

**EUCC**

European Union for  
Coastal Conservation

# **INTEGRATED COASTAL MANAGEMENT IN BULGARIA: FRAMEWORK AND POSSIBILITIES**

**Final Report**  
**Prepared for the Dutch National Institute for Coastal & Marine**  
**Management**  
**RIKZ**

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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 Bulgaria in order to define a clear framework within which this concept can be further developed.

The report is therefore divided in two major chapters namely "The Coast of Bulgaria" and "Management and Planning". The natural values and the state of the Bulgarian coast is 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.

Over the last ten years Bulgaria has established a rather complete institutional and legal framework for the implementation on ICM schemes. The Black Sea Environmental Programme has played a very important role in environmental policy developments all around the Black Sea countries during the last decade. However, unlike other Black Sea bordering countries, Bulgaria has a long tradition of territorial and urban planning. This factor puts Bulgaria one-step ahead of the other Black Sea countries concerning the development of ICM.

All these efforts, nevertheless, are still more theoretical than practical. The obvious next step is to achieve real implementation of ICM plans. This issue is analysed by looking at the needs which are still required in order to achieve ICM in practice and by giving some examples of pilot projects that could bring ICM into real practice.

In order to get a practical overview and realistic solutions to the problems that Bulgaria faces to implement ICM, the report has been compiled by a recognised Bulgarian expert and has the support of the Ministry of Environment and Water.

*I hereby confirm that the ICM Report for Bulgaria, prepared by  
Dr. Konstantin Galabov, reflects the current state of  
the problem in the country. The Recommendations and project  
proposals contained in the Report fit within the Environmental  
Management Strategy of the Ministry of Environment and Water.*

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## 1. THE COAST OF BULGARIA

### 1.1. GENERAL FEATURES RELATED TO ICM

The Bulgarian Black Sea coast stretches from the cape of Sivri Borun in the North to the Rezovska River in the South. The straight line connecting the most northern and southern points is 200 km long. The real length of the coastline, however, is 412 km. This is due to the significant offset at the Varna Bay, especially at the Bourgas Bay.

#### 1.1.1. National definition of the coastal zone

The landward coastal zone boundaries of the Bulgarian coastal zone were first established by the *Regulation No. 3 for the Planning of the Bulgarian Black Sea Coast from June 20, 1993*, issued by the Ministry of Regional Development and Construction and the Ministry of Environment. Even though the Supreme Court overruled this regulation the same boundaries were again established by the *Regulation No. 2 for the Rules and Norms for Land-use Planning of the Black Sea Coast from January 24, 1995*.

According to the above-mentioned regulations, the coastal zone includes the territory of all those municipalities bordering the Black Sea. This definition covers the territory of 18 municipalities from the regions of Varna, Dobrich and Bourgas and, therefore, the 235 human settlements – towns and villages – and 11 tourism resorts belonging to those municipalities.

The seaward boundary of the coastal zone is still to be defined by the draft *Law for the Black Sea Coast*. This law intends to include the internal seawaters and the territorial sea in compliance with the existing *Law for Bulgarian Maritime Space*.

