

## **Would Regional Strategy on Integrated Coastal Zone Management (ICZM) Benefit Autonomous Regions of Azores and Madeira?**

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### **ABSTRACT**

The coastal zones are vital to the autonomous regions of Azores and Madeira. With increasing pressure on the coasts of the regions, it is critical to develop an effective coastal zone management for the regions in order to ensure sustainable use of the coastal resources. This paper rationalizes on whether a regional ICZM strategy would contribute to a more effective coastal zone management in Azores and Madeira. To address this subject, the paper first discusses the adequacy of Portuguese national ICZM strategy for Azores and Madeira. Next, this paper provides a brief overview of ICZM strategies in Spain, using autonomous region of Andalusia as a case study of a successful regional ICZM strategy model. Last, based on the analysis of the differences between the autonomous regions of Azores and Madeira from mainland Portugal, as well as the case study of Andalusia, this paper explores the benefits of a regional ICZM strategy for Azores and Madeira.

**KEYWORDS:** *Integrated Coastal Zone Management (ICZM), Regional ICZM Strategy, Azores, Madeira, Andalusia*

## **I. INTRODUCTION**

The European Union (EU) Integrated Coastal Zone Management (ICZM) Recommendation (EU, 2002) aims to achieve sustainable development through an integrated and coherent cross-sectoral approach to coastal zone planning and management. Based on the EU ICZM Recommendation, Portugal is in the process of completing a national strategy on ICZM. (IOI, 2006)

The national ICZM strategy of Portugal is comprised of nine primary principles, eight principal objectives, and 37 strategic options. (VELOSO GOMES et al., 2008) This strategy provides a big-picture ICZM strategy for Portugal, which however, might not address comprehensively the unique problems and needs pertaining to island territories. Thus, this paper discusses whether a regional ICZM strategy that is built on the national ICZM strategy would be more effective and beneficial to actual coastal planning and management of each region. Using autonomous region of Andalusia as a case study, this paper presents Andalusia's rationales behind the establishment of a regional ICZM strategy, and discusses whether the same rationales apply to Azores and Madeira.

Section II provides an overview of ICZM in Europe, Section III discusses the ICZM strategies in Portugal, Section IV discusses the ICZM strategies in Spain, using Andalusia as a case study, Section V rationalizes whether regional ICZM strategy would be beneficial to Azores and Madeira, Section VI provides a synopsis of the work in progress, and Section VII presents the conclusions and recommendations of ICZM strategies for Azores and Madeira.

## **II. OVERVIEW OF ICZM IN EUROPE**

Coastal zones are of strategic importance to EU. Besides being the home to a large

percentage of European citizens, the coastal zones provide a major source of food and raw materials, a vital link for transport and trade, sites to some of our most valuable habitats, and are the favoured destinations for leisure time. Sadly, the coastal zone is currently under increasing pressure. This inference is clearly demonstrated by the depletion of the coastal resources beyond their carrying capacity, conflicts between users due to scarcity of space, large seasonal variations in population and employment, and the degradation of the natural ecosystems that support the coastal zones. There has also been an increase in the vulnerability of human and natural systems along the coasts due to the continuing developments in the immediate vicinity of the shoreline, the lack of space to accommodate for sea level rise, and the chronic deficit of sediment balance. (CEC, 2007)

In recognition of the above-mentioned issues, the EU ICZM Recommendation (EU, 2002) calls for a strategic approach to coastal zone planning and management in order to achieve sustainable development of the coastal zones. So far, policies and legislation on coastal management and implementations have been developed separately from each other and on a purely sectoral basis. (IOI, 2006) Thus, the EU ICZM Recommendation emphasizes integration across sectors and levels of governance, as well as a participatory and knowledge-based approach. Based on these principles, the Recommendation invites coastal Member States to develop national strategies to implement ICZM.

Research indicates that all coastal EU Member States regulate coastal use and development to a certain extent. Actions were taken during 2000-2005 towards a more integrated planning and management approach, but a mature and well-functioning ICZM, involving all relevant levels of governance, is still rarely observed. Needless to say, the diversity of coasts, coupled with the different administrative systems between and within Member States, implies that there are no readily available, one-size-fits-all solutions. Consequently, there is a need for a more systematic comparative analysis and increased exchange of experiences within Europe. (CEC, 2007)

### III. DISCUSSION OF ICZM STRATEGIES IN PORTUGAL

Portugal is comprised of mainland Portugal, autonomous region of Azores and autonomous region of Madeira. It has a coastline of varying nature, ranging from sandy beaches and dunes to high cliffs and low-lying rocky shores. The Exclusive Economic Zone (EEZ) of Portugal is around 18 times larger than its land mass, and is the largest of the EU Member States in European waters. From all perspectives of the environment, economic and social point of views, the coastal zone is of strategic importance to Portugal. Since historic times, coastal and maritime activities have been important to the country's economy, and have been a major social and cultural identity of the Portuguese. With around 70% of Portuguese population currently residing along the coasts (CNADS, 2001), growing tourism in the coastal areas, and increasing economic activities along the coasts, it is critical for Portugal to build an effective ICZM strategy to manage its coasts. In response to the EU ICZM Recommendation (EU, 2002), the Portuguese Ministry of Environment, Territorial Planning and Regional Development (MAOTDR) is currently establishing a national ICZM strategy for Portugal. The on-going national ICZM strategy would include Coastal Zone Management Plan (CZMP) for each coastal stretch, with nine stretches in mainland Portugal, and subdivisions within the autonomous regions. (CARNEIRO, 2007) At present, Portugal does not have localized regional strategies, although it has CZMPs that are developed or being developed based on Portuguese Law Decrees for each coastal stretch.

