

Integrated Coastal Zone Management – A challenge for the EU in the 21st century

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Abstract

One area of the environment which has become of great importance to the European Union (EU) is the coastal zone, which extends to over 90,000km, has an estimated 200 million people living within 50km of it and supports over 50% of Europe's richest and most sensitive ecological areas. The coastal zone, where sea water, land and air interact to result in often favourable habitats for a number of species, including human beings, has been on the agenda of the environmentalist ever increasingly since the late sixties. Diminishing resources, loss of habitats, degradation of quality of life due to population increase and pollution all because of destructive use patterns and lack of proper management, caused significant concern at various levels for the future of coastal lands and waters together with offshore components.

The EU's coastal zones are influenced by a number of policy areas, which at first glance are thought to have nothing to do with them. Integrated Coastal Zone Management (ICZM) is not just a part of the general EU's environmental policy. Badly planned tourism developments; the decline of the fishing industry; poor transport networks; increasing urbanisation; pollution problems generated through agricultural means; regional policy; the roles of education, culture and employment; military defences and industrial development: these are but few of the policies/issues that spring to mind and which play a role in ICZM. Thus the importance of very close co-operation between the different Commission directorates as well as the local and national organisations within the EU's member states is of utmost significance.

The purpose of this introductory paper on the subject is to provide an overall look at the birth of ICZM within the EU's framework and to give a glance at some of the policy areas playing major roles in ICZM. The ultimate aim is to catalyse public support to the goal of ICZM which according to recent studies on its potential socio-economic values, could be worth up to 4.2 billion EUROS for the EU as a whole. In this paper I will also show that implementation of ICZM strategies can cost little to the different Member states, but ultimately could generate significant returns.

The present European Union (EU) coastline extends to just over 90,500km¹, has almost half of the Union's population living within 50km of the sea² and supports over 50% of Europe's richest and most sensitive ecological areas. Unfortunately, a vast majority of these dynamic systems are nowadays under threat from urbanisation and pollution, consequently damaging much of Europe's coastal region. The economies of the southern Member states of the EU, where the richest ecological areas are to be found, are becoming more and more reliant on seasonal incomes from tourism, with a consequence too that land-occupation along the Mediterranean shores is growing annually. It is true that at both a Union and member state level there is a surplus of regulations and initiatives which focus on specific aspects of environmental protection in coastal areas such as nature conservation; regional and town planning; waste; water and fisheries, but most of the member states and the Union as a whole are still without an effective strategy for managing and preserving this coastal heritage. It is a great welcome that the EU is now working to introduce a co-ordinated policy for the Union's coastal regions.³ Besides taking steps to improve the EU's policies that influence coastal areas, the member states with a coastline⁴ are being asked to have national strategies to protect their coastal regions.

The need to conserve the coastal zones as an element of the community's natural and cultural heritage and as an essential basis for economic and social development has long been recognised.⁵ A number of the legal, financial and planning instruments available have and are being indirectly applied to coastal zones. Since the 1970s, the EU has put in place over 300 instruments to protect and enhance its marine and coastal environments. These include a vast number of directives and regulations relating to water quality, pollution, nature conservation, maritime transport, fisheries and agriculture. Through the European Environmental Agency (EEA), and the Community's research programmes (Framework programmes), the EU performs important activities in the field of scientific research and data and information collection with reference to the state of the environment in Europe and the integrated assessment of coastal zones. Funding for coastal area projects is provided by the EU on a regional basis for the less developed and industrial crisis areas.

Integrated Coastal Zone Management (ICZM) is a new field with a growing international support, an idea which promotes integrated management plans to deal with coastal resource problems. It is not just any other environmental policy or part of a present one. It is an area where environmental and socio-economic goals are

intertwined. What the different research groups, governments and the EU as a whole have realised is that ICZM is a dynamic programme which will continually need updating since it is sometimes very difficult to predict the precise problems a particular coastal region will face in the future. Thus it is not a one-time project. The need to bring together all local, regional, national and European policy makers is of utmost importance to ICZM. There has to be co-ordination at all levels in order to have a successful integrated coastal zone management plan for the region or country. The stakeholders must include policy-makers, residents, national and local representatives, NGOs and the business community. ICZM is designed to increase contacts between sectors of government and the local and regional authorities so that the policy-makers can get a clearer picture of the different needs of Europe's coastal areas.

