INTEGRATED COASTAL ZONE MANAGEMENT: CASE STUDY IZMIT GULF INTEGRATED PLAN

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ABSTRACT

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This study focuses on the determination of locality of Integrated Coastal Zone Management studies in Turkish legislation and applicability. Accordingly the process of the awareness of necessity for Integrated Coastal Zone Management in the world, related definitions, concepts and implementations, international institutional organizations and planning management experiences of different countries are firstly investigated. Afterwards coastal legislation, coastal planning process, recent studies in order to regulate authority in Turkey and as a result management, legislation, authority is evaluated. Finally Izmit Gulf (Kocaeli-Yalova) Integrated Coastal Zone Planning and Management Project are examined as a case study. State of Izmit Gulf, basic principles, zoning decisions and suggested strategies and activities are scrutinized. This study is also the first compilation concerning recent changes in planning legislation in Turkey related to ICZM studies.

Key Words: Integrated Coastal Zone Management, Coastal Planning, Izmit Gulf

ÖZ

BÜTÜNLEŞİK KIYI ALANLARI YÖNETİMİ:

ÇALIŞMA ALANI İZMİT KÖRFEZİ BÜTÜNLEŞİK PLANI

Pehlivanküçük, Beril

Yüksek Lisans Şehir ve Bölge Planlama Bölümü

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Bu çalışma bütünleşik kıyı alanları yönetimi çalışmalarının ülkemiz planlama sistemi ve mevzuatında alabileceği yeri belirlemek ve uygulanabilirliği konularına odaklanmıştır. Bu doğrultuda öncelikle dünyada bütünleşik kıyı alanları yönetiminin gerekliliğinin farkına varılışı süreci, konu ile ilgili geliştirilmiş, tanım, kavram ve uygulamalar, kıyı ile ilgili uluslararası kurum, kuruluş ve komisyonlar ile bu kuruluşlar önderliğinde farklı ülkelerin planlama ve yönetim deneyimleri incelenmiştir. Türkiye'deki kıyı mevzuatı ve kıyı planlama süreci, yetkileri düzenlemeye yönelik yapılan son çalışmalarla yönetim, yetki, mevzuat boyutları detaylıca irdelenmiştir. Son olarak İzmit Körfezi (Kocaeli-Yalova) Bütünleşik Kıyı Alanları Planlama ve Yönetim Projesi çalışma alanı olarak ele alınmıştır. Çalışma alanı İzmit Körfezinin mevcut durumu, planlama çalışmasının temel prensipleri, bölgeleme kararları ve önerilen strateji ve aktiviteler incelenmiştir. Bu çalışma aynı zamanda Türkiye'de planlama mevzuatında yakın zamanda yapılan ve BKAY çalışmalarını etkileyen değişiklikleri derleyen ilk çalışmadır.

Anahtar Kelimeler: Bütünleşik Kıyı Alanları Yönetimi, Kıyı Planlaması, İzmit Körfezi

to my little princess Serra and my blonde pasha Bartu

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CHAPTER 1

INTRODUCTION

1.1 The Objective of the Study

The coastal areas of the earth display unique features in many ways. They are both related to land and sea. On the land side, there might be cities and towns where commercial, industrial, touristic, recreational activities compete with each other to take part in besides vast residential areas. Besides, coasts are also attractive sites offering numerous natural resources, including biological species which cannot be found elsewhere. Sandy beaches, ecological conditions proper for a good living besides being a gate for internationaltradeattracts people to coastal areas. As a result, different sectors compete for limited space in coastal areas. With increasing population, man-made impact on coasts has increased calling for a new perspective in terms of planning and management. This formulation should contain both urban and coastal specific issues in an integrated way.

The aim of this study is to evaluate Turkish Integrated Coastal Zone Management, i.e., Izmit Gulf (Kocaeli – Yalova) coastal zones integrated planning and management project, in the light of successful international examples using necessary instruments of Integrated Coastal Zone Management (ICZM) approach, to conceive both negative and positive sides. In order to make such an evaluation, the second chapter of the thesis will first try to explain basic concepts and give definitions of “Coast”, “Coastal”, “Coastal Area”, “Coastal Zone” to prevent conceptual confusions. Then, history of coastal management and planning will be discussed briefly. Finally, the term

Integrated Coastal Zone Management will be taken into account, starting from the need for it and its conceptual framework.

Although ICZM studies began to take place in 1960's, these studies were generally limited to sectorial approaches conducted by zoning. Besides, these studies were lacking environmental side and they were far from relevant applications. Lack of an integrated approach influenced the conditions on the coastal areas negatively.

As bad conditions of coastal areas in a country affect another, international legislation and institutions began to be established. In the third chapter of the thesis these international institutions and legislation in terms of international, regional and local basis is taken into account.

The fourth chapter of the thesis deals with legislation and authority procedure in the coastal area of Turkey and Integrated Coastal Zone Management studies in Turkey. The chapter ends with case projects in Turkey by comparing them in various ways.

Fifth chapter deals with Izmit Gulf (Kocaeli – Yalova) Coastal Zone Integrated Planning and Management Project as a case study in Turkey. Firstly, legal steps taken from the starting point of the project are discussed. Secondly, the project area is explained by the help of a SWOT analysis, and finally, basic approaches and principles of the project are presented. The case study will help to understand basic problems in the application of Integrated Coastal Zone Management Projects in Turkey and establish a base for the comparison with successful international examples.

1.2 Statement of the Problem

New management plan approaches like ICZM have shortcomings and inefficiencies. This can be seen in many countries as well as in Turkey. ICZM

projects cannot be implemented wholly as a result of the administrative, institutional, legal, educational and social inadequacies in the governmental bodies. Although the problem is faced by all countries with coastal settlements, Turkey faces this problem severely and strongly as ICZM is a very new concept with a very limited number of professionals.

According to this general frame the basic questions in the thesis are:

- What kind of institutional arrangements are there in international ICZM examples?
- Are these international ICZM examples coordinated in both local and national levels by the help of legislation?
- What kind of laws are there according to integration of ICZM into national development strategies?
- What kinds of techniques are used in different countries and what are their main focus areas?
- Are they successful in establishing public awareness and participation?
- What kind of lessons can be learnt from these studies? What are their deficiencies?

In relation to these basic questions, research questions in the thesis are follows:

- What are the strong and weak sides of legislation, administration and monitoring processes of our planning system compared to different ICZM cases in several countries? How can ICZM projects be defined in our national planning system?

The hypothesis of this thesis is as follows:

- There is a need to shape our national planning system with ICZM for better and more effective planning and management of coastal areas;
- Izmit Gulf (Kocaeli – Yalova) Coastal Zones Integrated Planning and Management Project is the first and foremost example of ICZM Projects, initiated by the Ministry of Environment and Urbanism.

However, it is not well defined in the use of a combination of instruments to facilitate coherence between planning and management.

1.3 Method of the Study

In order to account problems in the application of ICZM Projects by international comparisons and derive recommendations for future studies, some methodological steps have been taken; firstly various databases regarding to coastal planning and management are searched throughly. Both literature and case study surveys are carried out. Published sources related to integrated coastal zone management and planning both in Turkey and other countries examined throughly. Final report of Izmit Gulf (Kocaeli– Yalova) Coastal Zones Integrated Planning and Management Project which was prepared to Belde Project and Consultancy Firm by Ministry of Environment and Urbanism (Abrogated Ministry of Public Works and Settlement) has provided great progress to the study. Consequently, evaluations and proposals have been identified in the light of this backdrop.

1.4 Case Study Selection Criteria

Izmit Gulf is at a junction point of Marmara Region in between Istanbul, the biggest metropolitan city of Turkey, Kocaeli, an industrial center and Yalova, a passage to Izmir, another big city and recreational cities in the Aegean and Mediterranean Regions.With its important geopolitical location in Turkey, all of the problems of coastal areas can be observed in İzmit Bay. So, it is a proper example. Besides, Izmit Gulf (Kocaeli – Yalova) Coastal Zones Integrated Planning and Management Project allows to review of all of the tools and techniques used in coastal planning process.

CHAPTER 2

COASTS, PLANNING, MANAGEMENT

2.1 Basic Concepts and Definitions

The coast is where land and ocean meet. However coast is not simply a line on the map as dynamic natural processes changes and constantly moves it, creating a region of interaction between land and sea.

The Coast is defined as all areas within or neighbouring the foreshore in the Queensland Coastal Protection and Management Act (1995) where foreshore means the land lying between high water mark and low water mark as is ordinarily covered and uncovered by the flow and ebb of the tide at spring tides. Another definition is done by Kay and Alder (2005) “the coast may be thought of as the area that shows a connection between land and ocean”.

The word ‘Coastal’ in the ICM literature has been used to include an area as large as a coastal sea (such as the North Sea) and the coastal sea's entire drainage basin (Sorensen, 1997).

Coastal area is defined as “the band of dry land and adjacent ocean space (water and submerged land) in which terrestrial processes and land uses directly affect oceanic processes and uses, and vice versa” by Ketchum (1972).

In daily language the words area and zone does not differ very much from each other but in coastal management studies it does. They are not directly replacing their meanings with each other. “The term coastal zone would refer to the geographic area defined by the enabling legislation for coastal management, while coastal area would be used more broadly to refer to the geographic area

along the coast that has not yet been defined as a zone for management purposes" (Scialabba, 1998). Kay and Alder (2005) argue that "zone may imply that geographically defined planning zones will be established and become the dominant part of the coastal management process". This is not important in many developed countries, where "coastal zone management" is a phrase commonly used to describe a variety of coastal programs such as the United States Coastal Zone Management Act (1972), but developing countries often equate coastal zone with land-use or marine-park zoning. As a result to avoid confusion many coastal management initiatives use the description of "coastal area".

Limits of coastal areas can be defined by a biophysical perspective such as the Ketchum's definition (1972) or can be defined by policy oriented perspective, which serves the purposes of particular policies.

In Kay and Alder (2005), biophysical definitions contain both land and ocean components with land and ocean boundaries that are determined by the degree of influence of the land on the ocean and the ocean on the land and constantly changing in width, depth or height.In Figure 2.1, the strength of interaction between coastal and ocean processes termed "Degree of Coastalness" can be seen.

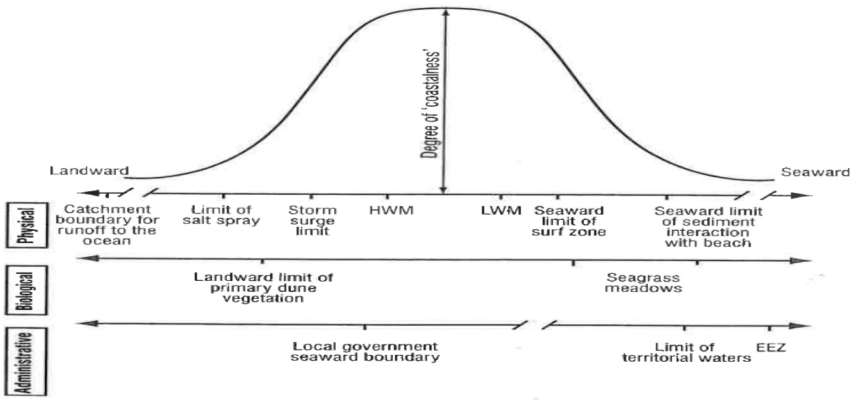

Figure 2.1 Degrees of Coastalness
(Source: Kay and Alder, 2005)

Ozhan (2005) provides four options for locating the landward boundary of coastal zone. First option is, a fixed horizontal distance from the shoreline (e.g. 1 km). Second one is, a biological definition: including biological features, geological features, and physical features (drainage basins, flood plains, dune formations, ridges of coastal mountain ranges, etc.). Third one is, an administrative definition based on biophysical data: political boundaries (municipality, town), and cultural landmarks (road, highways, canals, etc.). The last one is using multiple boundaries: using all of the above where necessary. He argues that seaward area is composed of three parts including estuarine (tidal river, bay, embayment, lagoon.), near shore (its offshore boundary is equal to territorial sea limit: 6 – 12 miles according to the articles determined in UNCLOS – United Nations Convention on the Law of the Sea), and oceanic (it defines the seaward of the territorial sea, and other parts of this sea area - territorial seas, contiguous zone, exclusive economic zone, high seas- are also determined by the UNCLOS). Kay and Alder (2005) name these options policy level limits of coastal areas.

2.2 A Brief History of Coastal Management and Planning

From ancient civilizations till now, humans have chosen to live mostly in attractive coastal areas which are suitable for their lives. They modified the coastal environment according to their needs and exploited its resources. Ancient modification was mostly by hand built civil engineering structures which have small scale and limited impacts on the coastal environment. However after industrial revolution, by the help of technological developments, humans began to construct grander civil engineering works and as a result their influence to coastal processes increased.

“The industrial revolution also altered the community’s view of its resources. Viewing them as tangible elements or objects of nature led to the use of term “natural resources”, and management, including planning, now focused on supply and demand, and the options for managing these factors. This was

linked to the pervasive western cultural attitude at the time of man's dominance over other animals and natural systems" (Kay and Alder, 2005). Concentrating on economic factors, very little attention was given to ecology (including habitats), social demands or public perceptions (O'Riordan and Vellinga, 1993).

During the industrial age the market place began to dominate resource allocation, while social norms no longer guided resource use. Resources were perceived as limitless and there to be consumed for profit (Goldin and Winters, 1995). Not until late nineteenth century ıt was understood that resources are finite.

Land use planning expanded, mainly separating conflicting land uses through zoning, planning parks and recreational areas for public good and health. But urban expansion as a result of rapid urbanization caused the need for new residential and ındustrial areas beside recreational areas. Different streams of human endeavors in coastal areas, such as ecological management, resource management, engineering intervention and urban/industrial development, operated relatively independently for many years (Kay and Alder 2005). However it was not until 1960's and 1970's that these other disciplines were brought together under the banner of "coastal zone management", phrase credited to those involved in the development of the US Coastal Zone Management Act in the late 1960's and early 1970's (Godschalk, 1992; Sorensen, 1997).

Finally there comes the focus on sustainable development in the late 1980's and early 1990's. The basis of sustainable development is "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development, 1987). Phases in the development of coastal management can be seen on Table 2.1.

Table 2.1 Phases in the Development of Coastal Management
(Source: Kay and Alder, 2005)

Phase	*Period*	*Key features*
I	1950–1970	• Sectoral approach • Man-against-nature ethos • Public participation low • Limited ecological considerations • Reactive focus
II	1970–1990	• Increase in environmental assessment • Greater integration and coordination between sectors • Increased public participation • Heightened ecological awareness • Maintenance of engineering dominance • Combined proactive and reactive focus
III	1990–2000	• Focus on sustainable development • Increased focus on comprehensive environmental management • Environmental restoration • Emphasis on public participation
IV	2000–2010	• Focus on tangible implementation of sustainable development principles • Ecosystem-based management becoming embedded in national legislation • Shared governance emerging • Exploration of new coastal management approaches, including learning networks and adaptive management systems • Increased impact of globalisation and the Internet on management approaches and impacts • Emerging re-analysis of the basic tenets of coastal management
V	Future	• Integrated suite of theories and tools applicable with confidence over all scales, timeframes, locations and issues • Comprehensive ecosystem-based management • Connected coastal management communities of practice • Verified set of governance models

2.3 Conceptual Framework of Integrated Coastal Management

Since mid-1960's various terminology including: "coastal zone management", coastal area management", "shore management", "coastal resources management", "sea-use planning", "coastal management", "cross-sectorial, integrated coastal area planning" are utilized to express the governance and management of human activities in coastal zones. Since 1990's, however, the terms "integrated coastal zone management" (ICZM) and "integrated coastal area management" (ICAM) are now preferred by both academics and practitioners and appear to be the terms most commonly used in the literature.

While the USA, Canada and the World Bank prefer to refer to this concept as ICZM, United Nations organizations and programs such as the United Nations Environment Programme, UNEP and Food and Agriculture Organization of the United Nations, FAO tend to use the term ICAM.

If we want to have a look at why and how the term integrated coastal management was begun to be used, we must first look at the basic elements of coastal nations. According to Sorensen (1997) "Every coastal nation has at least five elements in common:

1. Coastal systems, resources, and environments;
2. Coastal issues;
3. Institutional arrangements;
4. Planning and management techniques; and
5. Stakeholders".

Sorensen discuss that all five elements are interconnected. Figure 2.2 shows the elements involved in managing coastal resources and environments.

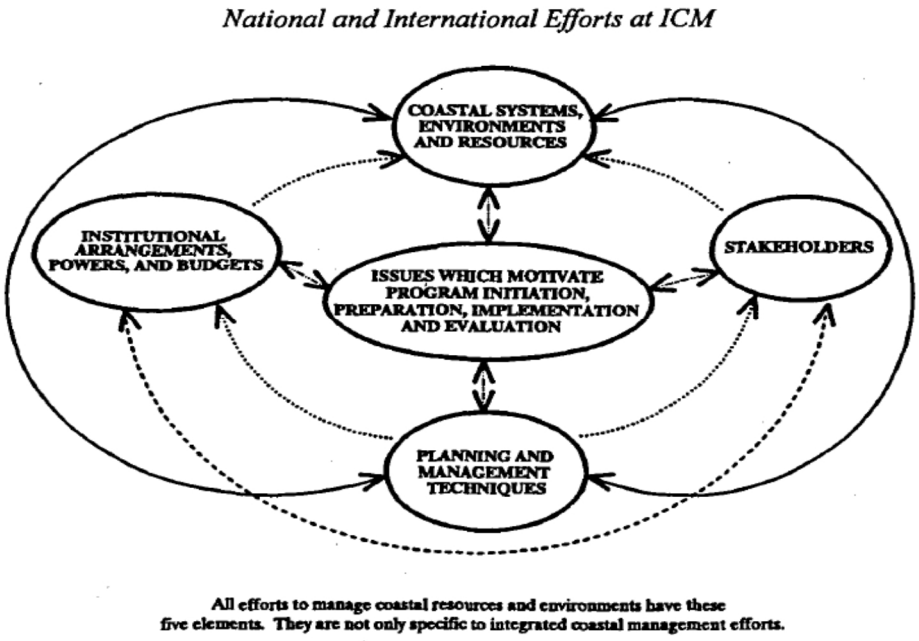

Figure 2.2 Elements involved in managing coastal resources and environments. (Source: Sorensen, 1997)

Elements which are common to all coastal nations combine in a manner creating alternative names for the study. However the term integrated is used in many options. At the workshop which was convened at Xiamen China in 1996 organizers selected the term Integrated Coastal Management. These three words, when used together, distinguish what practitioners do from what they do not do or should not be doing. Each of the three words is necessary to make important distinctions about what they do, as well as how ICM can (and should) be divided into logical components Sorensen (1997). According to the workshop the word Integrated has been used to mean the following:

- The horizontal integration of separate economic sectors (such as fisheries, tourism, transportation) and the associated units of government which significantly influence the planning and management of coastal resources and environments.
- The vertical integration of all levels (national, state/province/region, local) of government and nongovernmental organizations which significantly influence the planning and management of coastal resources and environments.
- A planning and management perspective which combines land use and sea use processes.
- Analyses and assessments which cut across scientific disciplines.
- A program which consists of planning, management, education, and applied research components.

When we come to the word management; planning must be distinguished from management. In order to adequately manage coastal systems, particularly the control of cumulative impacts, coastal management institutions must have a land use and water use plan to guide their policymaking and decision-making processes.

Literature offers various conceptual definitions for ICZM. In 1989, during an international conference in Charleston, USA, ICZM was defined as “a dynamic

process in which a coordinated strategy for attributing institutional, environmental, and socio-cultural resources is developed and implemented in order to preserve the coastal zone and permit multiple sustainable uses of this zone". For Lozachmeur, the number and diversity of the available definitions of ICZM does not in any way prevent the most important international studies from agreeing that the ICZM process is rooted in the adoption of a global systemic approach designed to guide the more conventional sectorial approaches. ICZM first and foremost assumes spatial, administrative, environmental and temporal integration in order to insure that the various activities that take place in the coastal zones are compatible. Although integration generally means coordinating the diverse actions and sectorial approaches in each activity domain, ICZM is not simply a "substitute for sectorial planning", but rather is a process that "avoids fragmentation by underscoring the links between the different domains. On the other hand, some argue that "the overall purpose of ICZM is to maximize the benefits provided by the coastal zone and to minimize the conflicts and harmful effects of activities upon each other. Its goal has been defined as the production of the optimal mix of products and services from a coastal system, with 'optimal' being the mix that results in maximum social" (OECD, 1993).

As defined by the Mediterranean Action Plan: "Coastal zone management is an activity within the broad field of resource management. Resource management may be defined as a conscious process of decision-making whereby natural and cultural resources are allocated over time and space. This allocation aims to optimize the attainment of stated objectives of a society, within the framework of its technology, political and social institutions, and legal and administrative arrangements" (UNEP/MAP, 1994).

Sorensen (1997) gives a definition of (ICZM) as "the integrated planning and management of coastal resources and environments in a manner that is based on the physical, socioeconomic and political interconnections both within and among the dynamic coastal systems, which, when aggregated together, define a

coastal zone". An integrated approach requires both the horizontal (cross sectorial) and vertical (the levels of government and nongovernment organizations) coordination of those stakeholders whose actions significantly influence the quantity or quality of coastal resources and environments.

Certain definitions suggest that this concept: "...is a resource management system which employs an integrative, holistic approach and an interactive planning process in addressing the complex management issues in the coastal area" (Meltzer, 1998). According to Meltzer (1998); ICZM "is a dynamic and continuous process of administering the use, development, and protection of the coastal zone and its resources towards common objectives of national and local authorities and the aspiration of different resource user groups".

On the other hand, the European Union definition concerning ICZM reads as follows: "...a continuous process with the general aim of implementing sustainable development in coastal zones and maintaining their diversity. To this end, it aims, by more effective management, to establish and maintain optimum (sustainable) levels of use, development and activity in coastal zones, and eventually to improve the state of the coastal environment" (Gibson, 1999).

Although there are several definitions of ICZM, they all emphasize the horizontal integration among different economic sectors, vertical integration of public and private sector institutions in local, regional and national context and establishment of an interdisciplinary planning/management system to deal with a combination of land and sea usages.

As mentioned in section 2.1 coastal zone and coastal area contain some differences, however in integrated coastal management, referring to the space as zone or area does not create any difference in the context of the desirable global or common objective. In Integrated Coastal Management (ICM), the common objective: "...is to improve the quality of life of human communities

who depend on coastal resources while maintaining the biological diversity and productivity of coastal ecosystems. Expressed in this way, the goal of ICM is clearly consistent with national and international commitments to sustainable development for all environments (terrestrial and marine), from the headwaters of catchments (watersheds) to the outer limits of exclusive economic zones, whether or not they are subject to multiple jurisdiction" (GESAMP, 1996).

CHAPTER 3

COASTAL MANAGEMENT AND PLANNING INITIATIVES

3.1 The need for international, regional and national legislation

Several countries border the same sea, river or lake. For example south coasts of Spain and France, Italy, Greece and Turkey border Mediterranean Sea, north-west coasts of France and Italy, Portugal, United Kingdom and United States border Atlantic Ocean, while Sweden, Norway, Finland and Germany border Baltic Sea, whereas there are many other countries bordering these oceans and seas, the names of which are not given here. The actions of these countries cause transboundary environmental impacts in the coastal area of another. Moreover all of these coastal zones are facing the problem of global warming and climatic change. Beside geographical and environmental factors there are also social and economic factors to be handled since almost all human activities concentrate on the coasts. Consequently many of these countries have some kind of legislation authorizing a series of units and fields including urban construction plans, land (soil) use, agriculture, fishing, tourism, industrial and energy investments as well as economical sectors, besides marine life, fresh water resources, forests, flora and fauna, and even air, solid and liquid domestic and industrial waste, noise and transboundary environmental pollution. However in many cases the coastal zone management is fragmented amongst all these various legislation, and, thus amongst the authorized agencies and organizations. As mentioned in the first chapter the very nature of ICZM requires a holistic approach to the coastal zones including its ecological and economical hinterland, and needs to ensure horizontal and vertical integration and coordination amongst all relevant sectors and social actors.

