct result of inadequate sanitation treatment. This is further compounded by insufficient drainage and results in standing pools of contaminated water. During severe weather conditions (e.g., hurricanes, floods, heavy rainfall) these pools present a major threat of sewage-related outbreaks of diseases. In St. Kitts and Nevis, during these weather events, gastroenteritis becomes a serious threat to the population. Jamaica also reports experiencing disease outbreaks related to unsanitary conditions resulting from inadequate water supply for hygiene purposes. Throughout the region, improperly constructed pit latrines result in seepage and eventually to groundwater contamination. Cuba reports that its health problems related to water supply primarily affect the rural population. The principal illnesses that have been observed and are being monitored are typhoid fever, dysentery, Hepatitis A, parasites, and acute diarrhoea.

13. The water quality at many recreational beaches throughout the Caribbean is of concern, both in relation to the health of tourist visitors as well as to the welfare of related coastal biological communities and habitats. Many of the tourist resorts and hotels are indifferent to the fact that agricultural chemicals, sewage and other domestic wastes are introduced into the watershed and find their way down to the tourist beaches and parks. As long as the coastal waters are clear and blue then their clients are content. However, ear and throat infections are becoming more frequent among tourists, and there is a general trend toward poor water quality and eutrophication at a number of tourist beaches.

14. Inadequately treated sewage waste contributes to health-related problems, both through contamination of drinking water supplies, and through the presence of pathogens in the watershed and coastal water environment as a whole. It also represents a hazard with respect to eutrophication causing coastal algal blooms, and changes to biological community structure throughout the overall watershed-coastal zone continuum. The end effect can be stress and/or destruction of sensitive ecosystems such as coral reefs with knock-on effects in other coastal habitats and on other coastal species and biodiversity as a whole. Clearly the implications to fisheries, both from the point-of-view of health problems and catch reduction, are a serious human concern.

15. Manufacturing and processing plants such as breweries, paint and paper manufacture and diesel-powered generating plants proliferate within coastal and watershed areas of all Caribbean countries to take better advantage of water sources and transportation needs. The industrial sector frequently discharges untreated effluent directly into rivers and/or stores wastes in unlined holding ponds. Industrial pollution is a particularly pressing problem for the larger countries including Trinidad and Tobago, Jamaica, Guyana and the Dominican Republic, given their comparatively high level of industrialization linked to the production of sugar, rum, oil refining, petrochemicals, paint and metal finishing. Jamaica is also contending with the problem of the “discharge of industrial effluent into sinkholes resulting in the rapid movement of waste towards local aquifers and nearby springs.” Agro-processing also produces effluents with a high biological oxygen demand, which impact water resources and aquatic ecosystems. Cuba reports that increased development has brought with it an increase in the amount of hazardous chemical and biomedical waste. Over 1.2 million tons of industrial hazardous wastes are produced in Cuba annually. Cuba is now encouraging the inclusion of methods to reduce hazardous waste production in the design of new industrial plants and retrofits whether through source reduction or recycling. Again, much of the untreated effluent and waste products not only contaminate the watershed and ground water supplies, but also threaten downstream coastal areas and the natural, biological diversity of habitats and species, which they support.

16. Solid and sewage wastes from households continue to be a problem. Throughout the region, countries lack sufficient solid-waste-collection systems and wastewater-treatment systems. As a result, many citizens inappropriately dispose of their waste in gullies and along riverbanks, therefore polluting rivers, streams, and ultimately the coastal waters into which they drain.

17. The agricultural sector also contributes to pollution and contamination, as a result of agrochemical run-off and leaching, direct agrochemical influx from aerial spraying and indiscriminate and improper disposal of solid waste. There is also a trend toward using low-lying

wetlands for rice cultivation, which brings with it increased pesticide use. Another source of agricultural pollution is waste from agricultural production.

Unsustainable Tourism

18. Opportunities for economic development in SIDS are often limited and the economic dependence on international tourism and agricultural exports is unusually high. Tourism is generally the most important source of external revenue, and the greatest single contributor to Gross National Product.

19. As well as needing a reliable source of good quality food, and having to provide attractive resorts and facilities, the tourism industry is heavily dependent on healthy watersheds and good coastal water quality for its success. Freshwater demand *per capita* by tourists is many times that of residents of island nations. Accordingly, without sufficient access to high-quality water resources, the tourist industry cannot thrive, and would almost certainly go into recession or collapse entirely. Furthermore, tourism's use of coastal and marine resources has been extensive and continuous. The majority of the tourism development in the Caribbean is located within coastal areas. Beaches and near-shore waters are the site of much of the tourism-based marine recreational activities, such as scuba diving, snorkelling and water skiing. At the same time, waste produced by the tourist industry can contaminate the very watersheds and coastal areas they depend upon. Little consideration is given to maintaining this quality environment in order to maintain the attraction to tourists, and thereby maintain the economic stability of the country while protecting the natural resource. The Dominican Republic groups the principal impacts of tourism on watersheds in four categories: (1) changes in natural drainage patterns due to reductions in vegetation and surface absorption, (2) excessive use of water and other resources, (3) pollution of watersheds, and (4) transformation of land and water habitats.

20. The tourism industry in particular, has a significant impact on freshwater resources, for a variety of reasons. The high demand for freshwater contributes to over-extraction from aquifers and the rapid depletion of surface resources. For example, Barbados estimates that, given current plans, the demand for water for construction and irrigation of golf courses will increase to five times the present demand in the near future. Similar stories exist within the other Caribbean SIDS. This over-extraction of freshwater must inevitably have a detrimental effect on watershed and coastal biological communities, many of which are dependent on a very precise balance of water availability and salinity throughout the year. Also, when large hotels or golf courses are developed, vegetation is cleared from the area, which can lead to flooding, soil erosion, destruction of terrestrial habitats, and poor aquifer recharge.

Inappropriate Land Use

21. Land use also affects the health of freshwater ecosystems, watersheds and coastal areas in SIDS. Poor land use planning and soil management in watersheds reduce freshwater capturing capacity and affect coastal water quality and aquatic biodiversity. There is a direct relationship between the use of land for domestic, commercial, industrial or agricultural purposes, the generation of waste by these uses, and the impact on the quality of both surface and groundwater resources. In most countries, unsustainable land-clearing practices, inefficient irrigation, and the

use of agro-chemicals is a source of significant damage. Within the domestic sector, land clearance and construction on previously uninhabited land is producing sedimentation, deforestation, and pollution, on top of the obvious problem of biological habitat degradation and destruction. These effects are being felt throughout the watershed-coastal area continuum.

22. Land use is a potential source of conflict since it involves issues of land tenure, traditional use, and economic livelihood. Many farmers are not using sustainable farming techniques. This may be due to insecurity regarding land tenure, limited economic resources, or lack of knowledge of different farming techniques. The Dominican Republic has noted an increase in the use of agro-chemicals over the last decade because of reduced soil fertility and increased resistance to pests and diseases. This increased use of agro-chemicals threatens the biological integrity and sustainability of both watershed and coastal areas. Contributing additionally is a trend toward the use of low-lying wetlands for rice cultivation, which brings with it increased pesticide use. St. Vincent and the Grenadines reports that poorer farmers are increasingly deforesting protected areas or planting crops on marginal lands because they have been driven off farmland that they traditionally cultivated.

23. Inappropriate land use exacerbates the impact of floods and drought. Deforestation causes a reduction in water retention and potential landslides, clogging of recharge and drainage wells, and increased soil erosion. Droughts also occur periodically throughout the region. Antigua and Barbuda noted that animal grazing on sparse vegetation during droughts exposes topsoil, which, during subsequent periods of high precipitation, is prone to severe erosion. Siltation is so significant that often water for domestic use is heavily laden with sediments, despite having passed through the treatment processes. Coastal erosion can clearly be exacerbated by inappropriate coastal development, including removal of mangroves, destruction of seagrass beds and coral reefs, and by sand mining, which exposes the coastline and hinterland to the destructive forces of waves energy and storm surges. Sand mining is a particular problem especially on Saint Lucia and Saint Vincent and the Grenadines, due to the active construction industry. Several governments have introduced policies to encourage the importation of sand for construction and legislation has been drafted to discourage sand mining. However enforcement of such legislation has been inadequate.

Climate Change

24. Environmental assessment and monitoring of the actual and potential impact of climate change on coastal areas and watersheds is emerging as major imperative for all of the countries in the Caribbean region. All Caribbean countries have signed the *United Nations Framework Convention on Climate Change (UNFCCC)*. Through the GEF-financed project entitled *Caribbean Planning for Adaptation to Climate Change (CPACC)* and its successor project *Mainstreaming Adaptation to Climate Change (MACC)*, countries are examining the possible scenarios and how to deal with them. The possible effects of climate change on coastal water levels and temperatures are a threat to the fragile coral-reef ecosystems. The coastal region is perhaps the most economically-valuable area on most islands and even small changes could produce permanent environmental damage, and severely affect the islands' economies. Changes in climatic conditions, which result in an increase or reduction in precipitation, will adversely affect watershed and watershed-coastal interface characteristics with respect to their biological

status quo. Changes in precipitation patterns are also frequently responsible for increased land degradation. Any involvement in assessment and monitoring of climate change parameters through this current project would clearly need to be linked to, and subordinate to, the existing CPACC project and the MACC project. Furthermore, the Caribbean Community (CARICOM) is establishing its Regional Climate Change Centre in Belize. The Centre will implement projects designed to prepare for and to reduce the harmful effects of climate change and sea level rise. The Centre will also seek ways in which the Caribbean can benefit from any opportunities that may result from climate change and position the region to maximize benefits from new and additional resources arising from the United Nations Framework Convention on Climate Change (UNFCCC). The IWCAM project will establish close links to this Centre.

Natural Disasters

25. Natural hazards are also a serious issue for a region that is routinely hit with hurricanes, earthquakes, and volcanic eruptions. These events often bring about flooding and landslides due to anthropogenic activities such as deforestation and construction in vulnerable areas and can have devastating impacts on watershed and coastal ecosystems. Owing to the frequency of hazards, and the extensive damage, which they cause, many countries focused their efforts on post-disaster response rather than on mitigation. Not all countries have early-warning systems in operation, and/or disaster management plans.

26. In summary, it is clear that the coastal and watershed environments of the Caribbean SIDS cannot be considered or managed separately or in isolation. There is a strong causal linkage between these two areas, which strongly advises their consideration under an integrated management approach.

27. As presented above, the principal threats to the sustainable use of watersheds and coastal areas in SIDS (and indeed watersheds and coastal areas almost everywhere) include pollution, poor land-use leading to habitat degradation, unsustainable tourism, excessive and inefficient use of freshwater supplies, climate change, natural disasters, and the competing interests of different stakeholder groups. These threats are not mutually exclusive. As watersheds and coastal ecosystems demand an integrated and holistic approach to their management, the threats must also be viewed in a similar manner. For example, the impacts of the deforestation of a watershed can range from erosion to reduced water retention of the soil.

28. The increasing demands placed on freshwater supplies and other natural resources are likely to cause increasing conflicts over allocation and use in the foreseeable future. Clearly, there is a need to integrate freshwater and coastal waters management through multi-sectoral planning and management of island ecosystems.

29. The primary impacts on the coastal and watershed environment which are causing the above-mentioned areas of concern (bearing in mind that this project cannot directly address climate change issues or natural hazards) have been summarised as:

- **AQUIFER DEGRADATION**
- **REDUCTION IN SURFACE WATER QUALITY AND AVAILABILITY**

- **LOSS OF WATERSHED AND COASTAL BIODIVERSITY**
- **LAND DEGRADATION AND COASTAL EROSION**

ROOT CAUSES OF ENVIRONMENTAL IMPACTS, AND RELATED BARRIERS TO EFFECTIVE IWCAM

30. Having identified the major national concerns with respect to natural resource integrity and sustainability within the SIDS, the national reports then identify the following causal linkages between the noticeable impacts and the actual root causes and barriers to IWCAM. It is these root causes that need to be addressed in order to mitigate the threats and impacts and develop a regional environment of effective integrated coastal and watershed management (Annex D provides a full Root Cause Analysis Table). It is notable that all of the following Root Causes can be categorised under either A. Legislative and policy shortfalls, B. Lack of effective management and infrastructure, and C. Inadequate knowledge, information or training in IWCAM-related issues

Aquifer Degradation

This has resulted mainly from chemical contamination and salt-water intrusion.

Primary Causes include:

- Improper wastewater treatment (Domestic and industrial)
- Overuse of agricultural chemicals
- Demand for water resources exceeding supply
- Inadequate knowledge of aquifer and groundwater dynamics and re-charging

Root Causes include:

- A. Inadequate or inappropriate laws, policies & regulations
 - Poor-enforcement of existing legislation & regulations
 - Lack of incentives for conservation and management (especially water resources)
 - Inadequate or non-existent justification for policy and legislation improvements
- B. A fragmented and sectoral approach to environmental management coupled with limited communication and collaboration between various sectors
 - Weak institutional arrangements, limited human resource availability and capacity
 - Inadequate development planning
- C. Non-existent, inadequate, or unreliable data
 - Limited information on (and investment in) alternative or best practices
 - Limited understanding of the environmental impacts and consequent economic losses
 - Lack of public awareness and education

Reduction in Surface Water Quality and Availability

This is a mainly a result of contamination and sedimentation.

Primary Causes include:

- Overuse of agricultural chemicals
- Demand for water resource exceeds supply
- Deforestation
- Overgrazing
- Construction

Root Causes include:

- A. Lack of effective policies (e.g. reforestation and water conservation)
Fiscal and regulatory systems that encourage unsustainable land practices and uncontrolled water exploitation
- B. Inadequate land and resource management
Poor land-use planning and water resource management
- C. Limited knowledge of alternative practices

Loss of Watershed and Coastal Biodiversity

Primarily as result of land-use conversion, changes in catchment and stream flow, loss of habitat, and over-exploitation of resources coupled with limited and ineffective protection of sensitive areas.