When relating to ICZM, there is no international general agreement about the appropriate use or meaning of the common phrases and terms used, a number of which are used interchangeably in the literature to describe the activity of managing a coastal region, area, use or resource. According to Sorensen and McCreary⁶, ten terms are frequently used when referring to Coastal Zone Management (CZM), referring to identities of the various units of government in the world (Coastal Nations) and their different programmes established for the purpose of utilising or conserving a coastal resource or environment (Coastal Management). The crux comes with defining the term "Coastal". Its definition varies considerably. To some it connotes fish and wildlife, to others beaches and dunes, and still to others broad reaches of land and water. Nowadays the word "coastal" is taken to consider demographic, functional, ecological and geographic considerations as one. Amongst other terms used are Ocean Management; ICZM; and Coastal Area Management (CAM) and Integrated Coastal Area Management (ICAM).

Coastal areas in the EU

Today's Europe coastal zones face larger economic, social and environmental problems than other areas within the member states. There are serious management and planning problems, such as haphazard building developments to accommodate the ever-increasing amount of both citizens and tourists wanting to spend time closer to the sea/water areas. Such developments can cause huge strains on underground water supplies and the creation of new illegal landfills. Transport problems increase due to greater numbers of road vehicles and pleasure craft, and conflicts of interest as to what the locals should be investing in are leading to social problems for the locals themselves. This is not to say that all is bad, in certain areas new projects, if done properly, can help compensate for others on the decline, which in turn make people look for different employment opportunities.

Although the coastal landscapes and seascapes are amongst the most treasured and attractive landscapes in Europe, the coastal regions of Europe are amongst the

poorest regions of the EU and the economic activity should be greatly encouraged. In fact, the condition of the coastal zones is deeply affected by tourism, a European and indeed a worldwide phenomenon and the main source of income most especially for the south member states. Compared with other continents, Europe has "a wider variety of types of coastal zone, with different natural conditions and patterns of human land use".⁷ The three leading types of coastal zones found in Europe are (i) urban/industrial; (ii) intensive tourism and (iii) natural/rural/fisheries. Thus the predominant function represents very different problems and different demographic and economic weights. In addition to specific measures aimed at the protection of the coastal environment, the Union has a series of funding mechanism to provide financial assistance, both for environment protection purposes and for infrastructural development within the Member states. These funds include the Structural Funds, Cohesion Funds, LIFE⁸ and the Common Agricultural Policy (CAP).

Over the years, the EU has issued a number of environmental directives which are of relevance to the coastal zone, but CZM also raises a number of trans-national issues, such as agriculture, fisheries, pollution control and natural conservation. Such issues cannot be dealt with effectively at the national level and the EU can play a vital role in dealing with these common and trans-boundary problems. The EU is currently an important forum for enabling the member states to agree a common line when negotiating certain international agreements.

In the past the coastal zone has tended to be seen as the boundary between land and the sea, rather than as integrated unit. This is clearly reflected by the different legislative and administrative provisions for controlling activity on land, sea-bed and at sea, produced by the different governments throughout the years. Results from the Commission's Demonstration Programme on ICZM⁹ obliged the Commission to adopt two documents, (i) a communication¹⁰ explaining how the Commission would be working to promote ICZM through the use of Community instruments and programmes and (ii) a proposed recommendation¹¹ outlining the steps which the Member States should take to develop national strategies for ICZM. Although the coastal areas could benefit much from the various measures to be taken, it also argued, and rightly so, that each of the member states concerned should develop its own national strategy. National bodies are to provide the legal and institutional frameworks, but at the end of the day, it is the local authorities together with the inhabitants and non-governmental organisations (NGOs) who know what is needed for that particular area. Presently, the Commission is working to implement the EU-wide ICZM strategy through existing Union legislation and programmes, such as the socio-economic study on costs and benefits of ICZM, and the study commissioned by the EU on quality tourism.¹² However experience with the environmental action programmes and regional planning work, have shown that

implementation of anything to do with sustainable development is slow in relation to the complexity of the problems of coastal zones. Thus, the different governments are considering the Commission's call for national strategies, to have a new coastal policy in place which is to be complemented by the sixth environmental action programme's emphasis on the importance of an effective territorial approach to environmental problems.¹³

Agriculture and ICZM

Amongst the most important land uses affecting Europe's coastal areas is agriculture. Much is determined by the farming activities that are carried out in the areas, with many of the fertile areas situated around estuaries and deltas. Although it is of undeniable importance in terms of land cover and economic growth, employment-wise it is on the decline due to imports from countries producing a cheaper crop and having a reduction of area under cultivation than that traditionally used a few decades ago. Grazing of livestock and cultivation have lessened considerably in certain areas, but according to the EU's 1999 report, there is "*a steady increase in the production of arable crops in Europe*".¹⁴ Having any extreme does not augur well, since this could bring about over-production and serious erosion and loss of vegetation with overgrazing. One of the biggest worries is the nitrate contamination from agricultural fertilisers and animal excrement. In small quantities there are no problems, but when in large concentrations, streams, rivers and the sea can become unpleasant and unhealthy to humans.

