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Integrating Ecosystem Approach into Marine Spatial Planning in the Adriatic



Abstract:

The **GEF Adriatic Project** (2018-2021) was implemented in Albania and Montenegro with the aim to restore the ecological balance of the Adriatic Sea through the use of the ecosystem approach and Marine Spatial Planning (MSP). Furthermore, the project developed a model for the integration of the ecosystem approach into MSP in order to preserve Adriatic's marine resources and ecosystems, facing the growing threats from different pressures, including unsustainable tourism and coastal urbanization, pollution and the climate change. In collaboration with Montenegrin national partners, the model is being tested and successfully implemented in Montenegro. This resulted in a draft planning document for the marine area covering 247,000 ha: at least 8% has been designated for conservation (equal to 45% of the internal waters), while nurturing the development of the blue economy at the same time.

The methodology for integrating an ecosystem approach into MSP can be used as a model that can be replicated in other Mediterranean countries.

Integrating Ecosystem Approach into Marine Spatial Planning in the Adriatic

Experience of the GEF - sponsored

GEF/UNEP: Implementation of Ecosystem Approach in the Adriatic Sea through Marine Spatial Planning (GEF Adriatic project)

GEF ID: 9545

PROJECT DESCRIPTION

The GEF-funded project “Implementation of the Ecosystem Approach in the Adriatic Sea through Marine Spatial Planning” (GEF Adriatic Project) is a sub-regional project implemented in Albania and Montenegro from 2018-2021 by the UNEP MAP Coordination Unit and its Regional Activity Centres PAP/RAC and SPA/RAC, in collaboration with relevant national institutional partners from Albania and Montenegro. It aims at restoring the ecological balance of the Adriatic Sea through the implementation of the ecosystem approach and the improvement of management capacities in Albania and Montenegro with MSP as a viable marine management tool. The project builds on the successful implementation of the ICZM strategies developed under the GEF MedPartnership project and on lessons learned in the management of Marine Protected Areas (MPAs).

The project provides technical assistance to Albania and Montenegro by:

- increasing the level of knowledge to achieve the joint assessment, protection and sustainable use of marine areas;
- strengthening national capacities for sub-regional marine management through targeted demonstration of successful tools and practices; and
- sharing knowledge and experience to secure successful participation of stakeholders.

The project brings an innovative hands-on approach to the application of the ecosystem approach by fostering:

- **collaboration** among international, regional and national multidisciplinary actors;
- **integration** in addressing different components of the ecosystem (Ecological Objectives) within the [Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast](#) (IMAP) of the Barcelona Convention system;
- **innovation**, insofar as the project supports non-EU countries in conducting Good Environmental Status (GES) assessments, preparing and implementing integrated monitoring programmes and introducing a novel methodological approach for MSP based on the ecosystem approach;
- **knowledge** acquisition at the national level, including through capacity building;
- **synergy**, as outputs and methodologies prepared are used to implement other ecosystem approaches and MSP-related initiatives in the Mediterranean.

One of the important outputs of the GEF Adriatic Project, presented here, is the development of the methodology for integrating an ecosystem approach into marine spatial planning (MSP), tested in Montenegro. The idea of integrating these two approaches was guided by a vision of ultimately ensuring clear policy actions to protect natural resources while nurturing the development of the blue economy.

THE EXPERIENCE

Issue

The Adriatic Sea is considered a distinct biogeographical sub-unit of the Mediterranean Sea. It is home to nearly half (49%) of the recorded Mediterranean marine species. The marine and coastal areas of the Adriatic sub-region contain valuable marine and coastal habitats that provide important ecosystem services to the local populations and economic activities. However, the region's marine resources and ecosystems are at risk, facing growing threats from different pressures, including unsustainable tourism and coastal urbanisation, pollution and the climate change. Coastal urbanisation in the region has increased by an average of 330% since 1975; approximately 50,000 tons of plastics enter the Adriatic every year; the projected temperature rise by 2100 is up to 4.5°C and the projected sea-level rise is up to 1m. This is jeopardizing the **future well-being and livelihood** of the people living on the coast and beyond, from Italy to Albania.

The GEF Adriatic project has proposed a coordinated approach to reduce the pressures, ensure the most appropriate uses of the sea, and contribute towards the achievement of the **Good Environmental Status** for the Adriatic by applying an ecosystem approach in managing the marine resources of the Adriatic Sea. As an initial step, the project focused on Albania and Montenegro.

Addressing the Issue

In order to build a sustainable future for the region, for both the marine environment and those who directly depend on its resources, it is important to manage marine activities collaboratively, across borders and sectors: the transboundary challenges we face require a holistic approach, known as the **ecosystem approach**. In the Mediterranean area, within the Barcelona Convention system, the ecosystem approach is being implemented through the [Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast](#) (IMAP), with its eleven ecological objectives and the related indicators, aiming at achieving the Good Environmental Status (GES). Achieving effective results of such an approach requires considering all the elements of the marine system in their interactions and complexity, and integrating them into the strategies and policies that guide the growth of the blue economy.

