

INTEGRATED COASTAL MANAGEMENT IN ROMANIA: FRAMEWORK AND POSSIBILITIES

Final Report

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EXECUTIVE SUMMARY

The purpose of this report is to provide up to date information on all topics interrelated in the concept of Integrated Coastal Management (ICM) in Romania in order to define a clear framework within which it can be further developed.

The report is therefore divided in two major chapters namely “The Coast of Romania” and “Management and planning”. The natural values and the state of the Romanian coast are analysed through the report, as well as the different economic sectors acting in the coastline and the State policies regarding nature protection and coastal management and planning

The Coast of Romania is very rich in biodiversity, especially regarding the large size and quality of valuable ecosystems and the quantity of some species. Romania holds the second largest delta ecosystem in Europe, the Danube Delta.

Unfortunately human activity has caused a progressive loss of biodiversity. Pollution, river embankment, hydro-technical works and natural resource extraction and overexploitation have been major factors of biodiversity loss and degradation. Soil erosion and degradation and the contamination of the Danube Delta are currently among the most urgent environmental issues in Romania.

On the other hand Romania has confirmed its commitment to biodiversity and natural areas conservation through the endorsement of international agreements and the designation of a large number of protected areas, forty of them within the coastal zone. The Black Sea Environmental Programme has played a very important role in the last decade environmental policy developments in Romania. A number of new laws have been endorsed over the last years including biodiversity and nature conservation components. Further, a Coastal Zone Act has been prepared and is waiting for official endorsement. This act aims to integrate coastal management of the Romanian coast and will finally provide a legal definition of the landward boundaries of the coastal zone.

However the regulatory framework is still inaccurate and inconsistent. There is moreover an unclear distribution of responsibilities among the public administration and a lack of consensus and co-ordination among the different bodies. Further, there is still a need for capacity building on ICM, particularly at a local level.

Despite the above-mentioned problems, Romania has reached major achievements in the development of an ICM framework over the last decade. There is however a lack of practical experience on implementation of ICM projects. This is the obvious next step to achieve real implementation of ICM schemes. The report also covers this issue by analysing what the needs still are to achieve ICM and by giving some examples of pilot projects that could bring ICM into real practice.

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1. THE COAST OF ROMANIA

1.1. GENERAL FEATURES RELATED TO ICM

Romania is situated in the south-eastern part of Central Europe, at the Lower Danube. The Romanian coast, bordering the Black Sea, is 244 km long (6% of the Black Sea shore). It runs from the border with Ukraine in the North to the boundary with Bulgaria in the South and it is a part of a historic region named Dobrogea (Annex 1). Dobrogea region has a surface of 15,485 sq. km, representing 6.5% of the Romanian territory.

Dobrogea region holds two coastal counties, Tulcea and Constanta.

1.1.1. National definition of the coastal zone

Romania does not have a legal definition of the National Coastal Zone Boundaries yet. The **landward** limits of the coastal zone have been however established on the basis of a number of criteria e.g. the watershed (modified by the presence of the Danube-Black Sea canal); the administrative limits of those localities penetrating the watershed; economic activities; historical, cultural and traditional aspects and the interaction between sea and land.

The **seaward** boundaries were established at 24 NM. In the future, however, they will possibly be extended up to the limits of the exclusive economical zone (200 NM). Some regional aspects must be clarified before this decision can be taken.

Between the sea limit and the land limit the Romanian Coastal Zone comprises:

1. Danube Delta Biosphere Reserve;
2. The main coastal tourist area;
3. The inner sea ;
4. The territorial sea of Romania (up to 12NM);
5. The Romanian contiguous zone (up to 24NM).

Dobrogea, as an individual relief zone, is situated in the north-western part of the Black Sea region and has three major subdivisions:

- 1) northern Dobrogea, the highest sub-unit, with the remnants of the Hercinic mountains;
- 2) central Dobrogea platform, the oldest remnant geological structure of the country;
- 3) southern Dobrogea platform, separated from the previous by a tectonic fracture.

The Danube Delta is a recent geological sub-unit.

1.1.2. Coastal types and main ecosystems

The Romanian shore has in general a linear configuration, excepting the build-up areas. These built areas include three commercial harbors (Constanta, Mangalia and Midia), three marinas and some protecting constructions against erosion in the Southern area (groynes, breakwaters, etc). There are beach segments on 70.4% of the overall length of the Romanian shoreline, from which 62% are within the territory of the Danube Delta Biosphere Reserve

The Romanian coastline can be divided into two major geographical and geomorphological units:

The **Northern unit** (almost 164 km in length) extends from the Musura Bay to Midia Cape, including the Danube delta and Biosphere Reserve and lateral lagoon complex Razim-Sinoe.

This area is characterised by sandy beaches, low altitude and gentle submarine slope. The sediments of the superficial layer present great variety of mollusc shells and clay. Fine and very fine sands cover more than 75% of this area.

The **Southern unit**, between Midia Cape and Vama Veche (80 km), is predominantly covered by active or inactive cliffs (52.6%); with some beaches at the river mouths (28.8%) and harbours (Midia, Constanta and Mangalia 18,5%). Cliff heights differ from one place to another (from 3-4 m up to 35 m). Some areas of high shore are made of loess and soil, whilst others are composed of Sarmatian limestone.

The Romanian **continental shelf** up to the 200m isobath is 22.998 km². Its width is considerable ranking from 100 km in the northern sector to about 80km in the southern one. The main morphological features on the shelf are the Danube prodelta (more than 5,500 km²), adjacent to the delta territory, and the Viteaz canyon (Danube canyon) at the shelf edge.

1.1.3. Climate in the coastal zone

Romanian climate is temperate continental. Along the coast of Romania, however, there is a strong Mediterranean influence.

1.1.4. Cultural heritage in the coastal zone

The natural conditions of the Dobrogea region allowed the development of human life since the ancient times.

Many traces of human activities have been discovered from the Middle Palaeolithic Period (about 10 000 years BC) up to the Middle Ages. The settlements discovered at Hăţrsova, Cernavoda, Hamangia, Mangalia and Limanu belong to the Neolithic Period (5500 - 2200 BC). These discoveries are very important due to the finding of anthropomorphic fine arts, in particular the two statuettes called "The Thinker", which are considered masterpieces of Neolithic art.

Discoveries from the first Iron Age (1200 - 450 BC) have been made at Cernavoda, Medgidia, Babadag, Bestepe, Histria, and Tariverde, most of them having mixed characteristics such as: typical indigenous materials (ceramics, metal weapons and tools) and elements of Greek origin (vessels, amphora).

The coastal towns of Histria, Tomis (Constanta) and Callatis (Mangalia) were founded during the second Iron Age (450 - 280 BC).