Fisheries and ICZM

The fishing industry within the EU is at present facing serious difficulties with previous over-fishing greatly reducing fish stocks, which in turn have led to more fishermen leaving their jobs and plunging into economic hardship. The Union's Common Fisheries Policy (CFP) is attempting to control the volumes of fish caught so as to help in the recovery of stocks yet at the same time it reduced the number of boats through the multi-annual guidance programmes for fishing fleets (MAGPs).¹⁵ Unfortunately this instrument did not prove as effective as anticipated. Instead it has created more unemployment in many of the coastal areas, as well as increased hardship to a number of citizens from the localities by the coast who for years had relied on income from the fish they caught. In other areas where fishing is still practised, some are forced to compete with other coastline users, most of which are recreational areas. Leisure navigation is also causing negative impacts on coastal fisheries and fishing stocks.

Another area of fisheries affecting the coastal areas is aquaculture, which on the one hand has increased employment rates and if properly looked after can have a positive outcome on the surroundings, but which has been negatively greeted by a number of localities across the member states since it can create waste disposal and pollution problems in these areas.

Transport and ICZM

Without adequate connects, the EU's coastal regions cannot reap economic benefits to further develop their economies, thus demands in the transport sector have grown steadily. During these last couple of decades, land transport has become the most intensive form of transport from air, land and sea. The use of private cars, lorries and buses has increased multifold and new roads and/or highways have had to be built. Until recently, transport planners have paid little heed to specific needs of coastal areas thinking that roads built right by the coast would be easier and pleasanter for all. In many instances access to the areas have caused many to migrate to the coastal regions (Mediterranean area), but in other instances, the problem of poor transportation links has led others to move away (islands off the coast of Nordic countries such as the UK and Denmark).

For land transport systems to be sustainable, renewable fuels should be encouraged so as to encourage environmentally friendly modes of transport, possibly for most of the public to make better use of them. Although the use of railway and sea is being more encouraged, cars, buses and trucks will continue to be used. Reduction in emissions from such vehicles is a major contributor to having a better air quality.

Sea transport, although better for the environment, has many negative effects on the coastal areas, most especially those areas close to major shipping routes, where accidents can happen affecting not only the sea, but land too. A case in point which has had everyone thinking on new way and methods of safer and clearer sea transport is the sinking of the Erika off the coast of France. Pollution, just as anything environmentally related has no boundaries and can affect many countries. Tourism and aquaculture were deeply affected, at the same time influencing employment trends. Should such a tragedy have happened close to an area where desalination plants¹⁶ are also in place, then (drinking) water production could also have been ceased, affecting the citizens in the localities further.

Environmental matters and ICZM

Water is an essential resource for humans as well as for agriculture, industry, energy production, tourism, urban life, and nature. At the same instance, its transboundary nature as a resource makes it one of the most difficult resources to manage sustainably. Poor water quality is harmful to all living beings and the concentration of harmful substances is partly affected by the volume of water flowing into the system, an important factor in sedimentation patterns in coastal areas such as marshlands and dunes.

Water quality is affected by a range of human activities such as excessive demand; pollution from sewage outfalls; thermal pollution from power stations; irrigation and run-off from agricultural land and operational discharges from vessels at sea. The EU's water quality framework directive¹⁷ is one of the Commission's new approach to addressing problems related to coastal pollution. It aims to ensure that co-

ordinated measures are taken by the different governments to manage water use, tackle pollution and take coherent steps to tackle different sources of pollution, be them from land of sea.

Another major problem for coastal areas is litter, because of its potential impact on wildlife and human health and also because of the high costs to the local communities which must bear clean-up costs and in some cases suffer loss in tourist revenues. Certain communities have introduced mechanical cleaning of beaches but this is a threat in itself, as habitats for small animals and plants are destroyed by the cleaning action of the machines.

Urban expansion is resulting in the destruction of important coastal habitats, beside leading to major impacts on land, air, water and landscape quality. Groundwater is being polluted, traffic is increasing air and noise pollution and prime agricultural lands are being built. The surrounding seas are often used as a repository for waste discharges of all kinds, degrading coastal and marine habitats and having negative consequences on tourism, fishing, and agriculture.

Progress at EU level

The EU's three year Demonstration Programme on Integrated Coastal Zone Management (1996-1999) confirmed that the need of the EU's role in ICZM was evident in a number of issues such as :

- the impact of EU sectoral policy
- the importance of guaranteeing environmental health to all European citizens
- the opportunity to make better use of existing EU funding schemes
- the international dimension of many coastal and marine environmental issues
- the strategic role of the EU in the regional seas (North Sea, North Atlantic Sea, Mediterranean Sea, Baltic Sea and upon accession of some candidate countries, the Black Sea).