Primary Causes include:

- Inappropriate and unsustainable development
- Unsustainable exploitation of resources
- Inappropriate or inadequate technology
- Population growth and demand on resources
- Changes in land use

Root Causes include:

- A. Inadequate legislation, regulation & control leading to over-exploitation of coastal and watershed resources
Political support in favour of unsustainable resource exploitation for short-term economic growth
- B. Inappropriate or absent development planning and land-use management
Inappropriate land tenure and ownership issues resulting in lack of accountability/responsibility
Increasing demand for resources coupled with poor and unsustainable management and conservation practices
Lack of stakeholder management, ownership and responsibility

- C. Use of inappropriate technology leading to destruction of non-target species, non cost-effective use of the resource, destruction of habitat, and pollution of the environment

Land Degradation and Coastal Erosion

As a result of loss of vegetative cover and soil erosion, coupled with construction and mining

Primary Causes include:

- Deforestation
- Overgrazing
- Inappropriate land-use practices
- Demand for building materials (versus limited supply)
- Inappropriate construction practices

Root Causes include:

- A. Inadequate or non-existent regulations and laws
Land tenure issues (no responsibility for land ownership)
- B. Poor land-use planning
Inadequate development control
- C. No understanding of the benefits of stakeholder participation
Lack of knowledge about the participatory process

31. The overall conclusion arising from the national reviews of threats and root causes to effective watershed and coastal management is that the existing practices are generally out-of-date and uncoordinated, that institutional arrangements and policy are in urgent need of reform, and that effective and sustainable management can only occur in the presence of evolving stakeholder support and participation. The evidence suggests that, with very few exceptions (notably Barbados, Cuba and Jamaica) Caribbean countries suffer from:

- A multiplicity of institutions and jurisdictions that deal with various aspects of resource management, often developing and implementing policies and programmes in isolation from one another;
- A multiplicity of laws, each dealing separately (and through different sectoral responsibilities) with various aspects of resource management, thus encouraging a compartmentalised and isolated approach to environmental management;
- An absence of credible arrangements for involvement of civil society in sustainable development initiatives; and, the lack of understanding and awareness of the principles of sustainable development and the inseparable linkages between environment, social and economic issues.
- An absence of measurable indications of the environmental and socio-economic trends in the coastal and watershed environment. This is a severe constraint to the development of effective and targeted policy and legislation in support of IWCAM. It also creates an environment whereby major resource users and polluters are unaccountable and are not required to invest back into the management of those resources, which they exploit or threaten.

32. In addition, there is often ample awareness within the responsible and accountable sectors regarding very specific threats to coastal and watershed management (e.g. pollution and contamination of coastal areas and aquifers from domestic wastewater and sewage). However, the problem lies in the fact that mitigation and effective management are frequently constrained by the absence of cost-effective and applicable solutions, which would be realistic to the SIDS situation (politically and economically).

INSTITUTIONAL, LEGAL, POLICY AND SOCIO-ECONOMIC LANDSCAPE

33. The National Reports assembled during the PDF phase were also required to identify the institutional, legal, policy and socio-economic status of each country in relation to coastal and watershed management.

Institutional

34. Some progress has been and is being made within the Caribbean at the national and regional level to address the need for improved institutional arrangements for natural resource management linked to long-term sustainable development. Since 1990, the Secretariat of the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (Cartagena Convention), through the Caribbean Environment Programme (CEP) and supported by the Swedish International Development Agency (SIDA), has carried out several pilot studies in the coastal areas of large countries, as well as small island states. These have formed the basis for guidelines on coastal area management published by the Secretariat in 1995. CEP also actively maintains a project on management of marine protected areas, which has brought training and guidance to the countries of the Wider Caribbean and has worked with the U.S. Agency for International Development on a sustainable tourism initiative for the Wider Caribbean with a focus on coastal area and domestic wastewater management. Additionally, CEP's work with the Inter-American Development Bank has increased the capacity of several CEP countries (including some under this project proposal) to improve environmental information systems management for coastal and marine areas.

35. The work programme and specific projects of the Caribbean Environmental Health Institute (CEHI) have also attempted to address some of the problems, but as separate programme areas. Since its establishment in 1989 by governments of the Caribbean Community, CEHI has worked on improving the capacity of countries in the areas of water quality (coastal, recreational and potable) and water resources management, solid waste management (including hazardous waste) and excreta and liquid waste. This is being funded by a 10-year project funded by the German Technological Agency (GTZ) with the goal of environmental health improvement. Work under this GTZ-funded Project has spanned policy and legislative reform, the development of standards and guidelines, technical interventions, institutional capacity building, public awareness and education in environmental management in Member States. The project has also focused on capacity building for CEHI, specifically its laboratory capabilities for pesticides and heavy metals. Key stakeholders such as national Water Authorities, Solid Waste Authorities, Ministries of Health and Environment, as well as Civil Society (such as NGOs and CBOs) are all direct beneficiaries of the Project. This Project has laid a significant foundation for focused actions under IWCAM and points to the need for an integrated, cross-sectoral, participatory management

approach. Other initiatives have focused on the strengthening of monitoring of coastal resources such as coral reefs, seagrass beds and beaches; pesticides residue monitoring in agriculture specifically in the banana industry in the OECS countries; point and non-point sources of pollution, specifically in the watersheds of four countries, with a view to determining best management practices (BMPs). The tourism/environment linkage among Caribbean countries is another platform, which addresses specific problems such as solid waste generation, water quality and water conservation and re-use. CEHI and the CEP have worked together in the area of sustainable tourism and have also collaborated on the development of effluent guidelines. Environmental management initiatives are heavily underpinned by public awareness and training activities.

36. In an attempt to provide a conceptual and operational framework for the management of coastal and marine areas in island settings, the OECS Natural Resource Management Unit (NRMU) has introduced the concept of Island Systems Management (ISM). ISM is based on the recognition of the interactions and interdependence of various systems on the island. ISM should be seen as an adaptive management strategy which addresses issues of resource use conflicts and which provides the necessary policy orientation to control the impacts of human intervention on the environment. For ISM to be effective, it must be implemented under a formal institutional and legal framework, coordinating the initiatives of all public and private sectors whilst ensuring that common goals are attained.

Legal and Policy

37. The Cartagena Convention provides the only regional legal framework for environmental protection in the Caribbean. In addition to the Cartagena Convention, adopted in 1983, there are three protocols to the Convention:

- The **Protocol Concerning Cooperation in Combating Oil Spills** (adopted in 1983)
- The **Protocol Concerning Specially Protected Areas and Wildlife (SPAW) to the Cartagena Convention** (adopted in 1990)
- The **Protocol Concerning Pollution from Land-Based Sources and Activities (LBS)** (adopted in 1999).

38. The Caribbean Environment Programme (CEP) was set up in the region as part of the UNEP Regional Seas Programme. CEP is facilitated by the Caribbean Regional Coordinating Unit (CAR/RCU) in Jamaica, which serves as the Secretariat to CEP. The objectives of the Secretariat are to provide assistance to all countries in the region, strengthen national and sub-regional institutions, coordinate international assistance, and stimulate technical cooperation among countries. CAR/RCU also serves as the Secretariat to the Cartagena Convention and its Protocols.

39. The legal structure of the Cartagena Convention is such that it covers the various aspects of marine pollution for which the Contracting Parties must adopt measures. Thus the Convention requires the adoption of measures aimed at preventing, reducing and controlling pollution in the following areas:

- Pollution from ships
- Pollution caused by dumping
- Pollution for sea-bed activities
- Airborne pollution
- Pollution from land-based sources and activities

In addition, the Parties are required to take appropriate measures to protect and preserve rare or fragile ecosystems, as well as the habitat of depleted, threatened or endangered species, and to develop technical and other guidelines for the planning and environmental impact assessments of important development practices in order to prevent or reduce harmful impacts on the area of application. The Cartagena Convention is not the only Multilateral Environmental Agreement applicable in the region. However, its regional area of application makes it an important complement to other agreements, and to this current proposal. Many of the general requirements of the Convention will indeed be strengthened and implemented through the activities of this GEF proposal. Other applicable MEAs within the region include:

- The Cartagena Convention and Protocols
- Convention on Biological Diversity
- The Ramsar Convention on Wetlands
- The United Nations Convention to Combat Desertification (UNCCD)
- United Nations Framework Convention on Climate Change (UNFCCC)
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal
- St. George's Declaration of Principles for Environmental Sustainability in the OECS

40. The CEP programme is working closely with countries in the region to address many of the issues identified within the Cartagena Convention and its Protocols. One of CEP's main sub-programmes is the Assessment and Management of Environmental Pollution (AMEP) programme. This provides regional coordination for the Land-Based Sources Protocol. AMEP supports the activities required for the establishment of necessary measures to prevent, reduce and control marine pollution and to assist in the development of integrated environmental planning and management of coastal and marine areas. This programme is responsible for the regional management and coordination of global agreements such as the Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities (GPA), Agenda 21, and the Basel Convention.

41. Not all countries participating in the project are yet party to the Convention (though the majority are) and ratifications to the SPAW and LBS protocols (the two most relevant to this project) are still in progress. Despite the presence and ratification of these regional laws, however, implementation is variable and can fluctuate with the availability of national resources. As a result, national laws have, for the most part, not caught up with these accepted regional treaties nor have the national laws and regulations embraced a more holistic and targeted approach such as that promoted in the Cartagena Convention and its protocols. The LBS Protocol, for example, promotes integrated management of watershed and coastal areas and

contains groundbreaking regionally-adopted effluent limitations for domestic wastewater, while providing a framework for limitations on other regionally significant industrial sources. Table 1 list the major IWCAM-related Conventions and Protocols applicable to the participating countries along with their status regarding signature and ratification.

TABLE 1: STATUS OF ADHERENCE TO CONVENTIONS AND PROTOCOLS

COUNTRY	Antigua & Barbuda	Bahamas	Barbados	Cuba	Dominica	Dominican Republic	Grenada	Haiti	Jamaica	St. Kitts & Nevis	St. Lucia	St. Vincent & Grenadines	Trinidad & Tobago
TREATY													
Cartagena Convention	R		R	R	R	R	R		R		R	R	R
Oil Spill Protocol	R		R	R	R	R	R		R		R	R	R
SPAW Protocol	S		R	R		R			S		R	R	R
LBS Protocol						S							
CMS Convention													
MARPOL Convention	R	R	R	R		R			R	R		R	
CBD Convention	CP	CP	CP	CP	CP	CP	CP	CP	CP	CP	CP	CP	CP
UNCLOS Convention	CP	CP	CP	CP	CP	S	CP	CP	CP	CP	CP	CP	CP
CNWH Convention				S		CP		CP					CP
STC Convention													
CITES Convention	CP	CP	CP	CP	CP	CP	CP		CP	CP	CP	CP	CP
Basel Convention	CP	CP	CP	CP	CP			S		CP	CP	CP	

S = Signatory to Convention or Protocol

R = Ratified Convention or Protocol

CP = Contracting Party to Convention

42. There is a notable absence of appropriate national water quality standards and guidelines with respect to the use of coastal waters for recreational purposes, propagation and harvesting of marine life, protection of marine ecosystems and assimilation of waste. This deficiency means that Caribbean Governments have no basis for determining: (a) the physical, chemical and biological parameters that must be met for the intended uses; (b) the suitability of coastal waters for the intended uses; and (c) the effectiveness of controls on land-based sources of marine pollution. Further, national effluent limitations (consistent with regional law) and monitoring guidelines/procedures are necessary to establish individual source-specific controls on land-based, point sources of coastal pollution. Table 2 identifies the country deficiencies and needs with respect to legislative and policy requirements.

Legislations and Policies		Antigua	Bahamas	Barbados	Cuba	Dominica	Dominican Republic	Grenada	Haiti	Jamaica	St.Kitts/Nevis	St. Lucia	St.Vincent	Trinidad	Total States
Deficiencies	Absent Inadequate and/or outdated	1		1		1		1	1	1	1	1	1	1	10
	Fragmented among sectors	1		1		1		1	1	1	1	1	1	1	10
	Lack of Clear Jurisdiction	1		1				1		1		1			6
	Enforcement			1		1			1		1		1	1	7
	National administration of multilateral agreements			1				1	1		1	1	1		7
Needs	Harmonisation among sectors	1		1		1		1	1	1	1	1	1	1	10
	Framework for consultations in formulation	1		1				1	1		1		1		6
	Institutional capacity building	1		1		1		1	1	1		1	1	1	10
	Revision of all existing pertinent legislation					1			1	1	1			1	6
	Enhance capacity of enforcement agencies					1		1	1		1	1	1	1	7
	Regional model policy for IWCAM	1				1		1	1	1	1	1	1		8
	Land use policy	1	1			1		1					1		5

43. CEP, through its sub-programmes and activities, has attempted to assist the countries in addressing relevant issues noted above, which come under the mandate of the Cartagena

Convention, and which relate to the current proposal. Such assistance includes projects addressing:

- Sewage Treatment Needs Assessments
- Strengthening Marine Protected Areas in the Wider Caribbean
- Reducing Pesticide Run-Off to the Caribbean Sea
- Demonstrations of Innovative Approaches to the Rehabilitation of Heavily Contaminated Bays in the Wider Caribbean
- International Coral Reef Action Network (ICRAN)

44. Furthermore, CEP, through the AMEP Programme, is committed to assisting the countries of the region in the development of guidelines regarding the application of regulations and economic steering instruments in the decision-making process toward the establishment and enforcement of measures necessary to prevent, reduce and control marine pollution and to provide them with relevant information (through workshops and coordination of databases). However, there is now a clear need for targeted assistance to institutional, legislative and policy strengthening and evolution and a very urgent requirement to develop best practices and lessons, through demonstrations, to support the overall concept of integrated planning and management within the national watersheds and coastal zones of the Caribbean SIDS.

45. To facilitate this assistance and the exchange of experience and information, the Caribbean Environment Programme is developing the Caribbean Node of the Global Programme of Action Clearinghouse Mechanism (GPA/CHM). The GPA/CHM is a data directory, with components organized by source-category, cross-referenced to economic sectors, containing information on current sources of information, practical experience and technical expertise. This tool is expected to become instrumental to the implementation of the LBS Protocol.

46. Of critical concern in the region are the issues of freshwater supply and demand, and the absence of effective, implemented policy towards water resource management. This has various 'knock-on' effects within watersheds and coastal areas. Due to economic and demographic changes, demand for water resources within the region is increasing rapidly, and in some SIDS is exceeding supply. Exacerbating this issue is the poor structure or absence of water tariffs and rates. Generally, water is not treated as an economic good and consequently water rights, water markets and pricing are not used to improve management. For the most part, there is no incentive for consumers to use water efficiently. For example, in Barbados all metered customers must pay a minimum charge. Accordingly, customers within this category end up paying for water they may not have used. Fixed-rate (un-metered) customers also have no incentive to conserve because they pay the same amount, regardless of the volume of water used. Additionally, many countries have noted that the water charges generally do not cover the capital and maintenance costs of the necessary infrastructure. Essentially, the governments subsidise water use. This, in turn, creates unsustainable market conditions to the detriment to the environment.