Efforts to manage marine areas in the Adriatic through spatial planning date back to more than 30 years ago, when a Sea Use Plan for the Northern and Southern Adriatic was prepared. However, up until recently, MSP had never been established as a legal requirement. Today, the situation in the Adriatic is changing, not only owing to the increasing adoption of a relevant policy framework within the Barcelona Convention (such as the Mediterranean ICZM Protocol and the Conceptual Framework for MSP) and the EU (the Maritime Spatial Planning Directive, among others), but also owing to the increasing interest in the marine uses and management, driven by the growing demand for nautical and cruise tourism, aquaculture, potential off-shore oil and gas extraction, and alike. MSP, as a public process for allocating spatial and temporal use of marine resources and services, is an appropriate tool that helps enable a sustainable future for the marine environment. However, to make this possible, planning and management choices must be well-considered, taking into account the complexity of the environment in its entirety, interlinks and interdependencies among different components of the ecosystem, as well as their interaction with human activities.

In light of that, the GEF Adriatic project aimed at mainstreaming the ecosystem approach into the national MSP across the Adriatic sub-region, with Montenegro being the pilot area. Throughout the project, the methodology for integrating an ecosystem approach into MSP was developed, and researchers from Montenegro, in collaboration with international ones, organized numerous assessment initiatives regarding marine ecosystems. Initially, this included the collecting of data, based on the IMAP Common Indicators, related to the state of the marine environment (biodiversity and landscape features, such as habitat distributional range, population abundance of selected species and alike) and existing pressures (such as eutrophication, levels of different contaminants, marine litter, physical disturbance of the coastline).

After collecting the data and information through monitoring activities, it was possible to attribute values to the current state and pressures on the marine areas. By using different criteria, the sensitivity and the value of different components of biodiversity, distribution of selected commercial fish species and landscape/seascape, as well as pressures on the environment coming from contaminants, eutrophication and marine litter were identified. It was thus possible to assess the cumulative effects on biodiversity, and identify those areas where the pressure on the environment was greatest and most severe. The evaluation was based on an integrative assessment of the current state of the marine environment and the current intensity of pressures, taking into consideration the exposure and sensitivity of the marine environment to the pressures coming from existing human activities. The results of this assessment point at the areas that require conservation and remediation measures through the management of coastal and maritime activities. These findings were integrated into the draft MSP for Montenegro.

In short, the Project aimed to help planners steer the development of a sustainable blue economy through a series of initiatives that can be summarized in the following key actions: **monitoring** and spatially presenting data on the marine and coastal environment, **assigning values** to the state and level of pressures to the environment, **identifying** the vulnerable **areas** where utilization and exploitation of resources should be avoided, but also areas that are favourable for use; **proposing measures** ensuring the development of the blue economy while preserving fragile marine areas.