The ICZM strategy encompasses coastal planning policies in both marine and terrestrial zones for the entire Portuguese coasts, including those of the archipelagoes of Azores and Madeira. The national ICZM strategy of Portugal focuses on nine primary principles, eight principal objectives, 37 strategic options and associated structural measures. (VELOSO GOMES et al., 2008) The strategic options are ranked according to their temporal priority. To implement the strategy, there is a need to change the current legal, institutional and administrative framework because the proposed ICZM strategy is

based on a new model of management and new definition of territory within the coastal zone. Directed by the national strategy, the existing CZMP for each region will be amended accordingly. The ability to implement the national strategy in the coastal zones relies on the local responsibility of each coastal region. Indicated in the national strategy, the autonomous regions of Azores and Madeira will need to put in effort to establish an approach that will be consistent with the rest of the Portuguese territory. (VELOSO GOMES et al., 2008)

#### **IV. DISCUSSION OF ICZM STRATEGIES IN SPAIN**

Within EU, Spain is the most comparable to Portugal in terms of culture and geography. Hence, understanding ICZM strategies of Spain is beneficial for Portugal in the evaluation of its ICZM strategies.

Spain is divided into autonomous regions, and they each have a regional coastal plan. There is no uniform structure for the autonomous regions, but there are regional coastal zone guidelines for each coastal autonomous region. (EUCC Services, 2000) In 2006, Spain establishes a national ICZM strategy in response to EU ICZM Recommendation (EU, 2002). Built on the EU ICZM Recommendation and national ICZM strategy, and initiated by the private member bill of the Andalusian Parliament in 2005, the Andalusia government collaborated with University of Cadiz (UCA) to develop a regional strategy in 2006. (BARRAGÁN MUNOZ et al., 2008) In this section, the autonomous region of Andalusia is used as a case study to understand the rationales behind the establishment of its regional ICZM strategy in addition to the national ICZM strategy.

In recent years, nearly all public or international agencies have found it challenging to balance between human activities and coastal conservation. The intensification of economic activity and population growth in coastal areas of Andalusia, associated with the development experienced by the country in recent decades, constitute a serious

threat to balance between preserving the environmental values and economic progress. Current coastal management which is carried out by various respective agencies does not guarantee the preservation of the coastal resources.

The national ICZM strategy of Spain is well-established, however, is not comprehensive and specific enough for Andalusia. Thus, the regional government of Andalusia initiated a regional ICZM strategy to address the specific concerns of the region. Understanding the local culture and environment, the regional government is able to better address the unique social, economic and environmental concerns of the autonomous region. Consequently, the regional strategy directed by the regional government is more appropriate and effective for the coastal zones in the region. In addition, the Andalusians are very connected to their coasts, and the coasts belong to the public. Hence, Andalusia realizes that in order to attain sustainability of its coastal zones, the public needs to be involved in the strategy process right from the beginning. This government-led public action ensures that the focus of the strategy is in line with the governance orientation, and at the same time, encourages coordination and cooperation of the Andalusian society. The main purpose of the strategy is to involve all responsible agencies in the region, and to create a good institutional framework that re-orientates and supports all actions related to the coastal areas of Andalusia. (BARRAGÁN MUNOZ et al., 2008) This will be achieved by means of a wide range of tools including financial and participatory tools. The Andalusian regional ICZM strategy aims to become a dynamic instrument that connects the social and institutional parties of the coastal zones.

## **V. WOULD REGIONAL ICZM STRATEGY BENEFIT AZORES AND MADEIRA?**

Portugal is comprised of mainland Portugal, autonomous region of Azores and autonomous region of Madeira. It is evident that the distinct social, economic and environmental conditions of the archipelagoes of Azores and Madeira have very

different coastal problems and needs from mainland Portugal. For instance, due to the extreme conditions inland, most of the Azorean population resides along the coasts. (CALADO et al., 2005) Furthermore, as a consequence of an increase in tourism, construction developments have mushroomed along the coasts of Azores and Madeira, exerting intense pressure on the sensitive coastal zones of these regions.

The remoteness, isolation and smallness of Azores and Madeira result in closed systems of these regions. Some issues that pertain especially to isolated small islands include limited land availability, inadequate water reserves due to small water catchment size, and inefficient waste management. (CALADO et al., 2007) In addition, small insular islands face major challenges in social management due to population migration, and economic development due to inadequate economic structure. (JUAN and DE VIVERO, 1995) Small insular islands are also more vulnerable to possible sea level rise, coastal erosion, and landward seawater intrusion. With natural resources being of utmost importance for a closed system, there needs to be a regional strategy in place that fosters the social, economic and environmental factors in order to achieve sustainable development. Built on these hypotheses, the current national ICZM strategy of Portugal that is focused on larger territories, might not be attending to the unique needs of Azores and Madeira.