47. Land use affects the health of freshwater ecosystems, watersheds and coastal areas in the region. As the proposed Land Policy document of Jamaica points out, there is a "direct relationship between the use of land for domestic, commercial, industrial or agricultural

purposes, the generation of waste by these uses, and the impact on the quality of both surface and groundwater resources.” In most countries, unsustainable land-clearing practices, inefficient irrigation, and the use of agro-chemicals is a source of significant damage. Within the domestic sector, land clearing and construction on previously uninhabited land is producing sedimentation, deforestation, and pollution, on top of the obvious problem of biological habitat degradation and destruction. Furthermore, land use is a potentially conflictive issue since it involves issues of land tenure, traditional use, and economic livelihood. Many farmers are not using sustainable farming techniques. This may be due to insecurity regarding land tenure, limited economic resources, or lack of knowledge of different farming techniques. Overall, there is a need within the region to produce coherent and pragmatic guidelines for land-use planning policies, that are consistent with development plans and ecosystem management plans, for adoption at the national level.

48. The lack of an integrated environmental management approach is often compounded by institutional fragmentation, inadequate policies, lack of funding, and institutional constraints. Policies and laws cannot exist in isolation of social, economic and environmental realities and imperatives. Ideally, the policies and laws that emerge to support IWCAM should derive from the elaboration of national sustainable development plans, setting out national development goals and objectives, including the relative contribution which key environmental assets will be expected to make to the attainment of such goals and objectives. Policies and laws need to be dynamic instruments and therefore continuous environmental assessment is required to keep these laws and policies, relevant, sound and effective.

The lack of appropriate and enacted policy and legislation addressing threats represents a major barrier to successful IWCAM.

Human Resources

49. Apart from the restricted financial resources available in many small island states to address the problems of freshwater and coastal area management, the small size of populations generally results in manpower limitations in terms of qualified experts available to manage resources on a sustainable basis. Regional approaches that strengthen the sharing of experience and expertise are therefore of critical importance.

50. Water utilities often lack adequate staffing levels with sufficient technical and financial management skills. This leads to poor management of supply and demand in the face of water shortages, and inadequate information gathering and analysis skills. Inadequate pricing and tariff policies and high levels of unaccounted-for-water increase the problem. Inappropriate water usage (potable water going to irrigation needs) along with leakages in the distribution systems account for much of the loss. All the islands have established some preserves to protect valuable habitat associated with ground and surface water supplies and well-fields, but the authorities lack the necessary manpower and funding to enforce the rules or to monitor the success of management approaches.

51. Significant progress has been made in the area of education and training over the past decade and the Caribbean region supports a number of institutions dedicated to education and training in

resource management, including the UWI Centre for Environment and Development, and the Sustainable Development Unit of the UWI, based in Jamaica. Human resource development has, however, been hampered by the following issues and problems:

- The absence of a mechanism for technical cooperation among developing countries at the regional level;
- The dearth of trained personnel in critical areas, such as water resources management; environmental impact assessment; community-based resource management; marine law; physical planning policy analysis; remote sensing; and climatology and hydrology;
- The seeming inappropriateness of the curricula of national and regional educational institutions based on these deficiencies; and,
- The absence of policies, which aim to retain, within the wider Caribbean, expertise in various aspects of resource management and sustainable development.

Stakeholder Participation

52. Throughout the region there are reports of increased stakeholder participation in the decision-making process as well as increased awareness and education programmes for coastal area and watershed management. Government agencies are making a point to reach out to non-governmental organizations and community-based organizations through activities which other stakeholders; the establishment of local area management authorities; the involvement of stakeholders in monitoring, management, and conservation activities; media campaigns; public consultations; and training on sustainable tourism. However, this is a fairly recent development and, notwithstanding these laudable activities, many stakeholders in the participating countries still feel that there is insufficient public involvement in the decision making process. Although policies are moving slowly but surely toward more stakeholder participation in the management process, often there is an absence of working examples or effective case studies with which to guide policy makers and administrators.

Financial and Socio-economic

53. Most Caribbean Governments are finding it increasingly difficult to reconcile the need for economic growth with rapidly expanding populations, and with the need to raise living standards for a large and growing number of the poor. Raising the consumption levels of both private and public goods and services requires large amounts of foreign exchange through foreign direct investment and increases in productivity by export-oriented industries. The resources needed by Governments for public investments and the regular provision of goods and services can only be made available by expanding national income. Against this background, Caribbean Governments are seeking to attain and maintain at least a 6% annual rate of economic growth to underpin the implementation of their sustainable human development programmes. Attempts at doing so continue to be challenged by a wide range of internal problems and externalities. Generally, many of the internal problems spring from the small size of the countries. These include: the narrow resource base; excessive dependence on international trade and hence vulnerability to global trends and market changes; overuse and premature depletion of resources; the restricted and threatened nature of freshwater resources; unreliable and restricted access to sustainable and stable power sources; costly administration and infrastructure, including transportation and

communication; limited institutional capacities; small domestic markets which are too small to provide significant economies of scale, while their limited export volumes, often from remote locations, lead to high freight costs and reduced competitiveness.

54. An expanding range of externalities has dogged attempts at stimulating and sustaining reasonable rates of economic growth. Indigenous firms are often under-capitalised and constrained by obsolete technology and are therefore unable to meet the increasingly stringent importation standards set by the developed countries. Many countries are yet to recover from the spate of NAFTA-related factory closures that occurred in the early 1990s. Further, while WTO-led, trade liberalisation policies are promising a much deeper integration of Caribbean economies into the global economy, they are also causing a shift in production to areas in which the Caribbean countries have little or no comparative advantage. This means that as markets become the primary mechanism for resource allocation, economic production will increasingly rely on the exploitation of the region's natural resources, which in turn is likely to increase pressure on the environment. At the same time, moderate to low growth and a low savings rate are also limiting the flow and size of funding required for the finance of environmentally sound development.

55. Another important financial mechanism requirement emerging from work under the PDF was the need to recognise the transfer of benefits, which has implications in both the socio-economic as well as stakeholder spectrum. There was a consensus that the main productive sectors do not meaningfully contribute to environmental maintenance and waste management costs, in proportion to their reliance on the natural resource base. At the same time, the general public and those representing community-based organisations, especially in the upper reaches of watersheds in economically depressed rural areas (whose practices are critical to the management of watersheds and downstream areas) are rarely the recipients of the benefits of integrated watershed management and healthy coastal waters.

56. The combination of these particular environmental, social and economic characteristics makes it imperative that issues of freshwater resources management and related coastal water quality and biodiversity are addressed in an integrated manner, and that sectoral policies and activities are modified to sustain and protect both freshwater supplies and coastal and marine aquatic resources.

57. Integrated Coastal Management (ICM) is a management framework, which has proven to be effective at enhancing the sustainable development of coastal resources and the marine environment at the local government level. ICM provides local government units with a mechanism and process to harmonize both the economic development and environmental management of marine and coastal resources. Watershed management has been developed and tested as a valuable mechanism in many countries that incorporates cross-sectoral linkages and coordination along with stakeholder involvement and community management approaches. In the small island situation there is a need to integrate these two approaches into an overall Watershed and Coastal Area Management strategy. Small islands cannot effectively separate these two areas as almost every activity within the watershed has an effect or impact in the coastal area, and frequently *vice versa*. The concept of Integrated Watershed and Coastal Area Management is not entirely a new one but it is relatively untested as yet and is very much in its

infancy. There are few regionally successful examples of its application and sustainability. The current project aims to gather what lessons and best practices already exist and to substantially enhance these through on-the-ground demonstrations of active IWCAM approaches and techniques in order to develop transferable and replicable models and guidelines relevant to all SIDS.

RATIONALE & OBJECTIVES

58. The overall objective of the proposed project will be to assist the 13 participating Small Island developing states of the Caribbean to improve their watershed and coastal zone management practices in support of sustainable development. The project will set out to strengthen institutional capacity at the national and regional level; provide assistance to countries in understanding the linkages between, and the requirement for integrating management of watershed and coastal zone environmental problems; and will meet national priorities within the regional context. The appropriate nature of this approach through GEF funding is discussed in the section below entitled **GEF Eligibility**.

59. The World Summit on Sustainable Development (Johannesburg 2002) identified the special needs of SIDS within its Johannesburg Plan of Implementation. Section VII of this PoI addressed the issue of sustainable development of small-island developing states. The PoI recommended actions at all levels to:

- Accelerate national and regional implementation of the Barbados PoA, with adequate financial resources, including through the GEF focal areas, transfer of environmentally sound technologies and assistance for capacity-building from the international community.
- Assist small island developing states, including through the elaboration of specific initiatives, in delimiting and managing in a sustainable manner their coastal areas and exclusive economic Zones....
- Provide support, including for capacity-building, for the development and further implementation of (i) Small island developing States-specific components within programmes of work on marine and coastal biological diversity; (ii) Freshwater programmes for small island developing States, including through the Global Environmental Facility focal areas
- Effectively reduce, prevent and control waste and pollution and their health related impacts by undertaking initiatives by 2004 aimed at implementing the Global programme of Action for the Protection of the Marine Environment from Land-Based activities in small island developing States
- Support the finalisation and subsequent early operationalisation of economic, social and environmental vulnerability indices and related indicators as tools for the achievement of the sustainable development of small island developing States
- Provide support to small island developing States to develop capacity and strengthen efforts to reduce and manage waste and pollution and building capacity for maintaining and managing systems to deliver water and sanitation services in both rural and urban areas.

60. The SIDS Barbados Conference and the resultant programme of action (SIDS/POA) highlighted the need to safeguard watershed areas and other sources of groundwater to address the problem of limited quantity of freshwater availability on small islands and to protect biodiversity. The SIDS/POA also highlighted the need to strengthen the development of integrated coastal zone management plans and strategies for coastal watersheds.

61. A 10-year Review of the Barbados Programme of Action for SIDS (BPoA +10) is due to take place in 2004. As a lead up to this process, an Inter-Regional Preparatory Meeting was held in Nassau, The Bahamas from 26-30 January, 2004. The meeting adopted both the Nassau Declaration and the AOSIS Strategy Paper in preparation for the Mauritius Meeting on Small Island States in August 2004. Some of the primary concerns and needs of the SIDS arising from this preparatory meeting, and which relate directly to the Caribbean IWCAM project, are highlighted below:

A. Management of Wastes:

- Insufficient progress in planning and implementing waste management policies;
- The international community should provide support to SIDS for the development, transfer and implementation of appropriate technologies;
- The international community should assist SIDS in: developing waste management systems and institutions; establishing national environmental trust funds; and promoting recycling and using waste as a resource;
- The quantity of waste disposed of in the sea should be reduced through regional cooperation;
- SIDS, with UNEP's support, should implement the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities;

B. Coastal and Marine Resources:

- The establishment of a financial mechanism to assist SIDS in their implementation of UNCLOS;
- SIDS, with the help of other States and using regional mechanisms, to adopt integrated management tools;
- relevant regional and international development partners to support SIDS in the development and implementation of regional initiatives.

C. Freshwater Resources:

- Provide assistance for capacity building for the development and further implementation of freshwater and sanitation programmes and the promotion of integrated water resources management.
- International, regional and private sector financial institutions to provide assistance in meeting the Millennium Declaration target of halving the proportion of people without sustainable access to safe drinking water by 2015;
- The WMO, supported by the international community, to continue to implement actions to strengthen national capacity.

D. Land Resources:

- Strengthening land tenure and management systems;
- Move from primary to tertiary agricultural production;
- Present funding proposals under the Convention to Combat Desertification and the Convention on Biological Diversity through the GEF, and request the GEF to facilitate SIDS' access to GEF financial and technical resources for addressing land degradation.
- practical support from the UN system to enhance efficient and sustainable agricultural production and ensure food security, and recommend the prioritisation by SIDS ministers of agriculture of actions for enhanced contribution of agriculture, forestry and fisheries to SIDS' sustainable development policies;
- facilitate legislation implementing sustainable logging and replanting, increase stakeholder participation regarding forest resources, safeguard rights of resources owners, develop and strengthen partnerships for sustainable forest management, and develop and implement action plans to reduce deforestation and promote sustainable forest management;

E. Sustainable Capacity Development and Education for Sustainable Development:

- Build capacity to monitor the state of environment;
- Develop core competencies to assist stakeholders in delivering sustainable development programmes;
- Create the skills base and techniques for use in decision-making.
- The international community to provide technological, institutional, physical and financial resources and to support SIDS in establishing national capacity development coordination mechanisms and centres of excellence for training and applied research.

F. Monitoring and Evaluation:

- enhanced international coordination related to SIDS through the UN, donor support, and reduced reporting burdens on SIDS;
- monitoring and periodic reporting on indicators on SIDS;
- strengthening of regional SIDS institutions for monitoring and coordination;

62. These recently agreed urgent requirements arising from this global review of SIDS have been taken carefully into consideration in developing the objectives, activities and outcomes of this IWCAM project.

63. Many of the Caribbean SIDS are signatory to, or have ratified, the Cartagena Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region and its associated Protocols. The need to address land-based sources of pollution is captured within the Protocol Concerning pollution from Land-Based Sources and Activities adopted in 1999 by the Cartagena Convention. This reflects the more global requirement identified by the UN Global Programme of Action for the Protection of the Marine Environment from Land-based Activities. The GPA was officially launched in November 1995, and is now considered to be an important instrument for the protection of the marine environment. More than 100 countries declared their commitment to protect and preserve this environment from the harmful effects of land-based activities, and invited UNEP to act as the GPA Secretariat. The governments emphasised that UNEP's Regional Seas Programmes provided an important mechanism to help implement the GPA. The agreement includes an action plan for curbing and controlling pollution, habitat

destruction and other land-based activities affecting coastal and marine ecosystems. Although it is not binding, it provides a framework for addressing some of the most significant threats to marine ecosystems. However, only a few of the Caribbean SIDS countries have signed the Cartagena Convention LBS Protocol so far, and to date none has ratified.

64. The Eleventh Meeting of the Forum of Ministers of Environment of Latin America and the Caribbean (1998) identified one of the priority areas for inclusion in the Regional Programme of Action as the **Integrated Management of Water and Coastal Resources**

65. The project components, objectives, outputs and outcomes are intended to have the project reflect an integrated approach to IWCAM within the region. In so doing, it should also provide a framework for countries wishing to design and implement free-standing, national IWCAM projects. It is recognised that this regional initiative toward development and coordination of IWCAM policies and activities cannot cover every need and eventuality. With this in mind, countries are encouraged to work in parallel with this project to develop working and transferable examples of IWCAM within their boundaries, and in coordination and partnership with other SIDS in the region.

