



Photo: Marko Prem

An Integrative Methodological Framework (IMF) for coastal, river basin and aquifer management

AT A GLANCE

The Strategic Partnership for the Mediterranean Sea Large Marine Ecosystem (MedPartnership) is a collective effort of leading environmental institutions and organizations together with countries sharing the Mediterranean Sea to address environmental challenges that Mediterranean marine and coastal ecosystems face. The project's 78 demonstration and the promotion and replication of good practices will maximize impact and ensure the sustainability of the project beyond its lifespan.

Total budget: 48 millions USD.
13 million USD: Global Environment Facility
35 million USD: Participating countries, executing agencies, and donors.

ABSTRACT

In recent decades various management approaches have been developed for the terrestrial, freshwater and marine environments in the Mediterranean basin. These include Integrated Coastal Zone Management (ICZM), Integrated Water Resources Management (IWRM), and more recently Coastal Aquifer and Groundwater Management. The focus of these approaches has been most acute in coastal areas and in the management of the key resource – water – with the potential for overlap and duplication of resources.

The **Integrative Management Framework (IMF)**, a joint initiative by the Priority Actions Programme/Regional Activity Centre (PAP/RAC) of UNEP/MAP, the UNESCO-International Hydrological Programme (IHP) and the Global Water Partnership (GWP-Med) combines the expertise of these programmes in such a way that *'the whole is greater than the sum of the parts'*. The resulting IMF is a comprehensive and operational methodology for the integrated and sustainable management of the Mediterranean ecosystems constituted by the coastal zones, river basins and coastal aquifers.

ACTIVITY DESCRIPTION

The outcome is described in a single document published in 2015; “An Integrative Methodological Framework (IMF) for coastal, river basin and aquifer management - *towards converging management approaches for Mediterranean coastal zones*“. The IMF was prepared under the direction of an **Integrative Working Group (IWG)** composed of international experts with extensive experience in their respective fields across the Mediterranean region and globally established in 2010.

THE EXPERIENCE

The methodological integration of water resource management and planning into ICZM and IWRM Plans are key MedPartnership objectives. The project converged the methodologies into the unified IMF methodology, developed guidance for its replication and application across the Mediterranean through a transferable process, and for its implementation within three pilot coastal plans (Integrated Management Plan for Bojana/Buna Area; Coastal Plan Réghaia; and Coastal Plan for Šibenik-Knin County).



*Complex coastal ecosystems
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Methodology

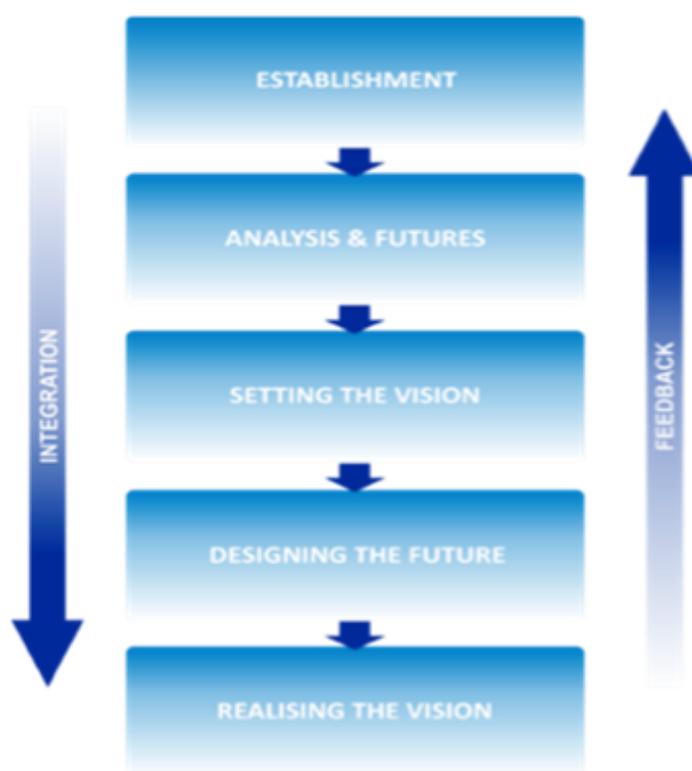
An estimated 80% of the pollution load received by the Mediterranean Sea derives from land-based sources through rivers, combined with that from coastal development and activity. This underpins the need for a multi-sectoral approach at the water basin-wide level, including groundwater bodies, and with particular attention to the coastal zone. Mediterranean countries are called to prepare specific strategies and plans at differing geographic scales to meet the requirements of international legal agreements, relating directly or indirectly to this issue, including for example the ICZM Protocol and the EU Water Framework Directive.

The risk of duplication, conflicts of objectives, and inefficiencies is therefore high. Integration is commonly advocated to avoid such duplication, to maximize the benefits of combining thematic and institutional approaches - with the common ultimate goal of achieving “sustainable development”. In practice however, real-world resources, differing time-scales along with institutional and sectoral rigidities have limited the achievement of the full integration of these approaches. Many of the approaches and subsequent plans have been developed in the latter parts of the 20th century, and the first years of the 21st century, mostly in parallel by practitioners of different disciplinary backgrounds, and frequently different philosophical departure. The IMF set out to establish a new and practical framework to achieve real integration.