The proposed institutional set-up according to Ozhan, 2005 is shown in Figure3.

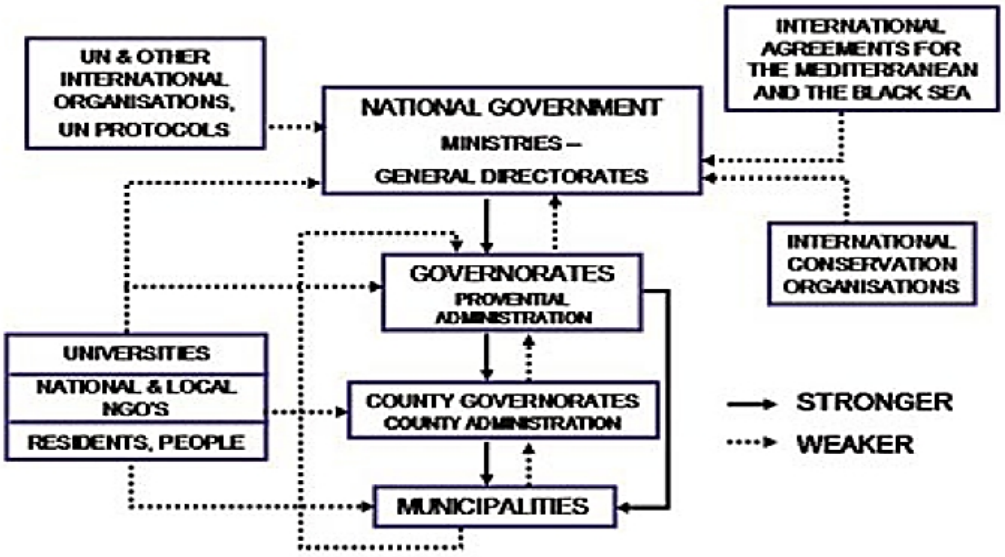

Figure 3.1 Proposed Institutional Set Up of ICZM
(Source: Ozhan, 2005)

In order to be able to accomplish the objectives of ICZM, there needs to be legislative support to its principles including the precautionary principle; the principle of preventive action; the polluter pays principle; responsibility not to cause transboundary environmental damage; rational and equitable use of natural resources and public participation; while accomplishing its objectives requires the involvement of certain legislative mechanisms such as guiding the exercise of administrative discretion, changing rights to own and use coastal resources; establishing marine and/or coastal protected areas; and environmental impact assessment (Scialabba, 1998). Legislation should be global and international to adopt common policies for the management of a common resource as all countries effect each other's coastal zones.

Understanding that many of the issues, sectors and resources that integrated coastal zone management address must have an international dimension and there is an urgent need for an integrated and strategic approach to the management of the coastal areas of the world, globally, internationally and

regionally, for the well-being of human race, some governments and institutions tried to reach a consensus on international legislation for ICZM by the help of binding international or regional acts containing direct or indirect rules, besides non-binding ones amongst stakeholders which contains direct or indirect regulations concerning the protection of coastal zones.

Governments and international organizations have developed guidelines of what involves appropriate concepts of coastal management. In the proceeding section firstly these organizations will be given in a manner according to their scope; international, regional or local and then their guiding concepts for coastal management will be discussed.

3.2 Institutional and Governmental Organizations

Most of these initiatives are constructed and managed under the umbrellas of four main organizations; United Nations (UN), European Union (EU), World Bank and Organization for Economic Cooperation and Development (OECD). These organizations support international efforts, regional level co-operational arrangements as well as national and local level policy initiatives. There are different divisions of the United Nations (UN Department of International Economic and Social Affairs, UNEP) there are also other international institutions such as the International Union for the Conservation of Nature, IUCN (Pernetta and Elder, 1993) and donor organizations such as the United States Agency for International Development and recently the Convention on Biological Diversity, CBD.

Regional initiatives can be discussed in five sections; Baltic Sea Region, North Sea Region, Atlantic Coastal Region, Mediterranean Region and Black Sea Region. Among these regions, Mediterranean is the most successful region in handling intense regional cooperation. In this thesis Mediterranean and Black Sea Regions will be discussed.

3.2.1 Global (International) Level

Global international conventions or non-binding international instruments with relevance to coastal areas are;

- The Convention for the Protection of the World Cultural and Natural Heritage (Paris, 16 November 1972);
- The Ramsar Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar, 2 February 1971);
- 1982 United Nations Convention on the Law of the Sea, UNCLOS;
- The Convention on Biological Diversity (Rio de Janeiro, 5 June 1992) and the 1995 "Jakarta Mandate" adopted by the second Conference of the Parties to the Convention on Biological Diversity;
- The United Nations Framework Convention on Climate Change (New York, 9 May 1992) and the 1997 Kyoto Protocol;
- The Rio de Janeiro Declaration on Environment and Development of 16 June 1992; Agenda 21 concluded on 16 June 1992 at Rio de Janeiro (particularly Chapter 8, and Chapter 17, which deals with the protection of oceans, seas and coastal areas);
- The non-legally binding Authoritative Statement of Global Consensus on the Management, Conservation and Sustainable Development of all Types of Forests, concluded on 13 June 1992 at Rio de Janeiro;
- World Bank Noordwijk Guidelines for Integrated Coastal Zone Management (1993);
- Report of the World Coast Conference (IPCC, 1994);
- UNEP Global Program of Action for the Protection of the Marine Environment from Land-Based Activities (November 1995) which 110 nations signed as a no legally binding agreement;
- UN Agreement on Straddling Fish Stocks and Highly Migratory Fish (1995);
- FAO Code of Conduct for Responsible Fishing (1995)

The most important global level regulation in terms of illustrating the international consensus in political will is the UNCED Agenda 21 (Paragraph 17.5 of Programme of Chapter 17). It states that the ICZM should have the objectives to:

- "Provide for an integrated policy and decision-making process to promote compatibility and a balance of uses;
- Identify existing and projected uses of coastal areas and their interactions;
- Concentrate on well-defined issues; apply preventive and precautionary approaches in planning and implementation;
- Promote the application and development of methods that reflect changes in value resulting from uses of marine and coastal areas, including pollution, marine erosion, loss of resources and habitat destruction;
- Provide access, as far as possible, for concerned individuals, groups and organizations to relevant information and opportunities for consultation and participation in planning and decision-making at appropriate levels" (UN, 1992).

Based on experiences of a Demonstration Programme, eight principles of good ICZM were agreed as part of the EU ICZM Recommendation of 2002 in Table 3.1.

All Member States were requested to undertake a national stocktaking exercise and to develop national strategies; intensive cooperation on the European level was also agreed.

Table 3.1 Eight Principles of Good ICZM
(Source: Rupprecht Consult, 2006)

Eight Principles of Good ICZM
Principle 1: A broad overall perspective (thematic and geographic) which will take into account the interdependence and disparity of natural systems and human activities with an impact on coastal areas. **Principle 2:** A long-term perspective which will take into account the precautionary principle and the needs of present and future generations. **Principle 3:** Adaptive management during a gradual process which will facilitate adjustment as problems and knowledge develop. This implies the need for a sound scientific basis concerning the evolution of the coastal zone. **Principle 4:** Local specificity and the great diversity of European coastal zones, which will make it possible to respond to their practical needs with specific solutions and flexible measures. **Principle 5:** Working with natural processes and respecting the carrying capacity of ecosystems, which will make human activities more environmentally friendly, socially responsible and economically sound in the long run? **Principle 6:** Involving all the parties concerned (economic and social partners, the organizations representing coastal zone residents, non-governmental organizations and the business sector) in the management process, for example by means of agreements and based on shared responsibility.

Table 3.1 (Cont.) Eight Principles of Good ICZM

Principle 7: Support and involvement of relevant administrative bodies at national, regional and local level between which appropriate links should be established or maintained with the aim of improved coordination of the various existing policies. Partnership with and between regional and local authorities should apply when appropriate. **Principle 8:** Use of a combination of instruments designed to facilitate coherence between sectorial policy objectives and coherence between planning and management.

3.2.2 Regional Level Legislation

Other measures, such as the Bonn Convention on the Conservation of Migratory Species of Wild Animals (1979) and cooperative agreements concluded under the Bonn Convention include the Agreement on the Conservation of Seals in the Wadden Sea 1990, the Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas 1991 (ASCOBANS) and the Agreement on the Conservation of Small Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area 1996 (ACCOBAMS); Council of Europe Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979); UN/ECE Espoo Convention on Environmental Impact Assessment in a Transboundary Context (1991), and UN/ECE Aarhus Convention on Access to Information, Public Participation in Decision- Making and Access to Justice in Environmental Matters (1998) are relevant to ICZM because they concern the role of authorities and the public in administrative decisions affecting the environment.

Besides the Bern Convention which indirectly covers coastal zone management, the Council of Europe continues its efforts for direct legislative arrangements that foresee integrated coastal zone management. “The Council

of Europe has drafted a Proposal for a Model Law on Sustainable Management of Coastal Zones, together with a draft European Code of Conduct for Coastal Zones, although neither of these has yet been approved. The purpose of model laws is to provide a standard text that States can use as a basis for national legislation" (Gibson, 1999).

One of the major regional legislation activities is conducted by the OECD. On 23 July 1992, the Council of the OECD adopted at its 787th session a set of recommendations to its Members on integrated coastal zone management. In making these recommendations, the OECD Council reiterated that coastal zones and the oceans are areas where improved policy integration is necessary through integrated resource management strategies and comprehensive land use planning (OECD, 1993).
This "Recommendation contained the following essential elements;

- A Recommendation to set specific policy objectives for the coasts and their resources, to enhance coordination of government strategies, and to strengthen the integration of sectorial policies;
- Recommendations on instruments for coastal zone management that Member Countries should employ;
- Specific recommendations focusing on fisheries, tourism and international waters" (OECD, 1998).

Other regional conventions are particularly those concluded under the UNEP Regional Seas Programme which also covers the Mediterranean and Black Sea marine and coastal environment.

3.2.2.1 Mediterranean Region

The Mediterranean benefited early on from a growing dissatisfaction with its environmental degradation. This led to the establishment of regional level cooperation arrangements and to the elaboration of programmes targeted to

monitor, assess and improve the state of the marine environment. Most of these activities were initiated in the context of the Barcelona Convention (1975), and were instigated by UNEP's Mediterranean Action Plan (MAP). Today, 21 countries constitute the Contracting Parties to the Convention, which is complemented by several facultative Protocols (UNEP/MAP/PAP, 2001).

The first Regional Seas programme of the United Nations Environment Programme (UNEP) established within the framework of the Barcelona Convention (1975) is Mediterranean Action Plan. The plan firstly concentrates on pollution problems until it is understood that pollution is a result of human activities resulting in conflicts over the use of land and resources. Some guidelines and special reports were prepared but most of them were lacking policy inputs and innovative tools.

MAP's own special contribution to the Integrated Management of Coastal Areas was its establishment of the MAP Coastal Area Management Programme (MAP-CAMP), in 1989. CAMP has been oriented towards the successful completion of practical coastal management projects in selected Mediterranean countries. The key CAMP objectives according to UNEP/MAP/PAP (2001) are the following:

- To develop strategies and procedures for achieving sustainable development, environmental protection and the rational utilization of coastal and marine resources, as these constitute integral parts of the process of sustainable development;
- To identify, adapt and test methodologies, tools and practices of sustainable coastal management;
- To contribute towards the upgrading of the national/local institutional and human capacities involved; and
- To secure its wider application, at national and regional levels, and create the necessary preconditions for follow up activities.

CAMP's long-term agenda includes the following:

- The resolution of priority environment development problems at the local level;
- The formulation and implementation of relevant national policies and strategies by the proposition of methodologies and procedures at the national level;
- The dissemination and exchange of experience contributing to the formulation and implementation of policies and strategies at the regional level; and
- The consolidation of co-operation, and sharing of experiences, methodologies, procedures and results with other World regions at the international level (UNEP/MAP/PAP, 2001).

Between 1989 and 1998, projects with different countries are conducted. In the period between 1996 and 2005 Mediterranean Commission on Sustainable Development, MCSD was selected in the consolidation of a strategy towards sustainable development in the region. The MCSD has focused, among other issues, on the sustainable management of coastal zones, addressing specific aspects of strategy and of political decision making, recommending that countries:

- Improve institutional mechanisms;
- Strengthen and enforce regulatory instruments;
- Provide access to information and raise awareness;
- Establish incentives;
- Develop pilot projects for demonstration;

and

- Boost public participation (UNEP/MAP/PAP, 2001).

These objectives are especially important for implementation of the Integrated Coastal Zone Management Programmes.

The Euro-Mediterranean Partnership was established in Barcelona (1995) as a joint endeavor by 27 parties on both sides of the Mediterranean: the 15 Member States of the European Union and Algeria, Cyprus, Egypt, Israel, Jordan, Lebanon, Malta, Morocco, Syria, Tunisia, Turkey and the Palestinian Authority (Libya has observer status). The overall Partnership's agenda is to guarantee peace, stability and prosperity in the Region through enhanced and regular dialogue, free trade and cooperation. The general objectives of the Environment Programme within the framework of the Euro-Mediterranean

Partnerships are to:

- Assist in altering the trend of environmental degradation in the region;
- Contribute to the sustainable development of the region, the protection of the Mediterranean environment and the improvement of the quality of life;
- Integrate environmental concerns into sectorial policies;
- Strengthen its coherence and secure synergies with existing multilateral programmes and legal bodies (i.e. MAP, the Barcelona Convention, METAP);
- Contribute to the creation of new employment opportunities; and
- Highlight the relationship between trade and the environment.

The Mediterranean Environmental Technical Assistance Programme, METAP was launched in 1990 by the World Bank, WB and the European Investment Bank, EIB in partnership with the European Union, EU and the United Nations Development Programme, UNDP. METAP's mission is to generate funds assisting Mediterranean countries, particularly those on the southern and eastern rim of the sea, to devise policies, programmes and investment projects that effectively tackle the obstacles to achieving sustainable development in the region (UNEP/MAP/PAP, 2001).

1976 Barcelona Convention for the Protection of the Mediterranean Sea Against Pollution (which came into force in 1978) and its related Protocols and 1995 Barcelona Convention amending it, Barcelona Convention for the Protection of the Marine Environment and Coastal Region of the Mediterranean and the Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean (has not been enacted yet); 1985 Genoa Declaration on the Second Mediterranean Decade; 1990 Nicosia Charter on Euro-Mediterranean Cooperation Concerning Environment in the Mediterranean Basin; 1992 Cairo Declaration and Specific Actions Programme on Euro-Mediterranean Cooperation on Environment in the Mediterranean Basin; 1994 Tunis Declaration and Mediterranean Agenda 21 (Med 21); 1995 Mediterranean Action Plan Phase II, Barcelona Resolution, Priority Fields of Activities for Environment and Development in the Mediterranean Basin (1996-2005) and establishment of the Mediterranean Commission on Sustainable Development, MCSD in 1996 (Algan 1995) can be told to be regional conventions particularly concluded under the UNEP Regional Seas Programme about Mediterranean.

3.2.2.2 Black Sea

"The regional efforts for ICM in the Black Sea were started with the GEF Project named Black Sea Environmental Program (BSEP, 1993-1997). The regional ICZM Activity Centre was established in Krasnodar, Russia and the Black Sea ICZM Advisory Group (a body of governmental representatives) was formed by this Project.

The TACIS Programme of EU provided financial support to coastal projects (1995-96 and 1998-2000) addressing Ukraine, Russia and Georgia. These projects provided training in ICZM, EIA and ecological auditing, developed the Coastal Code of Conduct for the Black Sea and funded ICZM Pilot Projects in Yalta (Ukraine) and Gelendzhik (Russia).

The second GEF Project – The Black Sea Ecosystem Recovery Project was carried out during 2002-2007. This Project had three elements: validation of the relevance of the Regional ICZM Strategy, a feasibility assessment for ICZM instruments under the Bucharest Convention and an ICZM Pilot Project in Akcakoca (Turkey). Parallel to the second GEF Project, four ICZM activities were carried out by using funds made available through the EuropAid Programme of the EU. These were the preparation of the Black Sea ICZM Regional Strategy and Action Plan, the Methodology for Spatial Planning within ICZM context and the ICZM Progress Indicators, and funding two pilot projects: MPA in Ukraine and Tskaltsminda in Georgia" (Ozhan, 2005).

Other conventions are 1992 Bucharest Convention on the Protection of the Black Sea Against Pollution (which came into force in 1994) and its related Protocols; 1993 Odessa Ministerial Declaration on the Protection of the Black Sea; Strategic Action Plan for the Rehabilitation and Protection of the Black Sea, Istanbul, 1996.

Some other OECD recommendations relative to the coastal area management including; Recommendation of the Council on Principles concerning Coastal Management of 12th October 1976 [C(76)161(Final)]; Recommendation of the Council on Environment and Tourism of 8th May 1979 [C(79)115]; Recommendation of the Council on the Assessment of Projects with Significant Impact on the Environment of 8th May 1979 [C(79)116]; Recommendation of the Council on Water Resource Management Policies: Integration, Demand Management, and Groundwater Protection of 31st March 1989 [C(89)12(Final)]; Recommendation of the Council on the Use of Economic Instruments in Environmental Policy of 31st January 1991 [C(90)177/FINAL]; and OECD/DAC Guidelines No. 9: Guidelines for Conservation and Sustainable Use of Tropical and Sub-Tropical Wetlands(1996) have addressed the interrelationships between the condition of coastal and marine environments and human activities. On the other hand, the OECD Council adopted in April 1998 a new Recommendation on

Environmental Information [C(98)67] which promotes implementing cost-effective means of collecting environmental information; establishing institutional arrangements to facilitate the coordination, integration and exchange of such information; access to environmental information and information dissemination efforts; and integration of the domestic information systems into a broader international framework (OECD, 1998). These principles are specifically important examples of the emphasis on the participatory approach which needs to underlay all environmental management and integrated coastal zone management programs.

The European Union, on the other hand, conducts political and regulatory activities for coastal zone management besides implementing some demonstration projects. The Fifth Community Programme of Policy and Action on the Environment and Sustainable Development; the Communication COM95/511 on the Integrated Management of Coastal Zones, the directives on the Conservation of Wild Birds, (79/409/EEC); on the Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC, amended by Council Directive 97/62/EC) and Integrated Pollution Prevention and Control Directive 96/61/EC qualify as the general political and regulatory integrated coastal zone management legislation of the European Union. The Environmental Impact Assessment Directive 85/337/EEC (adopted 1985 and substantially amended in 1997), Directive 90/313/EEC on Freedom of Access to Information on the Environment, the Bathing Water Directive 76/160/EEC, the Dangerous Substances Directive 76/464/EEC, the Shellfish Waters Directive 79/923/EEC, the Urban Waste Water Treatment Directive 91/271/EEC, the Nitrates Directive 91/676/EEC, however, might be considered as other arrangements that define the necessary measures in coastal areas and facilitate, although indirectly, the implementation of ICZM. (Gibson, 1999)

The ICZM Evaluation Team of Rupprecht Consult – Forschung & Beratung GmbH and the International Ocean Institute in Gzira, Malta has been appointed

by the European Commission to carry out an independent evaluation of Integrated Coastal Zone Management (ICZM) in Europe.

The objectives were

- To evaluate the implementation of the EU ICZM Recommendation of May 2002;
- To evaluate the added-value of ICZM in the context of relevant existing and evolving Community policies/legislation;
- To identify where a need for further action exists as regards coastal zone policy and to provide recommendations for further relevant action at Community level.

3.3 Examples of ICZM Projects in Different Countries

"Coastal management initiatives are usually a response to a demand to resolve problems such as conflicting uses of coastal resources, urbanization, access, pollution and environmental degradation. Problems may also be related to poor liaison or inefficient coordination between those responsible for making decisions on the allocation of coastal resources; or they may even be a perception among decision-makers that a problem does not exist. A sound understanding of such issues is integral to planning an effective approach to coastal management. It is important that issues be addressed in a coordinated and integrated framework – a feature of good costal planning." (Kay and Alder, 2005)

If we have a look at in successful examples of ICZM, the common character that can be observed is they are far from conventional planning. This means that the important thing is to establish a management system rather than a planning format where all actors come together to make decisions and establish implementation and control mechanisms.

The concept of integrated coastal management (ICM) extends back at least 40 years. In its first decade, the concept became a practice confined mostly to the United States, Australia, and the UN Regional Seas Program. Integrated coastal management is now practiced all over the globe and it is part of the rhetoric for sustainable development (Sorensen, 1997).

3.3.1 ICZM in France

Coastal management studies in France can be discussed in three stages. The first stage is between 1973 and 1991. This is the period in which authorities began to be aware of the deterioration in French national coastal heritage as a result of industrial and touristic activities by the help of publication of the Piquard's (1973) report. As a result of this report the Coastal Conservancy which is the principal actor in the effort to preserve the natural heritage of France was established. "A tool for coastal zone planning designed to guide the use and development of marine resources (SAUM: Sche´mas d'ame´nagement et d'utilisation de la mer), which in 1983 was transformed into the Marine Area Zoning Plan (SMVM: Sche´mas de Mise en Valeur de la Mer) was established. The Coastal Development, Protection and Enhancement Act, commonly referred to as the Littoral Law, was also voted during this period. . The Littoral Law underpin the French natural heritage coastal preservation policy were created to allow intervention zoning (e.g., property acquisitions or zoning rules) to be used to limit the development of human activities, to protect the natural heritage, and to establish a balance between planning, protection and enhancement of the littoral zones." (Deboudt et al, 2008)

Second period is between 1992 and 2000. With the rise of the concept of sustainable development all over the World, Integrated Coastal Zone Management began to appear as an objective for coastal zone management. In this period European Union experimented with ICZM strategies at 35 pilot sites in Europe, three of them in France: the Opal coast (i.e., the coastline along

the eastern English Channel and the southern part of the North Sea), the Bay of Brest and the Bay of Arcachon.

According to Deboudt et al, (2008) the lessons which can be learned from these projects are as follows:

- The Opal Coast project accelerated the launch of the Opal Coast Mixed Syndicate (OCMS). The OCMS now groups together more than 350 communes, ranging from the Belgian border to the Bay of Somme. As part of the pilot program, the OCMS performed a territorial diagnostic and developed eight sectorial plans (e.g., waste, transport, tourism), as well as producing a littoral development charter defining the orientations of future strategic actions.
- The Bay of Brest project focused on restoring water quality by implementing actions in several watershed areas. Through a Bay contract signed by all the stakeholders involved in water management in the various watershed areas, a diagnostic plan and 18 action programs were launched in order to protect natural resources (e.g., wetlands, migratory fish, scallops) and restore water quality (e.g., encouraging the use of anti-fouling paints, recourse to water treatment, and changes in agricultural practices). Despite a few problems with coordination, which can be explained in part by the number of stakeholders involved (over 180), this project reinforced collaboration between local authorities and government services and allowed the relationships between watershed areas, coastal communities and the marine environment to be taken into account.
- The Bay of Arcachon project had as its primary objective to demonstrate that disseminating information about the status of an ecosystem, coupled with dialogue amongst the stakeholders concerned with the future of such a system, could advance the cause of sustainable development. To this end, several studies were conducted and seven thematic work groups were established to discuss the results of the

different studies (e.g., the quantification of the stress engendered by pollution from the activities taking place in the watershed area, the evaluation of wetland functions in order to preserve or develop them, the optimization of dredging techniques and the elimination of portuary sediment). This project helped to lay the groundwork for the adoption of the Arcachon Bay SMVM, which was approved in 2004.