66. The project will address the need to provide realigned national standards and guidelines pertinent to IWCAM, via a revision and rationalisation of national legislation and policy, and the development of effective incentives and equitable cross-sectoral and stakeholder sharing of responsibilities. These will be addressed in the context of existing national commitments to relevant international conventions, treaties and accords including, *inter alia*, the Cartagena Convention and its Protocols; the Convention on Biological Diversity; and the UN Framework Convention on Climate Change and the Convention to Combat Desertification (taking into account the recommendations of the national enabling activities carried out under these Conventions); the OECS Declaration of Principles on Environmental Sustainability and other regional initiatives. Emphasis will be placed on ensuring that the process of revision and realignment is done with the full involvement of stakeholders at the national and regional level. Hence there will be a need for close linkages to project activities dealing with awareness and education, and strong project deliverables addressing community management and compliance strategies. The project will also assist in providing guidance and implementation on the equitable distribution of resource responsibilities through transferred benefit processes (e.g. transfer of tariffs from resource users to support resource management), and will assist the countries in exploring and adopting incentive-based, self-regulatory mechanisms for IWCAM at the national level.

67. Attention is drawn to existing work already undertaken by UNEP to identify effective frameworks and guidelines for IWCAM, and available as ICARM Technical Report Series No. 1 ("Integrated Coastal Area and River Basin Management," UNEP and Priority Actions Programme Regional Activity Centre, 1997) and No. 2 ("Report of the First Expert Working Group Meeting on the Concept and Development of Practical Guidelines for Integrated Coastal Area and River Basin Management," 1997).

68. The need for a more strategic regional approach to both IWCAM, and sustainable development itself, is indicated by the complexity of the issues in relation to the relatively

poorly-developed state of the policy and institutional apparatus within the participating countries. Additional justification for development of a regional strategic approach is provided by evaluations of other GEF-funded interventions of similar scope and intensity, such as the Caribbean Planning for Adaptation to Climate Change (CPACC). These evaluations confirm that a flexible approach, which uses the results of continuous assessment of on-going and/or completed interventions, to inform the design/redesign of subsequent phases, are likely to yield the best long-term results. Consequently, the PDF B process has concluded that the full project should help to define and establish a strategic approach to IWCAM within the region based on an open and participatory partnership between the countries and the donor/lending agencies. The development of such a strategic approach and the necessary mechanisms to support it has been captured within the project components and will be implemented and established, as a project priority, under guidance from the Project Steering Committee.

69. One particular focus that is considered to be of critical importance within the Caribbean SIDS is the need to develop indicators and reporting techniques that reflect the impacts of the project objectives and of regional and national IWCAM initiatives *per se*. The Intergovernmental Oceanographic Commission of UNESCO has identified the importance of such activities, and the need to be able to provide measurable performance changes within the complex relationships that exist between coastal and watershed ecosystem health and function, and anthropogenic activities (including socio-economic conditions and managerial decisions). This need has been further generally reinforced through the World Summit on Sustainable Development's Plan of Implementation³. It is essential that one of the targets of this project is the development of effective IWCAM Impact Indicators linked to the condition and sustainability of natural resources and biodiversity, the current status of economic development in the SIDS, the general welfare of the towns and communities, other socio-economic issues, and long-term policy expectations and short-comings. These indicators will be developed using the process, stress reduction and environmental status indicator framework developed by the GEF International Waters Task Force, which are already being applied in a number of GEF projects working on transboundary issues.

70. During the PDF process, each country was requested to provide a list of between 1-3 Environmental Hotspots and 1-3 Sensitive Areas as part of a GIWA-style assessment to support the selection of areas for demonstration activities (See Appendix 1 for description of selection process for demonstration projects). These Hotspots and Sensitive Areas are defined as follows:

Environmental hot-spots = geographically defined watershed, coastal areas and other areas of the sea, of national, regional and/or global significance, where the conditions are such as to adversely affect human health, threaten ecosystem functioning, reduce biodiversity and/or compromise resources and amenities of economic importance in a manner that would appear to warrant priority management attention. A degraded area is said to display significant and measurable environmental degradation.

Sensitive areas = geographically defined areas, of national regional and/or global environmental significance which, although not degraded at present, are threatened with

³ IOC-UNESCO ICAM Dossier Publication 'A Reference Guide on the Use of Indicators for Integrated Coastal Management'.

future degradation, either because of sensitivity of the receptor or the magnitude of the anthropogenic activity posing the threat.

Although this exercise was valuable in its targeted intention of selecting the demonstrations to be funded under this project, there is a strong case for the development of a more formal documentation of hotspots (including sensitive areas) which can be ear-marked for specific attention and possible future funding. Such areas can then be targeted for replication of lessons and best practices from the demonstration projects, and the need for policy reforms can be supported using these examples. They would also serve as valuable sites to test and refine IWCAM Impact Indicators (see Component 2 - below).

DELIVERY OF PROJECT BENEFITS THROUGH DEMONSTRATION ACTIVITIES

71. One of the principal aims throughout the development of this Project has been to address the need to deliver real, 'on-the-ground' benefits to the participating countries, which, while realising the 'global benefit' requirements of GEF, also recognise the need to change the adverse conditions existing in the countries with respect to IWCAM issues. As a positive response to this need, the PDF process identified the requirement for the Project to focus on demonstrations at the national level to show how the actual on-the-ground threats might be addressed by concrete actions, and how the results of these demonstration activities could then be captured, transferred and replicated.

72. In order to rationalise an approach to determining which particular demonstration activities would be of greatest value and where, the Steering Committee adopted the following approach:

- Regional agreement and adoption of the primary threats which should be addressed through demonstration activities. These have been selected A. on the basis of the threats identified in the National Reports and B. on the guidelines given through GEF Operational Programme 9 (OP9) on SIDS eligible issues.
- National stakeholder census to identify up to three priority hotspot areas and three priority sensitive areas in each country which are under pressure or vulnerable to these primary threats. The selection process was modified from the GIWA (Global International Waters Assessment) Hotspot Selection methodology.
- Agreement by the Steering Committee on a set of Selection Criteria for the final Demonstration project proposals
- Adoption by each country of one or two particular geographical hotspots or sensitive areas (where the thematic issues were eligible under OP 9) for development into a Demonstration Concept paper.
- Review and feedback on the Demonstration Concepts by the Implementing Agencies with advice from GEF regarding eligibility.
- Preparation and submission of a final Demonstration Project(s) by countries for inclusion in the overall regional IWCAM project.
- Agreement and adoption of these final Demonstration projects by the Steering Committee based on the previously agreed selection criteria.

73. The final selection of Demonstration Projects along with details of the selection process and the hotspot priorities are attached in Appendix 1. A summary of the identified hotspots and selected Demonstration Projects is given under the discussion of Component 1 (below).

74. The demonstration activities therefore represent a real and concrete response within the IWCAM Project to resolving the actual activities on the ground which are creating the threats and impacts. These demonstration activities will benefit the host country while providing valuable, transferable lessons within the region and will also be of global value. Not only can the lessons and experiences of such demonstration activities be replicated in-country as well as being shared with other Caribbean SIDS countries, but they can also be transferable to other SIDS and other pertinent IWCAM and sustainable development situations throughout the world. A classic example of this is the recognised need to develop more appropriate and cost-effective technologies for waste treatment. In the SIDS situation it is frequently not realistic to try and develop a centralised sewage treatment system. The capital cost of such a system is high and the maintenance is intensive and expensive. Many existing domestic wastewater handling systems are in a poor state of repair and cannot be directly linked up to a central system. Furthermore, it can be prohibitively costly and very disruptive to try and connect up small distant communities. There are feasible and cost-effective alternatives, which can be developed on a community-by-community basis that, are very simple to maintain. The technology for this is also highly applicable to individual resorts and hotels. These approaches and mechanisms, once developed and proven, could be of tremendous advantage to other developing countries with similar problems. Another example would be the development of indigenous technologies for freshwater augmentation (incidentally, an area of concern that UNEP addresses in its sourcebooks on freshwater augmentation methodologies, one of which focuses specifically on SIDS).

75. The Full Project will specifically address mechanisms for transfer of results and replication, in order to ensure effective capture of best practices and lessons from these Demonstration Projects. Each demonstration activity has been designed to substantively involve national and local NGOs and community groups which are concerned stakeholders in the demo hot spots/sensitive areas

76. As well as national demonstrations within identified hotspots and sensitive areas, the project development phase has also identified the need for an overall regional demonstration of the use of measurable indicators in support of IWCAM, and particularly policy development and legislative realignment. On the basis of the principle of 'User Pays' it would seem to be both logical and fair if, for example, 'downstream' private sector tourism enterprises were to transfer some of their economic benefits from tourism into upstream management to clean-up both the watershed and the associated coastal areas for the benefit of both tourists and the natural environment. In order for this to be justified and promoted, and to ensure compatibility of data as well as simplifying data collection and processing, a set of standard environmental status indicators would need to be developed for different biological communities and habitats, and to address different threats. This concept would be expanded beyond just indicators of species or habitat welfare, and would aim to capture linkages with socio-economic welfare and effective governance through the development of measurable indicators in those sectors also (e.g. process indicators).. In view of its importance to the overall IWCAM concept, this important regional demonstration has been articulated through a separate project Component (2).

PROJECT COMPONENTS, ACTIVITIES AND OUTCOMES

77. Based on the national reports and regional synthesis completed under the PDF-B, (see Annex I) the regional priority needs for IWCAM for the Caribbean SIDS include:

- Direct action to address the more critical hotspots and issues, and to demonstrate effective mitigation mechanisms that are appropriate for the Caribbean SIDS;
- National and regional capture of lessons and best practices relating to IWCAM issues, coupled to a mechanism for transfer and replication of same;
- A detailed understanding of the policy and legislative constraints within national IWCAM-related issues, translated into policy and legislative reform models, and linked to a mechanism for transfer and replication of same
- The need for greater general awareness of the problems and more specific sensitisation of IWCAM needs and issues at the senior stakeholder and policy-maker level, as well as improved educational strategies and materials highlighting IWCAM
- A Hotspots Diagnostic Analysis (HDA) which compiles details on geographically distinct hotspots and sensitive areas within each country, building on the concept of the GIWA-style assessments undertaken in the PDF phase. This would be used to identify critical areas in need of further action, areas that urgently require IWCAM Impact Indicators and monitoring, and to assist in identifying the more urgent policy reforms necessary to resolve the identified issues.
- The need for efficient and focused collection of relevant information, environmental status indicators, and other measures of the effectiveness of the socio-economic or governance implications of IWCAM (process indicators). These would be used to evolve realistic and targeted policies, and to assess the impact of the IWCAM objectives inherent within the project.
- Improved training on IWCAM issues and technology at both the national and regional level
- Better networking and partnership within the region to A. ensure complementarity of actions related to IWCAM rather than overlap and duplication of efforts, and B. to develop more effective use of finances and manpower through stakeholder partnerships

In order to capture these needs, the project is divided into 5 major Components as described below (Associated activities are presented in Table 6 -- Schematic Workplan and Timetable):

1. Demonstration, Capture and Transfer of Best Practices
2. Development Of IWCAM Process, Stress Reduction and Environmental Status Indicators Framework
3. Policy, Legislation and Institutional Reforms
4. Regional and National Capacity Building and Sustainability
5. Project Management and Coordination

COMPONENT 1. DEMONSTRATION, CAPTURE AND TRANSFER OF BEST PRACTICES

78. A priority focus within the overall project is to deliver real global benefits within the participating countries through the selection and implementation of ‘on-the-ground’ activities. Component 1 activities will support the demonstration of actual working examples of IWCAM within a defined watershed and/or coastal system boundary. These demonstrations will target defined IWCAM national and regional hotspots, and will address OP 9 eligible priority issues as identified in the root cause analysis.

79. Component 1 represents a crucial element of the project, which is the ground-level demonstration of activities that can mitigate or resolve barriers to IWCAM at specific hotspots. This component will further ensure that valuable information on lessons and best practices are collected and disseminated for review by the regional stakeholders, that models and guidelines are derived, and that countries are encouraged to implement these models and to adopt the guidelines (where appropriate). Emphasis in this component will therefore be on demonstration, capture, transfer and replication of lessons and best practices for IWCAM.

80. During the PDF B process, each participating country was requested to identify national hotspots and sensitive areas pertinent to IWCAM using the GIWA (Global International Waters Assessment) approach. Appendix 1 gives details of this approach and the selected national Hotspots. Countries were then required to identify suitable demonstrations of IWCAM barrier removal within an identified national hotspot or sensitive area. Following this the countries were asked to submit brief concept papers identifying suitable demonstrations within a national hotspot area. Table 3 provides a summary of the selected national Hotspots within the region, along with the countries proposed concept areas for demonstration projects.

