

Cross-border Maritime Spatial Plan for the Black sea - Romania and Bulgaria project



Common methodology for analysis and spatial planning for maritime cross-border area

Introduction

The methodology aims at organizing the elaboration of a Marine Spatial Plan for Romania - Bulgaria, in a consistent and comprehensive manner; by taking into account all the aspects and processes with spatial relevance in the marine area.

The MSP for Romania-Bulgaria must consider areas within the boundaries of territorial waters as a management zone and the coastal and EEZ areas as external context for the plan area. The coastal area provides information on the land-sea interaction, while the high sea area exerts influences on the plan area by natural and anthropogenic processes.

The methodology, conceived as a tool for elaboration of the first MSP in the two countries, includes phases, tasks and methodological steps.

The MSP process should follow the two general features of the environment: the spatial aspects (the spatial footprint of the processes) and the temporal aspects (processes' dynamic). Spatial aspects are priority here but the processes must support the space partition.

Although the structure of the methodology differs little from terrestrial spatial planning methodologies, even if the context and approach for planning the marine area is different.

The differences derive from the characteristics of the marine space: the lack of precise delimitation of this environment, the uncertainty and unpredictability of the processes occurring in whole marine area, the absence of administrative responsibilities related to specific marine areas and other.

The marine environment is in large majority a natural ecosystem; man does not inhabit this milieu, but human influence is constantly growing in the sea. Consequently, the marine spatial plan should be ecosystem oriented and the main topic of analyse and strategic development must cover the natural marine environment and the ecosystem services resulting from it.

The MSP is now a necessity to responsibly manage marine resources and work effectively with Member States and other Black Sea states for the benefit of people and environment.

Methods

The structure of the methodology was configured according to four main categories of planning and design activities: divergence, convergence, transformation and consultation. The *divergence* methods intend to represent the actual situation where the plan will act, by decomposing the systems in their components.

The factors that influence the processes identified in the plan area are studied in order to determine the possibility of being manipulated. The problems and the beneficial aspects that strike these factors are revealed by a normative analysis.

The *convergence* category of methods aim at classifying the factors revealed by the analyse activity depending on their significance and independence. It is important to distinguish between factors that could be controlled by plan and independent factors. The relations between factors are also revealed in order to differentiate the internal from external factors.

Another category of methods is the *transformation* activities which examine the ways to modify an unsatisfactory system by alleviating the inconveniences identified in its components. The methods consist in studying the connexions between the components of a system and its problematical elements. The transformation of the problematical components will result in the adaptation of the system to the new conditions and improvement of its functionality.

The *consultation* methods aim at gaining feedbacks from target groups involved in the planning process. The users and the operators of the systems considered in the planning process are questioned regarding their problems and shortcomings in the interactions with the systems taken into consideration in the plan area. Their opinions are important in defining the right problems and solutions for the strategic construct.

Results and discussions

The information processing in spatial planning is developed in four major phases: current situation analysis, future evolutions analysis, strategy formulation and setting the monitoring framework, in a succession of generic activities (analysis, assessment, transformation and consultation).

The **current situation** analysis begins with the study of the spatial structure of the plan area made in relation with the ecological processes. The delimitation or localization of the processes occurring in the marine space should be done by establishing geographic coordinates or with reference to their habitats.

The habitats are the basic spatial division sheltering an ecosystem. Maintaining habitat diversity - different habitat types within a given area - and integrity is an important component of healthy marine ecosystems. Habitat data (e.g., mapping) are relatively easier to collect than species-level data.

Further subdivisions of the marine space are the biogeographic regions (ecologically and biologically significant areas), including several habitats and the eco-regions (including a number of biogeographic regions).

The ecosystems analyse should reveal two types of issues: the relations between different processes and components (the model), and the factors that influence their status (problem scan). The marine ecosystems are influenced by a number of factors, natural and anthropogenic, acting, from air, from land and from the sea. Manipulating these factors will be the way to change the status of the analysed processes and to produce development in the marine area.

