



Including ecosystem services in coastal management by using Strategic Environmental Assessment, Portugal

Authors: Maria Rosário Partidário

Short title: SEA for including ecosystem services in coastal management, Portugal

Key Message: A Strategic Environmental Assessment (SEA) of the Integrated Coastal Zone Management (ICZM) strategy was developed, which considered how ecosystem services can be taken into account. The ICZM influenced the development of the Maritime Spatial Plan for Portugal, including balanced and coherent strategies for meeting different economic sectors' multiple demands for ecosystem services.

Suggested citation: Partidário, M. R. (2010) TEEB case: SEA for including ecosystem services in coastal management, Portugal, available at: www.TEEBweb.org

Reviewer: Joana Mira Veiga

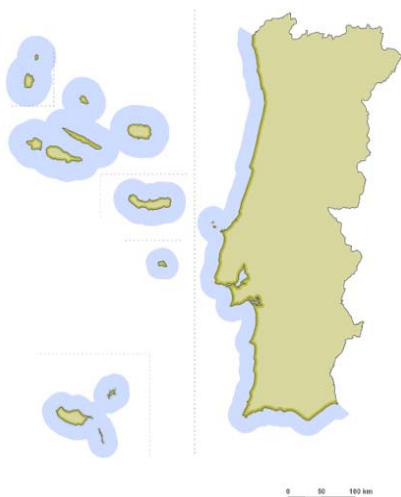
What is the problem?

Coastal zones provide multiple ecosystem services of environmental, economic, social, cultural and recreational value for many stakeholders and economic sectors. These sectors include fisheries, tourism, marine transportation and ports, and wind power production. As a consequence, coastal ecosystems are under pressure and use-related conflicts arise. For this reason, addressing the opportunities and problems associated with coastal zones is strategically important for a sustainable development policy supported by integrated and coordinated management.

What was done to solve it?

Using established European general principles and options for Integrated Coastal Zone Management (ICZM)¹, Portugal developed a preliminary document proposing the basis for a national ICZM in 2006. This document was published by the Ministry of Environment, Spatial Planning and Regional Development in 2007 and, two years later (2009) the National Strategy for ICZM was developed, reaffirming and reinforcing Portugal's integrated vision for ICZM. It included policy drivers established by the Maritime Strategy European Framework and addressed the challenge of ensuring a clear articulation between coastal management and the planning and management of the maritime space and sea conservation. It targets Portugal's entire coastline including islands, as well as 2km offshore (see Map 1).

¹ The Text Recommendation 2002/413/CE of the European Parliament and the Council, of 30 May 2002.



Map 1: Coastline of Portugal targeted for Integrated Coastal Zone Management (ICZM), Source: <http://engizc.inag.pt/03@oqueeazonacosteira.htm>

Coast of Azores, Portugal (Photo: Maria R. Partidário)

A Strategic Environmental Assessment (SEA) was used to assist with the preparation of the Portuguese Strategy for Integrated Coastal Zone Management (PS-ICZM). While an SEA is not legally mandatory at policy level in Portugal, the National Water Institute (INAG, the Portuguese authority), mandated by the government to develop the PS-ICZM, understood the merits of SEA for strategic decision-making and decided to use SEA at this occasion.

The Ecosystem Approach was included to account for the value and protection of natural and cultural heritage and biodiversity. This helped to identify the importance of different ecosystems that provide distinct services for a variety of stakeholders. It also allowed for the assessment of different management options and strategies. Unfortunately, there was no opportunity for establishing dialogue and discussing these results with stakeholders. Nevertheless, the SEA proved to be effective in placing ecosystem services on the agenda. It also facilitated the integration of environmental and sustainability issues into the strategy's concept and design. It enabled consideration of ecosystem services and highlighted risks and opportunities associated with the strategy. In the end, the SEA strongly influenced the PS-ICZM.

Which ecosystem services were considered and how?

The SEA did not conduct a detailed analysis and assessment of existing ecosystems and services in the Portuguese coastal zone. Rather, it identified and compared policy options in terms of their risk or benefit to ecosystem services. Its primary goal was to ensure sustainable management of human activities – by recognizing ecosystems services and by safeguarding the integrity of ecological systems.