TABLE 3: SUMMARY OF THE HOTSPOT AND PROPOSED DEMONSTRATION CONCEPT SITES

COUNTRY	ANTIGUA/BARBUDA	BAHAMAS	BARBADOS	CUBA	DOMINICA
Hotspot 1	NW Coast Antigua	Elizabeth Harbour	St. Michaels	Cienfuegos	West Coast Dublanc
GIWA Score	74	68	74	83	62
Hotspot 2	St. John Harbour		West Coast	Cauto Watershed	Jimmit/Morge Espagnol
GIWA Score	65		73	83	69
Hotspot 3	SW Coast Watershed		Scotland District	Zaza Watershed	
GIWA Score	58		70	68	
Sensitive Area 1	Great Bird + Islands	Andros Island	Harrison's Cave	Cuyaguajeje Watershed	Carib Territory
GIWA Score	56.8	75.2	62.4	74.4	82.4
Sensitive Area 2	Jumby Bay		Maycocks Bay	Toa W/S	Penville
GIWA Score	44.8		54.4	71.2	72.8
Sensitive Area 3	Codrington Lagoon		Graeme Hall Swamp	Hanabanilla Watershed	
GIWA Score	80		48	69	
Demo 1 Area	NW Coast + St. Johns	Andros Island	St. Michaels	Cienfuegos Bay	Carib Territory
Hotspot/SA No.	Hotspots 1 + 2	Sens. Area 1	Hotspot 1	Hotspot 1	Sens. Area 1
Demo 2 Area		Elizabeth Harbour			
Hotspot/SA No.		Hotspot 1			
Priority Sites?	Yes. Hotspots Merged	Yes	Yes	Yes	Yes

TABLE 3: SUMMARY OF THE HOTSPOT AND PROPOSED DEMONSTRATION CONCEPT SITES (Continued)

COUNTRY	DOMINICAN REPUBLIC	GRENADA	HAITI	JAMAICA
Hotspot 1	Haina Industrial Zone	Great River	Artibonite Delta	Portland Watershed
GIWA Score	68	52	100	75
Hotspot 2	Constanza Tourist Zone		La Gonave	Kingston Harbour
GIWA Score	64		72	70
Hotspot 3	Samana Nat. Park Zone			
GIWA Score	63			
Sensitive Area 1	Bani Dune Nat. Park	Grand E'Tang Lake	Grand Saline	Black River National Park
GIWA Score	68	72	89	54.4
Sensitive Area 2	Saona Island Nat. Park		Point Araquette	
GIWA Score	68		88	
Sensitive Area 3				
GIWA Score				
Demo 1 Area	Haina Ind	Grand E'Tang Lake	Artibonite Delta	Portland Watershed
Hotspot/SA No.	Hotspot 1	Sens. Area 1	Hotspot 1	Hotspot 1
Demo 2 Area	Constanza			National Parks (Black River)
Hotspot/SA No.	Hotspot 2			Sens. Area 1
Priority Sites?	Yes	Yes	Yes	Yes

COUNTRY	ST KITTS & NEVIS	ST LUCIA	ST VINCE/GREN	TRINIDAD & TOBAGO
Hotspot 1	Basseterre Valley	Choc Watershed	Calliagua Bay	Caroni River Basin
GIWA Score	77	55	78	56
Hotspot 2		Rodney Bay Lagoon	Corem Watershed	
GIWA Score		51	65	
Hotspot 3			Diamond Estate	
GIWA Score			59	
Sensitive Area 1	St. Kitts MPA	Mabouya Valley	Grenadine Islands	Courland/Buccoo Watershed
GIWA Score	65.6	67.2	85.6	76.8
Sensitive Area 2		Point Sable Reserve	SVG Groundwater	
GIWA Score		41.6	78.4	
Sensitive Area 3			SVG MPA System	
GIWA Score			75.2	
Demo 1 Area	Basseterre Valley	Mabouya Valley	Grenadine Islands	Courland/Buccoo Watershed
Hotspot/SA No.	Hotspot 1	Sens. Area 1	Sens. Area 1	Sens. Area 1
Demo 2 Area	St. Kitts MPA		Calliagua Bay	Caroni River Basin
Hotspot/SA No.	Sens. Area 1		Hotspot 1	Hotspot 1
Priority Sites ?	Yes	Yes	Yes	Yes

81. The Project Steering Committee also developed and adopted a set of selection criteria for these demonstration projects. In order to meet these selection criteria, proposals were expected to meet the fundamental requirements of any GEF project vis-à-vis eligibility, and particularly to demonstrate global environmental benefits, sustainability and replicability. Proposed activities were required to show support from substantial co-funding consistent with normal GEF project requirements. The actual demonstration development and selection process was carried out during the PDF phase and is discussed in detail in Appendix 1, which also contains the full details of the adopted Demonstration Projects. Table 4 (below) provides a summary of the national demonstration projects which were formally adopted by the Steering Committee, and which will target the identified hotspots to demonstrate applied solutions to IWCAM issues and threats. The demonstration projects are categorised under sub-components, which highlight the priority issues within the region. These sub-components reflect the principal thematic issues and concerns as identified in the National Reports, in relation to OP9 eligible areas defined by GEF. This is discussed in more detail under Appendix 1.

82. This component will aim to develop models and guidelines for policies and technologies, and to implement these through effective mechanisms for transfer and replication to appropriate countries and sites throughout the Caribbean SIDS. More obvious strategies will include the development of an IWCAM Clearing House (See Component 4) for storage and dissemination of pertinent information, along with websites, workshops, IW:LEARN, etc., but the project will also aim to be proactive and enthusiastic in its promotion of best practices throughout the project countries and partnerships.

TABLE 4: LIST OF DEMONSTRATION PROJECTS BY SUB-COMPONENT AND COUNTRY

SUB-COMPONENT	COUNTRY	TITLE OF DEMONSTRATION PROJECT
A: Water Resource Conservation and Management	St. Kitts and Nevis	Rehabilitation and Management of the Basseterre Valley as a Protection Measure for the Underlying Aquifer
	St. Lucia	Protecting and Valuing Watershed Services and Developing Management Incentives in the Fond D'or Watershed Area of St. Lucia
B: Wastewater Treatment and Management	Antigua and Barbuda	Mitigation of Groundwater and Coastal Impacts from Sewage Discharges from St. John
	Bahamas - Exuma	Marina Waste Management at Elizabeth Harbour in Exuma, Bahamas
	Dominican Republic	Mitigation of Impacts of Industrial Wastes on the Lower Haina River Basin and its Coast
C: Land-use Planning, Zoning and Alternative practices	Bahamas - Andros	Land and Sea Use Planning for Water Recharge Protection and Management in Andros, Bahamas
	Trinidad and Tobago	Land-Use Planning and Watershed Restoration as part of a Focused IWCAM Demonstration in the Courland Watershed and Buccoo Reef Area
D: Targeted Model IWCAM	Cuba	Application of IWCAM Concepts at Cienfuegos Bay and Watershed
	Jamaica	An Integrated Approach to Managing the Marine, Coastal and Watershed Resources of east-central Portland

83. Particular emphasis will be placed on the capture and synthesis of information pertinent to institutional re-structuring and strengthening, policy reform and legislative amendments to support IWCAM (see Component 3). These three closely interrelated issues are frequently identified as a necessity for the evolution of effective IWCAM within this region. Policy reforms and amendments to legislation will be promoted through regional guidelines, workshops and direct lobbying at the policy level by the project through its Steering Committee, as well as through the pertinent Convention secretariats and CoPs. Institutional strengthening and re-structuring to support such policy and legislative reforms would be an integral and logical part of this promotional package.

84. It should be noted that some countries intend to develop closely linked and coordinated GEF Medium-Sized projects during the early stages of the proposed Regional IWCAM Project. These will also effectively act as IWCAM demonstrations and will address closely related issues and concerns. They will, however, operate over a wider thematic or geographical area. Consequently these intended initiatives will require a more complex project design with more detailed, 'stand-alone' funding mechanisms. These MSP initiatives will coordinate closely with the main project and the lessons and best practices will be captured, synthesised, transferred and replicated under the same mechanisms.

85. Figure 1 gives the locations of all of the participating Caribbean SIDS in this project. It also shows the geographic location of the selected demonstration hot spots around the Caribbean SIDS. The specific outputs and outcomes from each Demonstration Project are listed within the Demonstration Project Documents themselves (see Appendix 1). However, in general terms the overall Component Activities include:

COMPONENT 1 ACTIVITIES:

- 1.1 Implementation and management of a selection of representative 9 demonstration projects in 8 countries, which address the priority regional IWCAM concerns within selected critical hotspots, and which have been chosen in a clear and participatory manner (see Appendix 1). Demonstration project progress will be carefully monitored to ensure deliver of best practices and lessons for capture by other project components.
- 1.2 Coordination and collection of all lessons, best practices and alternative technologies and strategies arising from the Demonstration Projects which identify possible solutions and mitigations to the threats and root causes which are acting as barriers to IWCAM at a national and regional level;
- 1.3 Development of effective replication strategies and mechanisms for transferring and replicating the lessons and practices arising from the demonstration projects, both within and beyond the region.

COMPONENT 1 OUTCOMES:

Successful demonstration of concrete solutions and mitigations to specific threats to IWCAM. The development and distribution of best lessons and practices arising from these demonstrations. Models and guidelines for policy, legislative and institutional reform available to countries. Best lessons and practices being effectively replicated in other hotspots and critical areas. Full stakeholder participation in the development, implementation and monitoring of national demonstration activities.

COMPONENT 2. DEVELOPMENT OF IWCAM PROCESS, STRESS REDUCTION AND ENVIRONMENTAL STATUS INDICATORS FRAMEWORK

86. This Component will focus specifically on creating indicators framework to monitor the long-term progress and impact of the overall IWCAM strategy for SIDS in the context of process, stress reduction and environmental status indicators as recommended by the GEF. The intention is to identify an optimal indicator framework to monitor changes in the state of the watershed and coastal environments, monitor the trends in socio-economic pressures and conditions in watershed communities and coastal towns, and to assess the efficacy of IWCAM in addressing these issues and mitigating harmful impacts.

87. Although there is still a clear need for basic environmental and stress reduction indicators, there is also clearly an urgency to develop management-related (e.g. process) indicators to measure and assess the sustainability of current and planned land and sea usage. Furthermore, examples of socio-economic indicators which describe the social and economic conditions related to coastal and watershed communities are rare, yet such measurable parameters are vital if there is to be a true representation of the human component within IWCAM strategy and policy. Finally, the use of such indicators, which have been developed specifically for the measurement, and assessment of governance performance for IWCAM are almost unknown. Where this has been tried, difficulties have been encountered in linking such governance issues to on-the-ground changes.

88. In order to address this need at the Caribbean SIDS level the project will undertake to generally develop and test the efficacy of a suite of indicators addressing process, stress reduction and environmental status trends and impacts; link these measurable indicators to a policy and legislative feedback process; and drive that policy more toward a ‘beneficiary-pays’ environment where those gaining the greatest benefits from IWCAM are transferring a proportion of those benefits back into the system to support management at a multi-sectoral level, particularly focusing on the management-related activities of watershed and coastal communities.

COMPONENT 2 ACTIVITIES:

- 2.1 Review existing national and regional level environmental status, process and stress reduction indicator frameworks and identify weaknesses in IWCAM context;
- 2.2 Development of template for national level IWCAM environmental status, process and stress reduction indicators (harvesting experiences from best practices looking at Demo-level environmental status indicators, and taking into account results of Output 3.2 on IWCAM policy/legislative reform recommendations);
- 2.3 Conduct hotspot diagnostic analyses (HSDA) of each of the (non-demo) hotspots in each country, including identification of priority water-related issues/problems, immediate and root causes and required reforms. Prepare initial project concepts for follow-up/project preparation;
- 2.4 Establish a regional centre for storage of Indicator-related information and as a Centre of Excellence for Indicator Training. Provide Indicator training to appropriate stakeholder groups in application of IWCAM-oriented process, stress reduction and environmental status indicators;
- 2.5 Pilot establishment (including capacity building) of IWCAM process, stress reduction and environmental status indicator monitoring system in one country using templates from 2.2 and 2.3.

COMPONENT 2 OUTCOMES:

Process, stress-reduction, and environmental status indicators framework established and national and regional capacities for indicator monitoring enhanced.

COMPONENT 3: POLICY, LEGISLATIVE AND INSTITUTIONAL REFORM FOR IWCAM

89. This Component will address the urgent need for amendment and reform to policy, legislation and institutional arrangements pertinent to IWCAM. These needs have been clearly identified through the PDF B national reports. In particular, these national reports considered that the lack of appropriate and enacted policy and legislation addressing threats and their root causes represents a major barrier to successful IWCAM.

90. There is also concern for the effective sustainability of IWCAM concepts and objectives in the region in the absence of sufficient commitment to regional and international multilateral environmental agreements. The participating countries recognise a number of such MEAs and have undergone accession to such agreements (see Table 1 above). However, many of the countries have yet to ratify these agreements. Such ratification usually requires more specific commitments from the countries and frequently involves proof of adoption of the inherent concepts of an MEA through specific policy and legislative amendments and institutional realignment.

91. For IWCAM to achieve sustainability within the region it will now be necessary for the countries to reform their policy and legislation to capture IWCAM concepts, especially those inherent in the aforementioned MEAs. Institutional strengthening and rationalisation (especially integrated restructuring of the multisectoral stakeholder management approach) will also be a requirement linked closely to capacity building. Some of the policy, legislation and institutional reforms, identified by the countries in their National Reports are summarised in Table 5. By time of endorsement, specific indicators will be included for specific outcomes in terms of national reforms being sought.

Table 5. Policy, legislatives and institutional reforms identified by the countries

COUNTR Y	<u>Policy and legislative reforms</u>	<u>Institutional reforms</u>
Antigua and Barbuda	National Physical Development Plan;	Improving the planning capabilities in Ministries involved with watersheds and coastal areas management,
	Forestry and Wildlife Act;	
	Fisheries Act;	
	Environmental Health Act	To involve all relevant institutions and agencies, including NGOs/CBOs, and to develop appropriate mechanisms of cooperation and collaboration.
	Solid Waste Management Act.	
	Enforcement/compliance of environmental laws relates to stakeholder participation in management of the resource	
Bahamas	Creation/completion of national laws and/or specific ICM regulations in The Bahamas,	Establish/Enhance the Coastal Zone Management Authority
	Specific coastal development regulations in the coastal communities.	<u>ICM Coordination</u>
	Code of Construction in the Coastal Zone	Support to the local NGOs, interest groups, small-scale resource users, and others to participate actively in the ICM planning and management process
	Permit Review/Approval Process	Preparations of specific Environmental Management Plans (EMPs)
	User Charges	

Barbados	Adoption of Integrated Watershed and Coastal Areas Management Policy	Develop overarching Institutional Framework for Sustainable Development
	Modify Drainage Act	
	Enforcement of Coastal Zone Management Act	
	Repeal Porey and Three Houses Spring Acts. Develop regulations to facilitate enforcement of Coastal Zone Management Act	
Cuba	Strengthen the national inspection system	Strengthen stakeholder an community participation through local governments and environmental education
	Strengthen application of the law-decree 212 on Coastal Zone Management	Strengthen the National System of Environmental Monitoring, specifically for beach waters, sediment transport and pollutants loads to coastal zones
	Strengthen Land Use Plans in relation to watersheds and coastal zones	Increase collaboration and information exchange between stakeholders through the National and Provincial Watersheds Councils
	Better integrate EIA and environment licensing for impacts on coastal zones of development projects	Create a multisectorial Group within the Technical Advisory Group of the National and Provincial Watersheds Councils for the analysis of interrelations between watersheds and coastal areas management and for the development of Geographical Information Systems
Dominica	The formalization and legitimation of the structures by legislative mandate. The terms of reference of each structural unit/committee will be established in the legislative mandate to ensure the process.	Strengthening of institutional structures and administrative capacity including cross-sectoral and inter-agency structures to integrate economic and environmental planning and policy process and outcomes.
	Improving the capacity of national enforcing agencies, to implement existing legislation on watershed and coastal zone management.	
Dominican Republic	Establish a watershed land use planning mechanism taking into account integrated management principles	Creation of Watershed Authorities to decentralize the decision-making process
	Design and implementation of a National Programme of Watersheds and Coastal Areas Management	
	Better integrate EIA and environment licensing for impacts on coastal zones of development projects	
Grenada	Legal review; Environmental audit; Standards development	Rationalized system for environmental management; Civil society and general public participation in decision making process
Haiti	Elaboration/ Finalization of relevant Policy instruments related to water/watershed and coastal zones.	Decentralization and Institutional Strengthening
	An innovative Legal Framework.	Human Resources Capacity Building for Integrated Management of Watersheds and Coastal Areas
Jamaica	Draft a policy outlining the establishment of a water quality pooling system	Draft a policy to define the information sharing requirement among government agencies