Decline in traditional environmentally-compatible sectors such as coastal fisheries and agriculture has led to unemployment and social instability. The EU is doing and can do much more to further implement ICZM in Europe. Benefits could be emphasised through the use of good management practice such as the "Blue Flag" initiative and the use of cleaner technologies.

On the institutional and policy side better co-ordination of EU policies is required. The environmental policy is nowadays being integrated in a number of other policy areas. Last October 2001, the Commission welcomed the adoption of the Environment Council's political agreement on a strategy that promotes

sustainable development in coastal zones.¹⁸ The recommendation calls on the Member States to develop national strategies that promote sustainable development in coastal zones through integrated management programmes of these areas. The Council text allows the member states five years before having to report results in terms of national strategies, but the Commission believes that this could be done in a shorter period of time. It is in this aspect that the Commission must use its driving force to hasten the development and implementation of the national ICZM strategies.

Concluding remarks

As mentioned in the abstract, this paper is just an introductory overall look at what ICZM is and a look at some of the main issues affecting the coasts, and why the EU is taking steps to introduce the much needed coastal policy before things get worse. The coastal zone issue is a new area which at the end of the day affects each and every one of us, whether we live close to the coast or opt to take a trip to a coastal area for a vacation.

Agriculture, fisheries, transport, urbanisation, tourism, pollution, water quality are but few of the affecting factors of coastal zones. One could also look at the effects of military defences, industrial and energy producing sites, many of which have been built on the coasts for practical reasons. Referring to military defences, a marked decline in activities means that many of the sites have been closed or simply abandoned. If steps are not taken, then problems such as habit loss, pollution and erosion will destroy more coastal landscapes and thus economically valuable resources. A number have already vanished and will be unknown, but in pictures, to future generations.

Properly co-ordinated ICZM strategies both at the EU level and the national levels can ensure the development of modern, lively and challenging economies whilst at the same time they protect the natural environment. I will end with a quote from the recent DGENv publication EU focus on coastal zones¹⁹: *Turning the tide for Europe's coastal zones, "For centuries Europe's coastal zones have suffered from poorly co-ordinated planning and inappropriate policy-making, but with a concerted effort to introduce ICZM across Europe, the tide could be about to turn."*

Web Sites consulted :

Coastal Zone Management on the Internet : <http://www.coastalmanagement.com>

EUCC Coastal Guide : <http://www.coastalguide.org>

Friends of the Earth : <http://www.foei.org>

MedCoast : <http://www.metu.edu.tr/home/wwwmcdst>

NOTES

- ¹ COM (1995) 511
- ² COM (2000) 547
- ³ *ibid.*
- ⁴ 13 member states lie on the sea along five different regional seas – Mediterranean Sea, North Sea, Baltic Sea, North Atlantic Ocean and European Arctic.
- ⁵ Resolution (73)29 of the Committee of Ministers of the Council of Europe on the protection of the coast.
- ⁶ Sorensen & McCreary, 1990, Institutional Arrangements for Managing Coastal resources and Environments.
- ⁷ European Comm Services, 1996, Demonstration programme on ICZM, p20.
- ⁸ A financial instrument for three major areas of action – environmental promotion in member states, nature conservation and environmental technical assistance for non-EU member states.
- ⁹ Commissions' Demonstration Programme on ICZM (1996-1999) operated by DGs Environment, Fisheries and Regional Policy.
- ¹⁰ COM/00/547 – Integrated Coastal Zone Management : A Strategy for Europe.
- ¹¹ COM/00/545 – recommendation concerning the implementation of ICZM in Europe.
- ¹² Towards Quality Coastal Tourism : Integrated Quality Management (IQM) of coastal tourist destinations (2000).
- ¹³ EU Focus on Coastal Zones : Turning the tide for Europe's coastal zones (2001).
- ¹⁴ Agriculture, Environment, Rural Development : Facts and Figures – A Challenge for Agriculture (1999), pg 10.
- ¹⁵ Established by the Community in 1983 to manage the development of member states' fleets.
- ¹⁶ Equipment used for the reduction of salt levels in drinking and process water.
- ¹⁷ Directive 2000/60/EC, adopted in October 2000.
- ¹⁸ COM/00/545 - Recommendation concerning the implementation of ICZM in Europe.
- ¹⁹ EU Focus on Coastal Zones : Turning the tide for Europe's coastal zones, EC, 2001. □