Table 1 below shows a brief overview of the ICZM strategies of Portugal and Spain. Spain has officially submitted its national strategy to EU, and has started implementing its strategy. (IOI, 2006) The autonomous region of Andalusia, taking into consideration both the EU ICZM Recommendation (EU, 2002) and the Spanish national ICZM strategy, has developed a regional ICZM strategy that is applicable to its region. As shown in the case study of Andalusia, a regional government is more equipped with local knowledge and local resources to build an effective ICZM strategy for its region. Thus, based on the case study of Andalusia, the reasons for suggesting a regional ICZM strategy for Azores and Madeira are as follows: First, the regional government has more acute insights on the unique social, economic and environmental concerns of the region. Second, the regional strategy needs to be in line with the governance orientation in the

region in order for the strategy to function well. Third, public participation is key to an effective strategy. Long distance and isolation of the archipelagoes from the mainland makes public participation non-encouraging and thus non-feasible. As stressed in the Andalusian regional strategy, public participation, coupled with a strategy that is in line with the regional governance orientation, are critical for the development of an effective ICZM strategy that will be beneficial to the coastal zones of the regions.

**Table 1: Brief Overview of ICZM Strategies in Portugal and Spain (IOI, 2006)**

	National ICZM Strategy			Regional ICZM Strategy
	Initiation	Progress	Implemented	
<b>Portugal</b>	Government	On-going	Pending	No
<b>Spain</b>	Government	Completed	Yes	Yes

## VI. SYNOPSIS OF WORK IN PROGRESS

This paper presents the initial findings of our research on whether regional ICZM strategy would benefit autonomous regions of Azores and Madeira. The current findings suggest the benefits of having regional ICZM strategies for Azores and Madeira. However, to fully address this issue, a more extensive and comprehensive research needs to be done.

First, to determine whether regional ICZM strategy is indeed more effective for coastal management of each region, more ICZM strategies of EU countries need to be studied. ICZM strategies of Mediterranean countries that share similar geographical, social or cultural characteristics as Portugal will be good case studies. It is with these reasons in mind that Spain was selected as a first comparison, in addition to the fact that Andalusia has a successful regional ICZM strategy model. Similar research will be done on the selected countries with an overview of their ICZM national strategies, and the rationales behind the establishment of their regional ICZM strategies if they have or are planning to have regional strategies.



Second, to understand whether regional ICZM strategies would benefit the archipelagoes of Azores and Madeira, it is important to compare ICZM strategies of islands in EU that share similar geographical features. Being both volcanic and remote, Canary Islands and Reunion Island will be good comparisons.

Last, based on the above findings, if regional strategies are concluded to be beneficial for Azores and Madeira, the different approaches of the establishment and implementation of the regional strategies will be studied. A summary including the goals, methodologies, geography, land area, population and binding laws of the various regional ICZM strategies will be presented. With these findings, the regional government of Azores and Madeira will be able to fully evaluate the benefits and feasibility of a regional ICZM strategy for their regions.

## **VII. CONCLUSIONS AND RECOMMENDATIONS**

The national ICZM strategy of Portugal provides a big-picture ICZM strategy for Portugal, which tends to exhibit strategies that are more applicable on mainland territory than on island territories. Consequently, the Portuguese national ICZM strategy provides the founding principles of coastal zone management for the autonomous regions of Azores and Madeira, but does not provide specific strategies that address the unique coastal concerns of these small and insular islands. Clearly, the regional government, armed with local knowledge of the environment, social and economic conditions, is better equipped to establish a relevant ICZM strategy for its coasts. Additionally, the autonomous regions of Azores and Madeira, with their own government and parliament, will be able to develop ICZM strategies that are in accordance with their governance orientation. With the development of the strategy planning process taking place in the region, full involvement of the on-site local public participation would also be made feasible. This initiation led by the government will be capable of developing a proficient regional ICZM strategy that can transcend into an effective coastal zone management for the regions. Thus forth, the regions will move closer towards a sustainable integrated

coastal zone management, as recommended by the EU ICZM Recommendation (EU, 2002).

As indicated in Section VI, this research is a work in progress with more in-depth analyses that need to be done before a concrete conclusion could be reached. However, these initial findings already suggest the benefits of having a regional ICZM strategy for both Azores and Madeira. Hence, this paper suggests the regional government of the autonomous regions of Azores and Madeira to study the Andalusian regional ICZM strategy. Most important of all, this paper recommends the regional government of Azores and Madeira to reflect on the adequacy of the current national ICZM strategy for their coastal zones, and contemplate on the effectiveness and feasibility of establishing a regional ICZM strategy for their regions.

## ACKNOWLEDGEMENTS

We would like to thank the Geography Section of University of Azores for the help and support provided.

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