



## Integrated Resources Management Plan for the Buna/Bojana Area

### 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 demonstrations 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

Integrated Resources Management Plan (IRMP) for the Buna/Bojana Area is a pilot – “real world” - application of the “Integrated Methodological Framework” (IMF). The Plan helped demonstrate and test an operational methodology for the sustainable management of the ecological continuum constituted by the coastal zone, the river basin and the coastal aquifer.

The Plan encompasses the transboundary area of Albania and Montenegro, bringing together administrative structures from the two states. The Buna/Bojana River, its catchment, the underlying aquifers and coastal waters provide the common physical threads linking the two countries. Bringing together the Integrated Water Resources Management - IWRM (including surface water and groundwater management), spatial planning, climate change adaptation and Integrated Coastal Zone Management (ICZM), the IRMP adds value to the individual approaches such that *‘the whole is greater than the sum of the parts’*. The experiences from preparing the Buna/Bojana IRMP can be used for the replication of the effort elsewhere in the Mediterranean Basin instead of preparing separate IWRM and ICZM plans.

## ACTIVITY DESCRIPTION

The IRMP for Buna/Bojana area affects a terrestrial area of approximately 500 km<sup>2</sup> drawn using local administrative boundaries, along with the adjacent inshore marine zone comprising approximately half the national territorial waters. It includes a total population of over 53.000 inhabitants. The IRMP area is thus defined according to guidelines in the ICZM Protocol and the EU Water Framework Directive, the ecosystem approach, and refined according to local circumstances.

The Plan demonstrated, tested, and provided feedback into the plan-making methodology developed under the Integrative Methodological Framework (IMF) of the MedPartnership-project. The IRMP was developed over a 5-year time-frame and completed in 2015.

## THE EXPERIENCE

The IRMP considers impacts on the coastal zone and the Buna/Bojana basin of upstream activities, from the impacts of agriculture, tourism and urbanisation, and marine impacts on the river delta and coastal aquifers. The IRMP encompasses the transboundary area of Albania and Montenegro, considering the river basin and coastal zone as a single entity.



Buna/Bojana delta

Photo: RLC Montenegro

## Addressing the Issue/Methodology

### Transboundary issues and problems

The Buna/Bojana area is a single natural system extending into two countries, and the transboundary issues and problems addressed reflect the multi-sectoral, integrated nature of the IRMP. These issues include the unsustainable spatial development; solid waste and wastewater management; agricultural, fisheries, hunting and forestry practices; the over-extraction of groundwater and inadequate infrastructure including flood defences.

These problems are compounded by structural economic weaknesses, including some of the lowest incomes in Europe, weak institutional and technical capacity, and an inadequate policy framework. Upstream pressures include urbanization and unsustainable land-use management; hydropower production which results in increased flood risk; and pollution. The area has a high vulnerability to climate variability and change, sea-level rise, increasing salinity and extreme events. Transboundary coordination at present is largely *ad-hoc*.

An Integrative Working Group (IWG) representing the key sectors oversaw the preparation of the IRMP. Within the simple 5-Stage Plan Process roadmap, the analysis of the complex interplay between issues and problems utilised the Drivers-Pressures-State-Impact-Response (DPSIR) Framework. The DPSIR's key value was in breaking down boundaries between the IWRM, ICZM and coastal aquifer and groundwater management, allowing an integrated approach.

In such a complex policy environment, the analysis of problems and issues does not automatically lead to the "Responses" in a simple linear fashion. A parallel dialogue was required to identify common societal objectives.

To "marry" these objectives to the policy responses, an innovative adaptation of the Bow-tie methodology developed to manage risk, typically in a complex industrial environment, was used. Simply, the method combines multiple "causes" and multi-sectoral responses into a single diagram centred on a set of agreed objectives.

## RESULTS

The multi-sectoral approach used for the preparation of the IRMP resulted with the measures for strengthening cooperation for restoration and safeguarding of the Area's ecosystems, increasing resilience to climate change as well as supporting creation of jobs and social welfare. Each measure is further refined by the short-term priority actions required to achieve them during the short-term 2015-2020 period, along with success indicators.

The central measures relate to establishment of a transboundary governance mechanism to ensure that relevant issues of transboundary importance are considered and acted upon bilaterally.

Furthermore, the project resulted in drafting and initiating official consultations between two countries on Framework Agreement for the Sustainable Management of Skadar/Shkodra Lake Basin and Buna/Bojana Area. This is one of the few international examples of legal agreement for integrated approach in management of river basins, coastal and marine areas thus demonstrating the new water management paradigm - "from source to sea" - on a transboundary level.



Transboundary Plan area

## LESSONS LEARNED

The experiences can be used for replication elsewhere in the Mediterranean Basin, instead of preparing separate IWRM and ICZM and other sectoral plans. The benefits of this integrated approach are the potentials for win-win solutions, generating economies of scale through shared responses, along with reducing the likelihood of conflict between sectoral interests.

### *Transboundary*

The natural and physical systems of the Buna/Bojana coast do not function exclusively within national boundaries. The integration of management to include the riverine systems was absolutely necessary as the management of the upstream parts is critical to the situation downstream and *vice versa*.

### *Effectiveness and Efficiency*

The scoping stage of IRMP preparation demonstrated that a realistic period must be allowed in transboundary planning for harmonising data and mapping and for the engagement of stakeholders, and the governance procedures, etc.

### *Replication and Sustainability*

The Buna/Bojana IRMP experience tested the practical realities of applying agreed common conceptual approach of the the Integrative Methodological Framework. It has shown that simple 5-Stage Plan Process could be useful even in a complex transboundary environment. In addition, the Buna/Bojana experience illustrated that in transboundary planning,

## IMPACTS

The preparation of the Integrated Resources Management Plan for Buna/Bojana helped understand that the ultimate prerequisite of transboundary management of the joint resource are the harmonised data and monitoring procedures. Without same understanding of the process no constructive measures could be reached. Even though the purpose of this Plan was ultimately to test the methodology, its findings could be used to strengthen cooperation through joint actions for the management of the transboundary area.

## REFERENCES

Priority Actions Programme/Regional Activity Centre (PAP/RAC) [www.pap-thecoastcentre.org](http://www.pap-thecoastcentre.org)  
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## KEYWORDS

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



Fishing practice on river Buna/Bojana  
 Photo: RLC Montenegro

## EXECUTING PARTNER

PAP/RAC is established in 1977 in Split, Croatia, as a 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 of the activities contributing to sustainable development of coastal zones and strengthening capacities for their implementation. Thereby, it co-operates with the national, regional and local authorities, as well as with a large number of international organisations and institutions.



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Strategic Partnership for the Mediterranean Sea Large Marine Ecosystem Together for the Mediterranean Sea

MedPartnership

**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.

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