The earliest inhabitants of the Dobrogea were the Getae, or Getians, Thracian people whom Greek colonists encountered when they established trading cities on the Black Sea coast in the 6th century BC. Between the 1st century BC and the 3rd century AD, Rome dominated the region, which was known as Scythia Minor, and from the 5th to the 11th centuries Byzantine rule was contested by successive waves of nomadic people, including Huns, Avars, Slavs, Bulgars, Pechenegs, and Cumans.

In the 14th century the Bulgarian despot Dobrotitsa ruled the region (Dobrogea means "Land of Dobrotitsa"). Mircea, Prince of Walachia (1386-1418), also claimed the region, but by 1419 the Ottoman Turks had incorporated Dobrogea into their empire. During the next 450 years significant demographic changes occurred because of the large-scale settlements of Anatolian Turks and Crimean Tatars.

The Treaty of Berlin (1878) ended the Ottoman rule by awarding to Romania most of the Dobrogea territory and attaching the southern areas (the so-called Quadrilateral) to the principality of Bulgaria. Romania obtained the Quadrilateral after the Second Balkan War in 1913, but in 1940 it was forced to return that portion to Bulgaria and to accept an exchange of population.

The Peace Treaty of Paris (1947) established the new frontier between Romania and Bulgaria.

Constanta was seriously affected by the two World Wars, being reconstructed after each one. After 1945, during the communist Peoples Republic, the rising progress continued and Constanța becomes one of the most developed towns in Romania. Nowadays Constanța is the biggest port in Romania, a powerful industrial commercial and tourist centre and a gateway to the rest of the world.

1.1.5. Important demographic aspects

Evolution of population is one of the most important and peculiar matters in the coastal area. Before 1990 the increase of population was not a problem as there were registered positive values for migration. Moreover, judicial aspects of some phenomena were pointed out such as the population movement from inside the country to the coastal zone and from the rural sites to towns.

After 1990 some negative phenomena of a complete different origin can be noticed. The birth rate in the urban areas decreased from 18.1% to 9.4% in Tulcea County and from 14.6% to 8.6% in Constanța County. In the rural sites the birth rate decreased from 16.1% to 11.4% in Tulcea County and from 20.8% to 13.1% in Constanța County.

The natural population growth for the same period decreased as follows:

- from 1801 to 249 in Tulcea County;
- from 5130 to 671 in Constanța County.

Another negative phenomenon should be underlined such as a massive concentration of population in the main tourist coastal areas comprising 44% of the entire coastal population.

1.2. STATE OF THE COAST

1.2.1. Land use

The Dobrogea region covers a surface of 1,584,500.0 ha.

The land use distribution in the region is as follows:

- 1,120 ha of urban areas or areas suitable for urban development;
- 710,000 ha of cultivated grounds, mainly cereals, oleaginous and technical and fodder crops;
- 120,089 ha of forests;
- 5,000 ha of coastal tourist areas and areas of recreational use, including hotels and recreational facilities;

The land cover of the above-mentioned areas is as follows:

- 1,457 ha of green spots within the municipalities;
- 92,884 ha of littoral lakes, including the biggest lagoon complex within Danube Delta Biosphere Reserve;
- 545,185 ha of protected area, from which the Danube Delta Biosphere Reserve covers 488,200 ha;
- others, mainly including industrial area, fruit growing and wine growing areas, transport network, etc.

With regard to the agricultural use of land the percentages look as follows:

- about 50% of the agricultural area is arable with 422,591 ha of irrigated grounds in the Constanța County and 162,802 ha in Tulcea;
- natural pastures and hay fields represent the 8% of the area;
- vineyards and fruit tree growing cover 2,7% of the area.

The re-introduction of traditional harvesting and grazing practices in Romania presents an opportunity to support the rural population, which lives from the available natural resources. Tourism could be developed to provide such communities with additional sources of income while offering incentives to retain or revive traditional practices that are sustainable or to develop new means for using natural resources in a sustainable manner.

There is a great potential to develop ecological tourism activities in the natural areas of the Romanian coast. Some small projects are already being implemented and other, larger ones, have been proposed.

1.2.2. Water quality and pollution

The Romanian National Institute for Marine Research and Development has been monitoring water quality since 1972 through:

1. Studies on the evolution of marine coastal water quality
2. Inventory and evolution of the main sources of pollution along the coast
3. Monitoring of the effects of pollutants on marine fauna and flora communities

These studies show that the most important changes over the last two decades have been the increase of eutrophication, particularly in the littoral zones. This decline in ecological health has produced significant changes in the structure of coastal systems resulting in a massive destruction of flora and fauna biota (including fish stocks and fish catches) and a consequent decline in biodiversity.

Main causes of pollution and eutrophication are as follows:

- changes in the chemical composition of fresh water flowing into the sea;
- the development of marine navigation, including both an increase in maritime traffic and the building of new harbours;
- the local discharge of sewage and industrial waste;
- coastal engineering to consolidate and protect the shoreline (dams, barrages);
- the removal of sand from the beaches.

1.2.3. Coastal and marine biodiversity

A. Marine and shallow water and nearshore area

The shallow area of the seashore is characterised by the instability of both abiotic and biotic factors. The most important dynamic factors are the currents, waves and variations in the sea level.

The motion of the seawater directly affects the structure of the shore, the transportation of solid material removed from the substrate by waves and the remodelling of the shore, either through erosion or sedimentation.

Motion in shallow water affects the plankton and the benthos. The large quantity of fresh water introduced by the Danube is transported southward along the Romanian coast and changes the salinity and temperature of the sea. In doing so it also fertilises the sea, altering its transparency and colour and redistributing the water masses.

The waves are the dynamic factor with the strongest influence on shore animals. In shallow areas wave action is very complicated and mostly destructive of the plankton and benthic organisms. The waves created by the variable winds off the Romanian shore cause changes in salinity, temperature and the oxygen and nutrient content of the sea; such changes tend to homogenise the water in the shallow area.

Variations in the sea level of the Black Sea, which is practically non-tidal, have direct effect only as far as the position of the mid-littoral zone is concerned.

There is a considerable interdependence between the variation in the sea level, the waves and the currents. Their combined action is strongest in the mesolittoral zone, to which only a few species have adapted (the number of individuals may be large though).

During the last two decades the most important changes connected to anthropogenic stress have taken place in these areas, where the impact of local sources of pollution is more direct.

B. Sedimentary zones

Sandy zones are widely spread (ca. 700 km²) all along the Romanian coastline, although the depth to which they descend varies.

Constanta represents a point of discontinuity on the morphology of the shore. To the north of Constanta the sands have a continuous distribution, both along the shore and in depth. Near the mouths of the Danube, which is a region with intensive alluvial process, sandy zones are very narrow and only descend to a depth of 4-8 m. To the south of Constanta the sandy zones are discontinuous and generally represent small isolated areas between rocky zones.

C. Rocky zones

In the southern sector between Constanta and Vama Veche, a hard substratum and rocky compact bottom is dominant in the supra-littoral, mid-littoral and infra-littoral zones descending to 23 m.