A classification of these factors is made in the **assessment** (sectorial diagnosis) phase, when aspects representing problems or advantages are ordered and prioritised by criteria. The most influential factors come from the coastal area, where settlements and economic activities take place, producing disturbances and imbalances in ecosystems development.

The current situation analysis should make also a stock inventory of the marine resources, which is a potential for economic activities and for reproduction.

The analyses of **future evolutions** result from the need to foresee the future developments of the domains taken into account by the plan. Any plan should have a vision of the future in order to act in a favourable direction for its beneficiaries.

In a planning process an assessment of the significant aspects should be performed in order to spend in the plan implementation as few resources as possible.

The **overall diagnosis** aims at creating, assessing and selecting the strategic development scenarios, in order to guide the plan strategy towards some future desired situations.

The objective of creating and testing alternative scenarios is to ensure that:

- all alternatives for the development of the sea areas demand are considered;
- impacts of these alternatives are examined prior to making choices as to the most appropriate strategic direction for the MSP.

The construction of strategic development scenarios will result in three proposals: current tendencies (scenario of zero intervention), accelerated development and average or limited development.

The final aim of the overall diagnosis is to find the optimal scenario for the evolution of the spatial system as a whole, leading to the desired state. In overall diagnosis, the main drivers are the population and the external context, which determine the development of economic activities in the marine space. This chain of drivers requires some levels of resources in order to function properly.

The optimal scenario sets the levels of resource (space is the main resource) needed for each domain to work conveniently. These values become targets for the general objectives of the spatial plan.

In the **strategy formulation** phase, transformation methods are applied in order to change the functionality of the systems present in the plan area in a convenient way. Objectives are determined in relation with two sets of outcomes of the above mentioned phases: starting from the general objectives, on the one hand and from the factors classified in the assessment phase, on the other hand.

The measures of accomplishing the specific objectives are established in similar way, taking into consideration the results of the assessment phase and the overall diagnosis which sets the main directions of action.

Consultation is an essential moment in the planning process since the plan should address the stakeholders' problems and they should take the responsibility of carrying out the program of measures, according to their competence and interests.

Stakeholders are engaged in consultation sessions in every significant phase of the process in order to acknowledge the results of the studies and to accept the strategy and their implication in its implementation. Thereby, spatial planning can be seen as a technical process integrated in a political process.

Conclusions

The spatial planning of the marine area differ considerable from the terrestrial planning by the fact that the divisions of the space, which are tangible on the ground, are immersed in the sea and invisible from the surface. The space divisions on land, allocated to various uses, are in totality subject of property and administration rules; the marine areas have a more broad division of space, which is less regulated by laws and also not having a property system.

Another difference from the terrestrial context of planning is that the sea is not inhabited by man, not developed and almost entirely occupied by marine ecosystems. Therefore, the planning of the marine space should address mainly to the ecosystems and their wellbeing and also allow the man interferences.

Compared to terrestrial processes, the marine life has no boundaries, therefore planning and implementation of MSP should consider international and cross-border cooperation in order to be successful. The marine spatial plan tries to deal with these differences and drawbacks thanks to the modern developments in the marine navigation, research, exploration and exploitation technologies.

Due to these technologies, the marine environment is now, more than ever, the subject of research and exploitation of resources (including both renewable and non-renewable marine resources) which require organizational measures of the marine space.

The elaboration of a methodology for the marine spatial plan must take into consideration these facts and also must be guided by the experience of the terrestrial planning. Considering these and being at the first attempt to develop a methodology for MSP, the best option was to follow the generic activities that are included in a spatial planning cycle.

These categories of planning activities, developed in succession, are intended to reveal the problems and strengths of the systems with spatial relevance and to give solutions for their good functioning in the future.

The strategy and program of measures of the spatial plan are gathering the proposals for organising and developing the plan area, being the main instruments of its implementation.

The implementation of the MSP falls into the responsibility of an institutional structure which monitors and takes corrective measures if necessary. The confirmation of the efficiency and rightness of the methodology for MSP is expected to occur late, after many years, due to the long period of plan implementation (> 10 years), the lack of experience in this field and to the slow changes in marine ecosystems.