St. Kitts and Nevis	Specific regulations drafted and enacted to implement the National Conservation and Environmental Protection Act (NCEPA) 1987.	Train technical staff among the various agencies that contribute towards the management of various sectors of the watershed – water resources management, water quality monitoring, coastal areas management
St. Lucia	The development of a comprehensive policy aimed at fostering the integration of watershed management and coastal area management issues.	The establishment of a coordinating mechanism to facilitate linkages between national institutions involved in watershed management and coastal area management. The strengthening of national institutions and organisations involved in watershed management and coastal area management.
	The establishment of a legal framework for integration of watershed management and coastal area management.	The development of frameworks for the integration of watershed management and coastal area management activities at the watershed and community levels.
St. Vincent and the Grenadines	Harmonization of legislation and adaptation of regional guidelines and policies where necessary.	Facilitate intersectoral cooperation between all Ministries and Departments
	Regulations to support Environmental Services Act no. 15 of 1991	
Trinidad and Tabago	Develop policies for coastal zone, watershed and water resources management	Establish financially autonomous Water Resources Management Authority with Watershed and Coastal Units
	Develop Coastal Zone Management Strategy and Plan (including disaster management)	Establish Formal and informal mechanisms for Stakeholder Participation
	Develop Plan for the integration of watersheds and coastal zones	Develop database and information systems, and decision support systems
	Draft Water Resources , Watershed , and Coastal Zone Management Acts and present for enactment	Develop and implement Public Awareness/Education Programme
	Prepare Coastal Zone and Watershed Hazards/Vulnerability maps for Hydrologic, Seismic and Chemical Hazards	Establish Training and Scholarship Programmes
	Establish Coastal Zone and Watershed Monitoring and Assessment Programme	
	Establish Coastal Zones, upstream and seaward extensions and supporting watersheds as legal entities	

92. This component will act on best lessons and practices arising from Component 1, as well as recognising the value of other IWCAM related approaches tested and adopted elsewhere. Specific focus will be given to the needs identified from the Hotspot Diagnostic Analysis (Component 2.4 above). An incentive mechanism will be developed to encourage ratification of important MEAs and protocols such as the Cartagena Convention's Protocol on Land Based Sources of Pollution, which is very pertinent to the problems of the Caribbean SIDS.

COMPONENT 3 ACTIVITIES:

- 3.1 A comprehensive review of national policy, legislation and institutional structures identifying barriers to IWCAM and providing recommendations and guidelines for barrier removal;
- 3.2 A set of regional guidelines (including working examples from the Demonstration Projects) addressing national policy, legislative and institutional reform to support and promote IWCAM (taking into account also relevant regional conventions and treaties). These guidelines to be derived from national reviews, participatory regional stakeholder workshops, and the demonstration projects. Particular consideration in developing these guidelines will be given to the results of the Hotspots Diagnostic Analysis under Component 2.4;
- 3.3 An active regional programme for amendment of national legislation and policy and improvement and restructuring of institutional arrangements to capture IWCAM requirements. In parallel with this regional programme, develop a programme of incentives and awareness of the need for SIDS to ratify those IEAs, Conventions and Treaties pertinent to IWCAM. In particular countries will be encouraged to sign up to and adopt the protocols associated with the Cartagena Convention, which focuses specifically on the Wider Caribbean area, specifically the LBS Protocol. Signature and ratification to this and other relevant protocols and conventions will be one of the indicators established and measure under Component 2.

COMPONENT 3 OUTCOMES:

National policies, legislation and institutional structures reformed and realigned to reflect the objectives of IWCAM and to capture the requirements of the more pertinent regional and international MEAs.

COMPONENT 4. REGIONAL AND NATIONAL CAPACITY BUILDING AND SUSTAINABILITY FOR IWCAM

93. Component 4 addresses the need for regional integration and networking to develop active partnerships for IWCAM in the areas of, public awareness and stakeholders participation, policy-level sensitisation, evolution of educational materials and new curricula, training, secondment, and the development of a long-term strategy for sustainable IWCAM at the regional level.

94. Effective IWCAM in the Caribbean SIDS requires planning, coordination, and knowledge-sharing among the wide range of agencies and programmes involved in IWCAM-related activities. The Caribbean has a long history of extensive but often poorly coordinated donor support to environmental programmes. The GEF and other donors working in the Caribbean recognise the need to co-ordinate their programmes in order to build on synergies and avoid duplication. Consequently, this component also aims to develop a more strategic approach to partnerships in the Caribbean through the review of existing and planned IWCAM related activities, development of partnership networking, promotion of knowledge sharing on existing and emerging Caribbean IWCAM initiatives among involved national, regional and international institutions; and development of an agreed strategic approach and work-plan for donor support

and regional cooperation in the Caribbean SIDS. This component will also promote the development of a mechanism for coordination between regional agencies, linked to the development of a regional database to support such coordination.

95. One of the project activities under Component 4 is the establishment of a Regional Clearing House mechanism which will capture inputs from all of the country Regional Project activities as well as the Demonstration Project activities. This will be linked to Component 1.3 where activities are identified to develop mechanisms for the transfer of lessons and best practices and Component 5.8 where a regional information system will be established. In the context of Component 4, 4.5 addresses Project Networking that aims to develop working project linkages and partnerships through national and regional institutions. Similar linkages to other IWCAM related projects, and the development of a Regional Partnership Forum. Although the specific outlets for such information dissemination have not as yet been identified, this would be a primary function and requirement of the overall integrated nature of the project, both at the national, regional and global level. Until the necessary IWCAM regional management structure has been established it would be difficult to propagate and develop any such linkages. Once the project is under implementation a high priority will be given to developing these critical linkages and relationships for information-sharing regionally through the stakeholder and partnership forums, and by active contact at the global level. Clearly, within the concepts of stakeholder participation which are an essential component of the overall fabric of the project, part of the success of this participation will rely on the effective sharing and dissemination of all project information to and between all parties

COMPONENT 4 ACTIVITIES:

- 4.1 National workshops on awareness and multisectoral sensitisation to IWCAM issues, coupled to a dynamic long-term awareness campaign that targets all sectors and stakeholders, with particular focus on sensitisation at the policy level. This to include a feedback mechanism to assess improvements in the understanding and support for IWCAM mechanisms and concepts to allow for fine-tuning and targeting of further awareness activities.
- 4.2 Identify, strengthen, and involve Stakeholders in IWCAM issues in the Region, including Monitoring and Evaluation, development of performance indicators.
- 4.3 Training and education activities. Training and secondment (where applicable) of IWCAM staff throughout the region, including regional training networks supported through IW:LEARN and similar initiatives. The development and use of effective IWCAM educational materials in regional curricula;
- 4.4 A regional strategy for the sustainable promotion and implementation of IWCAM beyond the project lifetime, with mechanisms for regular review, evaluation and improvement. This should include specific post-project, stakeholder-sponsored evaluation mechanisms to assess the continuing effectiveness of the GEF project initiative. This strategy will also identify incentives to move national and regional institutions toward the establishment of an appropriate institutional framework for IWCAM.
- 4.5 Project Networking through an established network of IWCAM regional institutions and via two-way linkages with other IWCAM-related project within and outside the region.

This would include networking with regional partners (donors, NGOs, private sector, etc) and development of an active partnership forum within the region (including countries external to project funding but directly linked to the Caribbean regional IWCAM and SIDS process). A primary objective of this forum would be more efficient and cost-effective use of financial and human resources in the development and sustainability of IWCAM and related environmental protection and sustainable development activities. To this end, partners and countries would work closely to develop a strategic approach to IWCAM within the Caribbean.

- 4.6 An established regional IWCAM Clearing House to capture and store all information, lessons and practices arising from this project and available from other projects. This Clearing House will also act as a repository of linkages to more technical regional and IWCAM information. This IWCAM Clearing House system would need to be closely linked (if not amalgamated) to the GPA Clearing House Mechanism.

COMPONENT 4 OUTCOMES:

Improved sensitisation, awareness and capacity throughout all sectors with respect to IWCAM. An active, long-term, sustainable regional mechanism supporting IWCAM. Effective networking to share information alongside a Partnership Forum acting to build working relationships within IWCAM. An active Clearing House to sharing and dispersing information. Fully involved stakeholders and improved civil society.

COMPONENT 5. PROJECT MANAGEMENT AND COORDINATION

96. Component 5 addresses overall project management, steering, reporting and evaluation. Project management will be invested in the Project Coordination Unit, which will undertake the handling of day-to-day project issues and requirements. Overall project decision-making at the policy level will be the responsibility of the Project Steering Committee (PSC), which will function as the primary policy body for the participating countries in cooperation with the GEF Implementing Agencies and the Executing Agencies.

COMPONENT 5 ACTIVITIES:

- 5.1 Establish effective Project Management through timely implementation of activities and achievement of benchmark outputs;
- 5.2 Establish an all-country Regional Project Steering Committee working in unison with the implementing and executing agencies and their representatives to provide regional project ownership and oversight at the policy level;
- 5.3 Establish National Intersectoral Committees to capture IWCAM concepts from the project at the national level;
- 5.4 Establish an Implementing Agency/Executing Agency Management Group to advise the Regional Project Steering Committee on UN GEF eligibility, procedural and policy issues.
- 5.5 Establish a Regional Technical Advisory Group that provides accurate and up-to-date technical advice and guidance to the Steering Committee on issues relating to IWCAM;
- 5.6 Undertake Project Reporting on activities and outputs to the PSC, along with accurate reviews of the project work-plan and budget;

- 5.7 Undertake Project Evaluation as a standard GEF requirement to ensure that indicators are measuring satisfactory and sustainable project success
- 5.8 Develop a Comprehensive Information Management System for the project implementation

COMPONENT 5 OUTCOMES:

Effective project management at the national and regional level. National Intersectoral Committees capturing and promoting IWCAM best practices. Project evaluations reflecting successful and sustainable project objectives. An active and effective sustainable regional information management system in place.

TABLE 6: PROJECT WORKPLAN AND TIMETABLE - COMPONENT ONE

COMPONENTS AND OUTPUTS		YEAR 1				YEAR 2				YEAR 3				YEAR 4				YEAR 5			
Quarterly		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1	DEMONSTRATION, CAPTURE AND TRANSFER OF BEST PRACTICES																				
1.1	Demonstration Implementation																				
	Initiation & management of demonstration projects	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
	Development of complementary MSPs and non-demo hotspot concepts			X		X		X		X		X		X		X		X			
	Demo Project support (Monitoring and Evaluation)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
1.2	Capture of Lessons and Best Practices																				
	Review of reports from Demo projects		X				X				X				X				X		
	Reports from R-TAGS on general IWCAM lessons and practices		X				X				X				X				X		
	Development of and access to a project database	X	X	X	X																
	Input of information into clearing house		X				X				X				X				X		
	Regional stakeholder review of lessons and practices from Demos and general IWCAM approaches through Partnership Forum		X				X				X				X				X		
1.3	Transfer and Replication of Lessons and Practices																				
	Development of mechanisms for transfer of lessons and best practices throughout region	X	X	X	X	X	X			X				X				X			
	Development of Website Pages	X	X	X	X	X	X														
	Linkages to IW:LEARN		X	X	X	X	X	X													

TABLE 6: PROJECT WORKPLAN AND TIMETABLE - COMPONENT TWO

COMPONENTS AND OUTPUTS		YEAR 1				YEAR 2				YEAR 3				YEAR 4				YEAR 5			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
2	DEVELOPMENT OF IWCAM PROCESS, STRESS REDUCTION AND ENVIRONMENTAL STATUS INDICATOR FRAMEWORKS																				
2.1	Review IWCAM indicators																				
	Review national and regional Environmental Status Indicator mechanisms			X	X	X															
	Review national and regional Stress Reduction Indicator mechanisms			X	X	X															
	Review national and regional Process Indicators			X	X	X															
2.2	Develop National Indicator Templates																				
	Harvest information from Demonstration Projects on Environmental Status indicators					X	X	X	X				X	X							
	Develop and disseminate templates for Environmental Status Indicators								X	X				X	X						
	Harvest information on policy and legislative process and stress reduction indicators from 4.2 and Demonstration Projects					X	X	X	X				X	X							
	Develop and disseminate templates for Process and Stress Reduction Indicators								X	X				X	X						
2.3	Undertake National Hotspot Diagnostic Analysis																				
	Identify national 'non-demo' Hotspots and Sensitive Areas and their IWCAM problems and root causes			X		X															
	Identify required reforms					X	X														
	Develop Concept papers for follow-up activities						X	X													
2.4	Indicator Coordination and Training																				
	Establish a regional centre for storage of Indicator-related information		X	X																	
	Develop regional centre as a Centre of Excellence for Indicator Training			X		X	X														
	Training for stakeholders in application of process, stress reduction and environmental status indicators							X	X					X				X			
2.5	Indicator Demonstration																				
	Establishment (including capacity building) of IWCAM process, stress reduction and environmental status indicator monitoring system in one country using new templates							X	X	X	X										

TABLE 6: PROJECT WORKPLAN AND TIMETABLE - COMPONENT THREE

COMPONENTS AND OUTPUTS		YEAR 1				YEAR 2				YEAR 3				YEAR 4				YEAR 5			
Quarterly		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
3	POLICY, LEGISLATION AND INSTITUTIONAL REFORMS																				
3.1	Review of national policy, legislation and institutional structures																				
	Reviews of national policies and structures		X	X																	
	Identification of barriers to IWCAM			X	X																
3.2	Development of models and guidelines																				
	Consolidation of inputs and lessons from national reviews, participatory stakeholder workshops, and demo projects			X	X																
	Identification of specific reform requirements based on Hotspot Diagnostic Analyses				X	X															
	Development of a set of regional guidelines taking into account requirements of relevant regional conventions and treaties				X	X	X	X													
3.3	Programme for regional policy, legislative and institutional reform																				
	Development of an active regional programme for amendment of national legislation/policy and improvement & restructuring of institutional arrangements						X	X	X	X		X	X		X		X			X	
	Parallel development of incentives, and awareness of the need for SIDS to ratify those IEAs, Conventions and Treaties pertinent to IWCAM (Especially Cartagena Convention and Protocols)						X	X	X	X		X	X		X		X			X	