The active cliff is interrupted in front of the old limans by sandy littoral barriers and the alternation of a hard rocky bottom with a sedimentary one.

The rocky supra-littoral of the Romanian shore consists of sarmatic limestone and is less interesting as regards macrophyte algae although the flora becomes richer with depth.

In the past the rocky infra-littoral contained large fields of algae flora and extensive belts of *Cystoseira*, particularly, *Cystoseira barbata*. Due to ecological factors these fields disappeared completely after 1970.

The impoverishment of alga communities, which were the preferred biotope for many invertebrates and fish, has caused a decline in animal populations and even the disappearance of entire species. At present the rocky mid-littoral zone is characterised by a continuous process of destruction and restoration, unsteady populations and rigorous selection of species.

D. Coastal wetlands

Romania has two major coastal wetland areas namely the Danube Delta and the Lake Sinoe. The *Danube Delta* is the second largest wetland complex in Europe after the Volga Delta.

Approximately 80 percent of its area has been preserved in its natural state. The Delta consists of a mosaic of ecosystems, comprising a high diversity of insects, fish and birds. It includes one of the most extensive reedbeds (*Phragmites*) in the world. Birds include globally threatened species such as the Dalmatian pelican (*Pelecanus crispus*), the pygmy cormorant (*Phalacrocorax pygmaeus*) and the red-breasted goose (*Branta rufficollis*). However the Danube Delta has undergone a series of important ecological changes as result of anthropogenic influences such as pollution and wetlands drainage. The northern marine coast from Sulina to Cape Midia (more than half of the Romanian littoral), and from the shoreline to the 20m isobath, is also included in the Danube Delta Biosphere Reserve (DDBR). The DDBR was set up by Law No. 82/1993 as a major national and international ecological area.

The *Razim-Sinoe lagoon complex* (see Annex 2) is the only lagoon ecosystem on the Romanian coast that has a permanent connection with marine waters. It has a maximum length of 9.5 km, an average width of 5.9 km and a maximum depth of 3.2m. More than 85% of the bottom is formed of mud-sandy material whilst 21% is covered with freshwater submarine plants. The lagoon is supplied with freshwater from the Danube through Lake Razim and with marine water through the Periboina inlet during major storms. The Razim-Sinoe ecosystem has undergone significant changes as a result of the efforts to irrigate the northern region of Dobrogea. In 1915-1920 the salinity was 15-16 g S% and 10-20 g S% in 1950-1952 before falling to 0,60 g S% after 1975. A combination of natural factors and anthropogenic influences has transformed the lagoon into an authentic liman. Further, eutrophication produced changes on the local fauna.

Other important lake ecosystems along the coast of Romania are Tasaul Lake (near Constanta), Siutghiol Lake and Tekirghiol Lake.

All five wetland areas have been classified as Important Bird Areas by Birdlife International. The coastal systems of Romania are illustrated in Annex 3.

1.3. COASTAL AND MARINE PROTECTED NATURAL AREAS

The largest part of the responsibilities for nature protection and management belongs to the Ministry of Waters, Forest and Environment Protection (MWFEP) and its Environmental Protection Agencies (EPAs) at a county level. The Commission of Natural Monuments of the Romanian Academy is the legal scientific authority for nature conservation and protected areas. For protected areas located on forest land the management is ensured by foresters from the autonomous agency ROMSILVA.

The first law for the protection of natural monuments was elaborated and approved together with the Rules for the organisation of the Commission of Natural Monuments, in 1930 (Law no. 213/1930 for the protection of natural monuments).

The Environment Protection Law (137/1995) was adopted in December 1995 and stipulates that the responsibility for protection and administration of the protected areas belongs to the Central Authority of Environmental Protection.

The Romanian protected areas system includes the following categories:

1. National Parks: This figure protects extensive ecosystems subject to minimal human pressure. In the core zones of the National Parks only scientific research is permitted.
2. Nature Monuments
3. Nature Reserves: They can be of different kinds (ornithological, botanical, zoological, palaentological, geological, speleological or mixed). They are all state owned. In addition to the national level ones, the local authorities can also establish local reserves.
4. Bird Sanctuaries: Small areas that support large numbers of breeding, wintering or passage birds.
5. Forestry areas: Local forestry authorities protect large areas of woodland from exploitation.
6. Protected Landscapes

Besides DDBR (for which there is a special protection and administration law concerning the economical and social development and water infrastructure) the Dobrogea region holds another 39 protected areas. (Annex 4).

The forestry reservations are under ROMSILVA, the forest autonomous administration.

The other protected areas, however, suffer an uncertain situation with neither protection nor administration activities being carried out at all, despite the fact that the Environmental Protection Law assigns this responsibility to the Environmental Protection authorities. All protected areas, with the exception of the DDBR, lack a Management Plan.

The above mentioned law also stipulates the competencies and responsibilities of the local administration and of the owners of land and aquatic areas around the protected areas and heritage sites. Moreover, it sets up responsibilities for the owners of those lands likely to obtain protection in the future. The owners of some reserves or natural monuments are obliged to conserve, maintain and watch their land in the conditions established by the law and their management plans. The competent bodies of the state administration together with the Commission must control the observance of these legal dispositions. The Law also establishes the juridical background for the protection of natural reserves and monuments.

Special provisions are set up for trading, catching or possession of animals. Further, it stipulates the conditions for the introduction of alien micro-organisms, plants and animals in the country.

The new law related to Spatial Planning and Protected Areas (5/2000) inventories all the national protected areas (world patrimony) and natural monuments and parks (see Annex 4)

2. MANAGEMENT AND PLANNING

2.1. COASTAL MANAGEMENT / ICM

2.1.1. Legal framework: Conventions, laws and regulations

Romania is Party to the following international agreements:

- Convention on the Territorial Sea and the Contiguous Zone, Geneva, 1958;
- Convention on the Continental Shelf, Geneva, 1958;
- Convention on the High Seas, Geneva, 1958;
- Convention concerning fishing in the Black Sea, Varna, 1959;
- The Antarctic Treaty, Washington, 1959;
- Protocol to the Antarctic Treaty on Environmental Protection, Madrid, 1991;
- Agreement concerning co-operation in the North-West Atlantic Fisheries, Ottawa, 1978;
- United Nations Convention on the Law of the Sea, Montego Bay, 1982;
- Agreement Relating to the implementation of Part XI of the United Nations Convention on the Law of the Sea, New York, 1994;
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (1989)
- Convention on the Protection of the Black Sea Against Pollution, Bucharest, 1992;
- Strategic Action Plan for the Rehabilitation and Protection of the Black Sea, 1996;
- International Convention for the Prevention of Pollution from Ships, London, 1973;
- Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, London, 1978.

Other related agreements, particularly regional and sea-specific agreements, to which Romania is a Party include:

- Centre for Fishing in the Black Sea / GEF;
- Regional Centre for Black Sea UNESCO / COI (1996);
- Operational Centre for the Black Sea IOI (1997);
- University Foundation of The Black Sea / University Network (1998).