RESULTS

The IMF identifies the key sectoral and spatial dimensions within which integration must be defined, and sets out the methodology to achieve this. The IMF sets out a common 5-stage process to guide the preparation of coastal plans in the Mediterranean and beyond. The process provides a step-by-step guide to an integrated planning process and begins at the very start of the planning process - “Establishment”, through to implementation and the facilitation of change – “Realising the Vision”. The process describes objectives, activities and outputs of each stage, proposing methodologies, tools and examples.

The diagram also acts as a convenient ‘top layer’ for use in a web environment. The IMF Process is used as the framework for “Roadmap towards Coastal Sustainability” – an online wiki through which each of the five stages can be explored and infinitely expanded in deeper detail developed in parallel with the EU FP7 PEGASO Project. The goal of PEGASO is to construct a shared ICZM ‘Governance Platform’ for the Mediterranean and Black Sea linked with new models of governance for the Mediterranean and Black Sea.



The planning process

LESSONS LEARNED

The IMF advocates simplicity and pragmatism as the keys to effectiveness, replication and sustainability.

Defining the common operational geographic space

In the IMF approach, the entire river basin may be considered, but in practice, the coastal sub-basin should be the focus, with its ground waters, transitional and coastal waters. The ICZM Protocol offers a pragmatic, administrative units-based approach.

Integration and governance

Each local situation will require a locally tailored governance approach, recognising national and local governance structures. Integration is easy to recommend but difficult to achieve as, in the majority of the Mediterranean countries, administrations function to a large extent in sectoral “silos”. Transboundary working further complicates this.

The Drivers-Pressures-State-Impact-Response (DPSIR) Framework provides a tool for integration

The DPSIR provides a simple tool for capturing, visualising, and analysing the cause-effect relationships between complex social, economic and environmental systems. In the multi-sectoral approach of the IMF an innovative unifying methodology was developed to elaborate the necessary multi-sectoral responses.

The value of simple, common roadmap adaptable to local circumstances

The simple roadmap is proposed by the IMF to guide the step-by-step preparation of coastal plans and deliver their outcomes. Its 5 stages are universal and therefore easily transferable and adaptable for use at local level.

Delivering results - the importance of realising the vision

The strong emphasis of the IMF is on delivering the real outcomes of direct benefit to local communities and the environment. The integrated plan should be politically, technically, financially, and legally implementable, and socially acceptable.

IMPACTS

The **Integrative Working Group (IWG)** prepared and agreed draft common conceptual definitions and a common process in order to:

- facilitate planners and practitioners to achieve a shared, efficient and effective use of the typical human and logistical resources available in most Mediterranean countries.
- facilitate the better coordination, integration and involvement of all stakeholders, including the general public, in the planning process.

This process was also developed in parallel with the EU funded FP7 PEGASO Project as a common roadmap for ICZM plan preparation that is adaptable to local circumstances and resources.

The plan preparation methodology has also been subject to parallel operational testing in the transboundary coastal area of Buna-Bojana in Albania and Montenegro, and the feedback from this has, in turn, fed back into the development of the IMF.



*Together for common results
Photo: Marko Prem*

REFERENCES

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KEYWORDS

integration; ICZM; IWRM; coastal aquifer and groundwater management; governance

EXECUTING PARTNERS

PAP/RAC was established in 1977 in Split, Croatia, as part of the Mediterranean Action Plan (MAP) of the United Nations Environment Programme (UNEP). PAP/RAC's mandate is to provide support to Mediterranean countries in the implementation of the Barcelona Convention and its Protocols, and in particular of the Protocol on Integrated Coastal Zone Management. PAP/RAC is oriented towards carrying out activities contributing to the sustainable development of coastal zones and strengthening capacities for their implementation. Thereby, it cooperates with national, regional and local authorities, as well as with a large number of international organisations and institutions.

Global Water Partnership – Mediterranean (GWP-Med) is a regional partnership of the Global Water Partnership (GWP) and constitutes a platform bringing together organisations advocating, facilitating and supporting the sustainable management of water resources in the Mediterranean Region and beyond. It aims at promoting design, knowledge and action on Integrated Water Resource Management (IWRM), including in relation to its environmental objectives and with a focus on the coastal areas, through the exchange of experiences, dialogue, and capacity-building.

UNESCO-IHP, is the only intergovernmental programme of the UN system devoted to water research, water resources management, and education and capacity building. Since its inception in 1975, the International Hydrological Programme (IHP) has evolved from an internationally coordinated hydrological research programme into an encompassing, holistic programme to facilitate education and capacity building, and enhance water resources management and governance.

Strategic Partnership for the Mediterranean Sea Large Marine Ecosystem

Together for the Mediterranean Sea

MedPartnership



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Executing partners: FAO, UNESCO/IHP, UNIDO, GWP-Med, MIO-ECSDE, WWF MedPO, UNEP/MAP's MEDPOL programme and regional activity centres (SCP/RAC, SPA/RAC and PAP/RAC).

Participating countries: Albania, Algeria, Bosnia and Herzegovina, Croatia, Egypt, Lebanon, Libya, Morocco, Montenegro, Palestine, Syria, Tunisia and Turkey.