In the period between 2001 and 2007, the traditional sectorial strategies for managing coastal areas and activities and the zoning practices on which these strategies were founded were called into question. ICZM emerged as a mid-term objective for French coastal management.

As Meltzer (1996) states, with a primarily nationally driven system, intergovernmental integration of coastal management is also deemed moderately unsuccessful. Both The Loi Littoral and SMVM have had limited success on improving linkages among the different levels of government managing coastal resources.

3.3.2 ICZM in United Kingdom

According to Atkins (2004) "More than 7,000 km long, the UK coastline is an environment of considerable contrast, dynamism, and inspiration the coastal land, estuaries, and inshore waters of the UK are rich in natural resources and wildlife. They support a large proportion of the population and a great variety of economic activity as well as a range of leisure and recreation interests". However coastal areas of the United Kingdom have been tried to be managed by sectorial approaches historically.

There are government departments which have an interest in coastal management such as Department for Environment, Food and Rural Affairs (in sustainable development, environment protection, wildlife conservation, coastal defense, fisheries and water quality): DEFRA, Department of Trade

and Industry (offshore oil and gas and offshore renewable energy), Department for Transport (ports, harbors and shipping), office of the Deputy Prime Minister (land-use planning and aggregate extraction) and Ministry of Defense. Also executive agencies and non-departmental public bodies have varying levels of jurisdiction over the regulation and management of the coast including:

- English Nature
- Countryside Agency
- Countryside Council for Wales
- Environment Agency (covering England and Wales)
- Sea Fisheries Committees (England and Wales)
- Environment and Heritage Service (Northern Ireland)
- Scottish Natural Heritage
- Scottish Environment Protection Agency

However according to Milligan et al (2009) "The policy setting and governance arrangements for coastal management are complex and in a state of flux. This is particularly the case in relation to the government's new strategy for coastal erosion and flooding risk management, 'Making Space for Water' and the shoreline management planning process. There is the complexity of the situation with many management bodies, overlapping responsibilities and jurisdictions, and a wide range of stakeholders.

Much of the work has been driven by an environmental agenda - in particular the conservation of coastal biodiversity and natural beauties lacking important drivers such as economic growth and the desire to involve stakeholders in decisions that affect them.

Until October 2006, English Nature was a non-departmental public body funded by Defra to give statutory advice, grants and licenses for the promotion of nature conservation in England. English Nature had a key role in the

monitoring of Sites of Special Scientific Interest (SSSI) and in advising on management to achieve their favorable condition (a measure of the health of the site). In the Natural Resources and Rural Communities Act (Defra, 2006), English Nature, the Rural Development Service and the Countryside Agency's Landscape, Access and Recreation Division were integrated into a single body – Natural England – with the following remit: ". . . to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development" (Natural England, 2012).

The role of Natural England was changed from purely environmental concern to incorporating social and economic issues.

"Since the 1990s, a feature of ICM implementation in the UK has been the development of local and regional coastal initiatives, through a bottom up approach, or as part of a variety of national programmes. These initiatives are largely nonstatutory and rely on voluntary participation by government, private and civil society stakeholders. They operate in different types of association, including 'Partnerships,' 'Networks,' 'Fora,' or newly constituted authorities. They aim to reduce the sectorial divide in co-operation at a local level, by providing multi-stakeholder approaches to planning and management." (Stojanovic and Ballinger, 2009).

Policy has been developed through coastal planning guidance; attempts have been made to resolve conflicts of interest through local estuary plans; practical works such as management realignment projects have tried to deliver more holistic management on the ground, and wider ownership and appreciation of coastal issues has been sought through much greater consultation with stakeholders at all levels.

Shoreline Management Plans (SMPs) provide large-scale assessment of the risks associated with coastal processes and present a strategic and long-term

policy framework to reduce these risks to people and the developed, historic and natural environment in a sustainable manner. Although non-statutory, SMPs provide both a risk assessment and suggested policy guidance to support decision-making about the extent to which sections of the coastline should be defended, or more natural processes be allowed to continue.

Coastal groups, made up primarily of coastal local authorities and other bodies with coastal defense responsibilities, provide a forum for discussion and co-operation and play an important part in the development of SMPs for their area. SMPs are by definition 'working documents' and hence are reviewed at five yearly intervals to incorporate both new scientific research results in relation to coastal processes, and revised regional and national policy guidance (Cooper et al., 2002).

3.3.2.1 Findings

According to the Final Report ICZM in the UK: A Stocktake (Atkins, 2004), there are examples of good practice but the current framework reflects the sectorial approach to managing coastal issues in the UK and, like many other European nations, the framework is not representative of true ICZM principles. At the present time local, voluntary actions are much closer to these principles and aspirations and it is the principle of "local specificity" which has been taken forward most successfully.

Many examples were cited of local action taken to address local issues. Considerable effort was also being put into facilitating and encouraging the "involvement of all parties" in coastal planning and management. This principle is now widespread and an integral part of decision making at all levels from local initiatives through to Government consultations on policy direction. Long-term planning for ICZM was perceived as the weakest principle. Although standard practice in the planning of some sectorial marine activities, this is an area where there has been significant difficulty up to now. Most if not all ICZM initiatives to date have been short-term projects rather

than being an integral part of an established decision-making and delivery process.

3.3.3 ICZM in Philippines and Indonesia

In the context of the Philippines and Indonesia the colonial history, low formal institutional capacities partly due to chronic fiscal crises, weak faith in the rule of law and systemic weaknesses in legal systems, high incidence of poverty, and the high and direct reliance of coastal inhabitants on coastal resources tend to elevate the importance of an ICM based on participatory and conflict resolution processes (Christie et al., 2005).

Many citizens of these countries are directly affected from the environmental deterioration such as destructive and over-fishing practices to increasing shoreline development and levels of pollution from both shoreline and upland sources, as a result of their way of earning life. So they have to be aware of the situation that they must protect coastal areas and natural resources. This reality positively affected ICM studies to be participatory and locally led in Philippines. Over 100 municipalities and cities in the Philippines have adopted some form of ICM as a basic service in the last decade (representing about 1/6 of the Philippine coastline) suggests that considerable progress toward scaling up is underway. Such a tradition is not as well established in Indonesia but the recent dramatic decentralization of legal and coastal and marine governance structures provide some impetus for future progress. (Christie et al., 2005)

Of course national efforts have also taken place. The new Ministry of Marine Affairs in Indonesia and the Coastal and Marine Management Office (CMMO) (within the Philippine Department of Environment and Natural Resources) demonstrate a national commitment to ICM and integrated planning. This commitment is likely to grow as food security becomes increasingly critical and other coastal dependent sectors such as tourism grow. Tragedies such as the December 2004 landslides in deforested coastal mountains of Luzon

resulting in more than 3000 deaths and the 26 December Indian Ocean tsunami vividly demonstrate how human communities become increasingly vulnerable through environmental degradation.

However integration within and between multiple governance scales could not be set. Although the importance of sustainable resource use and multi sectorial planning is well understood by scientists, leaders and citizens, laws that would encourage sustainable resource use are increasingly adopted and enforced at local levels, but remain underdeveloped at the national level in the Philippines. When laws and policies are developed at the national level, they do not always strengthen local management efforts. In fact, they may even contradict local initiatives that are successful. In both countries, the divisions between municipal and national agencies and between various national sectorial agencies remain largely intact and limit the expansion of ICM across these institutional boundaries.

There have been few, multinational, multidisciplinary, comparative, empirical evaluative research projects focused on ICM. “To address the question of ICM sustainability, a multidisciplinary group of researchers, led by the School of Marine Affairs of the University of Washington, undertook a 3-year research project on ICM sustainability in the Philippines and Indonesia. The ICM Sustainability Research Project (ICM-SRP) sought to determine the primary factors leading to ICM sustainability based on the records and observations of successes and failures, of several prominent ICM projects in both countries.

The project analyzed different aspects of what influences sustainability of ICM through several sub-groups focusing on legal, socio-cultural, institutional, economic and biophysical aspects of ICM” (White et al., 2005). Other studies that have been conducted, while valuable, did not employ detailed, multidisciplinary field research. In short, the ICMSRP was a unique endeavor representing an ambitious effort to evaluate the ICM model and one of the most frequent barriers to its success—the lack of long-term sustainability—

which, in turm, led to a consideration of a broad suite of associated topics. (Christie et al., 2005)

A planning process flow evolved through the project with the local government system in Figure 3.1.

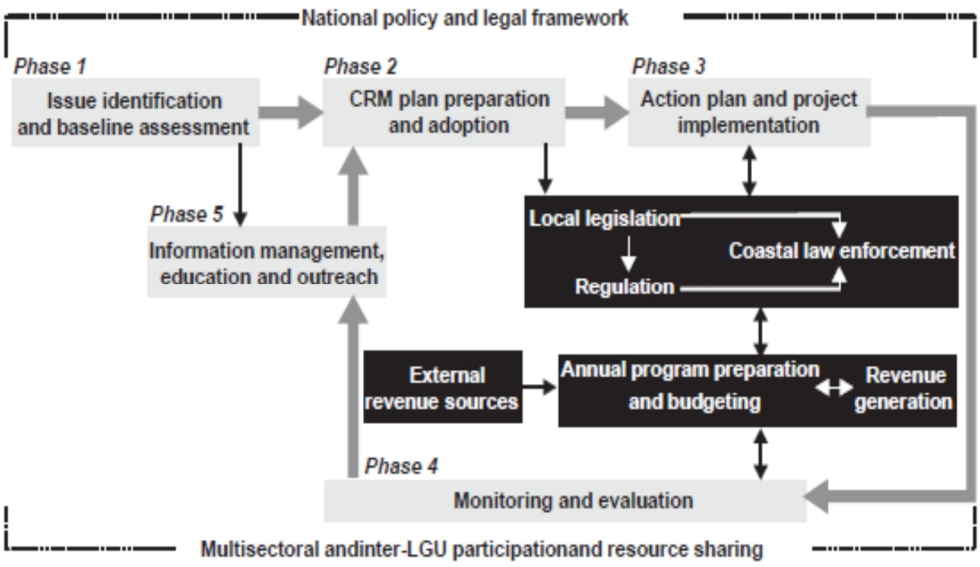

Figure 3.2 Five Phase ICM Planning Process adapted for Philippine Local (Source: White et al., 2005)

3.3.4 ICZM in Tokyo Bay

Land is very valuable in Japan as a result of two factors. One is the topography which is very slopy. Second one is being an island country. Almost all the plain areas are located nearby the sea. So the costal areas are much more valuable.

Traditionally commercial fishing was the dominant economic activity of coastal areas in Japan. However in time industrial facilities began to take the first place parallel to the countries' rapid and concentrated industrialization

process. Among all negative effects reclamation has taken the highest ratio, as it was also supported by local and central authorities.

“In Japan, by law, the immediate economic cost of the destruction or deterioration of an environment may be compensated by a set amount of money awarded to supplement the loss of the previous quality of environment if such an action has encroached on human rights to health and property. In order to promote reclamation projects, compensation money was paid to the fishermen's unions in exchange for their fishing rights. Fishermen who were loosing their jobs were paid for compensation” (Kawabe, 1998).

Without any central coastal zone management program all the bays were began to be used basicly for industrial activities and secondly on transportational systems including both highways and marine structures. “Japan’s first formal coastal zone management scheme was embodied in the Coastal Act of 1953. Its objective was the prevention of disasters. It was not drafted from the viewpoint of integrated management of the coastal zone. Until recently prevention of disasters was the primary focus of Japanese coastal zone management. Laws such as the Harbor Act, Fishing Port Act and the Public Waterfront Landfill Act were set down separately and cover the development and utilization of Japan’s coastal zone. The National Parks Act and the Seto Inland Sea Preservation Special Measures Act cover the protection of nature” (Isobe, 1998).

However Japanese government was not able to establish an umbrella law for the coordination of the above mentioned different laws. Each division which is responsible for different sectors caused a sectorial approach rather than an integrated one. Local and central policies which externalize public and reinforce industry caused disbelief among citizens. As a result of this disbelief they are not willing to take place in coastal area management projects.

So Japan has to find a way to integrate reclamation problems with disaster problems in a multi sectoral approach while establishing vertical coordination amaong local and central authorities.

3.4. Evaluation of ICZM Examples in Different Foreign Countries

According to reach the final target of the thesis, which is to locate ICZM studies in our countries' planning system, firstly ICZM studies of different foreign countries are evaluated in respect to their institutional, legislative and controlling mechanisms. The question is; are they able to establish horizontal integration of economic sectors and vertical integration of public and other institutions in local, national, regional, and international scales? Are they able to establish a planning and management system which both takes into account sea and land usages?

In the light of the above mentioned criterias; legislation, attention focus, techniques, national and international institutions of Japan, France, Philipinnes, United Kingdom, United States and Spain are compared with each other by the help of Table 3.2 in order to evaluate achievements and weaknesses of their ICZM projects.

Table 3.2 Comparison between different countries

	Scale	**Legislation**
France	National	Powerful national laws such as Schemas de Mise en Valeur de la Mer (SMVM) Loi Littoral (Sea Shore Act)
Philipinnes	Local	National legislation conflicting with local successful efforts
Japan	National	Political-administrative structure without ICZM implimentations
United Kingdom	Regional National	Planning Policy Statement Planning Policy Guidance Shoreline Management Plans

Table 3.2 (Cont.) Comparison between different countries

Spain	National Local	1988 Shores Act Regional government Maritime Navigation Law
United States	Local National Int.	1969 National Environmental Policy Act (NEPA) 1972 Federal Water Pollution Control Act (Clear Water Act) 1972 Coastal Zone Management Act (CZMA) 1972 Marine Mammal Protection Act (MMPA) 1972 Marine Protection, Research and Sanctuaries Act (MPRSA) 1973 Endangered Species Act (ESA) 1976 Fishery Conservation and Management Act

	Attention Focus	**Technique**
France	Natural heritage preservation	Intervention Zoning (limiting human activities)
Philipinnes	Inhabitants who rely on coastal resources and suffer from environment damages	Sustainable resource use Multi-sectoral planning
Japan	Land reclamation problem	Needs and perceptions of Coastal communities
United Kingdom	Environmental Social, economic Sustainable Making Space for Water (Risk Management)	Shoreline Management Plan
Spain	Management of public areas of the coastal zone Small commercial and pleasure horbors as well as Fishing in inland waters, and Protecting marine ecosystem.	Zoning Marine Protected Areas
United States	Coastal hazards Wetlands protection, management	

Table 3.2 (Cont.) Comparison between different countries

	National İnst.	**Lessons**
France	Conservatoire du Littoral Direction del'Environment Ministry of the Sea	Divided national inst. Nationally driven system Poor relationship between coastal systems
Philipinnes	Coastal and Marine Management Office (CMMO)	Locally led Participatory
Japan		No Public Trust No Participation
United Kingdom	English Nature (Natural England) Environment Agency	Public Participation Integration of governmental organizations Scope for evolving regional spatial and local development
Spain	Ministry of Public Works, Transport and Environment (MOPU)	National inst.
United States	The National Estuary Program (NEP)	Weak in multisectoral coordination Activities are in federal level No formal program Model for other countries Coastal management initiatives

CHAPTER 4

COASTAL AREA MANAGEMENT AND THE ICZM IN TURKEY

Status of Coastal Areas

Turkey is surrounded by seas on three sides and as a result, has a long mainland coastline. The total amount of coastlines on earth surface is 312.000 km. Our country has 8300 km among this total. 1.701 km is Black Sea, 1.441 km is Marmara, 3.484 km is Aegean Sea, and 1.707 km is Mediterranean coastlines of our country. Marmara Sea is an inland sea which is surrounded by Turkey. Turkey has a strategic locality as it has the longest coastline among European Union, Black Sea, Mediterranean and Caspian Sea countries. 26 of the 81 provinces are located on coastal areas in Turkey. Additionally, according to the Address Based Population Recording System (ABPRS) results of 2009, more than 50% of the approximately 75 million population lives in coastal areas, and 20% of this total population lives at the sea side.

Turkey has not only the longest mainland coastline in the region but also a wide diversity of ecosystems boasting the highest biodiversity in the Mediterranean. However, the coastal areas have fast growing urban settlements, intense industrial development and agriculture, high fisheries production and high tourist arrivals with a 14%, tourism percentage of exports.

All results in:

- Widespread urban sprawl and illegal construction in coastal areas.
- Hot spots with serious municipal and industrial pollution of coastal waters.

- Need for protection of marine and coastal biodiversity such as dunes, wetlands, marine systems with sea grass beds, whales, turtles and the last monk sea population (Worldbank METAP, 2012).

Legal and Regulatory Framework

The main principles for planning and construction activities for all urban and rural settlements are regulated under Urban Development Law No. 3194, while sea, river and lake coastlines are regulated under Coastal Law No. 3621.

- Coastal Law No. 3621 of 1990, amended in 1992
- Urban Development Law No. 3194 of 1985
- Environmental Law Code No: 2872 of 1983
- The Law for the Protection of Cultural and Natural Values Code No: 2863 of 1983
- National Parks Laws Code No: 2873 of 1993

Government Strategies and Activities

Coastal management has been an important issue in Turkey for the last 20 – 25 years. Several efforts have been put forward by the Turkish Parliament, several ministries and state agencies, academia and non-governmental organizations to improve coastal management, at least in a sectorial sense.

Additionally, a number of attempts have been taken to "integrate" coastal management, but the achievements of these have not been substantial. Even though, the history of ICZM efforts in the country is a relatively long one, and dating back to the 1970s and early 1980s, the present system of coastal management in Turkey is still far from being integrated. (Ozhan and Kosar, 2007)

Major ICZM Issues

- Urban sprawl, tourism development and near-shore illegal construction.
- Coastal waters polluted by municipal, industrial, agricultural and ship waste.
- Biodiversity protection required for extremely rich biodiversity and last natural habitat for monk seal, green turtles and other rare species. (Worldbank METAP, 2012)

4.1 Coastal Legislation

A comprehensive framework law, umbrella law for integrated coastal management is not available in Turkey. Several pieces of legislation in existence, however (laws and by-laws) do address various issues of coastal zone management. The basic features of these main laws and bylaws are well described in the studies, Ozhan, Uras and Aktas (1993), Ozhan (1996) and Ozhan (2005). Even though the main coastal legislation is the same as that described in those studies, it is necessary to update the information to include legal amendments that took place in recent years. After the ratification of the Decree Laws on the Organization and Duties of the Ministry of Environment and Urbanism (644, 29.06.2011 and 648, 08.08.2011), the authorities in coastal planning are redefined. Main marine-oriented laws and bylaws with their amendments are selected and summarized as follows:

4.1.1 Turkish Constitution (2709, 9.11.1982)

The 1982 Turkish Constitution as the basis of legal framework of coastal areas states that coasts and coastal strips are under the jurisdiction and responsibility of the State and public interest is protected in the first place (Article 43). According to the same Article of the Constitution, the widths of shores and shore strips, in relation to purposes of use, possibilities and conditions for people to benefit from these places, are established by law.

4.1.2. Coastal Law (3621, 4.4.1990, Amendment 1.7.1992)

Law number 3086 on Coasts adopted in 1984 and canceled in 1986 and replaced by Law number 3621 on Coasts and its implementation directives enforced in 1990 appear as basic legislation that define the guidelines for the utilization and protection of the coasts in Turkey. On the other hand, some articles of Law 3621 were overruled by the Court of Constitution in 1991. These overruled articles were revised by Law 3830 in 1992 which has been in force since. (Algan, 2000)

Coastal Law has been enacted in order to set principles of coastal use in the public interest that ensure openness to public and access by all people; to develop while maintaining natural and cultural characteristics of coastal zones of seas, artificial and natural lakes, and shore strips and inlands under their influence.

The objective and scope (Article 1 and 2) of this Law is stated as

- Objective: This law has been arranged to determine the utilization and protection principles of sea coasts, natural and artificial lake and river banks and the coastal stripes effected from, and as continuation of, those locations by considering the natural and cultural features and towards the benefits of the society and for public good.
- Scope; This Law covers the arrangements on sea, natural and artificial lakes and river banks and the coastal stripes surrounding sea and lakes, and the opportunities and the provisions to benefit from those locations for public good.

The Law (Article 4) gives definitions of the coastal line, coastal edge line, coast, coastal stripe and the narrow coast.

- Coastal line: The line that joins the points where water meets the land in seas, natural and artificial lakes and rivers, excluding overflow.
- Coastal Edge Line: The natural boundaries of the sandy, pebbly, rocky, stony, rushy, swamp and alike locations formed by the water movements towards land after coastal line at seas, natural and artificial lakes and rivers.
- Coast: The area between the coastal line and coastal edge line.
- Coastal stripe (Amendment: 01.07.1992- 3830/Article 1): The area of horizontally minimum 100 m. wide from the coastal edge line towards the land.
- Narrow coast: Conjunction of the coastal edge line with the coastal line.

The coasts are under the provision and possession of the State and open for the benefits of everyone in equal terms and freely. Public good will be primarily taken into consideration for benefiting from the coasts and coastal stripes (Article 5, General Principles). Protection of the coasts, construction prohibitions and structures to be made on coasts are given in Article 6. On the coasts, any construction of what so ever are not allowed and there cannot be any obstacles such as wall, fence, wire, ditch, stake and alike. Besides, excavations that would alter the form of the coast; extracting sand, pebble and alike is prohibited.

All construction is prohibited within the first 50 meters from the shore edge line; in the remaining landward part, only public facilities and recreational and tourism facilities may be built. Article 6 defines the infrastructure and facilities that can be made on the coasts with the implementation development plan. These cannot be used for other purposes.

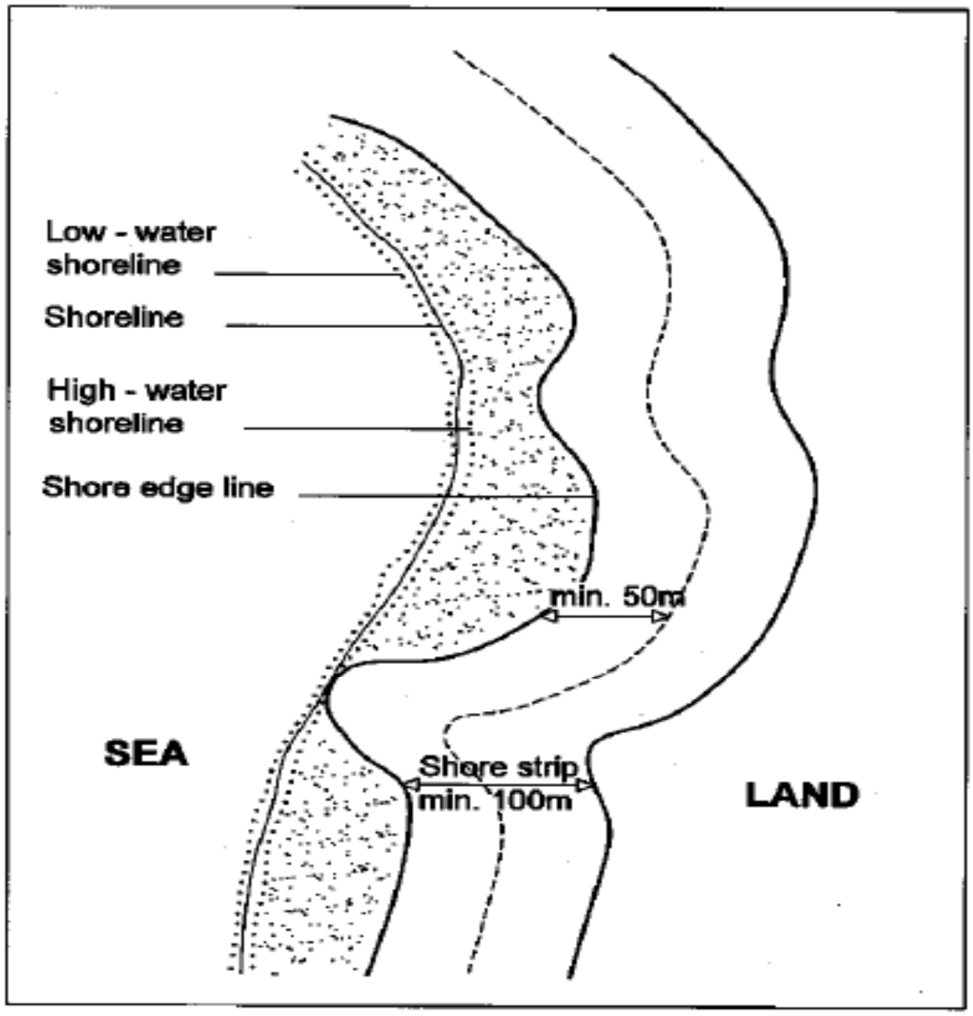

Figure 4.1 a Sketch Depicting the Definitions in Coastal Law
(Source: Sazak, 2009)

The followings can be made on the coasts:

- The infrastructure and facilities for public good and protecting the coasts such as wharf, port, shelter, boarding locations, quay, breakwater, bridge, passage, retaining walls, lighthouse, maintenance beach, boat house, salt pen, discharge and pumping stations.
- Special structures and facilities such as dock yard, vessel dismantling sites and production and breeding locations of water products of which are not possible to be located elsewhere due to the nature of the activities.