Additional bilateral, multilateral and international co-operation in which Romania participates in order to further activities related to sustainable development and use of oceans and coastal areas include:

- CoMSBlack (1991-1995)
- NATO TU - Black Sea (1994-1997)
- NATO TU - Waves (1996-1998)
- NATO / CCMS (1998-2000)
- CE / EROS 2000 / 21 (1995-1998)
- CE / QUALIPOL ECOS - OUVERTURE (1998-2000)
- Black Sea Mussel Watch Pilot Study for the Black Sea
- Technical Assistance to Romania in the field of ICM / NATO / SFP / IAEA / RER / 1 / 2 / 003.
- Black Sea Environment Programme developed on 1993 under the auspices of GEF with EU PHARE and TACIS as major partners.

In Romania, coastal zone management has not been defined as a separate issue but it has been incorporated in the legislative framework and physical planning system. Some laws control coastal development e.g. *Law of the Land Fund, 1991* and the *Law for Environmental Protection, 1995*. The last one is a framework law intended to be followed with additional specific laws regarding different environmental issues. Thus, the *Law on Spatial Planning*

and *Protected areas* was endorsed in 2000, and a *Coastal Zone Law* has been prepared and is waiting for parliamentary endorsement.

2.1.2. Administrative Responsibilities

The competence for the management of coastal areas and sustainable development belongs to the following ministries:

- Ministry of Public Works and Territorial Planning
- Ministry of Waters, Forest and Environmental Protection (MWFEP)
- Ministry of Agriculture and Food
- Ministry of Transport
- Ministry of Tourism

The protection of the marine environment is the responsibility of the MWFEP, the Ministry of Industry and Trade, the Ministry of Agriculture and Food, the Ministry of Transport and the local authorities.

The responsibility for sustainable use and conservation of marine living resources lies on the MWFEP, the Ministry of Agriculture and Food and the Local authorities.

There is however a lack of comprehensive conservation and management strategy and the co-ordination among the various above-mentioned governmental organisations is often inadequate. Moreover, public participation into decision-making process only occurs on an ad-hoc basis.

Local authorities are responsible for land-use planning but without capacity and qualified staff for incorporating biodiversity/nature conservation into their policies. Two counties administer the coastal zone: Tulcea (in the North) and Constanta (in the South).

The MWFEP County offices (Environmental Protection Agencies –EPAs) have legal responsibility for environmental monitoring and nature conservation. It is important that the new laws stipulate the separation of the regulatory responsibilities, and the functions and management responsibilities for natural resources.

2.1.3. National achievements in the field of ICM

The Global Environmental Facility Black Sea Environmental Programme (GEF BSEP) has been running since 1995. This international effort is administrated by the Co-ordinating Unit set up in Istanbul, Turkey. Coastal zone management is one of the six components of the Programme. The Ministry of Waters, Forests and Environmental Protection co-ordinates the BSEP in Romania and leads also the ICM component.

In addition to the GEF BSEP, which created the context and conditions to initiate the ICM process in Romania, a number of ICM activities have been carried out. Among these the following can be mentioned:

- The concept, methodology, tools and techniques of ICM, as well as potential benefits of its implementation were presented and disseminated at governmental and some local levels. Some initial activities were successfully implemented with the involvement of a number of experts and institutions. Thus, more meetings have been organised to discuss specific ICM aspects: coastal zone boundaries; ICM Network; ICM National Report.
- Furthermore, a technical seminar was organised to train selected consultants related to ICM pilot projects and their implementation.
- The National ICM Network, as the major tool for achieving coordination and integration of the coastal zone related decision-making process, was established and its tasks and activities defined.

- A commission to prepare a proposal for a Coastal Zone Act was set up. The commission analysed the coastal zone problems, studied the Coastal Acts from other countries and prepared the text of the Act.

The authorities/bodies responsible for or interested in preparation and implementation of the **Coastal Zone Management Law** are the following:

- Ministry of Waters, Forests and Environmental Protection;
- Ministry of Public Works and Territorial Planning;
- Danube Delta Biosphere Reserve;
- Tulcea and Constanta Counties;
- "Romanian Waters" Authority.

The purpose of this law (not yet enforced) is to define the coastal zone as well as to formulate and implement a specific national policy for the integrated management of coastal zones. The Law will repeal some incompatible articles of other laws. It will cover both the land and sea components of the coastal zone.

- National Coastal Zone Boundaries have been defined on the basis of multisectoral analysis; the legal delimitation however, will be done by the Coastal Zone Management Law.
- The Romanian National ICM Report was drafted, revised by the World Bank, completed in 1996 and presented, discussed and amended at the III ICM Working Party Meeting, held in Sochi in March 1996. The report presents the actual situation, problems and its causes as well as prioritises the critical issues together with a list of priority actions and investments.
- National Black Sea Environmental Priorities Study for Romania was finalised in July 1997.
- GEF BSEP "National ICM Policies and Strategies: Romania", was finished in December 1997.
- An ICM Pilot Project entitled "Integrated Coastal Zone Management and Investment Plan for Constanta County" was prepared and approved by the Romanian Government and the World Bank. The project could not however undergo the implementation phase due to the time elapsed for BSEP Phase I. It is still waiting further development of the BSEP or other opportunities.
- The *Law on Spatial Planning and Protected Areas (Law No. 5/2000)* created a new legal framework to apply the land use planning system.
- Special methodologies were approved (last modified: Ministry Order 184/1997) to assess the impact of socio-economical activities. In function of the results the environmental authorities can authorise or not the activities of a company, or can impose a special measures program to improve technologies, etc.
- A body was created to prepare the new standards for pollution control, quality of coastal water and fresh water, including potable water sources, and littoral lakes. The body is examining the present Romanian and European standards and will prepare new standards for Romania in accordance with international standards. New pollution indicators were approved for wastewater in accordance with European Union standards.

Authorities/bodies responsible for or interested in the preparation and implementation of these standards are:

- Ministry of Waters, Forests and Environmental Protection;
 - Ministry of Agriculture;
 - Ministry of Health;
 - Ministry of Tourism;
 - "Romanian Waters" Authority;
 - Danube Delta Biosphere Reserve;
 - Tulcea and Constanta Environmental Protection Agency.
- Quality and quantity indicators (in preparation) for coastal water.

- The **inter-ministerial commission** named “**Ț TORAL**” was established by Government decision no. 108/1999. The Commission undertook the role of the ICM network and has specific competencies regarding the sustainable use and protection of coastal resources and the improvement of ecological balance in coastal areas.
Authorities/bodies responsible for or interested in its implementation:
 - Ministry of Waters, Forests and Environmental Protection;
 - Ministry of Health;
 - Ministry of Public Works and Territorial Planning;
 - Ministry of Food and Agriculture;
 - Ministry of Transports;
 - Romanian Academy;
 - Constanta and Tulcea Counties Authorities;
 - Environment Protection Agency - Constanta County,
 - “Romanian Waters” Authority.
- A Contingency National Plan was prepared, reviewed and improved. It should shortly receive governmental approval.