TABLE 6: PROJECT WORKPLAN AND TIMETABLE - COMPONENT FOUR

COMPONENTS AND OUTPUTS		YEAR 1				YEAR 2				YEAR 3				YEAR 4				YEAR 5			
Quarterly		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
4	REGIONAL AND NATIONAL CAPACITY BUILDING AND SUSTAINABILITY																				
4.1	Awareness and Sensitisation																				
	National & Regional Workshops on needs and target audiences		X								X						X				
	Multisectoral awareness campaign with feedback mechanisms		X	X			X	X			X	X			X	X			X	X	
4.2	Stakeholders Involvement																				
	Identify, strengthen and involve stakeholders	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
4.3	Education & Training																				
	Educational Workshops (linked to Awareness Workshops)		X								X										X
	Production of educational materials and incorporation into regional curricula		X								X										X
	Identification and implementation of training needs and regional training networks	X	X				X	X			X	X			X	X					
	Regional training workshops & networking through IW:LEARN		X				X				X				X						
	Inter-country secondment						X				X				X						
4.4	Strategy for IWCAM Regional Sustainability																				
	Development of IWCAM regional strategic approach					X	X	X	X												
	Assistance with identifying long term funding mechanisms for IWCAM regional strategic approach					X	X	X	X	X	X										
	Incentives for national and regional adoption of IWCAM strategies and arrangements					X	X	X	X	X	X										
	Review and Evaluation Mechanisms for Strategic Approach, including a stakeholder-sponsored mechanism for post-project evaluation of GEF IWCAM objectives																				X
4.5	Project Networking																				
	Linkages to national/regional institutions	X	X	X	X		X				X				X						X
	Linkages to other IWCAM related projects	X	X	X	X		X				X				X						X
	Development of Regional Partnership Forum	X				X				X				X				X			
4.6	A Regional IWCAM Clearing House to capture and store all IWCAM information (Link to GPA-CHM)																				
	Development of Clearing House		X	X		X				X				X				X			
	Linkages to GPA-CHM		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Networking with countries		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

TABLE 6: PROJECT WORKPLAN AND TIMETABLE - COMPONENT FIVE

COMPONENTS AND OUTPUTS		YEAR 1				YEAR 2				YEAR 3				YEAR 4				YEAR 5			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
5	REGIONAL PROJECT MANAGEMENT AND COORDINATION																				
5.1	Project Management																				
	Establish Project Coordination Unit	X																			
	Contract staff and consultants	X	X			X	X			X	X										
5.2	Regional Project Steering																				
	Steering Committee Meetings (project monitoring, workplan and budget reviews)	X				X				X				X				X			
5.3	National Project Steering (National Intersectoral Committees)																				
	Meetings of National Intersectoral Committees	X		X		X		X		X		X		X		X		X		X	
	Day-to-Day inputs by members	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
5.4	IA/EA Management Group																				
	Annual IA/EA Meetings	X				X				X				X				X			
	EA Interim Management Discussions	X		X		X		X		X		X		X		X		X		X	
5.5	Project Technical Support																				
	Meetings of Regional Technical Advisory Group (To provide technical support and advice to Steering Committee)	X				X				X				X				X			
5.6	Project Reporting																				
	Reports from Demo Projects to PCU	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Reports from PCU to Steering Committee	X				X				X				X				X			
	Reports from Steering Committee to EA/IAs	X				X				X				X				X			
5.7	Project Evaluation																				
	IA Evaluation Requirements	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	GEF Evaluation Requirements				X				X	X			X				X	X			X
5.8	Project Information Management System																				
	Establish Regional Project Information System	X	X	X	X	X	X														
	National inputs and outputs related to Information Management System		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

RISKS & SUSTAINABILITY

97. Integrated planning and management are still not widely practiced within Caribbean SIDS, although there is a growing understanding of the concept and the need. A considerable amount of time and effort will therefore be required to foster a fresh philosophical and conceptual approach among the relevant decision-makers, as well as field personnel. The long-term success of the Project will ultimately rest on the political willingness of the participating countries to cooperate and to sustain the Project's outputs well after its completion. To a large extent, the level of this risk will depend on the success of the proposed public education and awareness activities, and the extent to which the public is motivated to participate in the implementation of the project. This risk will be minimised by the deliberate inclusion of major stakeholders in the implementation of the project objectives, as well as through the national IWCAM demonstrations (all of which foster stakeholder participation, along with dissemination of information on the demonstration approach and objectives). Such stakeholder participation must be seen as a key theme and essential requirement throughout all of the components and activities of the project. By creating a higher level of awareness and support for IWCAM activities within such key stakeholders as the NGOs, and the general public, the intention would be to minimise the risk from political indifference by creating stakeholder/electorate pressure to ensure that political will and support is developed and sustained.

98. The decision to incorporate a component into the project, which would establish a more strategic regional coordination framework, has been prompted by recognition of the institutional weaknesses that exist at the national and regional level, in IWCAM in particular and environmental management and sustainable development in general. Also, it is clear that both the donors and the recipient countries are concerned about the apparent replication of project objectives and the lack of coordination between related projects, donors and countries over their long-term objectives. It is intended to mitigate this risk through specific activities and outputs within Project Component 4.

99. Specific note is made of the need to coordinate with other GEF-funded regional projects. These include *Mainstreaming Adaptations to Climate Change (MACC)*, which builds on the work of the previous GEF-funded project *Caribbean Planning for Adaptation to Climate Change (CPACC)*. In this respect, the current proposed project intends to develop a close relationship with the MACC project. This relationship may include developing agreements (e.g., Memoranda of Cooperation), as appropriate, for the coordination of selected activities of the IWCAM project with activities sponsored under the MACC project. Particular cooperation will be sought in the areas of water supply, land use, and climate change, where such coordination can lead to mutual benefits to both projects and the participating countries, and avoid unnecessary duplication of efforts and resources. It is intended that this relationship, to be facilitated by the GEF Implementing Agencies (UNEP, UNDP and the World Bank) and the various Co-Executing Agencies (CAR/RCU, CEHI and OAS) for each project (and include the participation of the respective Project Steering Committees), will identify the need to cooperate on the following issues:

- Identification of opportunities for specific cooperation
- Coordination (where appropriate) of requests for information from government and/or regional agencies
- Cooperation (where appropriate) in the use of regional human resources and institutional assets
- A general liaison function for all aspects that may be common for the successful implementation of both projects
- Information exchange on project implementation (reports on progress, barriers, options)

100. Another important GEF initiative under current development is the Caribbean Large Marine Ecosystem project. It is because of this particular project development that the current IWCAM project proposal does not directly address coastal fisheries and related offshore resources. However, clearly there are important linkages and much of what IWCAM will address relates to the welfare of Caribbean natural resources within the LME. Every effort will be made within both projects to ensure close coordination and complementarity and to share related lessons and best practices.

101. It is further intended that the managers of the project implementation/coordination units for all three of these GEF initiatives would closely liaise for the purposes of implementing the provisions here outlined. Such a liaison may, however, become inherent within the IWCAM project's overall sub-component target for closer regional coordination and participation between all countries and partners/donors.

102. The Caribbean region is particularly prone to natural hazards such as hurricanes, tropical storms, earthquakes and volcanic activity. These events, catastrophic in themselves, can further result in flooding and landslides. Owing to the frequency of these hazards, and the extensive damage, which they often cause, many countries have traditionally focused their efforts on post-disaster response rather than on mitigation. Most countries in the region are now beginning to develop early-warning systems and disaster management plans. The potential for such a natural disaster, which could (temporarily at least) close down project activities, should be recognised.

103. In recognition of the increased general vulnerability of people and property to natural disasters, the General Assembly of the United Nations adopted a resolution in the late 1980's designating the last decade of the twentieth century as the International Decade for Natural Disaster Reduction. This resolution stated: "The objective of the IDNDR is to reduce through concerted international action, especially in developing countries, the loss of life, property damage and social and economic disruption caused by natural disasters such as earthquakes, windstorms, tsunamis, floods, landslides, volcanic eruptions, wildfires, grasshopper and locust infestation, drought and desertification and other calamities of natural origin."

The United Nations called on all governments to:

- formulate natural disaster mitigation programmes
- participate in concerted international action to reduce the effects of natural disasters
- establish, as appropriate, national committees in co-operation with relevant scientific and technological communities
- encourage the provision of appropriate support from public and private sectors

- take measures to increase public awareness of damage risk potential and the value of preventative and mitigation measures.

The principle aim of the IDNDR is to capitalise on existing knowledge of ways whereby the impact of these natural events can be mitigated, and to foster the systematic transfer of this knowledge to those countries and communities recognisably most at risk. The project should consider part of its implementation of regional assistance to be a role in coordinating, where relevant and appropriate and within the context of IWCAM, with the Scientific and Technical Committee of IDNDR, and ensuring that the PCU has access to any scientific and technical outputs from this committee and makes such relevant outputs available to the participating countries.

104. The most likely risk to the sustainability of the Project would be caused by financial hardships, precipitated by the vulnerability of the national economies to downturns in the global economy. Not only is this likely to affect the ability of governments to sustain their respective counterpart contributions during the project's implementation, but it is also likely to impair their ability to assume an increased financial burden, on completion of the GEF intervention. Further, it is feared that an exacerbation of unemployment and poverty will weaken the commitment of the public to change. Political changes and upheavals are also a risk that can affect commitment to the project. The various project components will aim to significantly reduce these risks by heightening awareness of IWCAM and sustainable development needs at the policy-making level, increasing awareness within the electorate and all public and private sectors, demonstrating the real benefits and value of resource management, and establishing a more linked, coordinated and integrated approach to management of watersheds and their associated coastal areas.

105. Legislative and policy reform at the national level is intended to underpin project objectives and IWCAM sustainability at the regional level. The activities and outputs to achieve such reform are expected to capture not only IWCAM concepts but also international and regional environmental and sustainable development agreements such as the Convention on Biological Diversity (CBD), Cartagena Convention, etc. This legislative and policy reform, coupled to the awareness and training component, should institutionalise the working practices and mechanisms for IWCAM throughout the region. Regional networking and the evolution of regional institutional linkages are intended to provide mainstreaming for IWCAM strategies and mechanisms throughout the countries. It is intended that the development of measurable indicators for the impact of IWCAM reforms, along with indicators of biodiversity and natural resource status and decline or improvement will provide a strong incentive for such policy reforms.

106. Project sustainability is inevitably dependent on the sustainability and stability of the executing agency(s) managing the project. In the case of this project there are two co-executing agencies, the Secretariat for the Cartagena Convention (established 1981) and the Caribbean Environmental Health Institute (CEHI, established 1989). Both of these agencies are well-established organisations with many years of experience and work within the region. Their continuing presence in the region and the institutionalisation of IWCAM principles and practices into their permanent programmes is expected to provide a high degree of regional programmatic and institutional sustainability. Additionally, insofar as IWCAM concepts and requirements are already established within the Cartagena Convention, contracting parties will be able to use the lessons learnt to assist them in national implementation of the Convention and its protocols and enabling more ratifications of these regional agreements.

107. The relative paucity to date of ratifications of the LBS protocol by the Caribbean states represents a long-term risk to successful application of IWCAM in the region. To address this risk,

the project includes activities aimed at promoting awareness and ratification of the LBS protocol as well as other pertinent global and regional agreements such as the Convention on Biological Diversity, the UN Framework Convention on Climate Change, the Convention to Combat Desertification and others.

108. One major contribution to both project sustainability and the transferable sustainability of the GEF contribution must be the demonstration projects and their replicability throughout and beyond the region. One of the criteria for demonstration project funding has been a clear definition, within the demonstration project proposal, of the potential for replicability of the lessons and best practices developed and evolved from the demonstration. Only those projects that are able to identify a real potential for replication have been selected and the mechanisms for the transfer of lessons and the replication of mitigation and barrier removal activities for IWCAM will be developed through the relevant project components and activities.

GEF ELIGIBILITY

109. The GEF Operational Strategy recognises the special conditions and needs of Small Island Developing States (SIDS). Specifically, the Strategy states the need for “*more integrated approaches to land and water management as a mechanism to address threats to their water resources*”, that “*integrated freshwater basin-coastal area management is essential for a sustainable future for these island states,*” and that “*this approach can produce benefits in other GEF focal areas, especially biodiversity and climate change.*” Since then, the GEF has added a new Land Degradation focal area. Clearly IWCAM will deliver benefits in this area as well.

110. All 13 countries are eligible for GEF assistance under paragraph 9b of the Instrument for the Restructured GEF. GEF’s Operational Programme No. 9 “Integrated Land and Water Multiple Focal Area” states that “the goal is to help groups of countries utilise the full range of technical, economic, financial, regulatory and institutional measures needed to operationalise the sustainable development strategies for international waters (para. 9.2)”. Further, this OP lists as an expected outcome “the reduction of stress to the international waters environment in selected parts of all 5 development regions across the globe through participating countries making change in their sectoral policies, making critical investments, developing necessary programmes and collaborating jointly in implementing water resources protection measures (para 9.10)”.

111. The proposed project will help the riparian countries to overcome institutional and other barriers to collaboration. The proposed project coordinates among implementing agencies, regional development banks, countries, and other stakeholders, and generates programmatic benefits for the global environment that would not otherwise be achievable. GEF funds will support implementation of demonstration projects and the finalisation of the regional hotspots analysis. This process will involve international donors, national and local governmental institutions, industries, and other key stakeholders that have important actions to take in restoring and protecting the environment

112. The proposal is also consistent with the recent International Waters Focal Area - Strategic Priorities in Support of WSSD Outcomes for FY 2003-2006: IW 3 – Undertake Innovative Demonstrations for Reducing Contaminants and Addressing Water Scarcity.

STAKEHOLDER PARTICIPATION

113. The primary stakeholders in this Project include:

- Public Sector: ministries responsible for water resources (utilities); environment; tourism; planning; agriculture (forestry, fisheries); industry; community development; education; and local government authorities
- Private Sector: national and regional organisations representing: farmers; fisherfolk; manufacturers/industrialists; hotel owners/managers; tour operators; cruise line companies; yachtmen; and dive operators;
- Non-governmental Organisations: national trusts; conservation associations; women's organisations; community-based organisations (CBOs);
- Scientific community: researchers; sociologists; medical practitioners; environmental managers; engineers (water, civil, environmental); biologists; teachers; curriculum specialists; media practitioners; and
- Others,

The Public Involvement plan will be developed in time for the CEO endorsement; the plan summary is attached in Annex E.

114. As noted earlier, the implementation of the Project will be facilitated through a network of these stakeholders at the national and regional level. The challenge however will be to sustain the involvement of these stakeholders as an integral part of the IWCAM process. Fortunately, models of effective stakeholder participation abound in nearly all of the participating countries, which could easily be adopted/adapted to the IWCAM needs. Several regional organisations such as CAST, CTO and CHA are also alive to the benefits of effective stakeholder participation. Stakeholder involvement is recognised to be an integral requirement for each project component. In endorsing the project document, the countries of the region recognise and embrace the need for this direct involvement by all stakeholders in the IWCAM process.