Ecosystem services were identified that could be affected by policy choices, including: the management of natural coastal dynamics, especially in vulnerable zones; the maintenance of the productivity of coastal zones; the maintenance and conservation of the availability of natural and cultural heritage and biodiversity; the sustainable use of resources and the management of coastal risks (for example erosion, coastal stability, sea level rise etc).

Critical Decision Factors (CDF) were used to structure and focus the SEA. Four CDF were key to the success of ICZM: ecological systems and coastal landscapes; coastal resources and uses; natural and technological risks; and management and governance. Each included two to three assessment criteria. The first CDF was structured into two criteria:

1. Whether an ecosystems approach was adopted to manage ecological systems and coastal landscapes; and
2. Whether the protection and enhancement of the value of natural and cultural heritage and biodiversity were considered.



West coast of Portugal (Photo: Maria R. Partidário)

Options for the PS-ICZM were assessed in two rounds (using the CDF). Three sets of strategic options were considered: thematic, institutional and a model of governance. For each set, three alternative options were assessed. The thematic options are outlined below.

- (1) 'Naturalization' of the coastal zone: a strategic priority for conservation with the purpose of improving natural dynamic processes and preventing urban sprawl, particularly in vulnerable zones;
- (2) 'Artificialization' of the coastal zone: a strategic priority for infrastructure, with the purpose of promoting intensive use and productivity of coastal zones and replacing or compensating natural hydrodynamic processes;
- (3) A socio-ecological option: articulating socio-economic and ecological dynamics in relation to resource-use and the management of risks (using an ecosystem approach).

In the first round of assessment these options were compared in terms of risks and opportunities. The results were used to identify policy priorities and strategic objectives as well as measures and actions to be followed. The strategic objectives of the PS-ICZM were then assessed in a second round that considered the measures and actions necessary to implement the objectives. These results were then used to refine the PS-ICZM. Guidelines for planning, management and monitoring were then proposed by the SEA and adopted by the PS-ICZM.

Inputs necessary for this analysis

At the policy level, stakeholders involved in the discussion process provided the most crucial contributions. Unfortunately, these stakeholders were largely limited to public institutions at national and regional levels. A background document (MAOTDR, 2007) was a valuable source of information regarding problems and pressures on the coastal zone. It also provided insights into current policy challenges and strategic frameworks provided by European strategies as well as macro-policies at European and national levels.

How was this information used to inform local and regional policy?

The Maritime Spatial Plan for Portugal, currently in development, is using the PS-ICZM. In this plan, maritime and coastal ecosystem services and biodiversity are considered in relation to fisheries, off-shore wind power production, recreation and tourism (seaside tourism, diving, sailing, mass cruises, etc.), conservation of biodiversity in marine reserves, transportation and ports, vulnerability and adaptation to climate change, natural coastal dynamics, and various socio-ecological systems (amongst others).

The ecosystem approach is helpful for developing balanced and coherent strategies for meeting multiple demands for ecosystem services without undermining the sustainability of coastal and maritime ecosystems and services. A spatial plan, together with a conflict matrix, was developed in order to foster an extensive negotiation process involving stakeholders from various sectors. It is hoped that this will facilitate conflict resolution between different competing interest groups.

References

- INAG (Instituto Nacional da Água) e Quatenaire, 2008, Estratégia Nacional da Gestão Integrada das Zonas Costeiras, INAG, Lisboa (<http://engizc.inag.pt/>)
- MAOTDR (Ministério do Ambiente, Ordenamento do Território e Desenvolvimento Regional). 2007. Bases para a Estratégia de Gestão Integrada da Zona Costeira Nacional Lisboa.
- Partidário, M.R. (coordenação) 2008. Avaliação Ambiental Estratégica da Estratégia Nacional da Gestão Integrada das Zonas Costeiras, INAG, Lisboa (<http://engizc.inag.pt/>)
- Partidário M. R., Vicente G, Lobos V. 2009. Strategic Environmental Assessment of the National Strategy for Integrated Coastal Zone Management in Portugal. J Coast Res 2 (56): 1271–5.