The Coastal Law outlines the rules and regulations for gaining land through filling and drainage. Where public good necessitates and with the implementation development plan, lands can be acquired through filling and drainage. These lands will be under the jurisdiction and possession of the State and cannot be subject to private proprietary.

The corresponding proposal of the related institution will be forwarded to the Ministry of Environment and Urbanism (abrogated Ministry of Public Works and Settlement). If the Ministry found appropriate after taking views of the corresponding agencies, an implementation development plan will be prepared by the concerning institution. The provisions of the Urban Development Law will be applied for the plans to be prepared. However, if these plans are to be the ones under the Law on Encouragement of Tourism, No 2634 the Ministry of Environment and Urbanism will ratify the plans in accordance to article 7 of the said Law. (e.mevzuat, 2012a)

Responsibility for the enforcement of the Coastal Law is given to municipalities within their borders and in their annexed areas, and to the provincial governors in all other localities. The rights of the related ministries relating to the control and enforcement of shore and shore strip areas are to be respected. (Art. 13) (Sazak, 2009)

4.1.3 Urban Development Law (3194, 3.5.1985)

The purpose of the Urban Development Law is to ensure that settlements and development come into being in compliance with plans, science, hygiene and environmental conditions. The Law defines several levels of planning, including the land-use plan, Master Plan on the usual scale of 1/5000 and the detail land use plan, Implementation Development Plan on the scale of 1/1000. According to Article 6, plans shall be prepared as Regional Plans and Land Development Plans in terms of area coverage and purpose; and land development plans as Master Plans and Implementation Development Plans.

Plans in this Law are defined as follows.

- Territorial Development Plan is the plan that lays down settlement and land use decisions such as housing, industry, agriculture, tourism, transportation in compliance with regional and national planning decisions.
- Master Plan is a whole plan with a detailed explanatory report which is drawn on the base maps with cadastral drawings worked if available in compliance with regional or environmental plans, and prepared to form a basis for the preparation of the implementation plan and display such matters as general forms of use of land pieces, main zone types, future population densities of the zones, building densities as necessary, development direction and magnitude and principles of various settlement areas, transport systems and solutions to transport problems.
- Implementation Development Plan is the plan which is drawn on approved base maps with cadastral drawings if available in accordance with the principles of the master plan, and contains in detail the building blocks of various zones, their density and order, roads and implementation phases to form the basis for land development implementation programmes and other information.

The preparation and entry into force of plans in Article 8 is defined as

- Regional Plans: The State Planning Organization shall, where necessary, make or cause to make regional plans which shall be prepared to determine socio-economic development trends, development potential of settlements, sectorial objectives and distribution of activities and infrastructure.

Decree Law No. 641 (3.6.2011) created the new Ministry of Development. The State Planning Organization is abolished by this decree and references made to

this organization in laws are considered to be made to the Ministry of Development.

- Land Development Plans shall comprise the Master Plan and the Implementation Plan. Relevant municipalities shall make or cause to make the master plan and implementation plans of places within municipal boundaries by making them comply with the regional plan and territorial development plan decisions if any. They shall enter into force upon approval by municipal councils.

Governorships or the relevant administration shall make or cause to make the plans for the areas outside municipal boundaries and adjacent areas. They shall enter into force after approval of the governorship (e.mevzuat, 2012b).

The Law describes the process of development of these plans and their approval procedure. The law is not specific to the coastal zone, but has a general application. It is administered by Ministry of Environment and Urbanism.

4.1.4. The Environmental Law (2872, 9.8.1983, Amendments 4.6.1986 and 3.3.1988)

This Law is the primary legislation governing environmental protection and improvement of the environment, appropriate and efficient use and protection of natural resources and land, the prevention of pollution and the protection and maintenance of wildlife and plantations. On 26 April 2006 Law on Environment No. 2872 as amended by Law No. 5491 was passed; revising, modernizing and expanding the Environmental Law. While keeping the general outline and spirit of the original law, the Law No. 5491 is more specific on various issues and embraces a more modern perspective regarding environmental issues, with a view to draw level with EU legislation. This law will make a major contribution for improving national environmental

protection as well as a change in depth towards meeting international requirements. It lays down the legal basis for:

- The responsibility of the municipalities, settlements and industrial zones for the delivery of environmental services;
- The principles of producer liability and the polluter pays;
- Use of economic tools for environmental protection, prevention of pollution and rehabilitation and closure of old dumpsites. (Ministry of Environment and Forestry, 2007)

The Environmental Law has strong implications for the coastal zone. Several by-laws that have been passed under the Environmental Law deal with issues such as air pollution, noise, water quality, solid waste management and environmental impact assessment (EIA), and provide the rules and regulations for environmental management.(Ozhan, 2005)

Art. 8, entitled the Prohibition of Pollution, refer to by laws that cover various issues related to pollution of coastal waters. The Bylaws on Water Pollution Control classify lake waters according to their quality (Art. 9) and coastal and seawaters according to their dominant use (Art. 14). The Bylaws provide water quality criteria for lake (Art. 10) and seawater (Art. 15). Pollution control measures for lakes (Art. 21) and seas (Art. 23) are outlined.

The discharge of oil and oil products, including ballast water, into bodies of water is banned (Art. 24). Obligations and remedial measures to be taken at the time of an accidental oil spill are described. Rules and regulations concerning wastewater discharge into coastal waters are given in Art. 26 and 27. Quality standards for wastewater from municipalities (Art. 32) and from various industries (Art. 31) that can be discharged into water bodies are provided. Procedures and criteria for discharging sewage into sea environment by sea outfalls are outlined in detail (Art. from 33 to 42) (Ozhan, 2005).

Law No. 5491 amending the Environmental Law No. 2872 defines Territorial Development Plan as

- Territorial Development Plan, In the line with the sustainable development principle, with the purpose of preventing environmental pollution that may occur as a result of the satisfaction of the needs of urban and rural population including residential, working, recreational and transport needs territorial development plans to constitute a basis for the master and implementation development plans in country physical site with the scale of 1/25.000- 1/50.000 or 1/100.000. (e.mevzuat, 2012c)

The Environmental Law is administered by Ministry of Forest and Water Affairs (abrogated Ministry of Environment and Forest), however, the Decree Laws on the Organization and Duties of the Ministry of Environment and Urbanism (644, 29.06.2011 and 648, 08.08.2011) now states that preparing development plans (territorial, master or implementation development plans) at any scale is among the duties of the new ministry.

4.1.5 Law on the Conservation of Cultural and Natural Properties (2863, 21.07.1983)

This law ensures the national protection of cultural property. The purpose of this Law is described as to establish definitions for movable and immovable cultural and natural values which need conservation, to regulate processes and activities to be carried out, to identify the institution and its duties, which will decide on principles and practices needed in this respect in Article 1. Cultural property is regarded as property that is pertaining to science, culture, religion and fine arts of before and after recorded history or that is of unique scientific and cultural value for social life before and after recorded history (Article 3).

The same article also gives a definition of natural property, which refers to all assets on the ground, under the ground or under the water pertaining to

geological periods, prehistoric periods until present time, that is of unique kind or require protection due to their characteristics and beauty. Finally, site, is defined as being products of the civilizations from prehistoric periods to the present, city and city ruins which reflect social, economic, architectural and other characteristics of their periods; places where important historical activities were staged; and areas which need to be protected on the basis of their established nature characteristics (e.mevzuat, 2012d).

Articles 6 and 23 provide a list of natural property as well as movable and immovable property that are protected under this law. Natural and immovable cultural property (Article 13) and movable cultural property (Article 32) cannot be transferred abroad or sold. The criminal charges and enforcement of this law are specified in Articles 65-75 This Law places more emphasis on cultural sites and properties. The definitions of natural sites and properties are unclear and incomplete. Some coastal areas have been designated as natural sites according to this Law and many areas as historical sites. These areas are identified on maps and restrictions for development are enforced (Ozhan, 2005).

The Law authorizes regional councils, which are set up through appointment by the Ministry of Tourism and Culture, to identify the areas to be protected and to decide whether it is permissible to build in these areas or not. The authority for the enforcement of this Law is the Ministry of Tourism and Culture (Art. 10).

However, with the Decree Laws on the Organization and Duties of the Ministry of Environment and Urbanism (644, 29.06.2011 and 648, 08.08.2011), the new ministry determines the principles and procedures for identification, registry, approval and amendment and declaration of natural assets and natural sites and special environmental protection areas, and to determine and register, manage and ensure the management of the boundaries of these areas. Besides, makes the principle decisions concerning the utilization and development of national parks, nature parks, natural monuments, nature

reserves, natural sites, wetlands, special environmental protection areas and other areas with similar protection statuses, and to make, commission, change, approve, implement or ensure the implementation of territorial, master and implementation development plans plans of all types and scales.

4.1.6 National Parks Law (2873, 09.08.1983)

The purpose of this Law is the purpose of this law pacified as the identification of areas which possess values of national and international importance, as national park, natural park, nature monument and nature protection area and the protection, enhancement and management of these areas without degrading their values and characteristics in Article 1.

According to the Decree Laws on the Organization and Duties of the Ministry of Environment and Urbanism (644, 29.06.2011 and 648, 08.08.2011) national parks, determined by the Ministry of Forest and Waterworks are declared by a decree of the Council of Ministers, following a proposal of the Ministry of Environment and Urbanism, which is supported by earlier reports from the Ministries of National Defense, Energy and natural Resources, Culture and Tourism and other ministries if deemed necessary. While the registry and declaration of nature parks, classified as forest and subject to the forestry regime, are determined by the approval of the Minister of Forest and Waterworks, with regard to lands that are not classified as forest and that are not subject to the forestry regime, the registry and declaration of nature parks, natural monuments, nature reserves, wetland and areas with similar protection statuses are declared by a decree of the Council of Ministers, following a proposal of the Ministry of Environment and Urbanism.

4.1.7 Law on Redevelopment of Areas under Disaster Risk (6306, 16.05.2012)

The 6306 Law on Redevelopment of Areas under Disaster Risk:

This law has been passed by the Turkish Grand National Assembly on May 16, 2012 and put into force by publication at the Official Gazette dated May 31, 2012. The governing authority of the law is the Ministry of Environment and Urbanism. The purpose of the Redevelopment Law, which is defined in Article 1 can be summed up as determining all kinds of principles, methods and processes in connection with rehabilitation, demolition and reconstruction at areas under disaster risk and at other areas, whether planned or not, where there are structures under risk, with the aim of providing habitats conforming to technical, health, environmental and zoning plan requirements. According to Article 9; preventive provisions of other laws contrary to the implementation of this law shall not be applicable, which also includes Coastal Law No 3621, beside all other pre mentioned laws related to coastal areas. These aspects the law has already caused widespread protests from circles such as professional chambers and current residents of redevelopment areas due to social, cultural and environmental concerns as it opens a way for new means of maximum use of land at centrally located urban land through higher floor area ratios which are to be determined by central and local administration institutions such as Housing Development Administration of Turkey, metropolitan municipalities and county municipalities. These institutions are also authorized to decide which structures are under risk (e.mevzuat, 2012e). From this point of view it is related to cities located on the coasts although the law is not directly related to coastal areas.

4.1.8 Other Laws and Regulations related to Coasts

Aims of the legislation related to coasts other than laws and regulations described above are summarized below.

The Civil Law: It has been stated in the law that the coastal areas belong to public and cannot be subject to private property.

The 618 Harbors Law: The aim of this law is to arrange all types of objectives related to harbors.

The 1956 Forestry Law: The aim of this law numbered 6831 is to take forests under the authority of the state, to prohibit the activities which harm forests, vegetation, and water resources, to limit land uses in the forest land for other purposes. Heavily forested areas within coastal areas are also affected by this law.

The 1971 Marine Products Law: The aim of this law numbered 1380 is to protect marine products, identify the marine products production locations, and provide control of these areas.

The 1982 Tourism Incentives Law: The aim of this law numbered 2634 is to provide measures for a dynamic structure for the regulation and development of the tourism sector.

The 1982 Coastal Security Force Law: The aim of this law numbered 2692 is to regulate the methods related to provision of security and protection of the inland waters, harbors and gulfs.

The 1983 Bosphorus Law: The aim of this law numbered 2960 is to determine the legal procedure to limit the construction in this area to prevent population increase, and to protect the cultural values and natural beauties of the Bosphorus area by taking public interest into account.

The Decree of Cabinet for the Organization and Duties of the Ministry of Transport: The aim of this law numbered 3348 is to prepare the planning and programming of the protection of coastal establishments and structures of the harbours and shelters and their equipment, the maintenance of these establishments, and equipment repairing in cooperation with related institutions.

The 1988 Water Protection Regulation based upon the Environmental Law: This law aims at achieving better ways of use and protection of the water

resources potential of the country and preventing the water pollution by the production of well-adjusted legal and technical specifications with the social and economic development plans.

Directives relating to the Non-Agricultural Use of Agricultural Areas: The purpose of this law numbered 20105 is to provide the use of agricultural areas appropriately and determine the fundamental principles for the agricultural areas used for purposes other than agriculture.

The 1989 Decree of the Special Environmental Protection Areas: The aim of this law numbered 2872 is to establish the Presidency of Special Environmental Protection Areas to protect the environmental value of the identified areas of value.

The 1993 Decree for the Establishment and Functions of the Undersecretaries for Maritime Affairs: The aim of this law numbered 491 is to provide observation and auditing to all types of activities which can cause marine pollution and damage to marine ecology, and to identify, plan, assign, and permit vessel dismantling facilities in cooperation with other institutions.

The 5393 Municipalities Law: This law gives authority to municipalities to audit the soundness, cleanliness, and loading capacity of the marine vehicles and to determine their routes (Ozhan 2005, Durukan 1997).

4.2 Coastal Planning Process

Coastal areas, with its geographical and natural characteristics are convenient places for usage and investment on different economic and social activities such as fishery, tourism, marine transportation, industry-storage and energy intensively, besides urban and rural settlements. In coastal areas different institutional establishments have authorities according to general legislation,

sector and special status based laws or their own establishment laws in planning and implementation processes.

In this part of the thesis, authority related to planning and implementation will be examined and planning process on coastal areas will be discussed on the basis of Urban Developmental Law and Coastal Law. Before discussing related legislation and institutional authorities, Decree Laws on the Organization and Duties of the Ministry of Environment and Urbanism (644, 29.06.2011 and 648, 08.08.2011) which resulted in legal amendments in some articles will be evaluated.

4.2.1 Decree Law on the Organization and Duties of the Ministry of Environment and Urbanism (644, 29.06.2011 and 648, 08.08.2011)

Decree Law No. 644 (29.06.2011) created the Ministry of Environment and Urbanism, while Decree Law No. 645 (29.06.2011) created the Ministry of Forest and Waterworks. According to Decree Law Nr. 644 article 37, references in the laws made to the Ministry of Public Works and Settlement should be understood as made to the Ministry of Environment and Urbanism. Former duties of the Ministry of Environment and Forest are divided between these two new ministries according the regulations of the decree.

However the Decree Law no.644 has been substantially altered by a subsequent Decree Law no.648. This amendment has widened the new ministry's authority and made alterations on the relevant laws accordingly. The Decree now states that preparing physical development plans (territorial, master or implementation development plans) at any scale is among the duties of the Ministry of Environment and Urbanism.

According to the Decree Laws the duties and responsibilities of the Ministry are drafting legislations concerning environment and urbanization and auditing their implementation, making policies to prevent pollution and determining

standards for the protection of the environment, audit and impact assessment of facilities which may create pollution by leaving waste to receiving environment, making policies regarding global climate change, making urbanization policies and auditing their implementation (e.mevzuat, 2012f, 2012g).

Article 2 of the Decree specifies the Ministry of Environment and Urbanism purpose, scope and duties. The main duty of the new ministry is to protect environment and therefore regulate the investments which has an impact on the environment. Another significant power of the new ministry concerning the urbanism is that according to the Article 2 of the Decree the ministry prepares and applies development planning, construction and building regulations.

Creating building audit systems, improving energy efficiency in the buildings is also among the ministry's responsibilities. The same article empowers the new Ministry with an authority which the former ministry does not have before. The Ministry can make, amend and approve the territorial, master and implementation development plans at any scale, maps, and parceling plans on its own motion without need to consult the related municipalities (Gencoglu, 2012).

With the Decree Law No. 648, under the Ministry of Environment and Urbanization, the Directorate General for Natural Assets Protection has been established to replace the Environmental Protection Agency for Special Areas (EPASA) established with the Decree-Law on the Establishment of the Environmental Protection Agency for Special Areas (382, 19.10.1989).

Besides, with the Decree Law No. 648, the authority for the designation and declaration of national parks, nature parks, nature monuments, nature conservation areas and wetlands (except areas under the forestry regime) is given to the Ministry of Environment and Urbanism whereas the authority for the identification, protection, planning, organization, improvement, promotion

and management of these areas is given to General Directorate of Nature Conservation and National Parks by Decree Law No. 645. The planning authority of the General Directorate of Nature Conservation and National Parks has been forfeited by the 648 numbered Decree Law. Moreover, the same Decree Law gives the authority to identify the use and construction principles for those areas as well as the power to give appropriation decisions inline with the approved plans and the monitoring and inspection of the implementation processes to the General Directorate for Protection of Natural Assets under the Ministry of Environment and Urbanism. (Worldpress, 2012) The duties of the new ministry may be criticized by pointing out the centralization of the administration, however with the 645 and 648 numbered Decree Laws, the fragmentation and disparities in nature conservation have been escalated and unfortunately, the institutional structure became more complex compared to 2000s.

4.2.2 Planning Authorities

According to Urban Development Law No. 3194,

- For the preparation and approval of Regional Plans; the Ministry of Development,
- For the preparation and approval of Territorial Development Plans; Ministry of Environment and Urbanism, Provincial Special Administration and Metropolitan Municipalities,
- For the preparation and approval of Land Development Plans; according to basic principles, Municipalities in the municipality borders and Governorship outside the borders are authorized (Table 4.1).

Table 4.1 Planning Scales and Authorities in Turkey

Plan Stage	Name of Plan	Scale	Planning Authority
Upper Scale Plans	Regional Plan	1/250.000 - 1/100.000	Ministry of Development
	Territorial Development Plan	1/100.000 - 1/25.000	Ministry of Environment and Urbanism Provincial Special Administration Metropolitan Municipality
Land Development Plans	Master Plan	1/25.000(*) - 1/5000	Municipality - Governorship
	Implementation Development Plan	1/1000	Municipality - Governorship

(*) Scale of Master Plan in Metropolitan Municipality

However, according to Urban Development Law No. 3194, exceptions (Article 4): Provisions of this Law not contrary to special laws shall apply to such places as specified or to be specified by the Law No. 2634 on Tourism Incentives, the Law No. 2863 on Conservation of Cultural and Natural Assets, and the Law No. 2960 on Bosphorus and the Law No. 3030 on Administration of Metropolitan Municipalities provided that the relevant Articles of this Law be complied with, and other special laws.

The Ministry of National Defense and the Ministry of Public Works and Settlement shall jointly decide how and which Articles of this Law shall apply to the structures of operational, training and defense purposes belonging to the Turkish Armed Forces.

4.2.3 Coastal Planning and Structuring

According to Coastal Law, for the protection of sea, lake and river sides and their shores and provision of these sides and shores for public use, first stage is Coastal Edge Line and coastal stripe determination.

4.2.3.1 Determination of the Coastal Edge Line and Coastal Stripe

Article 9: Coastal Edge Line will be determined by a committee that will be established by the governors with minimum 5 public employees. This committee will comprise of; geological engineer, geologist or geomorphologist, mapping engineer, agricultural engineer, architect and urban planner and civil engineer. The coastal edge line determined by the committee and submitted with the view of the governor will come into force after ratification by the Ministry of Environment and Urbanism.

Coastal stripe is the area of horizontally minimum 100 m. wide from the coastal edge line towards the land. The only exception to this rule is for wholly or partially constructed areas. Before 11.07.1992 in which Coastal Law No. 3830 came into force, coastal stripe determined according to approved land development plans in wholly or partially constructed areas is accepted to be "vested right" and protected in revisions of the land development plans. However coastal stripe is to be determinded in the revisions of the land development plans in areas where wholly or partially construction is not completed.

According to the Regulation on the Enforcement of Coastal Law (20594, 03.08.1990), urban and rural settlements in coastal areas and touristic regions, areas or centers, width of coastal stripe is determined according to whether there was an approved land development plan of the area before 11.07.1992 and differs according to the type and content of the plan and partial construction situation. Partial construction is defined as follows.

Partial Construction: The situation which raises when the number of parcels of location development plans of 1/1000 scale approved before July 11,1992 for a specific use purpose within and out of the municipality and contiguous zone borders exceeds 50% of the number of parcels of structures, which are located on development blocks within the 100 meter area starting from the shoreline,

completed as stated in the plans and legislation in force at that time, and the structures whose construction is completed at least in overflowing level by granting authorization or the number of total parcels in the development blocks of total base area.

4.3.2.2 Planning in Coasts, Coastal Stripes and Filled In and Reclaimed Lands

The areas subject to planning under the jurisdiction of Coastal Law can be classified as follows.

- Coastal areas of sea, lake and rivers which is determined according to laws and regulations,
- Coastal Stripes of sea and lakes which is adjacent to coastal areas determined according to laws and regulations,
- The land acquired by filling in and reclamation in coastal area of sea, lake and rivers and in special conditions mentioned in law, containing the coastal edge of sea and lakes.

Planning in Coasts,

According to Article 10 of Coastal Law, the plans that will be prepared in accordance to the urban development plans or under the scope of the Law on Encouragement of Tourism, No. 2634 will be finalized upon ratification in accordance to article 7 of the said Law.

According to Article 12 of the Regulation on the Enforcement of Coastal Law, planning and the construction on coast shall not start before the preparation and the approval of implementation development plan with a scale of 1/1000. Only to construct structures and facilities stated in the Article 6 of the Law and Article 13 of the regulation hereby on coast, a development plan can be prepared.

Implementation development plan of structures and facilities, which are the premises and extensions of touristic uses in the tourism areas and centers determined as per Tourism Incentives Law No 2634 and the daily visit tourism areas of the shorelines in the same areas or accommodation facilities outside the shoreline, shall enter into force by the approval of the Ministry of Tourism as per the Article 7 of the same Law.

Implementation development plant not in the tourism zones, areas and centers shall enter into, as per Urban Development Law No 3194.