2.1.4. Problems and constrains for the development of ICM

A number of problems have been identified that urgently need to be addressed to improve/change the development conditions in order to achieve sustainable development. Among these some are of crucial importance:

- Existing **national legislation** is incomplete for the achievement of sustainable development;
- National legislation and development policy still do not give, legally and in practice, priority to coastal zone;
- Absence of a legal definition of the National Coastal Zone Boundaries;
- Regional and/or local regulations related to market economy are inadequate or absent.
- High **pollution and degradation** of coastal resources including beaches, special habitats, biodiversity and coastal tourist area;
- **Coastal erosion**;
- Inefficient control of **illegal building** in coastal areas
- Undeveloped aquaculture;
- **Regression of tourism**;
- A great number of **competing and conflicting users** in the coastal area;
- The monitoring and pollution control system is not sufficiently equipped and efficient;
- Absence of adequate institutional arrangements for coastal protection against erosion and protection of especially valuable areas, with the exception of the Danube Delta.
- **Insufficient enforcement of ICM tools.**
- Insufficient institutional and human **capacity** to introduce and implement ICM processes, including lack of experience in practical ICM projects;
- A large number of **uncoordinated** national and local authorities involved in ICM processes;
- Absence of **university curricula** on the field of ICM;
- **Insufficient participation** of the public, NGO’s and scientific community to improve the environment;
- **Lack of funds** for efficient monitoring and control of pollution; for the establishment of the needed institutional arrangements regarding ICM; for the improvement of waste treatment and disposal management; for the introduction of clean and ecologically friendly technologies and processes; for protection against coastal erosion; for research on the impacts of climate change; for the implementation of training and capacity building programmes and for the implementation of ICM pilot projects;

- **Insufficient/lack of technical assistance** related to training, implementation of ICM pilot projects, applied research or for programmes oriented at raising the awareness of the general public on ICM and environmental problems.

2.1.5. ICM policy development and priorities

An important number of priority policies have been selected corresponding to the above-mentioned problems. The achievement of these policies will create the best conditions to improve the environment quality and promote sustainable development:

- To create conditions for the initiation of the ICM;
- To initiate practical ICM activities;
- To improve/rehabilitate tourist capacity;
- To improve/rehabilitate/develop basic infrastructures;
- To evaluate the potential of the coastal resources;
- To clearly define the competencies of different authorities regarding coastal zone activities;
- To put into practice the new ICM tools for all those activities having negative impacts on the environment;
- To establish an efficient and effective system of pollution control;
- To create a strong framework for public participation in environment protection;
- To define and provide a relevant legal status to the Coastal Zone Boundaries;
- To create the necessary institutional arrangements for ICM
- To create legal and other provisions needed for the implementation of land and sea use planning within the context of ICM;
- To upgrade the present institutional and human capacities for ICM;
- To prepare and include in national plans on ICM a medium term programme for international co-operation and assistance;
- To prepare an integrated management plan for the Danube Delta;
- To quantify fish stocks of the Danube, especially rare species, and to establish special exploitation conditions ;
- To elaborate and to approve special management measures for special protected areas, including archaeological, historical and geological sites;
- To elaborate a National Management Plan for shore protection against erosion;
- To prepare a management plan for the rehabilitation and protection of especially valuable areas;
- To finalise and approve the land and sea territorial plan for the coastal area;
- To change/improve industrial treatment plants;
- To improve urban waste treatment plants;
- To introduce new agricultural technologies to decrease the use of chemicals;
- To elaborate and approve a Beach Management Act;
- To finalise and approve the Fishing Law.

2.2. SPATIAL PLANNING

2.2.1. Legal framework, laws and regulations

Coastal zone management has not been yet defined in Romania as a separate issue but has been incorporated into the legislative framework of the physical planning system. Some laws control coastal development.

The *Law of Land Fund (18/1991)* stipulates that the Romanian shores, including beaches, are public property. It also specifies that the land belonging to natural reservations, natural monuments and parks, and historical and archaeological sites is public property.

A new *Law on Spatial Planning and Protected Areas (5/2000)* has recently been approved. This law creates a new legal framework to apply the land use planning system. It establishes where and what kind of buildings can be constructed. Further it requests from all regional level authorities the elaboration of territorial plans in accordance with the future of their territory and the implementation of policy objectives. The territorial plans have to be approved by the Environmental Authority.

2.2.2. Administrative responsibilities

The Ministry of Public Works and Territorial Planning is the highest organ at the national level. The Local Public Administration is empowered to carry out a number of relevant functions for coastal zone management. These include the responsibility for land-use planning and the administration of the public and private sector of the municipality. However, they lack capacity and qualified staff for incorporating biodiversity and nature conservation issues into their policies.

2.3. COASTAL DEFENCE

Erosion is one of the main problems along the coast of Romania. Between Sulina and Vama Veche the extension of erosion reaches up to 60% - 70% of the shore length and shows an increasing erosion rate (Annex 2). The northern part of the coast zone (Sulina – Vadu) lost about 2200 hectares (that is 77 hectares/yr) from 1962 to 1991. The shoreline retreated up to 340 m in the last three decades, with an average of about 200m. At the same time, the accretion amounted to only 169 hectares, that is 6 hectares/yr. During storms, in the areas where the shore is low lying, the coastal barrier is often broken or covered by waves and the seawater flows into the fresh water lakes.

At present, the shore is also strongly affected by human-made structures. The permanent extension of the commercial activities led to the necessity of building enlargements to three harbours on the Romanian seashore: Constanta, Midia and Mangalia. The protective sea walls of Midia and Constanta harbours act against the natural development of the beaches situated at the South of them. At the same time the Romanian coastal zone experiences a strong disequilibrium of the sedimentary processes because the damming of the Danube River has severely reduced the sediment supply into the shore zone.

A coastal protection system has been built in the Northern part to stabilise the coastal barrier, but most of these works have been carried out in the Southern part of the Romanian coastline, where most of the coastal activities involving industry and tourism occur.

2.4. ECONOMIC DEVELOPMENTS, IMPORTANT SECTORS AND TRENDS

After the collapse of the Soviet Union (1989-1991), Romania was left with an obsolete industry unsuited to its needs. In 1997 Romania embarked on a comprehensive macro-economic stabilisation and structural reform programme. Romania was invited by the EU in December 1999 to begin accession negotiations.

The most important economic sectors along the Romanian coast are industry, recreation and tourism, agriculture, building, trade, transport, communications, culture and arts, health and social assistance.

2.4.1. Recreation and Tourism

The tourist industry might be a very profitable field both for the economy of the country and for the local population.

From the point of view of tourist potential three large regions may be identified in Dobrogea :

- 1) the littoral between Midia and Vama Veche;
- 2) the Danube Delta and
- 3) the strip parallel to the Danube, between Ostrov and Isaccea, which is rich in historical sites and geographical landscape due to the presence of a number of small lakes.