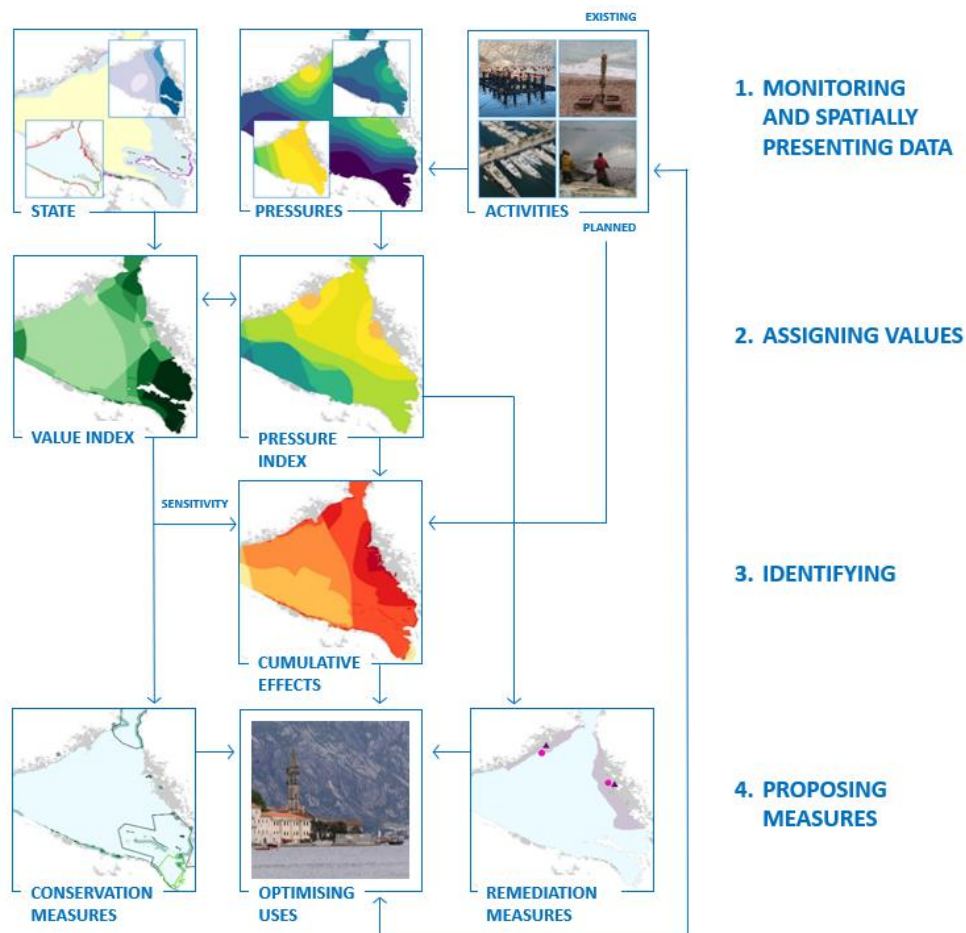


Figure 1: The visual presentation of the methodological approach

RESULTS AND LEARNING

The results of this integrative assessment were presented in a form of a visual tool / maps identifying the highly valuable areas, areas with the highest pressures, as well as areas with the highest cumulative effects (Figure 1). These were precious for identifying environmental priorities and, consequently, guiding decision-making processes, based on verifiable and objective scientific data.

It made it possible to observe areas where an improved management of coastal and maritime activities in Montenegro was really needed. Thanks to a step-by-step approach, it provided clear and organized information, much of it previously unknown, which formed the basis for future policy decisions.

These pieces of information were integrated into a draft MSP in order to support the Montenegrin Government's efforts to secure sustainable management of the productive seascape covering 247,000 ha. As part of this planning document at least 8% of the total marine area was designated for conservation (equal to 45% of the internal waters). Also, its management proposals are contributing to the conservation of at least 80% of the known *Posidonia oceanica* meadows, a habitat considered globally as one of the most significant biodiversity hotspots and carbon sinks. However, the plan also envisaged areas for further development of the blue economy, ensuring the wellbeing of the coastal communities.

Thus, an integrated plan has been produced that ensures that the capacity of the marine ecosystems to respond to human-induced changes is not compromised, and therefore contributing to the achievement of GES. This approach was the first such example implemented in the framework of the UNEP/MAP system.

REPLICATION

The methodology for integrating an ecosystem approach, based on the IMAP, into MSP was applied in Montenegro; however, it can be used as a model that can be replicated in other Adriatic and Mediterranean countries. The IMAP process and data collection/monitoring approach are accepted by all Mediterranean countries, Contracting Parties (CPs) to the Barcelona Convention. However, the level of data availability, based on the IMAP, is not the same in all of the Mediterranean countries, and this can be one of the key challenges for implementing the process. Namely, marine data are essential for preparing any MSP, not just the one based on the ecosystem approach.

However, the current IMAP process within the Barcelona Convention system is steering the monitoring process across the Mediterranean, and it is expected that the pool of relevant data will only increase in the years to come, enabling all the CPs to start implementing MSPs based on the ecosystem approach.

SIGNIFICANCE

This is the first time that the ecosystem approach and MSP concepts are linked in such an integrative manner, within the Barcelona Convention system, all with the intention to produce marine spatial plans that strongly take into account the protection of the marine environment.

For Montenegro, this was the first time that all relevant information on the state of the environment, pressures and use of the marine area is in one place, providing a better understanding of the exceptional values of marine and coastal areas, unfavourable processes that continuously reduce the share and quality of natural areas, pollution dispersion, concentration of litter distributed in the sea and alike, being the basis for a 360-degree vision of the sea ecosystem.

However, the marine environment and the existing pressures know no national boundaries. Therefore, all the impacts observed in Montenegro are relevant for other Adriatic countries as well, and addressing those impacts can only be done collaboratively, across borders and sectors, at a scale that encompasses the entire Adriatic.

In line with that, the project shed another light on the need for coordinated MSP in the Adriatic. Whilst the issues and sectors involved in the growing blue economy are diverse, they all share the same marine space, where resources are limited and ecosystems are under strain. MSP is still relatively new in the region, but it is already obvious that such planning will require an agreed holistic approach, addressing transboundary challenges through an ecosystem approach. This will secure a sustainable future, and redress the balance between socioeconomic development and environmental protection, by working to agree on common MSP principles and elements across the whole Adriatic. Integration, collaboration and cooperation are crucial.

The GEF Adriatic project initiated an enabling environment towards such an approach in the Adriatic Sea sub-region.

REFERENCES

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Cover photo: Fishing practice at the fishing posts in Montenegro (Credit: A. Joksimović)

KEYWORDS

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