Planning in Coastal Stripes

According to Article 12 of the Regulation on the Enforcement of Coastal Law, before the approval of the implementation development plan, implementation cannot start.

- Implementation Development Plans in the first section of coastal stripes are designed as open spaces for public use. In these area only pedestrian roads, recreational areas and structures can take place.
- Implementation Development Plans in the second section of coastal stripes are designed to contain structures for daily touristic purposes for public use except residential purposes.
- Implementation Development Plans in touristical region, area or centers of coastal stripe, determined according to Tourism İncitement Law No. 2634, are prepared and approved by the Ministry of Tourism and Culture.
- Implementation Development Plans in non - touristical regions are prepared and approved by Ministry of Environment and Urbanism, Governorship or Municipalities according to the related sections of Development Law No. 3194.
- In the areas which are decided to be privatized, conditions for structuring administrative, support, maintenance, repair and residential units and technical and social infrastructure of yacht and cruise harbors

which will be constructed in coastal and filled in areas is determined by development plans.

- All the areas in coastal stripes, which belong to official institutions, cannot be assessed for partial construction. The development plans for this kind of areas are prepared by the related Ministry, Governorship or Municipality according to Development Law No. 3194.

Planning in Filled In and Reclaimed Lands

Where public good necessitates and with the approval of the implementation development plan, lands can be acquired through filling and drainage by considering the ecological features of seas, lakes and rivers.

The corresponding proposal of the related administration that will accomplish the filling and drainage will be forwarded to the Ministry of Environment and Urbanism together with the consideration of the governor whom the initial application is made. The Ministry will examine the proposal by taking views of the corresponding agencies. If found appropriate, an application structure plan will be prepared by the concerning administration. The provisions of the Urban Development Law will be applied for the plans to be prepared. These lands will be under the jurisdiction and possession of the State and cannot be subject to private proprietary. Only structures indicated in article 6 of the Coastal Law can be constructed, and technical and social infrastructural areas can be arranged such as roads, open parking area, parks, green areas and play grounds on these lands.

4.3.2.3 Coastal Planning Authorities

Table 4.2 Coastal Planning Authorities in Turkey
(Source: Adopted from Dampo Danışmanlık, 2009)

Name and Scale of Plan	Location of the Coastal Structures	Planning Authority
1/100.000 – 1/25.000 Scale Territorial Development Plan	Coasts and Coastal Stripes	*According to Jurisdiction Area* *Ministry of Environment and Urbanism *Provincial Special Administration *Metropolitan Municipality
	Southeastern Anatolia Project (GAP) Area	*Ministry of Development,
	Special Environmental Protection Areas	*Ministry of Environment and Urbanism
1/5000 Scale Master Plan	Filled In and Reclaimed Lands	*Ministry of Environment and Urbanism
	Tourism Zones, Areas and Centers	*Ministry of Tourism and Culture
	National Parks, Nature Parks, Natural Sites, Wetlands (if Planned for Urban Development)	*Ministry of Environment and Urbanism
	Special Environmental Protection Areas	*Ministry of Environment and Urbanism
	GAP Area	*Ministry of Development
	Areas within the Scope of Privatization	*Prime Ministry Privatization Administration
	Other Areas	*Governorship *Municipality
	Filled In and Reclaimed Lands (if Not Planned for Touristic Purposes)	*Ministry of Environment and Urbanism
	Tourism Zones, Areas and Centers (Planned for Touristic Uses)	*Ministry of Tourism and Culture
	National Parks, Nature Parks, Natural Sites, Wetlands (if Planned for Urban Development)	*Ministry of Environment and Urbanism
	Special Environmental Protection Areas	*Ministry of Environment and Urbanism
	GAP Area	*Ministry of Development
	Areas within the Scope of Privatization	*Prime Ministry Privatization Administration
	Other Areas	*Governorship *Municipality

4.4 ICZM in Turkey

Many laws and legislations concerning coastal areas exists in Turkey such as Turkish Constitution at first, the Civil Law, the Coastal Law, the Urban Development Law etc., and several institutions and organizations have authority in coastal areas within the jurisdiction of these laws and regulations. Coasts and coastal areas are under the domination and possession of the state, that coasts are protected and used for the public benefit have been the basic principles of coastal legislation. A framework law for "integrated" coastal management is not yet available in Turkey. Several pieces of legislation (laws and by-laws) have been enacted starting with early 1980's for addressing various issues of coastal zone management such as tourism, fisheries, land use and planning, protection and conservation, management of a narrow strip of land along the coastal line through the "Coastal Law". (Ozhan et al., 1993; Ozhan, 1996, Ozhan, 2007)

However, only legislation has failed to protect the natural beauties and sources of coasts and balance the utilization from the coasts and protection of them. The authorities in the affairs of planning and development in coastal areas are distributed among various ministerial, central government institutions, provincial and municipal organizations, which caused the benefit oriented use of coastal regions (Sesli, Sisman and Aydinoglu, 2009). Therefore, authorities' responsibilities overlap in some areas and there are gaps in others. Besides, the management of coastal development in Turkey has been strongly central and clearly sectorial, although there have been several efforts to bring in "integrated" management and to decentralize the planning and implementation authority by transferring responsibilities to local administrations (municipalities and provincial governorates).

4.4.1 ICZM Legislation and Government Strategies in Turkey

Turkey has not reported officially to the EU ICZM Recommendation.

According to Article 7 of the Decree Law on the Organization and Duties of the Ministry of Environment and Urbanism (644, 29.06.2011), the General Directorate of Spatial Planning under the new Ministry can make, amend and approve Integrated Coastal Zone Management Works or Plans. However, this legal arrangement offers neither a wide scope ICZM law nor a special institutional development in this area and therefore efforts cannot go far beyond the project level.

Increasing coastal problems led to the establishment of a number of units at the central governmental level, such as the 'Coastal Inventory Agency' within the Ministry of Environment and Urbanism (charged with determining the coastal shoreline and developing inventories with regard to the implementation of the Coastal Law) and the National Committee on Turkish Coastal Zone Management (KAY) in 1993 (serves an important role in the ICZM approach at the national level through the organization of seminars, courses and projects). In 1997 the Environmental and Coastal Management Agency was established by the abrogated Ministry of Environment to prepare, implement and evaluate environmental management plans and reorganized as a General Directorate under the Ministry of Environment and Urbanism with the Decree Laws 644 and 648.

Since there is neither a law that covers all respects related to coastal zones, nor a special institutional structure for this purpose, the current situation where various organizations have authority which overlap and create gaps in management of coastal areas, can continue.

Turkey is a party to a major number of global and/or regional international conventions and non-legally binding arrangements mentioned in Chapter 3. Convention for the Protection of the World Cultural and Natural Heritage; Ramsar Convention; Convention on Biological Diversity Bucharest Convention and its related Protocols; Barcelona Convention and its related Protocols and Barcelona Convention amending it, Barcelona Convention for

the Protection of the Marine Environment and Coastal Region of the Mediterranean and the Protocol Concerning Specially Protected Areas and Bern Convention are the international conventions that Turkey is a party of and that contain direct or indirect provisions for ICZM. (Algan, 2000)

Since Article 90 of the Constitution deems all procedurally enforced international conventions at the force of law, it is necessary for Turkey to adopt and enforce these conventions as a part of its national legislation. Moreover, Biological Convention's Jakarta Mandate; Rio Declaration; Agenda 21; non-legally binding Authoritative Statement of Global Consensus on the Management, Conservation and Sustainable Development of all Types of Forests; Odessa Declaration; Rehabilitation and Protection of the Black Sea; Genoa Declaration; Nicosia Charter; Cairo Declaration; Tunis Declaration and Mediterranean Agenda 21 (Med 21); Mediterranean Action Plan Phase II, Barcelona Resolution; OECD recommendations on Principles concerning Coastal Management (1976) and on integrated coastal zone management (1992) are ICZM containing international arrangements adopted by Turkey which means that besides the political commitments involved there is also a national liability to implement these as a matter of custom law and ethics. (Algan, 2000)

4.4.2 The Turkish National Committee on Coastal Zone Management (KAY)

The National Committee, a national network with international connections, is legally set up under the framework of the Higher Education Law and established in 1993. The Committee, administered from the Middle East Technical University (METU) in Ankara, has contributed to the development of coastal policies in Turkey, by providing expert opinions on various coast-related developments, by publishing a newsletter, and by organizing a national conference series entitled "The National Conference on Coastal and Marine Areas of Turkey – The Turkish Coast".

The goals of the National Committee are stated in its by-laws as follows:

- To support the efforts towards the conservation of and benefits from the nation's coastal areas by balancing the needs of the various uses.
- To provide a medium for information exchange and cooperation between public agencies, universities, municipalities, NGOs, and the private sector, operating in or conducting research on the coastal zone.
- To contribute to the development of scientific research projects aiming towards the rational use of the coastal areas and their conservation; to sponsor and participate in these projects, to organize scientific meetings and to publish related topics.
- To establish a centre to store data and information useful for coastal zone management, with an emphasis on national needs, and to provide these to users under certain arrangements.
- To define, investigate and monitor the problems of coastal uses that are present in the country now, or that will appear in the future; to contribute to the efforts towards solution of these problems, and to support and sponsor these efforts.
- To follow developments in other countries concerning guidelines, rules, laws, and strategies on the management of coastal areas, to inform related public agencies about these developments; to develop and propose rules and regulations for coastal zone management in the country and to contribute to the development of legislation and institutional arrangements, and of coastal planning decisions in accordance with international norms and standards.
- To cooperate with international organizations (such as MEDCOAST, EUROCOAST, ICO, UNEP-MAP, WWF, etc.) which are established with similar objectives; to ensure a member from Turkey, and to represent Turkey in these organizations; to participate in programmes and projects carried out by these organizations and to represent them in Turkey.

- To contribute to the development of national short-term or long-term educational programmes on coastal zone management.
- To ensure and disseminate research and pilot projects, and educational programmes on the sustainable use of coastal areas; to provide student exchange programmes.
- To conduct and sponsor programmes nurturing environmental education and awareness in children, youth and the public in general, on the protection of and rational use of coastal zones (Ozhan, 2005).

4.4.3 International Cooperation

Turkey has been a party from the start to two different UNEP regional seas programmes: the Mediterranean Action Plan (1975) and the Black Sea Strategic Action Plan (1996).

The Mediterranean Action Plan, the oldest application of the UNEP Regional Seas Programme, has contributed in various ways to enhancing coastal and marine management in Turkey. The commitment of the Mediterranean governments to setting up 100 specially protected areas along the shores of the Mediterranean was instrumental in initiating the first SPAs in 1988. The SPA designations of the most valuable, pristine coastal areas around the Aegean and Mediterranean coast of Turkey have worked well to shield these areas from the development pressures emanating from mass tourism projects. The Izmir Bay CAMP of PAP/RAC (Split, Croatia) was one of the first applications of this regional programme for enhancing national ICAM capabilities. More or less concurrently, a project was carried out by the abrogated Ministry of Environment in collaboration with MAP's Blue Plan Regional Activity Centre, BP/RAC (Sophia Antipolis, France) on the socio-economic development of the coastal area around the Iskenderun Bay. Like all other Mediterranean governments, the Turkish government has benefited from the past and ongoing capacity building activities of the PAP/RAC (Split, Croatia) on various aspects of ICAM (Ozhan, 2005).

Turkey has also been close collaborating with several other international institutions and governments on projects and capacity building in the field of coastal and marine management. Several coastal projects were realized through European Union programmes, such as three coastal projects funded by the LIFE DC programme (Cirali Coastal Management and Tourism Project of DHKD/WWF Turkey, Cukurova Deltas Biodiversity Conservation Project of Cukurova University and Olu Deniz Lagoon Project of Turkish Marine Research Foundation, TUDAV) (Ozhan, 2005).

Turkey has also collaborated with the Mediterranean Technical Assistance Programme on several coastal projects; Bodrum Peninsula Solid Waste Management Project of the Mediterranean Academy Foundation, and the Belek Coastal Management Project of DHKD/ WWF Turkey. Turkey was chosen as a pilot country for the implementation of the UNDP's Small Grants Programme in 1993, which has provided basic financial support to bolster the efforts of environmental NGOs. Several projects funded by this programme, including the Bodrum Peninsula Coastal Zone Management Project, dealt with coastal and marine management issues (Ozhan, 2005).

4.4.4 ICZM Projects

The increase in the coastal management programmes in the form of pilot implementation in Turkey from the second half of 1990's till now can be especially related to the expansion in integrated coastal area management implamentations after Rio Conference. The summary of these projects is given in Table 4.3, Table 4.4 and Table 4.5 consequently. These tables are classified basicly according to their aims. Table 4.3 includes examples of Coastal Zone Management Projects aiming to plan all coasts of Turkey in an integrated manner under the authority of abrogated Ministry of Public Works and Settlement. These projects are being continued by the Ministry of Environment and Urbanism after abrogation of Ministry of Public Works and Settlement. Samsun and Antalya Integrated Coastal Zone Management Projects and their

implementation studies were finished in 2009 according to Performance Programme of the Ministry of Environment and Urbanism for the year 2012. According to the same programme Sinop Integrated Coastal Zone Management Project was finished in 2010, however its implementation studies are being continiued. Izmir and Artvin-Rize Integrated Coastal Zone Management Projects will be finished in 2012. Table 4.4 includes examples of Coastal Zone Management Projects with the focus on protection, most of which are authorized by Ministry of Environment, Special Environmental Protection Agency (SEPA). Table 4.5 includes other projects with different aims (Ministry of Environment and Urbanism, 2012).

Integrated Coastal Zone Management Projects are initiated according to different aims, in different scales, with different approaches. Some of them are in the form of just a research report; some of them have the aim of preparing a management project for a pre-determined protection area, while others have land use decisions and offer priority action areas in a limited manner for implementation, besides planning and policy making. Some of the coastal management pilot projects are part of global (Mediterranean Action Programme and Black Sea Environment Programme) programmes like United Nations Regional Seas Programme; others come into question with the monetary support taken from the institutions supporting environmental problem studies such as LIFE and GEF. Beside the above mentioned ones management projects that are implemented in specially protected areas with again international support can be included (Gorer and Duru, 2001).

The common properties of these coastal management programmes generally initiated by the help of international institutions like European Union, World Bank, United Nations are multi actor management structure, preservation of natural resources and management (protection of biological species and encouragement of sectors like organic agriculture, eco-tourism) project proposals for sewage, wastewater treatment, garbage collection and disposal, education of local people on environment and touristical subjects, monitoring

water pollution and natural habitats and data collection. Voluntary foundations are generally the executives for the projects supported by external sources.

Some proceedings can be obtained by these projects in coastal areas. Social and ecologic investigations for areas where pilot projects are handled, protection of some natural values, development possibilities for local managements which usually have monetary, administrative and technical problems and education of local people for environmental purposes can be told among these proceedings. However the real expected benefit from these projects is encouraging to upgrade national legal regulations to international criterions and introducing principles and techniques of ICZM overall the country (Gorer and Duru, 2001).

Table 4.3 Examples of ICZM Projects Authorized by Ministry of Environment and Urbanism

(Source: Adopted from Gorer and Duru, 2001 and DAMPO Danışmanlık, 2009)

Project Name/Date	**Responsible Institution/Establishment**	**Supportive Programmes**	**Content/Properties**
Iskenderun Gulf Coastal Area Integrated Planning and Management Project (2007-2008)	Ministry of Public Works and Settlement General Directorate of TRI		Iskenderun Gulf Coastal Region (From Mersin Karaduvar to Hatay Samandag) Iskenderun Gulf Coastal Area Integrated Planning and Management
Izmit Gulf Coastal Area Integrated Planning and Management Project	Ministry of Public Works and Settlement General Directorate of TRI		Kocaeli-Yalova

Table 4.3 (Cont.) Examples of ICZM Projects Authorized by Ministry of Environment and Urbanism

Project Name/Date	**Responsible Institution/Establishment**	**Supportive Programmes**	**Content/Properties**
Samsun Coastal Area Integrated Planning and Management Project (2008-2009)	Ministry of Public Works and Settlement General Directorate of TRI		Samsun Coastal Area ; "A new approach for the solution of Implementation Problems in Coastal Areas" Samsun Integrated Coastal Area Planning Project
Antalya Coastal Area Integrated Planning and Management Project (2009-2010)	Ministry of Public Works and Settlement General Directorate of TRI		Antalya Coastal Area; A new approach for the solution of Implementation Problems in Coastal Areas" Antalya Integrated Coastal Area Planning Project

Table 4.4 Examples of ICZM Projects Authorized by Ministry of Environment SEPA.
(Source: Adopted from Gorer and Duru, 2001 and DAMPO Danışmanlık, 2009)

Project Name/Date	Responsible Institution/Establishment	Supportive Programmes	Content/Properties
Belek Coastal Management Program (1995-1997)	Protection of Wild Life Association, World Wide Fund for Nature	DHKD, Coastal Management and Tourism Project in Turkey (World Bank, METAP)	Belek Coastal Zone; Maintain Sustainable Development by decreasing the negative impacts of Tourism and other usages to environment, protection of biological species and natural sources.
Patara Specially Protected Area Management Plan (1997)	Ministry of Environment Special Environmental Protection Agency (SEPA), Ministry of Culture, Utta-Belde	METAP, MEDPAN, MEDSAP, UNAP, UNDP (EU, METAP, World Bank)	Patara Specially Protected Area; Preparing a management plan for Patara which is a specially protected area

Table 4.4 (Cont.) Examples of ICZM Projects Authorized by Ministry of Environment SEPA.

Project Name/Date	**Responsible Institution/Establishment**	**Supportive Programmes**	**Content/Properties**
Goksu Delta Management Plan (1998-1999)	SEPA, Protection of Wildlife Association		Goksu Delta Coastal Zone; Preparation of a management plan
Gokova Projesi (2006-2009)	Mugla University Governorship of Mugla, Environmental Protection Agency for Special Areas, Ula Kaymakamligi ve Akyaka Municipality.	EU SMAP III	Protection and rehabilitation of wild life, implementation of waste disposal management, public awareness.
Iskenderun Gulf Environmental Management Project (1990-1993)	Ministry of Environment - A.U. Siyasal Bilgiler Faculty of Political Sciences	UNEP, MAP	Iskenderun Gulf; Assessment of Developmental Trends in Environmental point of view, interaction between environment and development

Table 4.4 (Cont.) Examples of ICZM Projects Authorized by Ministry of Environment SEPA.

Project Name/Date	Responsible Institution/Establishment	Supportive Programmes	Content/Properties
Mersin Coastal Zone Integrated Planning Project (1995-1996)	Ministry of Environment, KentKur A.S.	UNEP MAP (World Bank, METAP)	Mersin Coastal Zone; Determining environmental politicy and strategies, begin to study for establishing local information system.
Gediz Delta Wetland Management Plan (2004-2006)	Ministry of Environment and Forestry, Wetlands Branch Management, Izmir Governorship, Aegean Nature Assoc.	Ramsar	Gediz Delta Wetland, Preperation of a management plan
Strategic Action Plan for the Rehabilitation and Protection of Black Sea (1993-1996)/ Black Sea Integrated Coastal Zone Management Policy and Strategies (1996-1998)	Ministry of Environment, GEF, BSEP, DAMPO A.S	Black Sea Environmental Program (UNEP, UNDP, GEF, KSEP)	14 Coastal Province of Black Sea (Except Istanbul); Setting National Development Strategies and Policies especially for Black Sea, Preparation of an Action Plan based on reliable and systematic information

Table 4.5 Other Examples of ICZM Projects with Different Aims
(Source: Adopted from Gorer and Duru, 2001 and DAMPO Danışmanlık, 2009)

Project Name/Date	Responsible Institution/Establishment	Supportive Programmes	Content/Properties
Bodrum Peninsula Coastal Area Project (1993-1995)	Voluntary Association for Bodrum, Turkish Nature Conservation Society Bodrum Branch	UNDP – UNEP –GEF (GEF Kucuk Olcekli Projeler Programi)	Bodrum Peninsula; Data Gathering for determining current situation for solving the environmental problems of coastal areas
Trabzon City Coastal Management (1996)	Trabzon Foundation	GEF Samall Scale Projects Program (GEF, UNDP)	Trabzon; Reinforcing the capacity of regeneration of Ecological systems, management of local resources in protection – usage balance
Cukurova Delta Biosphere Reserve Planning Project (2002-2004)	Cukurova University Landscape Architecture Department, Adana Governorship, Adana Provincial Directorate of Environment and Forestry	EU LIFE Third Country Program, Adana Governorship, Cukurova University	Adana coasts and lagoons (Yumurtalik, Kartas, Tuzla); Preparation of a management plan for Cukurova Delta and lagoons.
Yumurtalik Lagoons Management Plan Project (2004-2007)	Ornithology Association	Baku Tiflis Ceyhan Pipe Line Company Environmental Investments Program, GEF Small Support Program, Ford-Otosan)	Yumurtalik Lagoons; Firstly removing basic causes of problems and then preparing Yumurtalik Lagoons Management Plan.

4.4.4.1 European Union (LIFEDCProgramme): The Cirali Project

The Coastal Management and Tourism Project in Cirali was initiated by WWF-DHKD in April 1997 and concluded in 2000. The project was financed by the European Union (LIFEDCProgramme) and technically supported by The Ministry of Tourism, Environment and Culture.

The main goal of the project was to promote sustainable development in the area. Particular emphasis was placed on the conservation of biodiversity and natural resources in Cirali (UNEP/MAP/PAP, 2001). Within this context, two main objectives have been identified and pursued:

- To promote environmentally and socially sound development through integrated planning, by pursuing traditional and alternative economic activities and nature protection.
- To disseminate results of the project in order to promote legal enforcement and regulatory development at the national level (Ozhan, 2005).

The main outputs of the Cirali project are the Coastal Management Plan, the Cirali Physical Plan and the Ulupinar Cooperative. Following the final report of the project, Cirali Physical Plan could not complete the approval stage due to the slow progress of the review and decision mechanisms and the deficiency in coordination among the ministries.

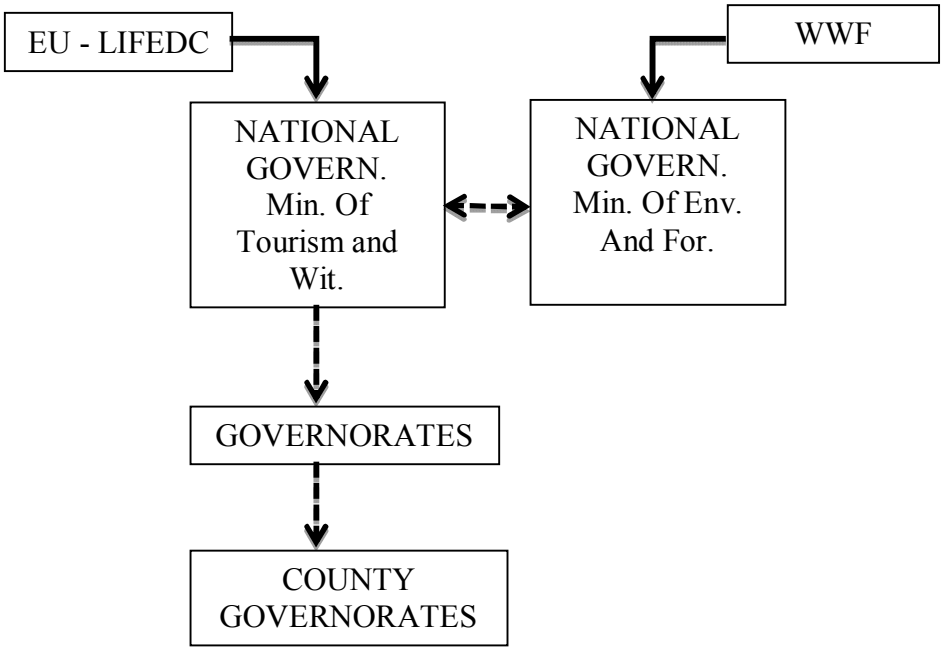

Figure 4.2 Institutional Set-Up of European Union (LIFEDCProgramme): The Cirali Project

4.4.4.2 Coastal Area Management Programme (CAMP): The Bay of Izmir Project

The Bay of Izmir CAMP project was carried out in two phases as two successive projects. In 1987, PAP launched the programme of Country Pilot Projects. The Izmir Project was implemented between 1988 and 1989. Major emphasis was given to the pollution of the Izmir Bay throughout Phase I.