Major recreational activities include swimming and other beach uses; boating and sailing; thalassotherapy centres; cultural activities and facilities; historic settlements and historic and cultural monuments.

Tourist development in both coastal counties is unequal. In Tulcea County, tourism is developed on a small scale, focused on the Danube Delta zone whereas in Constanta, tourism is of a larger scale at the littoral between Navodari and Vama Veche.

However, a drastic decrease in the number of tourists has been registered over the last years, especially of foreign tourists. While in 1992 the coast of Romania had 106,600 foreign visitors, the number decreased to 68,400 in 1995. As a consequence the use of accommodation capacity is at a very low level (23% in Tulcea and 54% in Constanta County)

There is moreover an insufficient capitalisation and effectiveness of the tourist potential value. The thermal and spa resources are not satisfactorily used e.g. to thermo-mineral and sulphurous waters and sapropaelic mud. The same may be pointed out about the tourist resources of the Danube Delta, lacking sufficient accommodation capacity and development of the transport means to the Delta.

The tourist sector needs large investments that can be oriented on two directions: i) improvement of services, extension of facilities, healthiness of beaches, etc and ii) development of new tourist complexes in all tourist areas of Dobrogea, including the Danube Delta area.

2.4.2. Agricultural Sector

With the exception of the Danube Delta, Dobrogea is a land of hills, with altitudes below 200 m, permitting extensive agriculture in the region. The main activities are grain production, horticulture and animal breeding. On a lower scale there are "technical" crops (soya bean, sugar beet, sunflower, etc) and vegetables and fruit tree growing.

Development of agriculture is based upon human intervention in both improvement of the ground quality for different crops and the development of the irrigation network. Unfortunately the continuous watering, un-correlated with the morphological features (underground water is near the soil surface), causes negative impacts such as humidity excess.

Despite the extensive irrigation system, the total agricultural production has decreased. In 1994 the total agricultural production represented only the 56.3% of the 1990 figure.

2.4.3. Fisheries

The Romanian fish catches have drastically decreased. One of the reasons is the reduction of traditional predators in the Black Sea (bluefish, Atlantic mackerel, Atlantic bonito, dolphins), which influenced the increase of small pelagic fish resources (sprat, anchovy, horse mackerel), and of the less food-valuable predators, like whiting and sharks.

In the last two decades the main object of fisheries for all Black Sea riparian countries was the small size fish, but in the last years these species also recorded a decline in their catches.

The causes of this decline are the following:

- over exploitation;
- lack of regional regulations concerning catch restrictions;
- permanent degradation of environment conditions in the north-west of the Black Sea;
- the high pollutant content of rivers which causes eutrophication of the littoral waters;
- the embanking of the Danube and the building of the Portile de Fier dam, which has destroyed spawning areas of many fish species;
- the accidental penetration of ctenophore *Mnemiopsis leidyi*, which rapidly develops in the Black Sea.

With regard to long-distance Ocean fishing, most of the catch comes from Central-East and Southeast areas of the Atlantic Ocean (areas FAO 34 and 47). This catch mainly consists of horse mackerel, sardines, mackerel, and hake. The ocean fishery has an average annual contribution of over 70% of the total Romanian catch.

The percentage of the economy contributed by fishing is ca. 0.007% of GDP (ca. 2 million US\$ / year). The methods in place to encourage sustainable use and conservation of marine living resources are:

- Evaluation of the state of the marine living resources;
- Establishment of norms and standards regarding exploitation of these resources;
- Licensing of fishing based on the fishing quota.

2.4.4. Industrial Sector

Until 1950 the Dobrogea province was the least industrially developed region of Romania. During 1950 and 1965 large investments were made in the region which achieved the following targets: hydropower station, cement factory, fishing industry, chemical fertiliser plant and a paper and pulp plant. Investments have increased since 1965 and new economic units have been built: shipyards (Constanta, Midia, Mangalia, Tulcea), metalwork plants, a petrochemical refinery, and other units to refine the raw natural resources (building materials, cannery, fish and meat processing, wine production, leather goods, textiles etc.).

Thus, the industrialisation process provoked the change from light into heavy industry.

Maritime and river transport allowed the development of industry, giving the opportunity to import raw materials for iron and non-iron industry (Tulcea), oil processing (Midia), fish processing (Tulcea, Sulina, Constanta) and shipyards (Constanta). Industry is mainly concentrated around Constanta, accounting for 75% of the total industrial output of Dobrogea. Tulcea County had a lower industrial development.

Over the last decades, however, there has been an evident decrease of industrial production as well as an increase of unemployment.

The impact of coastal and marine based industry (including tourism) on coastal ecosystems includes:

- Eutrophication;
- Increasing the concentration of pathogens in certain areas (during summer time);
- Pollution with petrol residues from the extraction industry (drilling platforms) and the processing industry (decreasing in the last 5 years).

2.4.5. Transport

Maritime transport was the initial connection for foreign trade in Romania and is still important today.

The Danube River is also used for transport, mainly between localities such as Ostrov, Macin, Isaccea and Sulina. The section between Tulcea and Sulina is part of the international river-maritime transport system through which bulk-carriers (6,500 d.w.t.) and carriers (15,000 d.w.t) are permitted to enter the Danube tributaries. They primarily transport ores, oil and timber. Ships sail only during daytime and have Romanian captains onboard.

Moreover, the Danube - Black Sea Channel is an important transport route. It is 64.2 km long with a minimum width of 70-90 m, at its start point. The canal shortens the sailing on the Danube at least 300 km and between Constanta and Cernavoda 440 km.

Concerning road transport, Dobrogea has more than 3,500 km of roads, of which 2,000 km have been modernised.

Railway transport is represented by the Constanta - Cernavoda thoroughfare rail network. It connects Constanta with the central part of the country and allows the transport of 65 goods trains and about 20 passenger trains. The second rail network connects Tulcea county with the rest of the country. A third network connects the region locally. The total railroad length is 68 km in Tulcea County and 392 km (128 km electric railroad) in Constanta County.

Dobrogea has two airports, in Tulcea and in Constanta, the latest being an international airport. Generally, in winter, the flights are only to Bucharest while in the summer there are more internal and international flights.

2.4.6. Harbours and shipping

An important part of the Romanian trade takes place through marine transport. There are four main harbours: Constanta, Mangalia, Midia and Sulina. The traffic in Constanta harbour increased rapidly during the last decades, from 14.5 million tons in 1970 to 45 million tons in 1980. At the same time the traffic structure changed, reaching a growth of imports up to 65%. The exports are about 35% of the total harbour traffic and 60 % of the country's exports are carried out through this port. The harbour is increasingly used by other countries and there are many cargo agencies running their business in the port. Midia harbour is used for oil traffic and Mangalia harbour for different goods and ore traffic. Sulina harbour has the statute of a free port, specialised in heavy goods traffic.