PROJECT IMPLEMENTATION & INSTITUTIONAL FRAMEWORK

115. The Project will be jointly implemented by UNDP and UNEP. Recognising the comparative advantages of both agencies, namely the country presence of UNDP and the linkages between project activities and UNDP's country assistance strategies; and the relationship between project activities and UNEP's Regional Seas Programme and International Environmental Conventions, the project will take advantage of the opportunities for synergy and complementarity. UNEP will serve as the lead Implementing Agency. While UNDP's specific expertise and value vis-à-vis its regional and country offices will provide important support, especially to the Demonstration Projects. Specifically, UNEP will serve as IA for Components 2, 3, 4 and 5 while UNDP will implement Component 1 (the Demonstration Projects). The resultant financial allocation for each agency is shown in Table 7.

TABLE 7: GEF FUNDING PER IMPLEMENTATION AGENCY
(not including the support costs)

COMPONENT AND ACTIVITIES	UNDP	UNEP
	GEF	Co-Funds
1. Demonstration, Capture and Transfer of Best Practices	\$5,474,970	
2. Development and Monitoring of IWCAM Impact Indicators		\$3,154,800
3. Policy, Legislation and Institutional Reforms		\$585,350
4. Regional and National Capacity Building and Sustainability		\$804,600
5. Regional Project Management and Coordination		\$2,725,700
TOTALS	\$5,474,970	\$7,270,450

116. The project will be co-executed by the Secretariat to the Cartagena Convention and CEHI with the Secretariat assuming the role of lead Executing Agency. The proposed execution arrangements take advantage of the recognised expertise of CEHI in the field of freshwater resource management; and the Secretariat to the Cartagena Convention in matters related to the marine and coastal environment and in working in a multi-lingual environment. Both agencies have long established relationships with the countries of the region (Annex H). Sustainability of project benefits at the regional level will be enhanced through these arrangements.

117. At the national level, each participating country will designate a National Focal Point for the project and will further establish National Intersectoral Committee (NIC). The function of this Committee will be to capture the concepts of IWCAM and the project objectives at the national level and to ensure complimentary activities between national strategies and policies and the IWCAM initiative. The National Focal Point will sit on this NIC, and will act as the country's representative to the Project Steering Committee. Where a country has an approved Demonstration Project, the NFP will also act as the Chair of that Demonstration Project(s) Steering Group. This will firmly establish the NFP as the key focal point for interactions with the Project Co-ordination Unit.

118. The Project Steering Committee will meet annually to monitor progress in project execution, to provide strategic and policy guidance, and to review and approve annual work plans and budgets. The Committee will be chaired by a national representative (on a rotational basis) and will consist of the national focal points from all participating countries and representatives of the two GEF Implementing Agencies Both the CARICOM Secretariat and OAS will participate as observers, and the Project Coordination Unit will provide the Secretariat to the Committee. The Steering Committee may decide, in its absolute discretion, to vary this membership through the addition of representatives from other IGOs, NGOs, and the private sector, particularly significant co-financiers.

119. The project, through the PCU and through the approval of the Steering Committee, will adopt a Regional Technical Advisory Group (R-TAG). The R-Tag will advise the Steering

Committee and the PCU on IWCAM technical issues within the region. Each country will nominate a suitable technical representative to this R-Tag for adoption by the Steering Committee.

120. Regional co-ordination and collaboration will be facilitated through a Regional Project Co-ordination Unit (PCU), consisting of appropriate professional and support staff, that will also provide technical assistance and advice to the participating countries. The staff of this team may be augmented through secondment of national staff to the project. The IWCAM Project Coordination Unit will be established and operated out of CEHI headquarters in St. Lucia. Full details of responsibilities along with the schematic interpretation of the Project Implementation and Management arrangements can be found in Annex G.

INCREMENTAL COSTS & PROJECT FINANCING

121. Table 8 presents incremental costs and co-financing by component base on the more detailed analysis presented in Annex A. As noted in Annex A, there are global environmental benefits accrued to this project as well as national and regional benefits. Direct environmental benefits are obtained as a result of the demonstration project activities. In particular, greater and sustainable benefits are to be derived from the lessons learnt in the demonstrations and the legal, policy, and institutional reforms as well as education and awareness that will arise from the project.

122. This project has leveraged approximately **US\$ 98 million** from governments and regional bodies to co-finance the sustainable management and protection of global significant island (terrestrial and marine) biodiversity within the Caribbean, along with the mitigation of transboundary threats including land-based sources of pollution and over-extraction of transboundary resources such as fisheries. This financing, supported by GEF incremental assistance, will develop the necessary national and regional support structures for, and realign national and regional policy, legislation and attitudes to IWCAM.

TABLE 8: INCREMENTAL COST ANALYSIS AND PROJECT FINANCING BY COMPONENT

IWCAM PROJECT ICA RESULTS BY COMPONENT				
COMPONENT TITLE	BASELINE	INCREMENT	GEF	CO-FUNDING
1. Demonstration, Capture and Transfer of Best Practices	\$44,317,989	\$132,092,923	\$5,474,970	\$82,299,964
2. Development Of IWCAM Process, Stress Reduction and Environmental Status Indicators	\$29,944,442	\$37,203,242	\$3,154,800	\$4,104,000
3. Policy, Legislation and Institutional Reform	\$103,303,160	\$104,530,010	\$585,350	\$641,500
4. Regional and National Capacity Building and Sustainability	\$771,049,765	\$782,841,394	\$804,600	\$10,987,029
5. Regional Project Management and Coordination	\$5,598,947	\$8,561,647	\$2,725,700	\$237,000
Support Costs			\$637,271	
TOTALS	\$954,214,303	\$1,065,866,487	\$13,382,691	\$98,269,493

MONITORING & EVALUATION

123. Monitoring and Evaluation include a series of linked activities, including a complete Project Document, Project Implementation Review (PIR), Tripartite Reviews, Annual and Quarterly Project Reports (and thence to the GEF Project Implementation Review Process), Work Plan, and independent mid-term and final project Evaluations (see Table 9). Monitoring and evaluation begins with preparation of the Project Document, complete with logical framework matrix (LogFrame) developed according to standard M&E procedures, including clear indicators of implementation progress and means of verification.

124. Project objectives, outputs and emerging issues will be regularly reviewed and evaluated annually by the PSC. Reporting (annual and quarterly) will be done in accordance with UNDP, UNEP and GEF rules and regulations. The annual programme/project report (APR) is designed to obtain the independent views of the main stakeholders of a project on its relevance, performance and the likelihood of its success. The APR form has two parts. Part I asks for a numerical rating of project relevance and performance as well as an overall rating of the project. Part II asks for a textual assessment of the project, focusing on major achievements, early evidence of success, issues and problems, recommendations and lessons learned. The APR will be prepared by the Project Manager, after consultation with the relevant Stakeholders, and will be submitted to UNDP and UNEP for approval. Quarterly progress reports will be prepared using the same procedures. The Stakeholder review will focus on the logical framework matrix and the performance indicators, and stakeholders will be encouraged to submit any views and concerns to the PPR.

125. The project will be subject to the various evaluation and review mechanisms of the UNDP and UNEP, including, the Tri-Partite Review (TPR), and an external Evaluation and Final Report prior to termination of the Project. The project will also participate in the annual Project Implementation Review (PIR) of the GEF. The PIR is mandatory for all GEF projects that have been under implementation for at least a year at the time that the exercise is conducted. Particular emphasis will be given to emerging GEF policy with regard to monitoring and evaluation in the context of GEF IW projects. Relevant Process Indicators, Stress Reduction Indicators, and Environmental Status Indicators will be developed through a central component of the project, and that will serve to inform the M&E process as well as being adopted by the participating countries as tools for long-term monitoring of IWCAM objectives. One particularly important Process Indicator will be the level of ratification by participating countries to various pertinent regional and international MEAs by the end of the project. In particular, ratification of the LBS Protocol associated with the Cartagena Convention will be considered a critical Process Indicator for effective project sustainability. Details regarding the content of each of the above-mentioned reports are contained in the M&E information kit available through UNDP/GEF.

126. During the early stages of the project, the PCU will identify the relevant Process Indicators (PIs), Stress Reduction Indicators (SRIs) and Environmental Status Indicators (ESIs) relevant to the project. These indicators will be reviewed, as part of the initial monitoring and evaluation exercise and upon their adoption will become a basis for the ongoing IWCAM monitoring and evaluation process. The Logframe Analysis incorporated into the Project Brief and this Project Document shall be used in significant measure to assist in the identification of the relevant indicators.

127. It is expected that as with many other GEF IW projects, many of the indicators to be employed during the life of the project will be PIs. These would include, *inter alia*, such indicators as the establishment and successful functioning of a Partnership Forum to develop IWCAM

sustainability in the region, a high level of ratification of the LBS protocol (at least 75% of participating countries by the end of the project) and other IWCAM-related IEAs, widespread policy and legislative reform in line with IWCAM objectives, the establishment and effective functioning of an Inter-Ministerial Steering Committee linked to national Intersectoral Committees for IWCAM.

128. SRIs might include, *inter alia*, the establishment of more effective sewage treatment facilities, implementation of policy and legislation for designating land-use zoning, improved water resource storage and deliver with resulting positive environmental, economic and social benefits for the participating countries, explicit measures for the protection of watershed catchment areas, etc,

129. While ESIs are likely to become more apparent after the life of the GEF project, there are likely to be some ESIs that are likely to be realized during implementation. These ESIs would include, *inter alia*, measurable improvements in coastal and watershed water quality, reductions in water loss and leakage, etc. The development of indicators is part of the IWCAM monitoring process.

130. In addition to the monitoring and evaluation described above, independent monitoring of the project will be undertaken through contract, using a balanced group of experts selected by UNEP and UNDP. The extensive experience of UNEP and UNDP in monitoring large regional projects will be drawn upon to ensure that the project activities are carefully documented. There will be two evaluation periods, one at mid-term and another at the end of the Project. The mid-point review will focus on relevance, performance (effectiveness, efficiency and timeliness), issues requiring decisions and actions and initial lessons learned about project design, implementation and management. The final evaluation will focus on similar issues as the mid-term evaluation but will also look at early signs of potential impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental goals. Recommendations on follow-up activities will also be provided.

131. In addition to the standard UNDP, UNEP and GEF procedures outlined above, the project will benefit from annual Project Steering Committee Meetings (PSC). The PSC is the primary policy-making body for the IWCAM project. The Project Manager will schedule and report on the Steering Committee Meetings. Meetings can also be organized ad hoc at the request of a majority of the participating countries. The Steering Committee will approve the final results of such meetings.

132. In view of the critical importance and technical nature of the Demonstration Projects, specific evaluation and advisory functions will be undertaken to review their progress and to assess indications of their success. UNDP, through its country offices, will take a lead role in overseeing progress and evaluating delivery of best practices and lessons from these all-important Demonstration Projects. A technical and objective review of all of the demonstration projects will be undertaken on an annual basis. The review will report back to the Project Steering Committee through the Executing and Implementing Agencies, and will cover such areas as progress, scheduling (budget and workplan), technological advances, and the need for improvements and additions. The principal objective of this Demonstration Project appraisal will be to ensure that the Projects are on schedule and will deliver the expected outputs and outcomes, and to advise on action that should be taken to assist in achieving this objective. Explanations will be given on the manner in which the monitoring and evaluation results will be used to adjust the implementation of a Demonstration Project (where necessary) and to replicate the results throughout the Caribbean region.

133. Provisions have been made within the workplan and budget to undertake post-project evaluation (with a sum of co-funding identified for that purpose). Such post-project evaluation is not a standard requirement by GEF in view of difficulties of budgeting for activities beyond the project lifetime (The requirement to audit and close the project accounts at the end of the project life-time). In this instance, the need has been recognised and the level of funding identified, but the actual source of funding has yet to be confirmed. The PCU and project management team should recognise the need to capture this funding, through partnerships with NGOs, etc, and to confirm its availability before the final year of the project.

TABLE 9: M&E ACTIVITIES, TIME-FRAMES AND RESPONSIBILITIES

Activity	Responsibilities	Timeframes
1. Drafting Project Planning Documents: Prodoc, LogFrame (including indicators), M&E Plan	UNDP, UNEP staff and consultants and other pertinent stakeholders	During project design stage
2. M&E Plan	UNDP, UNEP, project development specialists	During project design stage
3. Work Plan	Project Manager, with UNEP and UNDP	Annually (first year: inception report)
4. Quarterly Operational Reports (QORs)	UNEP and PPR	Quarterly
5. Annual Programme/ Project Reports (APRs)	The Steering Committee, working closely with UNEP and the Project Manager in consultation with Project stakeholders	Annually
6. Tripartite Review (TPR)	Governments, UNDP, UNEP, project team, beneficiaries and other stakeholders	Annually
7. Project Implementation Review (PIR)	UNDP, UNEP, project team, GEF's M&E team	Annually, between June and September
8. Mid-term and Final evaluations	UNDP, UNEP, project team, independent evaluators	At the mid-point and end of project implementation.
9. Terminal Report	UNDP and UNEP, Project Manager	At least one month before the end of the project

REPLICATION

134. The element of replication is critical to the entire concept of this project. The Demonstration Projects all have a replication approach defined within their text although it is recognised that there will need to be some specific mechanisms developed both within the demonstrations and within the overall project. In this respect, a significant output from Component 1 will be the development of replication mechanisms in order to transfer best lessons and practices between Demonstration Projects, between participating countries, and between partnerships on a regional and global level.

135. Furthermore, a major contribution of the project would be its replicability for SIDS in other locations in the world. Virtually all SIDS share the same problems of environmental stresses, limited natural resources in the face of increasing resource demands, and limited financial and capacity resources to varying degrees. Consequently, the IWCAM project will evolve partnerships through the SIDS global network to capture and to disseminate lessons and best practices, which are applicable to all SIDS.

LIST OF ANNEXES & APPENDICES

APPENDIX 1: THE IWCAM DEMONSTRATION PROJECTS

REQUIRED ANNEXES

- Annex A Incremental Cost Analysis
- Annex B Logical Framework Analysis
- Annex C STAP Roster Technical Review and Response

OPTIONAL ANNEXES

- Annex D Root Cause Analysis
- Annex E Public Involvement Plan Summary
- Annex F Reference Documents
- Annex G Implementation Arrangements and Project Management
- Annex H Profile of Executing Agencies
- Annex I List of IWCAM-related, GEF supported or funded initiatives within the Caribbean
- Annex J Endorsement Letter from NFPs and Co-Financing letters. (separate file)