Several documents on various aspects of water pollution in Izmir Bay were prepared. Furthermore, a detailed oceanographic study of the Bay and an expanded monitoring programme were presented. Towards the end of this project, the issue of integrated planning was dealt with in expert meetings, a document, Proposal Relating to the Organization of a Preliminary Study of the Integrated Plan of the Izmir Area, and a training course (Ozhan, 2005).

The second phase of the project was started following the approval of the preparation of the Coastal Area Management Programme (CAMP) for the Bay of Izmir in October 1989. The Turkish Government and the Mediterranean Action Plan (MAP) signed the agreement in June 1990 and the The Bay of Izmir CAMP commenced in October 1991. The main participants were the Metropolitan Municipality of Izmir and the abrogated Ministry of Environment. From the side of the Mediterranean Action Plan, the main contributors were the PAP/RAC and the MAP Coordinating Unit (MEDU) (Ozhan, 2005).

One of the most substantial outputs of the Bay of Izmir CAMP was the study report, said to be an umbrella document integrating the results of activities carried out within the framework of the Project.

The report summarized the state of the natural resources and the process of development, development / interaction interactions, and the existing process of decision-making in its first part (UNEP/MAP/PAP, 2001b).

The programme's final assessment concluded that only half of the operations envisaged were finally performed. However, major positive changes could be observed in the management and the actual development of the Izmir Metropolitan Area, partly attributable to the CAMP initiative.

The Master Plan was developed as a land use plan rather than as a management plan, in line with CAMP objectives (Ozhan, 2005).

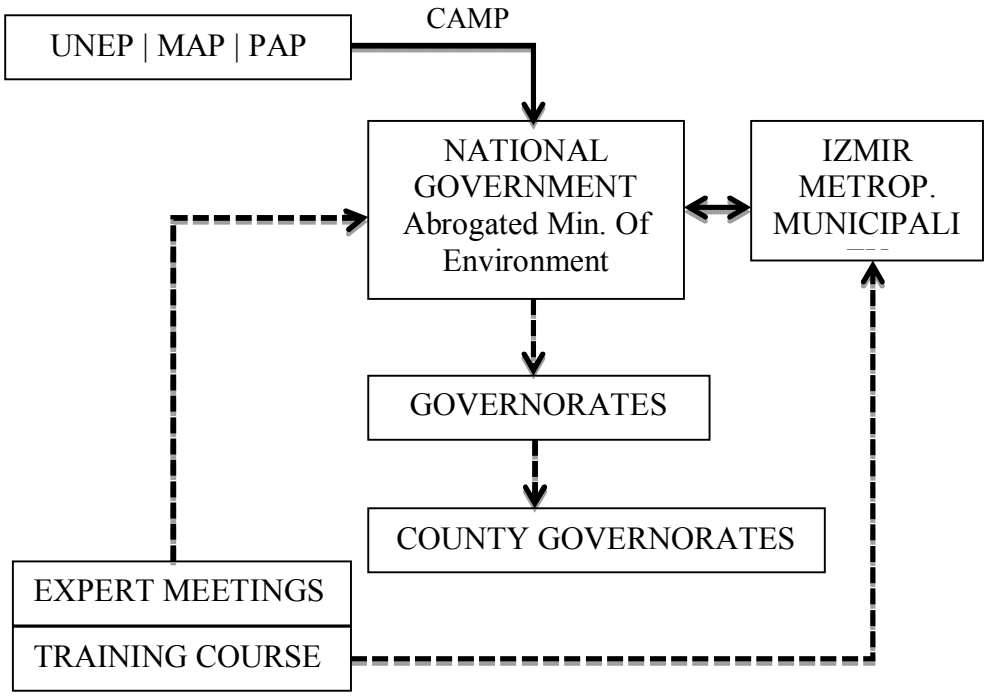

Figure 4.3 Institutional Set-Up of Coastal Area Management Programme (CAMP): The Bay of Izmir Project

4.4.4.3 EU SMAP III Programme: The Gokova Project

The full title of the Gokova Project is: "Preparation and implementation of the Integrated Management Action Plan in collaboration with stakeholders for the Inner Gokova Bay and the Sedir Island within Gokova Specially Protected Area".

The project proposal, submitted to the open call of the SMAP III Programme of the European Union for integrated coastal management projects from the southern and eastern Mediterranean Countries was chosen as one of the eight projects in October 2005 for the co-financing award.

The aim of the project is to stage for the first time in Turkey the development and implementation with involvement of all stakeholders of an integrated management plan for coastal areas located within the boundaries of the Gokova Specially Protected Area.

These areas are under the joint responsibility of administrative bodies at three levels, national, regional and local: Environmental Protection Agency for Special Areas (EPASA) as national level, the Governorate of Mugla as regional level and the Municipality of Akyaka as local level. The Faculty of Engineering of Mugla University assumed the position of the lead partner or the coordinator of the project.

The most important objective of the project is to demonstrate the real process of integrated coastal management by utilizing the existing institutions (administrative bodies), laws and regulations, and by bringing together all actors and stakeholders (national, regional and local public institutions, universities, private sector and coastal/marine users, an NGO and interested people) (Ozhan and Kosar, 2007).

The project covers the coastal area of the Inner Gokova Bay and the Sedir Island (located at the southern Aegean coast of Turkey) as shown in Fig. 1. The area is kept intentionally somewhat small for at least one issue covered by the project (e.g. nature conservation).

The reason for this was the desire to have reasonable depth in the six thematic management plans to be developed in the framework of the project. The

following six coastal management issues were identified as the most significant ones during the project development stage:

- Nature conservation and enhancement in the coastal zone of the Inner Gokova Bay.
- Better management of the Sedir Island by enhancing the quality of the attractions and satisfaction of tourists on one side and by improving the design and enforcement of protection measures on the other.
- Better planning and management of the shore-lands and the water area of two fascinating fresh water creeks that discharges into the Inner Gokova Bay.
- Coastal water quality and litter.
- Beach erosion, restoration, development and management.
- Enhancement and protection of family scale subsistence fisheries in Gokova Bay.

Additionally, enhancement of public awareness and education on coastal issues and public involvement in the decision making process was included within the scope of the project (Ozhan and Kosar, 2007).

This project, ends in December 2008, provides a nice demonstration of the ICZM methodology. It involves only Turkish partners, including the local Governorate, a number of other relevant state authorities and the municipality of Akyaka. The partners managed to set up early in the project a Committee of Stakeholders, which meets regularly and operates effectively. Small but promising results have already started to emerge from the operation of the Committee, which is successfully addressing and resolving a number of issues. The project objectives are achievable.

Unfortunately, a management crisis within the Project Coordinator (University of Mugla) has resulted in the replacement of the project director, the

consequence being a visible deteriorating of the project's effectiveness (Europa, 2012).

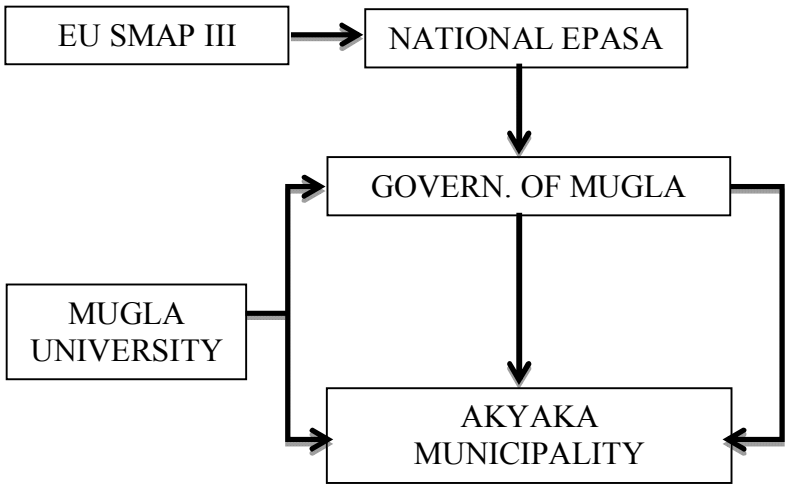

Figure 4.4 Institutional Set-Up of EU SMAP III Programme: The Gokova Project

4.5 Evaluation and Suggestions

Same kind of evaluation which was done by the help of a comparison table between different foreign countries in part 4 of chapter 3 are also done for Turkish cases in Table 4.6.

Table 4.6 Comparison between Selected Turkish ICZM Projects

	Int. Inst.	**Attention Focus**	**Technique**	**National Inst.**	**Achievements**	**Weaknesses**
GOKOVA PROJECT	EU SMAPIII	Nature Conservation	Integrated Participated Management	EPASA Governorate Mugla Akyaka Municipality	Development and implementation with all stakeholders	Man. Crisis with in University of Mugla

Table 4.6 (Cont.) Comparisons between Selected Turkish ICZM Projects

	Int. Inst.	Attention Focus	Technique	National Inst.	Achievements	Weaknesses
IZMIR BAY	UNEP/ MAP/ PAP (Camp Programme)	Eliminate pollution in Izmir Bay	Detailed Oceanographic study	Abrog. Min. of Env. Izmir Metropolitan Mun	Emphasize the necessity of preparing on ICAM Master Plan in Turkey	Master plan is a land use plan rather than management plan
			Monitoring programme		Major Positive Changes in management and actual development of Izmir Metrop. Area	
CIRALI PROJECT	WWF EU LIFED C	Sustainable Development		Ministry of Tourism Environment and Culture	Coastal Management Plan	Cirali Physical Plan is not approved due to slow progress
		Cons. of biodiversity and natural sources			Cirali Physical Plan	Uncoordinated national Institutions.
		To disseminate results of the project for legal enforcement, regulatory development at national level			Ulupinar Cooperative	

Although there are many studies related to ICZM since 1980's, there is no implemented project. In these studies we may content Izmir, Iskenderun, Bodrum Peninsula, Mersin, Patara and Belek. National Coastal Zone Management Policy and Strategies Report within the framework of the Black Sea Environment Program and projects related to Mediterranean are held by the help of United Nations and other organizations. Turkey must prepare national policies and objectives for ICZM in order to reach applicable projects and also manage an umbrella law for ICZM to implement and monitor the projects where the authority is absolutely known, of corse in the light of international acts.

CHAPTER 5

IZMIT GULF (KOCAELI – YALOVA) COASTAL ZONES INTEGRATED PLANNING AND MANAGEMENT PROJECT

5.1 The Izmit Gulf, Case Region

The Sea of Marmara is the inland sea that connects the Black Sea to the Aegean Sea, thus separating Turkey's Asian and European parts. The Sea has an area of 11.350 km² (280 km x 80 km) with the greatest depth reaching 1.370 m. The south coast of the sea is heavily indented, and includes the Gulf of Izmit, the Gulf of Gemlik and the Gulf of Erdek. The Gulf of Izmit with length, 52 km; width, 6 km; maximum depth, 183 m. is on the northwest shores of Asia Minor. The city and port of Izmit is located in the apical part of the gulf.
Izmit Gulf has a major role in the region due to the factors being in the high density industrialized area of the country, and being part of the metropolitan development in Marmara Region of Turkey. As the highly industrialized and populated provinces such as Istanbul, Bursa and Adapazari in the region are developed near the Gulf, the physical capacity of the region reaches to its limits. The urban areas of Istanbul and Kocaeli Provinces become almost as one mega city with a 15 million population (13,5 million is of Istanbul).

Therefore all these constrain the natural limits and boundaries of the region. To control the urbanization in Istanbul, some of the roles and functions of Istanbul are planned to be decentralized, offering some opportunities to Izmit Gulf while charging a fee.

As the illegal and irregular coastal restructuring due to the rapid industrialization and the development in maritime transportation increases in

the Izmit Gulf, the gulf is a proper example to discuss the pressures on the coastal areas and the need of integrated coastal zone planning and management. On the other hand, the Gulf and its environment have a high vulnerability to natural disasters because of being located in the main seismic zone of the country (North Anatolian Fault). The Marmara Region has experienced a destructive and huge earthquake in 1999, and that the greatest refinery of the country is located in this area together with many important industrial facilities of the country.

5.1.1 State of the Izmit Gulf

Urbanization and Industrialization; Izmit Gulf is one of the most affected places from regional growth, investment demands and accelerating pressure for harbour systems, meaning more necessity for new transportation channels, logistics and harbours. However, Izmit Gulf comes to the point of saturation in terms of industrial and port investments. This caused the industrial and transportation activities which focused on the North side to be confined in a limited geography. Capacities of the narrow coastal area is enforced, however industries requiring large areas cannot fin place anymore on the coastal areas of the Gulf. In Izmit Gulf length of natural shores decreased more than 50%.

Transportation; While Izmit Port Authority is being the second port authority in total handling in 2011 with the rate of 15,4% 55.001.840 ton handling, again in total handling with the rate of 7,78% is the 5th port authority by handling 507.837 TEU. (Ministry of Transportation, Marine and Communication, Marine Commerce Statistics, 2011) Increasing capacity of freight traffic and industrial activities which need huge places for production not being able to find suitable places along Gulf shores resulted filling up of shores for their new harbour capacities. Also according to our shore laws there is no way but filling up for establishing new industrial and logistic structures. Filling up is the most important human activity which changes the natural structures of shores.

D-100 and O-1 highways, the main surface transportation backbone for this region are at their limits concerning their carrying capacities. Istanbul – Bursa highway which will begin to be constructed in a short period of time will decrease the pressure on North and East of the Gulf, while increasing the pressure on South-west part. This important investment will affect positively for the integration of Istanbul, Kocaeli-Sakarya and Bursa. On the other hand this concentration may be harmful on natural structure of the Gulf.

Fisheries; Fishery area which is between east and west sides of Hersek at early 80's, cannot be used anymore. Furthermore fishermen who are especially concentrated in Karamursel have to go to Black Sea and deeper seas of Marmara. This condition is of course not sustainable for both ecosystem and economy.

Military Zone; besides, the naval installation and naval docks of the Navy Forces that are located in this region. There are also naval ships and boats, navigating in the Izmit Gulf. Increasıng marine traffic is also a problem for the security of the region. The densest marine traffic is around Golcuk Coast which is a gate to inner harbour. Due to all those reasons that it has a significant role for the home defense, that it is the most convenient place for maritime transportation, as well as that it carries the high risks mentioned above, therefore, the Izmit Gulf has been selected as the pilot project area.

5.1.2 Existing Territorial Development Plans of Istanbul, Kocaeli, Yalova

1/50.000 scale Istanbul Province Territorial Development Plan; in the plan which is prepared by İstanbul Metropolitan Planning and Urban Design Center, in general; services and then in particular; culture, commerce and tourism, education and health sub-sectors especially take place in the scenario of Istanbul's future developing. As a result;

- Singular and also dominant role which is still undertaken but hardly enforced by Istanbul Metro pole will be shared by the other centers in Marmara Region,
- Sub-region and local development will be balanced.

IMP made spatial suggestions for this decentralization. North Marmara (Yalova, Kocaeli, Sakarya, Duzce) where also Izmit Gulf exists, East Marmara (Bursa, Yalova, Bilecik), South Marmara (Balikesir, Canakkale) and West Marmara (Edirne, Kirklareli and Sakarya) sub-zones are established and IMP has identified two important developing axis in Marmara Region; one of which is in north between Edirne and Sakarya and the other is passing through south between Canakkale - Balikesir and Bursa.

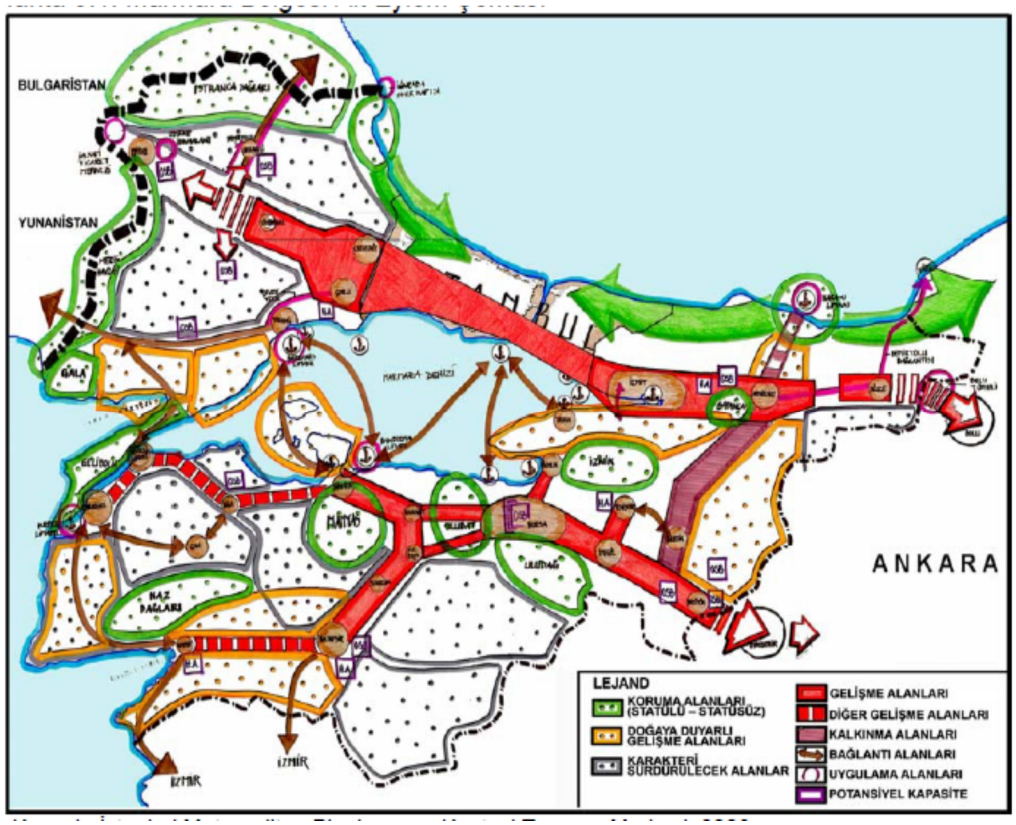

Figure 5.1 Marmara Region Sub-Action Schemas
(Source: Belde Proje, 2008)

This offered developing design and axis are crucially important for Izmit Gulf and Izmit Port. This has two reasons.

- Izmit Port is not only a port for Kocaeli and its near surroundings, but also the port for Marmara Region and its sub regions where is also İstanbul exists. Its hinterland, with road and railway links covers most parts of Anatolia. Izmit is the biggest port of Turkey.
- North-south developing axis ends up in Adapazari, Karasu Port. Karasu Port which is planning to be developed will be an important port for Black sea and Ren-Tuna water way countries and in the future it will disburden the port of Izmit.

Territorial development plans which will guide master and implementation development plans of Kocaeli and Yalova have been approved in 2006 and 2007 and have been revised in 2009. Kocaeli Metropolitan Municipality has also prepared and approved the 1/25.000 scaled master plan according to this territorial development plan. Both of these territorial plans have the target year of 2025. Kocaeli territorial development plan's population projection is 3.900.000. Nearly 90-95% of this population accumulates in the coast of Izmit Gulf. Yalova's target year's population is 320.310 people. Nearly 20% of Yalova's population also takes place in the coast of Izmit Gulf and its interactive area.

While Istanbul Territorial Development Plan; expects a decrease in the population increase rate of Istanbul, Kocaeli and Yalova Territorial Development Plans expect that these cities ' population increase rate will expand 2 or 3 times more than now. So, it can be said that, neighbor cities accepts the decentralization strategy of İstanbul.

1/50.000 scale Kocaeli Province Territorial Development Plan; Three planning areas having a coast to Izmit gulf had been set.

- **First planning region** includes Izmit-Derince- Korfez axis. This planning area includes first-degree city center and it defines transition areas for housing, recreational and social activities in the east and north-east of the region. The area in the south of the region which lies down to Golcuk is characterized as urban technical infrastructural areas, recreational areas and storing areas depending on port activities, industry and areas for related other activities. Petrol and petro - chemistry companies which are located in Korfez District of the first planning area is offered to be reorganized to lower the environmental risks.

- **Second planning region,** covers the town called Gebze. This area is mostly under the influence of Istanbul and it has been integrated with Istanbul functionally. Production industries which have their head offices in İstanbul and related sectors have been developed. The plan does not suggest a new Organized Industrial Region. Correspondingly, it has proposed the development of small industry, residential areas to meet the needs of urban population and storage areas depending on industry. There are some decisions for the rehabilitation of the back regions of ports and their transportation links in coastal areas. The Izmit Gulf Transit Bridge is specified in the Development Plan.

- **Third Planning Region** is the south coasts of Izmit Gulf including Golcuk and Karamursel. The plan offers low density, small scale production industry (packing etc.), storage and services sector in this region. This area has the highest risk of earthquake and is the most affected area from the earthquake. The preparation of all plans and projects according to geologic and goe-technical studies and related laws is highlighted.

1/25.000 scale Yalova Province Territorial Development Plan; illustrates industrial areas, their depending usages and loading-unloading activities in east

of Yalova city center in the area which lies down until the Kocaeli border, it has composed the coast in other part of the city as recreational and tourism areas. In Ciftlikkoy District there exists especially housing areas in a holistic manner with Yalova city centre. The coastal area which begins from Hersek to Tavsanli town center is mostly offered to be a shipyard area and the back yard of it is offered to be urban services area. Istanbul- Izmir Highway and the Izmit Gulf Transit Bridge are specified in the Development Plan.

5.1.3 SWOT Analysis for Izmit Gulf Region

Strengths

- Being in Marmara Region which is rich in biological diversity and fisheries and being a big natural harbour.
- Being at the intersection of Black Sea and Mediterranean Sea according to sea ecosystem.
- Located at the centre of Istanbul- Izmir- Ankara triangle, where a well-developed transportation network is present.
- Being at intersection of Black Sea and Mediterranean according to water transportation and also high potential for international water transportation.
- Being at the centre of metropolitan cities like Eskisehir, Bursa, Sakarya and Istanbul.
- Well-developed and resilient industry, located in the region.
- High tourism potential.
- Marmara Research Center of The Scientific and Technological Research Council of Turkey and Gebze High Technology Institute, located in the region.
- Being generally managed by one Metropolitan Municipality, Kocaeli Metropolitan Municipality.
- Existence of 1/50.000 scale Province Territorial Plans and 1/25.000 scale Development Plans, approved by Metropolitan Municipalities.

- Having experience of Spatial Strategic Plan Applications in Kocaeli Metropolitan Area.
- Mostly completed sewage system in the Gulf Region.
- Having 1. Level health care institutions in each district of the region.
- Many organizations and companies getting on with ISO14000, environmental management system standards.
- Widespread usage of natural gas in the region.
- Having an industrial hard-waste disposal plant, IZAYDAS (Belde Proje, 2008).

Weaknesses

- Limited development area at the north side of the Gulf.
- Lack of coordination and institutional capacity for environmental protection.
- Lack of applicable laws for risk mitigation.
- Unestablished management unity among the different administrative units of the Gulf Region.
- Weak non-governmental organizations and inadequate participation.
- Although waste disposal systems began to work, pollution in the Gulf is not reduced.
- Many unregistered industrial firms, resulting in difficulties in the measurement of carrying capacities and pollution levels of the region.
- Inadequate service building and staffing of Izmit Port Authorities.
- High risk level for eutrophication in the Izmit Gulf, a narrow and shallow bay.
- Negative effects of Marmara 1999 earthquake.
- Many independent small harbours with limited transportation capacity and without unity in management.
- Lack of industrial and transportation development plans in the nationwide or territorial scale (Belde Proje, 2008).