The impact of shipping on the coastal environment is as follows:

- Marine water pollution especially in the harbours and the bathing area;
- Introduction of alien species through the ballast waters (the most recent example: ctenophore *Mnemiopsis leidyi*);
- Biocenoses effect by using rocks in the construction of harbours;
- Natural framework effect caused by the extension of harbour installations on the land and water.

2.5. ENVIRONMENTAL POLICY AND NATURE CONSERVATION

2.5.1. Legal Framework, laws and regulations

The Romanian Parliament endorsed the new *Environmental Protection Law*, in December 1995 (Law no 137/1995). This Law is a framework law and covers environmental issues in general. Some of articles however, have strong implications for the coastal zone.

The Chapter I establishes the following Law Principles:

- principle of caution in decision making;
- principle of preventing ecological risks and damage;
- principle of conservation of biodiversity and ecosystems specific to the natural biogeographical structure;
- principle of “polluter pays”;
- the removal on a priority basis of the pollutants that directly and severely jeopardise public health;
- setting up an integrated national environmental monitoring system;
- sustainable use;
- maintaining and improving environment quality and restoration of deteriorated areas;
- setting up a framework for public and NGOs participation in decision making and in the implementation of the laws and regulations;
- development of international co-operation to assure environment quality;

The fundamental difference between the former law (Law no. 9/1973) and the new one (law no. 137/1995) is the enforcement of strategic principles and elements for sustainable development.

The law also establishes implementation tools for the above-mentioned principles:

- a) adoption of environmental policies harmonised with the development programs;
- b) compulsory environmental impact assessment procedure and environmental audit;
- c) correlation between environmental planning and territorial and urban planning;
- d) introduction of economic incentive-based and coercive instruments;
- e) elaboration of rules and standards, their harmonisation with the international ones, and introduction of compliance programs;
- f) training and education of the population as well as participation of NGOs in decision-making and implementation.

On the basis of the above-mentioned law, the Romanian Government approved in 1996 the *Proceeding on regulation of economic and social activities having an environmental impact* (the Ministry Order no. 125/1996, modified by Ministry Order 184/1997).

According to this regulation all private or state enterprises must obtain an environmental authorisation (permit). The enterprises having negative impact on the environment can only obtain environmental authorisation after a positive environmental impact assessment (EIA) or environmental audit (EA). These enterprises must implement a compliance programme. The purpose of this compliance programme is to constrain the state or private enterprises to make investments in order to reduce their negative impact on the environment. Non-fulfilment of this compliance programme causes the executory cessation of the activity.

Some other recent achievements for environmental protection, and comparable with the international experience, are:

- regime of dangerous substances, hazardous wastes, and other wastes;
- regime of chemical fertilisers and pesticides;

- regime for assuring the protection against ionizing radiation's and safety of radiation sources;
- protection of waters and aquatic ecosystems;
- protection of atmosphere;
- protection of soil, subsoil and terrestrial ecosystems;
- regime of protected areas and of natural monuments;
- protection of human settlements.

The positive impact of the execution of these changes is evident. Unfortunately, it must be pointed out that their implementation process is very slow and finds many obstacles as a consequence of the current macro-economic policy that does not consider environmental protection.

2.5.2. Administrative responsibilities

The Ministry of Waters, Forests and Environmental Protection (MWFEP), organised by the Government Decision no. 792/1992, represents the Central Environmental Authority (CEA). The Ministry has specific competencies regarding the improvement of environmental issues, water management and monitoring of nuclear activity.

It has under its subordination the territorial Environment Protection Agencies (EPA) and four advisory committees. The Ministry consists of three departments:

- a) Department of Water: has under its subordination the Romanian Water Authority (autonomous administration), which is responsible for the exploitation of water resources and the control of their use.
- b) Department of Forests: has under its subordination the ROMSILVA Forests Authority (autonomous administration), which exploits the forestry resources and controls their use.
- c) Department of Environment

2.5.3. Environmental Policy

- Preparation of new standards related to: control of pollution, quality of coastal waters and quality of fresh water, including sources of potable water and littoral lakes.
- The inter-ministerial commission named "LITORAL" was established by governmental decision No. 108/1999. This commission undertakes the role of the ICM network and has specific competencies regarding the sustainable use and protection of coastal resources and improvement of ecological balance in coastal area.
- New Environment Fund approved (*Law No. 73/2000*). This law creates a special Environmental Fund in order to sustain priority national protection environmental projects.

2.5.4. Protection of waters

Administrative responsibilities

The Constitution of Romania of 1991 stipulates that the "waters having an energetic potential that may be harnessed, those with public utilisation and the territorial sea belong exclusively to the public property".

The autonomous administration "Romanian Waters Authority" was set up by the Government Decision no. 196/1991 with the responsibility to implement the national strategy in the field of water management.

The management and administration of some underground waters are carried out by the Autonomous Administration of Romanian Mineral Waters, established by the Government Decision no. 1035/1990.

Legal framework, laws and regulations

According to Article 35 of the *Environmental Protection Law no. 137/1995* the protection of water resources and aquatic ecosystems has as its objective maintaining and improving their quality. The aim consists of avoiding the negative impact on environment, human health and personal assets.

The Central Environmental Authority has the task to elaborate the following regulations:

- technical standards regarding waters and aquatic ecosystems protection against pollution;
- authorisation of procedures regarding water sources and aquatic ecosystems exploitation and development of hydro-technical plans for the construction of dams and water ways;
- regularisation of irrigation and drainage;
- standards for emissions;
- standards for water quality;
- requirements for wastewater cleaning and restriction of the sewage in the water;

Article 39 defines the obligations of natural and legal persons. Some of them are specific to the coastal zone:

- a) to comply with standards of emission and water quality and with the provisions regarding authorisations;
- b) to provide water samples for analysis on time to the authorised laboratories;
- c) in the case of owning ships, floating or sea drilling platforms with waste storage or treatment, to provide them with wastewater cleaning installations and discharge joining in floating and coastal installations;
- d) to arrange the ports with installations for collecting, processing, recycling and neutralising oil and domestic and other wastes, stored on maritime and river ships;
- e) to set up intervention groups in case of casual pollution of waters in coastal areas;
- f) not to discharge directly the wastewater from floating platforms into natural waters and not to throw off any kind of wastes.

The article 30 of Law no. 17/1990, which regulates Romanian inner maritime waters, territorial waters and Contiguous zone, includes special provisions concerning the prevention, reduction and control of marine environment pollution and ensures their observance in the harbours, inner maritime waters and territorial sea of Romania.

2.5.5. Protection of forest

Administrative responsibilities and legal framework

In Dobrogea the forests are grouped in 3 main areas: 1) the Macin Mountains and the Tulcea hills, where the predominant species are common Oak, Lime and Hornbeam, 2) the Babadag and Casimcea plateaus, where the predominant species are Lime, Hornbeam and Oak, and 3) the Southwest of Dobrogea. The total forest area is 120,089 ha, of which 79% is in Tulcea County.