#### 1.1.2. Coastal types and main ecosystems

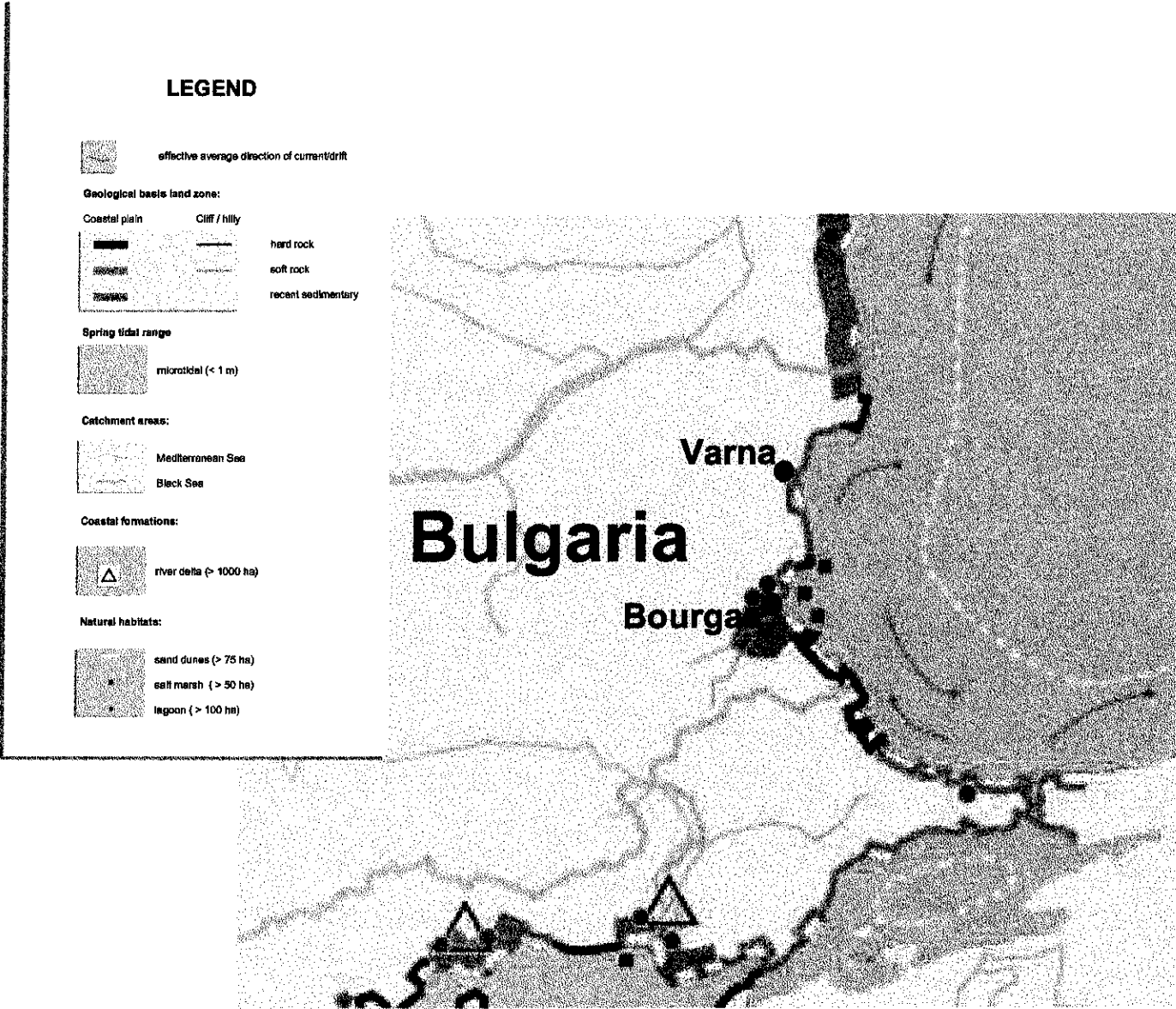
The Bulgarian coast and its shelf comprise four different structures separated by deep faults. These are the east part of the Mizia plate, the lower Kamchia river drop, the coastal part of the recently folded mega-structure of Stara Planina mountain and the Bourgas syncline. The main rivers of the Bulgarian watershed are Kamchia, Veleka and Rezovska. Detailed information about coastal geology and morphology is included in Annex 1.

Several natural elements are relevant for environmental management and should be taken into account when developing ICM processes. The natural characteristics of the coastal zone always influence its development and preservation (Fig 1). Some of these elements are dealt with in the following chapters and annexes; this chapter, however, pays special attention to beaches, dunes and forest ecosystems.

#### Beaches and Dunes

Sandy beaches and dunes are very important factors for environment, tourism and recreation activities as well as for medical treatment. In Bulgaria this strip covers 34% of the total length of the coast within an area of 16 million m<sup>2</sup>. From this area, 7 million m<sup>2</sup> are inundated by storms. The active part of the beaches is 10.5 million m<sup>2</sup> including 76 main beaches of dimensions ranking from 3,500 m<sup>2</sup> to 1.6 million m<sup>2</sup>. Regarding sand

Figure 1



Source: part of the Coastal Systems Map of Europe, EUCC

characteristics, 80 % of the beaches have middle-grained sands and 15 % have coarse-grained sands.

The beach strip is distributed as follows:

- from the border with Rumania to the Kamchya river – 32.3 % of the length and 31.5 % of the area of all the Bulgarian beach strip,
- the Balkan coastline – 11.7 % of the length and 9.3 % of the area,
- the Bourgas and Srandja coastline – 56 % of the length and 59.2 % of the area. More than half of the beach resources are located in the southern part of the Bulgarian coastline.