Opportunities

- Presence of articulation of national and regional level opportunities (Istanbul, Ankara, Izmir, Bursa), which will be stronger in time.
- A high potential for passenger transportation by sea and inland waterway.
- Existence of shipbuilding industry that reaches to an international level and increases its competitiveness.
- Increasing the importance of rail transport, investments in high-speed railway.
- The project of Izmit Gulf Transit Bridge, the most important part of the Gebze-Izmir Highway that will connect Izmir to Istanbul and increase the regional economic integration.
- Potential high capacity and low- emission transport system by the Gebze- Izmir Highway Project and decrease in urban development pressures on the east, narrow side of the Gulf.
- Some opportunities in logistic services and transportation.
- Existence of some coastal management projects such as MEMPIS Project, Environmental Master Plan and Investment Strategy for Marmara Sea Basin and SPICOSA Project, Science and Policy Integration Project for Coastal System Assessment.
- Kocaeli Emergency Management Center by the AKADSIS Project of Kocaeli Metropolitan Municipality.
- Increasing container transportation in sea transportation and high potential of the Izmit Gulf.
- Private port owners' readiness to be in a co-operative approach with public institutions.
- Positive vision of central and local institutions for the protection of the Gulf (Belde Proje, 2008).

Threats

- The Gulf Area on the east-west trending North Anatolian Fault, which produced a sequence of major earthquakes, of which the 1999 event is the 11th with a magnitude greater than or equal to 6,7 from 1939.
- Conflicts between the institutions which are providing services for disaster mitigation.
- Growth of hazardous industry such as chemical and oil and urban development at close quarters.
- Naval ships and boats, navigating in the narrow waterway of the Gulf and the increase in sea traffic.
- Industrial decentralization policy of Istanbul Metropol, which increases the pressures of urban development.
- Environmental pollution resulting from ongoing and new industrial sites.
- Growth of the shipbuilding industry with the negative effects of sea embankment projects on ecosystems and coastal areas.
- A shortage of water resources is likely to occur in the future due to high industrialization and urbanization in the region as well as global warming.
- High load capacities on the transport system of the region as a result of being on intersection of the Istanbul-Ankara-Izmir triangle.
- Environmental measures were not taken by the development plans that are the most important tools to protect the natural coastal areas and wetlands.
- Ecologically-economically unbalanced development in the region.
- Increase in the demand of industrialization and urbanization in the region as a result of the Gebze- Izmir Highway Project and Izmit Gulf Transit Bridge.
- Weak legislation and long procedures of sea embankment and coastal construction, not allowing reactive participation and transparency.

- Inconsistency of sea embankment and coastal construction investments with the national and sectorial strategies and environmental protection projects.
- Possibility of extinction of wetlands which are under threat of urban development and heavy industrial pollutants.
- Fisheries under the threat of marine pollution due to traffic density.
- High risk on navy fleet and facilities as a result of heavy sea traffic.
- Risk on gulf as a result of presence of petro-chemical establishments (Belde Proje, 2008).

5.2 Izmit Gulf Integrated Coastal Zone Management Project, Case Plan

In this part of the thesis, 1/50.000 scaled Izmit Gulf (Kocaeli- Yalova) Coastal Zones Integrated Planning and Management Project will be discussed. The legal stages of the plan are listed below.

- Ministry of Environment and Urbanism (Abrogated Ministry of Public Works and Settlement) had made a tender for the Izmit Gulf (Kocaeli-Yalova) Integrated Coastal Zones Planning and Management Project at first and then, the Integrated Plan (coast and inland) of the Izmit Gulf (Kocaeli-Yalova) was approved by the Ministry on 08.08.2008 in accordance with the Project.
- The Izmit Gulf ICZM Plan was approved according to the Coastal Zone Law No. 3621 and Development Law No. 3194.
- The Izmit Gulf ICZM Plan was revised on 26.02.2009 after petitions for exceptions to the approved ICZM Plan decisions.
- Presidency of the Council of the State adjudged supersede as of the Izmit Gulf ICZM Plan on 23.06.2010 and cancellation of the Plan on 29.06.2011.
- The revision of the Izmit Gulf ICZM Plan has been at issue after 644 Legislative Decree pertaining to the Organization and Duties of the Ministry of Environment and Urbanism.

The planning area starts from the provincial border between Kocaeli and Istanbul at north, and covers the whole coastal area in Marmara Sea of Kocaeli Province starting from Gebze, and also Altınova and Ciftlikkoy villages in Yalova Province. In these two provinces 1, 5 km. coastal zone starting from shore line to inwards has been determined as the Planning Area. Within the area there are 8 boroughs and 27 municipalities in total.

In this part of the thesis, first of all, physical and socio-economic status of Izmit Gulf, besides planning decisions which are inputs to Integrated Coastal Zone Management Project will be evaluated, and a SWOT Analysis for the zone will be given. Afterwards, conceptual framework of Izmit Gulf and developing scenarios will be discussed and finally, strategic decisions for ICZM plan and 6th Sub-zone Izmit will be established. A general compilation for the plan is done by the help of 5th Stage Final Report for Izmit Gulf (Kocaeli- Yalova) Coastal Zones Integrated Planning and Management Project.

5.2.1 Main Principles of Izmit Gulf ICZM Project

At the beginning of Izmit Gulf integrated coastal zone management and planning study's decision making stage; main principles, values and conceptual framework which will affect this study, have been decided. Main principles and values of the project are listed below.

A1-Thematic and Regional Approach

As Izmit Gulf is part of the Marmara Region and Eastern Marmara Sub-Region, the uniformity of the Gulf with İstanbul Metropolitan Area has to be addressed by a regional approach**.**

A2- Equal Distribution and Efficient and Sustainable Use of Resources

All sector developments have to be based on the principles of sustainability to the natural structure and ecosystems and the equal distribution of resources among stakeholders is essential.

A3- Being Multisectorial and Participatory

A participatory and transparent model has to be created because of the presence of multiple sectors and many stakeholders.

A4- Plan Management and Environmental Monitoring

Coastal Zone Management in the world and our country is a new and developing tool. Ongoing implementation and monitoring is essential in the process of ICZM.

A5- Permanent and Continuous Process

The process is a permanent and continuous activity that spans a long maturity so a cautious approach has to be followed (Yildirim et al., 2007).

5.2.2 Basic Approaches of Izmit Gulf ICZM Project

The basic approaches of this plan can be summed up as below:

A Pro-Active Approach:

The Integrated Plan (coast and inland) of the Izmit Gulf (Kocaeli-Yalova) has a different approach from the locality and short terms oriented traditional approaches of the sectors. It is intending to manage the coastal area as a whole with its pro-active approach. Each sector and each stakeholder are important but they need to be considered all together with an integrated approach. "Sea Embankment Process" is a good example of the sector-specific oriented in traditional approach. This ICZM Plan is a transparent, participatory and pro-active model providing balance between the sectors.

An Analytical Process:

The plan is an analytical process providing consensus between the competing sectors, identifying priorities, negotiating the problems and solutions. Considering only the private sector interest while planning sometimes means

the ignorance of the public interest. This ICZM Plan has taken into account both public and private sector interests.

A Dynamic and Continuous Process:

It is a dynamic and continuous process providing the utilization, development and conservation of coastal area and the management of resources with a participatory approach considering the private and public sector interests. It is required to develop new strategies and actions by monitoring the process. The targets have to be accepted by all actors and participants of the project with a participatory approach so the process will be a continuous one.

An Inter-Disciplinary, Integrated Approach:

The plan has the perspective of inter disciplinary and integrated system underlying the relations between the various coastal facilities and the systems. There are several activities at coasts, such as industry, maritime facilities, recreational activities, military and transportation. Naturally there are also diversified ecosystems on the air, inland and in the sea. Therefore each of the activities and the systems has been controlled and evaluated with an integrated approach.

Equal Distribution among Stakeholders:

All facts of the stakeholders have been assessed and analyzed in order to make policies for equality in the usage of the coastal resources. The competition and conflicts between different sectors and investors result in a power game on the coast so the balance is constituted with national strategies on this ICZM Plan. It is a main requirement to establish “an effective governance mechanism” for a decision-making and management process intending to constitute a balance between the activities at coasts. Naturally the main principle of governance is accountability and transparency.

A Feedback Process:

The Integrated Plan is a process progressing and becoming competent by the time, by gaining experience and by the developed monitoring system which needs the solutions repeated by the feedbacks about the sophisticated economic, social, environmental, legal and regulatory issues. By the time the system's actors with progressive experiences can make competent long-term decisions. The accumulation of analytical data in the process, new thresholds of the capacities and excessive pollutions affecting the ecosystems force the actors to take new decisions and measures.

Balanced Development:

The ecosystems are vulnerable. Rehabilitation of the destructed environment is more difficult and costly than provision of sustainability and preservation of natural systems. On the other hand the sector specific developments depend on the competition, focusing on investment and short term profitability is the priority. This plan ensures the sustainability and development of the sectors by balancing the utilization and protection of the nature and considering the common interests.

Awareness in Sustainable Development:

Special Principles Implemented within the Plan Process: For ensuring the sustainability of the coastal resources:

- Developing sustainable human settlements (urbanization, industrialization, tourism, etc.)
- Preventing the pollution of maritime, watercourse and fresh water sources.
- Conservation of forest and agricultural areas
- Conservation of characteristics of coasts and natural beach, preventing coastal erosion.

- Conservation of natural and cultural richness and also the vulnerable ecosystems (wetlands, habitat areas of endemic species, deltas, lagoons, etc.)
- Natural adaptive development approach
- Sustainable use as a main target of coastal resource management
- Managing coastal resource systems according to multithreading principle (Yildirim et al., 2007).

5.2.3 Bases of Izmit Gulf ICZM Project

D1- Legal Basis- Coastal management basic policy is to plan with "public interest", and it is also a must to know the constitutional necessity. In addition, to supervise the "acquired rights" is the basic characteristic of the plan from a legal perspective.

D2- Awareness 1- To be aware of the potential of the Gulf for the economy of the Country is important. Provinces in the coast of the Gulf and its close vicinity have the most advanced economy of the country. Logistic services and foreign trade activities are covered to a large extend in Izmit Gulf.

D3- Awareness 2- To be aware of the environmental conditions, protecting ecological values, maintaining the continuity of bio-diversity and caring for human health is serious.

D4- Awareness 3- To be aware of the strategic location of the Bay Area and understanding the importance of this for homeland security is a major concern.

D5- To perform the project, in line with the principles accepted in the international discipline of ICZM is essential. The establishment of better inter-sectorial relationship, better identifying of the sector representatives/ partners, taking views and contributions of the partners and working as transparent as possible are the basic principles of ICZM.

D6- To take precautions to minimize the risk of natural disaster is the basic for the ICZM Plan. The disaster risk is higher in the Region. The 1999 earthquake was a 7,6 magnitude Kocaeli earthquake that struck the Izmit Gulf Region, killing around 17.000 people and leaving approximately half a million people homeless. Measurements should be taken to prepare, mitigate and manage the natural disasters such as earthquakes, flood and inundation.

D7- To repair and gain again the lost natural values is the other principle of the ICZM.

D8- Re-creating the lost cultural and sports values is by stimulating traditional rowing and swimming sports and increasing public benefit from the sea and the sea using culture.

D9- Promoting recreational uses in the Gulf and organizing coastal areas as an active zone for the citizens is crucial in the planning of the Gulf.

D10- Participation of all actors and consensus between the stakeholders of the ICZM Project are the main value (Belde Project, 2008).

5.2.4 Conceptualization and Zoning of Izmit Gulf ICZM Project

In order to determine the methods and actions in the Izmit Gulf (Kocaeli-Yalova) Integrated Coastal Zone Management and Planning Project; sub-regions showing different features are analyzed. Conceptualization of the Izmit Gulf is given in Figure 5.2.

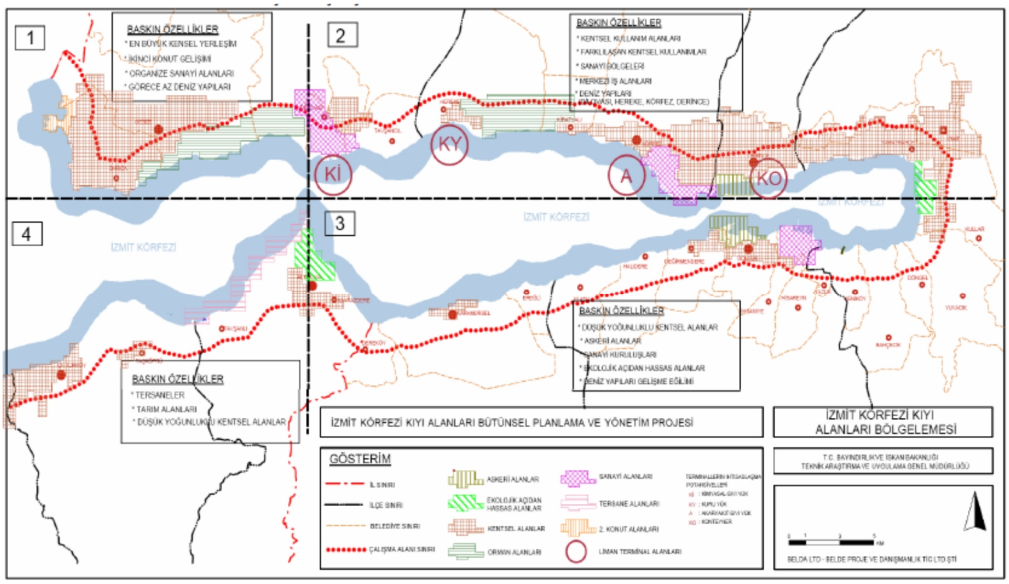

Figure 5.2 Izmit Gulf Conceptualization Study
(Source: Belde Proje, 2008)

The Gulf Region is divided into 4 different zones of similar features. These regions are evaluated according to the dominant characteristics and different possible actions in the application process of the plan are evaluated.

Region 1: Covers the area from the borders of Istanbul Province, including Gebze, towards Diliskelesi District. This region is the Gulf's largest urban settlement. The spatial structure of Gebze and its surrounding are integrated to Istanbul Metropolitan Area. As Istanbul is the socio-economic centre of the region, only the industrial areas and accordingly residential areas are developed in this region.

Within the coastal zone of Region 1, mainly residential uses, especially weekend homes have been developed while marine structures are relatively rare. Industrial areas and investments developed on D-100 State Highway, TEM Highway and connecting roads of these two highways. Turkish State Railways has important investment projects decisions on high-speed train and other conventional lines on Gebze.

Region 2: This region with the highest concentration of marine structures in the Gulf covers the northern part from Dilovasi, including Izmit city center. Dilovasi, Hereke, Korfez and Derince are the districts where marine structures are concentrated. Specialization can be observed at these locations for cargo handling. In Dilovasi and Diliskelesi chemical products and general cargo, in Hereke dry cargo, in Korfez petro-chemical liquid cargo and in Derince general cargo and petroleum products are mainly handled. Besides, Derince Port has a potential to be a center of cargo handling as the Port was privatized and the Ministry of Transportation, Maritime Affairs and Communications has a project of the Derince Port.

Certain areas of the coastal zone from Dilovasi to Korfez District and Izmit City Center maintain its natural character because of the topographic threshold. In Korfez District, petro-chemical plants, depending on Tupras Refinery are located. From the port of Derince to Izmit City Center, open spaces, recreational areas and facilities are found for urban life. In this region central business area, industrial zones and socio-cultural structures are densely found. The east side of the region includes one of the two wetlands of the Gulf which is under the pressure of the central business areas and industrial facilities, and which is threatened by pollution.

Region 3: covers the southern part of the Izmit Gulf to Hersek. The region is dominated by low - density urban areas, military areas, important for homeland security and coastal areas in which natural characteristics are relatively preserved.

At the east of Golcuk District, in Ihsaniye and Yenikoy there are important industrial plants so the possibility of marine structure development is high and the area can be the industrial and logistics center of Izmit. The free zone is an important issue for the development of ship production. As naval base, located in the coastal zone of Golcuk is Turkey's most important naval base, private

port and pier investments are forbidden / restricted in this military zone. In addition, the zone between Golcuk and Hersek is the naval training zone.

Hersek Lake, an important wetland and a lagoon are located within this region. However, the shipyards area on the east of the wetland and Gebze-Izmir Highway Project with Izmit Gulf Transit Bridge Project will affect the wetland negatively.

Region 4: is from Hersek District to the city center of Yalova Province at the west. The most important features of this region are shipyards area, irrigated and productive agricultural land, and low density urban areas. However, the shipyards area and the Izmit Gulf Transit Bridge Project have an impact on existing land uses on the coast, causing transformation on the uses.

5.2.5 Scenario of the Izmit Gulf ICZM Project

According to the scenario, the following strategies and decisions are developed.

This scenario predicts decision-making within the scope of ICZM principles where opinions of public, private sector and the relevant stakeholders are taken. It aims to develop a proposal package including a set of recommendations for the institutional arrangements using existing data and valid development plans.

Advantages of Scenario:

- It is a planning approach of ICZM in which legal and administrative regulations are carried out all over the world.
- It will enable to identify the optimal decisions and policies for competing demands in coastal area, taking into account the earthquake risk, economics, urban life, natural structure and environmental issues.

- It includes options for institutional framework, new formations and regulatory arrangements according the current legal situation.
- Evaluation of the Gulf in sub-regions makes easier to identify intervention tools and materials according to the region's dominant characteristics.
- In order to make a real ICZM study assessments of the current situation and inventory information is to be complete. The sub-management plans and their principles are identified in this alternative.

Constraints of Scenario:

- It is prepared according to ICZM approach which is not clear in Turkey and which can't find much opportunity to be taken into practice. For a complete success sub- management plans has to be finished according to determined strategies.
- A national strategy has to be considered for ICZM, which depends on political will and support, coordinating all related institutions. New corporate and legal regulations are needed for success which can be reached in a long period of time.
- Decision-making mechanisms are in a slow progress in Turkey's most developed and also highly developing region.

5.3 Izmit Sub-region Strategies in the Izmit Gulf ICZM Project

As a result of conceptualization and alternative development scenarios and according to the main principles and approaches for the Izmit Gulf, 10 sub-planning regions are determined. Sub-regions are followed from Figure 5.3. Each sub-region has different characteristics, priorities and problems from the others. Regulations and implementation strategies are developed for each sub-region.

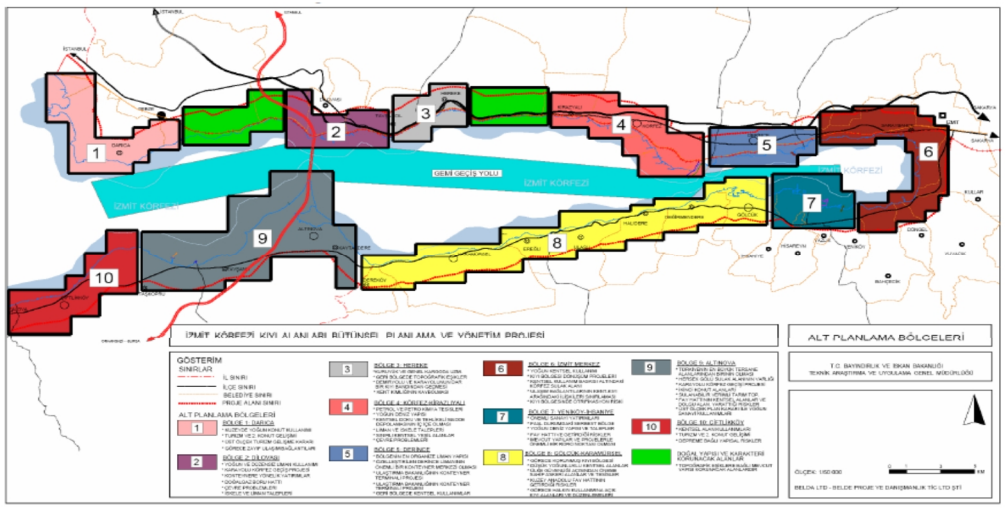

Figure 5.3 Sub Planning Regions of Izmit Gulf
(Source: BeldeProje, 2008)

5.3.1 Main characteristics of Izmit Sub-region

- It is the most intensive urban area of the planning area and at the back side of the coast, the developed city Izmit exists.
- There are different urban usage areas (residential, commercial, recreational areas, fair etc.) in north and northeast of the region. Coastal areas have been designed as a green belt and with Seka Park Project this is a successful planning example.
- The wetland which exists in the east and southeast of the region is under the pressure of urban development.
- Sea pollution is excessive in the interior of Gulf which is also known as East Gulf and eutrophication treat is high.
- In the North of the region, there are important military areas.

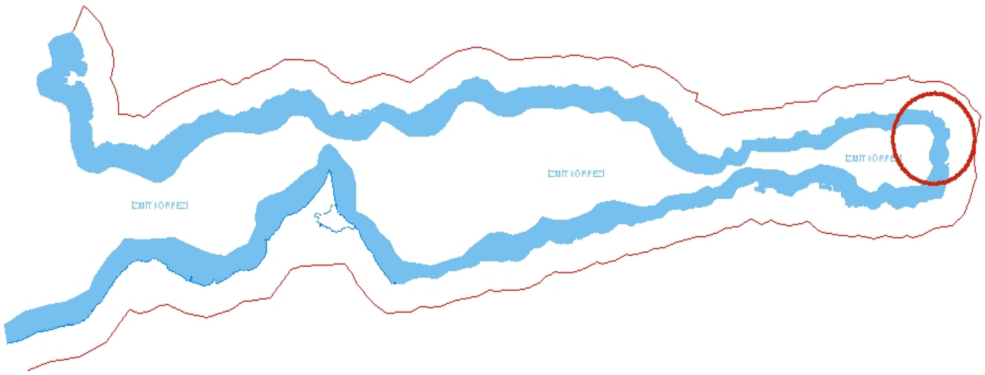

Figure 5.4 the situation of Izmit Sub Region in the Project area
(Source: Belde Proje, 2008)

Dominant Problems;

- Overlapping high-dense usages in coastal area.
- Ankara – Haydarpasa Railway and Highway's setting a barrier between sea and the city,
- No recreational green, open areas other than SEKA Park and the park at the east of the region,
- The pressure of diffusion of urban use to wetland,
- Military explosive material storage in the urban pattern,
- North Anatolian Fault and liquefaction risk especially in alluvial lands.

Strategic Zonning Decisions;

- Environmental habilitation and developing infrastructure
- The opportunity to build light marine structures in the coast such as marina or sea bus wharf
- Importance given to recreational usages
- Transformation of the old buildings which have completed their economical life to recreational areas in coasts.
- Precaution for the protection of the wetlands
- Establishment of a protection belt around military explosives storage area and opportunity to transform to nonresidential usages (Belde Proje, 2008).