Historic evidence indicates that in the past a much larger area of forest existed in Dobrogea. Deforestation and planting of trees with low economic value caused the decrease of the forest area. In comparison with 1990, when forests covered the largest surface both in Dobrogea and in the whole country, nowadays the forest area has been reduced to 2.8% in Dobrogea and to only 0.1% in the whole country.

The judicial organisation of the forests has drastically changed due to the process of land restitution to private owners. It is regulated by the *Forestry Code of 1962*, which has been modified in accordance to the new social and economical conditions while a new forestry code is being prepared. The most relevant modification is stipulated in the *Law of Land Fund no. 18/1991*. The article 41 establishes that "The lands with forestry vegetation, woods,

riverside coppices, underwood and pastures which belonged to physical persons and became state property by the effect of some special laws, are restored, upon request, to the former owners or their successors, in a surface equivalent to that taken into state property, but not exceeding one hectare”.

The forest autonomous administration “ROMSILVA” - R.A. was created in January 1991, having the Ministry of Waters, Forests and Environmental Protection as state representative. Its objective is “the implementation of the national strategy in the forestry field, acting for the protection, conservation and development of the forestry fund, management of game and fish in the mountain waters, as well as the revaluation of forestry products”.

Forest protection

The concept of forest protection has been developed, even though not included yet in the forestry legislation. Forest protection means protection against irrational and illegal cutting down of trees, protection against pollution and forest defence against pests and diseases.

In 1990 the Government adopted the Decision no. 1328 regarding the creation of a commission of specialists in order to analyse the possibilities of forest exploitation and the annual quota of felling of trees for the period 1992 – 1995 as well as the quota estimate for the year 2000.

The *Law no. 2/1987* concerning maintenance, protection, forest development, its rational economical exploitation and the preservation of the ecological balance sets down the following obligations:

- preservation, protection and development of forest;
- restriction of chopping down of wood;
- cultivation of valuable native species;
- forest regeneration.

The *Law no. 81/1993* fixes compensations for damage to the forestry fund and forestry vegetation in private or public property areas.

2.5.6. Protection of agricultural lands

The Ministry of Food and Agriculture enforces the development strategy and economic policy of the Central Government in the agriculture and fishery sectors.

The protection of the agricultural lands concerns three main issues:

- obligations in agricultural land exploitation;
- soil protection and increase of its agricultural potential;
- use of the agricultural production.

The *Law of Land Fund (no. 18/1991)* regulates the measures to be taken for the protection of agricultural lands. Article 53 e.g. stipulates that “All the owners of agricultural lands are obliged to ensure their cultivation and soil protection”. This law also compels investors to remove the fertile soil of the agricultural grounds before any construction works start and to deposit it on non-productive or less productive grounds, indicated by the agricultural authorities, in order to ameliorate them.

The Law also provides incentives for the owners of agricultural lands in order to protect these areas. The deteriorated and polluted lands, e.g., are exempted from duties and taxes during the amelioration period. The law also establishes similar regulations for the use of pesticides. Moreover, the change of use of agricultural lands that are a natural monument or protected zone can only be done with approval of the National Commission for Natural Monuments and Historical sites.

The Environmental Protection Law also stipulates the regime of chemical fertilisers and pesticides as well as the limitation of pesticide concentrations in soil, crops, fodder and vegetable and animal food products.

2.6. POSSIBILITIES FOR ICM PROJECTS

In order to achieve a coherent institutional and legal framework for the development of ICM as well as to gather practical experience in its implementation, ideas for ICM projects have been analysed and prioritised. The most urgent projects to be carried out are the following:

- **Analysis of present regulations related to construction and proposal for improvement of these regulations, especially in the shoreline.**
 - (i) Authorities/bodies responsible for or interested in its preparation and implementation:
 - Ministry of Waters, Forests and Environmental Protection;
 - Ministry of Public Works and Territorial Planning;
 - Tulcea and Constanta Environmental Protection Agency
 - Tulcea and Constanta Counties.
 - (ii) expected products:
 - text of the Regulation concerning constructions in the shoreline and, in particular, for beach management and protection.

- **Elaboration of a shoreline management study**
 - (i) Authorities/bodies responsible for or interested in its preparation and implementation:
 - Ministry of Waters, Forests and Environmental Protection;
 - Ministry of Public Works and Territorial Planning;
 - Tulcea and Constanta Counties.
 - Danube Delta Biosphere Reserve.
 - "Romanian Waters" authority
 - (ii) expected products:- proposals related to:
 - specific shoreline management units;
 - protection measures;
 - shoreline monitoring system.

- **ICM Pilot Project for Sinoe Lake and its surroundings**
 - (i) Authorities/bodies responsible for or interested in its preparation and implementation:
 - Ministry of Waters, Forests and Environmental Protection;
 - Ministry of Public Works and Territorial Planning;
 - Danube Delta Biosphere Reserve;
 - Constanta and Tulcea Counties.
 - (ii) expected products: - proposals related to:
 - ICM database for the project area;
 - analytical documents and sectoral planning documents;
 - a set of thematic and integrated maps;
 - tentative list of priority investments related to:
 - development of eco-tourism;
 - rehabilitation of the Sinoe Lake ecosystem;
 - development of modern and ecologically sound agriculture;
 - development of aquaculture;

- **Creation of a regional co-ordinating body** to analyse the present state of the protected areas in accordance with national and international practice. It will identify measures to improve the actual management of the protected areas and will result in new proposals for the protection of additional areas.

(i) Authorities/bodies responsible for or interested in its preparation and implementation:

- Ministry of Waters, Forests and Environmental Protection;
- Ministry of Tourism;
- Ministry of Public Works and Territorial Planning;
- Romanian Academy;
- Institute of Geography.

(ii) expected products:

- measures for an efficient management of the protected areas, including management regulations and proposals concerning new protected areas.

2.7. CONCLUSIONS

The review of the existing institutions and legislation dealing with coastal zone environment protection and of the efforts for the development of ICM practices in Romania reveals a number of important findings:

- The existing legislation clearly shows the sectoral character of the present system for environment protection in Romania. Although provisions for interaction between ministries with different responsibilities are included in most of the laws, these are not proved to be strong enough to reach a sufficient level of discussion and co-operation, which is essential to ICM.
- The existing national legislation is incomplete for the achievement of coastal zone sustainable development. Elaboration and approval of a Coastal Zone Law or a Governmental Decision is urgently needed.
- National legislation and development policies as well as a legal definition of the National Coastal Zone Boundary are still not given.
- Some efforts have been put forward through both international support and national initiatives to improve coastal zone management and to “integrate” the management of coastal areas. It is now of high importance to implement the results and recommendation of these and other international experiences. Practical experience gained through the implementation of ICM pilot projects will surely help the development of institutional capacity on the field of ICM.

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