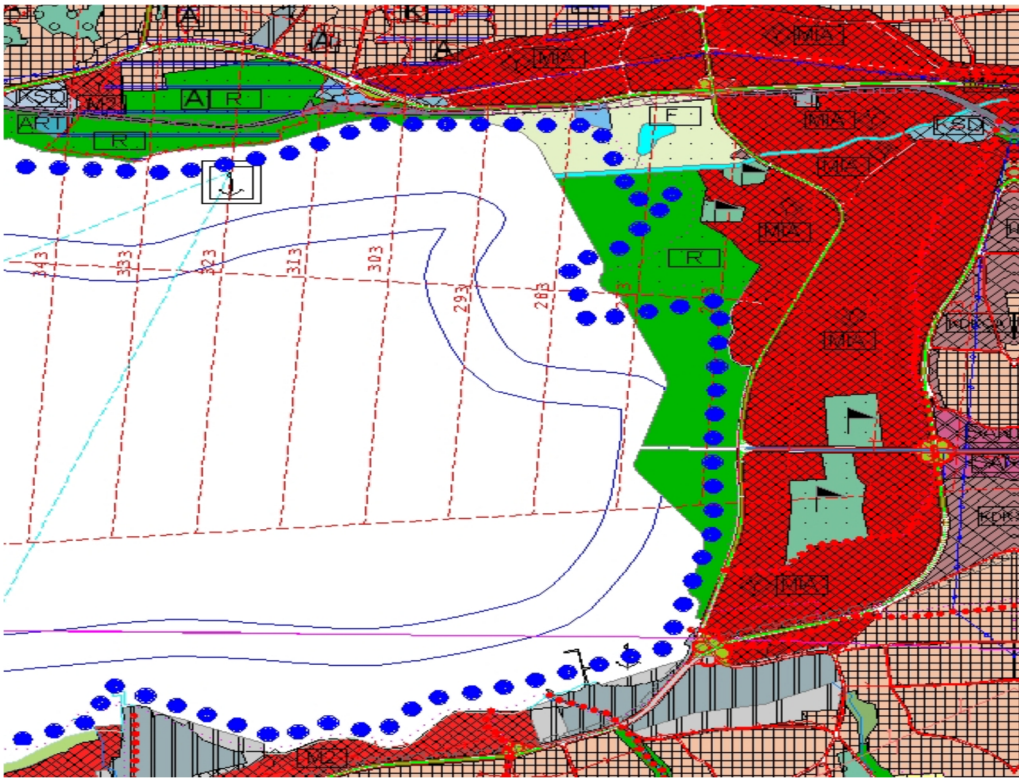

Figure 5.5 Izmit Sub-Region 1/25.000 Scale Master Plan Decisions (Source: Belde Proje, 2008)

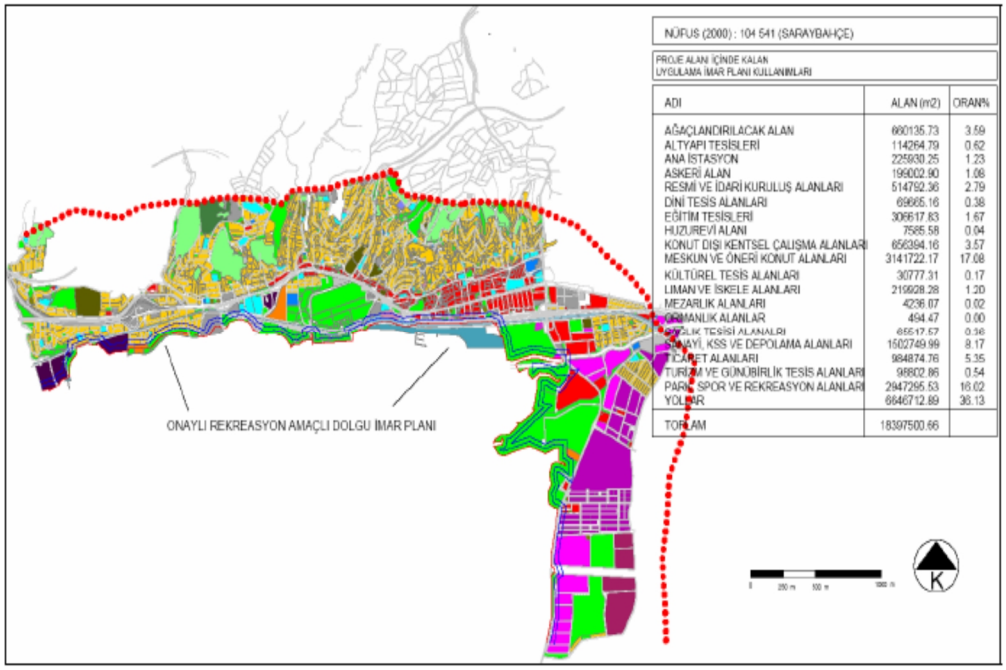

Figure 5.6 Izmit Sub-Region 1/1000 Scale Implementation Development Plan Decisions (Source: Belde Proje, 2008)

Table 5.1 Izmit Sub-Region Strategies
(Source: Belde Proje, 2008)

SUB-REGION: IZMIT	
SPATIAL STRATEGIES	SM1, SM2
STRATEGIES FOR PROTECTION AND DEVELOPMENT OF NATURAL STRUCTURE AND ECOSYSTEMS	DY1, DY2, DY4
STRATEGIES ABOUT TRANSPORTATION SYSTEM	U3, U4
PORTS AND LOGISTIC MANAGEMENT PLAN STRATEGIES	L1
DISASTER MANAGEMENT PLAN STRATEGIES	DE1
ENVIRONMENT AND INFRASTRUCTURE MANAGEMENT PLAN STRATEGIES	ÇA1, ÇA2, ÇA3, ÇA4
RECREATION MANAGEMENT PLAN STRATEGIES	R1

Planning decisions for Izmit sub region, main characteristics, dominant problems and strategic zoning decisions of which have been summarized above, were both spatially determined and given in the form strategies and a management plan in Izmit Gulf Integrated Coastal Management Plan (coast and inland). It is seen that these planning decisions have been developed according to 1/25.000 scale master plan decisions given in Figure 5.5 and 1/1.000 scale implementation development plan given in Figure 5.6.

These decisions have been related to developed strategies and management plans after a general land use zonning (Figure 5.7). Strategic decisions for Izmit sub-region and related sub-management plans are given below in Table 5.1.

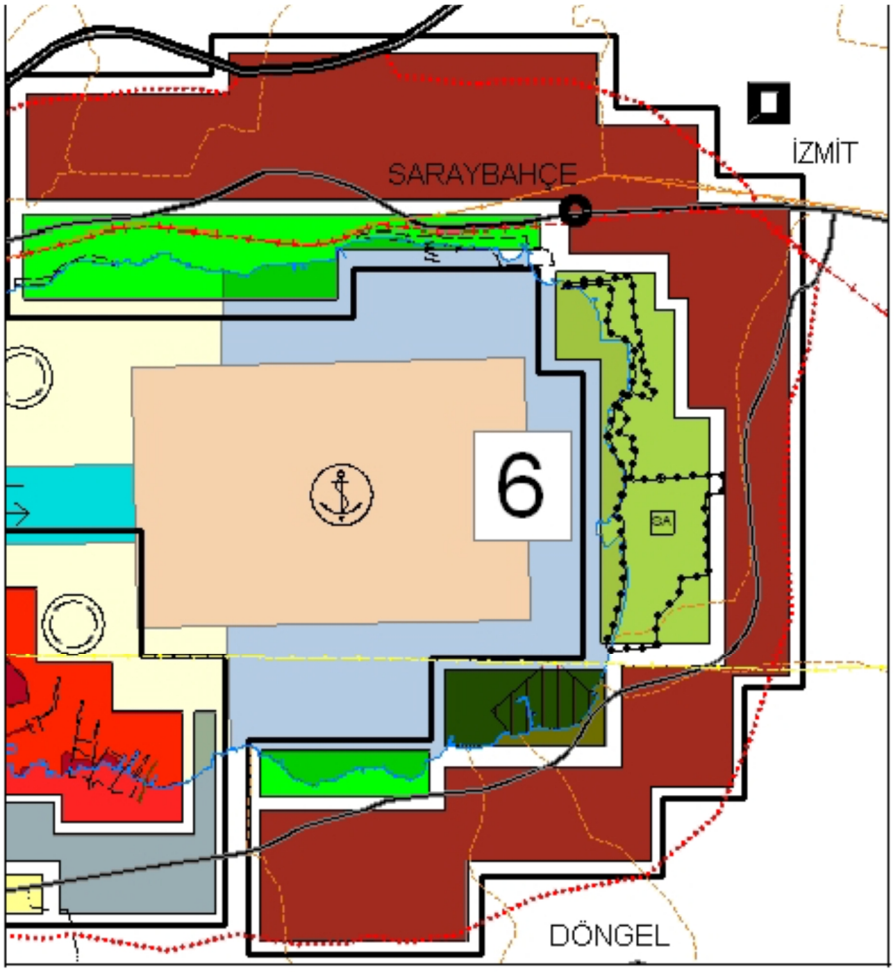

Figure 5.7 Izmit Sub-Region Zonning Decisions
(Source: Belde Proje, 2008)

5.3.2 Spatial Strategies of Izmit Sub-region

Strategy M1: Determining the role of Izmit Gulf by evaluating Regional Development possibilities such that general public will predict or accept by the help of public participation.

Activity M1-1: Local authorities, foremost Kocaeli Governorship and Kocaeli Metropolitan Municipality should determine in which sectors they want improvement and then they should reflect these to institutional strategic documents and to spatial plans by thinking expansionist affect of regional development.

Strategy M2: Taking necessary precautions in Kocaeli Territorial Development Plans and sub-scale Plans by following the Istanbul's expansion and decentralization strategies and process.

This strategy can be achieved in the context of Activity M1-1. Local managements should decide which sectors they will attract from İstanbul. They should follow the developments and take precautions for them. Izmit and its nearest surrounding has started taking attention in investments from İstanbul such as building weekend houses, shopping malls and tourism in addition to investment of transportation and manufacturing sector in recent years (Belde Proje, 2008)

5.3.3 Strategies for Protection and Development of Natural Structure and Ecosystems of IzmitSub-region

Strategy DY1: Taking necessary scientific and managerial precautions in order to save biologic diversity

Activity DYS1-1: Creating a detailed bio-diversity inventory by determining ecosystems in Izmit Gulf's basin.

Activity DYS1-2: Ensuring effective implementation of international "Ramsar Contract", "Law on Land Hunting" and regulation for "Protection of prey and wild animals and their habitats, fighting with harmful ones". Creating a program by the use of above mentioned inventory and saving bio-diversity.

Activity DYS1-3: Searching flora and fauna diversity in forests and operating saving and developing activities.

Activity DYS1-4: Searching existing natural corridors in the gulf basin and ensuring the conservation of these corridors to maintain inner city air circulation and ensuring integration between forests and other natural systems with the approach of generating ecologic corridors.

Activity DYS1-5: Preparing and implementing "Zone Management Plan" in order to save two wetlands in Gulf.

Strategy DY2: Protection of natural character of coastal zones and land supplies,

Activity DYS2-1: Identifying eroded areas and areas to be afforestatied in coastal areas and organizing technical-educational studies to prevent erosion.

Activity DYS2-2: Organizing studies in order to save the agricultural land under the pressure of urbanization. These areas have to be used for recreational purposes if transformation is inevitable.

Strategy DY4: Providing training for the protection of the environment and raise awareness in public.

Activity DYS4-1: Increasing awareness of decision-makers and ensuring dissemination of environmental education in the society.

Activity DYS4-2: Development and implementation of environment-friendly consumer behavior for people living in the basin of gulf by organizing common programs.

Activity DYS4-3: Preparation of training programs to increase environmental awareness at the level of primary and the secondary education in cooperation with Directorate of Education, the Provincial Directorate of Environment and Forestry and the Municipalities.

Activity DYS4-4: Developing mechanisms to ensure the division of labor and cooperation between institutions and organizations which has direct and indirect relations with the solutions of environmental problems (Belde Proje, 2008)

5.3.4 Strategies about Transportation System of Izmit Sub-region

Strategy U3: Encouraging gulf passage by sea in and increasing transportation possibilities especially for passenger transportation.

Strategy U4: Increasing productivity of the sector by planning transportation types to support each other (Belde Proje, 2008)

5.3.5 Ports and Logistic Management Plan Strategies of Izmit Sub-region

Strategy L1: By considering the existing demands, approved port and wharf projects and achieved capacities in Izmit Gulf, serious capacity increase shouldn't be done until new "Main Port Master Plan" is prepared. Unplanned capacity increase will have a negative effect on environmental conditions, homeland security, and marine traffic and will create inactive economic capacities.

Activity LS1-1: Existing Ports Master Plan has to be revised by under secretariat for Maritime Affairs or a new Ports Master Plan should be prepared urgently. In this plan, especially Marmara Region Ports should be addressed.

Activity LS1-2: The stream model of Gulf and distribution of pollution loads depending on the stream model simulation should be studied. River flowing to Gulf and discharges of household, industrial or the marine structures' wastes and their pollution loads should be searched in this study. The pollution decreasing effects of existing treatment plants and types, kinds and capacities of necessary treatment plants should be another study subject (Belde Proje, 2008)

5.3.6 Disaster Management Plan Strategies of Izmit Sub-region

Strategy DE1: Reducing the effects of earthquake on coasts and creating a Pre-disaster precaution infrastructure. The basic target of this strategy is to prevent the damages on urban area uses, and preventing environmental disasters.

Activity DES1-1: Making the structural inventories of area use in the frame of earthquake parameters like use of area in the liquefaction, tremor, tsunami, earthquake-related landslides, etc. especially; the critic areas have an effect of crisis like flammable-combustible industrial / storage, ammunition storage, ammonia, industrial / storage.

Activity DES1-2: Investigation and reporting of liquefaction, vibration, earthquake based on the landslide, tsunami effects and including changes in

plans and projects, presenting to the all relevant parties for the need in the cities called Kocaeli and Yalova, by Sea Side Effects of Land Use Based Earthquake Research Project, General Directorate of Disaster Affairs , DHL and other managements; under the coastal part of the BKAY project ; current and potential landfills, harbor, pier and dock areas where their use; within the framework of the earthquake magnitude and severity of different scenarios (Belde Proje, 2008)

5.3.7 Environment and Infrastructure Management Plan Strategies of Izmit Sub-region

Strategy CA1: The basic target of this strategy is to determine the size of environmental problems and pollution load created by urban usages and coastal structures using scientific and accurate data base.

Activity CAS1-1: "Izmit Gulf Environmental Study and Stimulation Model" Project should be carried out in coastal areas of Kocaeli and Yalova. This study has to be comprehensive and benefit from MEMPIS. This activity should be combined to SPICOSA and scientific and technical co-ordination should be ensured.

Strategy CA2: Establishing an effective water and surface water resources management in planning area.

Activity CAS2-1: Identifying the activities causing pollution in water sources and developing and applying monitoring and control mechanisms for prevention.

Activity CAS2-2: Creating a control procedure and renewal of the old pipes in order to lower the rate of leak and loss in drinking-water distribution lines.

Activity CAS2-3: The amount of fertilizers and agricultural chemicals should be kept under control to lower the pollution load (especially nitrogen and phosphorus) coming from agricultural areas.

Activity CAS2-4: Effective collection of pollutants caused by marine and other navigation activities. Increasing the number and capacities of waste reception facilities should be inserted into IZCM program.

Activity CAS2-5: Accumulation of rain water in suitable environments by wide spreading storm water transmission lines and searching the availability of use. If possible using for irrigational or industrial purposes by the help of storing.

Activity CAS2-6: Organizing educational studies to create public awareness for rational use of water.

Strategy CA3: Implementing waste water management with all respects

Activity CAS3-1: Creating the inventory of the wastewater infrastructure facility (sewage plants, treatment plants, act.) in coastal areas of Kocaeli and Yalova which are in the scope of ICZM Project; under the coordination of the Ministry of Environment and Forestry or other related institutions.

Activity CAS3- 2: Updating the technologies of existing waste water treatment plants based technologies and preparing programs for buildings new ones stage by stage.

Activity CAS3- 3: Making researches and studies about purified domestic waste waters in order to feed related water resources and protect water cycle. Providing use of urban waste water for irrigation of agricultural lands and green spaces in the city. Ensuring the creation of the Water Cycle Model.

Strategy CA4: Improving "Solid Waste Management" for the Prevention of Environmental Pollution and prevent air pollution.

Activity CAS4-1: Making a detailed inventory on solid waste collection and transportation systems and on the quantity and density of stolid composition.

Activity CAS4-2: Doing the necessary research to ensure that separation of solid waste is made at source and to organize education programs to provide this.

Activity CAS4-3: Establishing of recycling and re-use systems and exploring the possibilities of private-public co-operation, improving cooperation based on these results.

Activity CAS4-4: Preparing maps showing strategic solid waste collection routes, transfer stations and storage places in city and district base and to establish an optimum management model.

Activity CAS4-5: Providing the transport of hazardous and chemical waste to IZAYDAS by licensed vehicles and disposing of all.

Activity CAS4-6: Providing an inventory about the firms that produce hazardous waste and establishing a system for continuous monitoring of companies.

Activity CAS4-7: Establishing air quality monitoring network for the improvement of Air Quality and to ensure sustainability.

Activity CAS4-8: Improving fuel type, combustion technologies of industrial enterprises, and taking precautions for the installation of chimney filters when it is needed.

Activity CAS4-9: Enabling the necessary control mechanism regarding exhaust and emission measurements for the control of air pollution from transport and taking precautions by the help of vegetative screening on roadsides.

Activity CAS4-10: Metropolitan Municipality's implementing a special program for the widespread use of natural gas in urban areas.

Activity CAS4-11: Preparing "Strategic Air Pollution" and "Pollutant Emission" maps on the basis of Gulf Basin and keep these maps up to date for public access.

Activity CAS4-12: Collecting of shipping and other marine pollutants in a more efficient way and providing a sufficient number and capacity of waste reception facilities in coastal areas (Belde Proje, 2008)

5.3.8 Recreation Management Plan Strategies of Izmit Sub-region

Strategy R1: Developing of Recreation Areas for enhancing the use of the Gulf Coastal. Making new regulations, in order to increase the capacity to use the available fields.

Activity RS1-1: Kocaeli and Yalova Provinces Section of Coastal Recreational Areas for Assessment and Application Projects with User Properties Related to the Preparation of the Project, the participation and cooperation with the efforts of all governments (municipalities, special provincial administrations, the

abolished Ministry of Public Works and Settlement, National Real Estate Manager. and others), Kocaeli and Yalova Provinces; determination of the fields that can be opened recreational uses, preparation of inventory and the implementation projects under the areas in BKAY Project (Belde Proje, 2008)

CHAPTER 6

CONCLUSION

As mentioned in the previous chapters; coastal areas which were used for fishery from ancient times began to be used for regional and sportive purposes after Second World War, besides its economical usage as harbors. After 1990's with the result of globalization many sectors began to compete for taking place in coastal areas because coastal areas became the junction point of international trade activities. This competition among different sectors and inadequate legislation caused social and economic developmental problems as well as degradation in natural resources. As a result; Integrated Coastal Zone Management initiatives began to take place dealing with all activities affecting coastal areas in terms of ecologic, social and sustainability perspectives and trying to guide these activities in respect to national strategies.

Many nations with their governments and institutions begin to realize that there is a need to prepare and implement ICZM projects. They are trying to assess traditional planning approaches with a holistic view containing economic, social and environmental interests. They are also trying to increase participative elements in decision making at both national and regional levels. Improved regional cooperation within the regional seas, stronger exchange of expertise and information, better stakeholder participation, monitoring of implementation through common methodologies and a long-term funding perspective was achieved.

6.1 General Evaluation for Foreign Countries and Turkey

However according to the Final Report on Evaluation of Integrated Coastal Zone Management (ICZM) in Europe (2006), among 24 EU coastal member states and accession countries no country has implemented an ICZM National Strategy as prompted by the EU ICZM EU Recommendation. Because almost no country can manage to optimize her legislative instruments according to the principles of ICZM.

ICZM National Strategy in Turkey is neither ready nor under development. There are fragmented tools, none of which is useful for the preparation and implementation of ICZM Projects. There is no place for ICZM Projects among existing planning scales and authorities. There is no law directly and just for integrated planning and management of coasts.

Although there are recent efforts to establish an umbrella law for planning activities with the decree laws 644, 645 and 648 there is still no room for ICZM studies in our planning system. By these decrees, Ministry of Environment and Urbanism is the authority for preparing and approval of ICZM Projects, but after approval which institutions will implement and monitor these projects is a question mark.

6.2 Assessment of the Izmit Gulf (Kocaeli – Yalova) Coastal Zones Integrated Planning and Management Project

The case study of thesis is from Turkey, Izmit Gulf (Kocaeli – Yalova) Coastal Zones Integrated Plannıng and Management Project dealing with an important coastal area of Turkey, hosting many sectors such as industry, tourism, recreation, trade as well as military and natural zones. This coastal area is also important as it is located on North Anatolian Fault.

The project could not reach to the aim of the Integrated Coastal Zone Management, which is a management process trying to maximize the benefits from coastal areas, while minimizing the negative effects of different kinds of activities taking place on coastal areas, on each other, natural resources and environment rather than just a physical plan. In addition the project is not also a physical plan. It does not fit into the plan types of our country taking place in legislation which was described in detail in Chapter 4. The document, prepared under the name of Strategic Zoning was approved by the Ministry of Public Works and Settlement as a 1/50.000 scale plan. However this upper scale plan does not give directions to local plans and itself does not have the stages of a strategic plan. Although it is named as integrated, taking 1.500 m wide area in the same zone it is far from both integration of protection and usage balance and integration of different types of plans. It does not take into account the morphology of the Gulf. Zoning was done along the shore but the relations between these zones were not discussed.

Although some strategies and actions are used in headings of the plan, there is no real disaster management strategy. The plan is not taking into account the effects of North Anatolian Fault although the big 1999 Izmit earthquake had taken place in the middle of the planning area which is a first degree earthquake region.

Reviewing of the tools and techniques used in coastal planning within the context of integrated coastal management in Turkey is the subject matter of this thesis. In this respect, case study research question has been examined and hypotheses have been tested throughout the study.

Case Study Question

- What are the strong and weak sides of legislation, administration and monitoring processes of our planning system compared to different ICZM cases in several countries? How can ICZM projects be defined in our national planning system?

The hypothesis of the thesis

- There is a need to shape our national planning system with ICZM for better and more effective planning and management of coastal areas;
- Izmit Gulf (Kocaeli – Yalova) Coastal Zones Integrated Planning and Management Project is the first and foremost example of ICZM Projects, initiated by the Ministry of Environment and Urbanism. However, it is not well defined in the use of a combination of instruments to facilitate coherence between planning and management.

6.3 Recommendations

The general principles in order to reach proper implementation of ICZM can be grouped in three headings.

6.3.1 Legislation and Authority

A new legislative arrangement should be made among governmental institutions, which have power and authority on different sectors of the economy. They should be related to each other in the form of inter-agency planning by law. The role of all actors that is their authorities and obligations, both governmental and non- governmental, taking place in monitoring, application and control stages of the ICZM process should be clearly identified.

Foundation of an umbrella institution, perfectly supported by central government which is authorized in subjects just related to coasts can be very useful. Fiscal and monetary issues for the implementation of the projects should be taken into account and ICZM should be integrated into national development strategies. Local authorities are to be aware of that they have to keep under control the present structuring of the coasts. They should protect

coastal areas reorganizing coasts for public benefit. Coastal legislation should be sensitive to differences in geographical, social, economical and physical conditions of different regions. Finally the coastal legislation should also include sea surface, marine transportation, activities that may be conducted both in sea and in sea bottom, and all activities concerning pollution and preservation of environment.

6.3.2 Awareness and participation

The ICZM is a management model which protects the socio economic benefits of the coastal communities. Public should be well informed about this situation by the help of NGO'S, scientific community, private sector and governmental organizations. So that they can join and support management projects with the active participation of local authorities. This will of course help implementation of the projects. The implementation experiences of different countries should be well examined but should be adapted to our local realities.

6.3.3 Data Base Management and Usage

Accurate data collection in order to reach a reliable data base which can be used for international, national and local studies is a must. So there may be a data base collection and management center in the international level which can be held by EU or UN etc. This data base has to be passed to governmental, non-governmental organizations and scientific community by the help of technology and education programs. Finally these organizations have to pass their knowledge to general public in order to feed awareness and participation to reach a successful end.

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