The longest beaches are the beach in the estuary of the Kamchya River – 11200 m, another near Pomorie – 6900 m, and the Sunny Beach Resort – 5500 m. Some of these beach strips are degraded by constructions e.g. the sandy strip between the lakes Bourgasko and Mandrensko, before the lake Pomoryisko, in Nessebar area.

### Forests in the Coastal Zone

The forests in Bulgaria are state owned, municipal or private property. Forestry is regulated by the *Forest Law of 1967*. The state forest policy is accomplished by the Ministry of Agriculture and Forestry and by its 16 Regional Forestry Offices. Further, there are 162 local or territorial offices or "forestries". Both economic activities and protective measures are carried out by the forestries.

All activities in the forests are executed on the basis of a "forest regulation project". A special Council of experts approves these projects every 10 years. The regional forestry inspections control the implementation of the projects. Very often one forestry manages the forests located in the territories of two or more municipalities.

The total planted area is 180 909 ha. The part of the coniferous forests is 20 278 ha – 11,2%; – the deciduous seed plants comprise 55 173 ha – 30,5%; the deciduous sucker forests which are in good condition cover 73 306 ha – 40,6% and the deteriorated ones are 27 279 ha – 15,0%. About 4873 ha are covered by acacia forests.

During the last 40 years alien coniferous species were introduced in the Bulgarian forests. The condition of the coniferous plantations in the northeastern coast, planted on areas with low altitude above sea level, are not good. The plantations of black pine trees (*Pinus nygra*) in the south of Bourgas are also not in a good state.

The average age of the forests is above 42 years and the average wood in stock per hectare is above 100 m<sup>3</sup>. Most deciduous forests are of seed origin and cover 30,5% of the total planted area. The deciduous forests where a clear felling system has been used are still in a good state because of the rich, fresh soil. Special measures are being taken for reforestation by using seeds from the mother trees. The clear-felling system is not longer permitted.

The Black Sea coast is an important migratory pathway for many bird species. Some years the number of geese can reach up to 130 000 individuals, mainly *Anser albifrons*. Particularly beautiful is the sight of thousands of storks following the seaside to the south.

### **1.1.3. Climate in the coastal zone**

The south-west of the Black Sea has a Mediterranean-continental climate. This is a result of the interaction of meteorological and geographical factors. Monitoring of climatic processes is

a basic tool in order to plan measures for the environmental management of the transport of sediments and decreasing pollution of the sandy seabed.

### 1.1.4. Cultural heritage in the coastal zone

One of the most important factors determining the distribution of human settlements along the coast of Bulgaria is the cultural and historic heritage. From North to south three major areas can be found of special cultural and historical value. These are Dobrudja, the Balkan zone and the southern coast of Bulgaria (Annex 2). These cultural values should be taken into account when developing ecotourism.

### 1.1.5. Important demographic aspects<sup>1</sup>

The centre of all the coastal municipalities is located in the highest populated town. The remaining human settlements in the municipality usually hold a small number of inhabitants. (Tables 1 and 2, Annex 4), show the available data on population of the coastal municipalities of the Bulgarian coast.

#### A. Dimensions and Characteristics of the Towns and Villages

Bulgarian settlements are traditionally surrounded by agricultural land and forests which are, in most cases, the property of the inhabitants. These areas are always counted as settlements in statistical analyses. The area within the built-up area is only part of this territory. All municipal centres belong to towns except for the case of the villages Avren and Aksakovo. Municipal centres are defined on the basis of their area within built-up areas and their density of population.

Table 1 (Annex 4) shows both the central area inside the built-up area and the municipal territory including agricultural land and forests. The difference in the area of the municipal centres is due to the following main factors:

- geographical character of the area;
- population size;
- level of the development of the traditional sectors of their economy;
- tourism development;
- urbanised or rural type of centre;
- urban planning strategy;
- migration processes;
- local, regional and national plans for their development;
- development initiatives of the local population.

Coastal towns can be classified in the following groups:

- very small towns – with a population up to 5,000 permanent inhabitants;
- small towns – up to 15,000 permanent inhabitants;
- large towns – over 190,000 permanent inhabitants.

Coastal villages are of the following dimensions:

- very small villages – up to 200 permanent inhabitants;

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<sup>1</sup> This demographic analysis is based on statistical data from the years 1985 – 1999. The last available information is from 1998 when the census was completed and published in the Statistical Guide of the National Institute of Statistics.



- small villages – from 200 to 1,000 permanent inhabitants;
- average size villages – from 1,000 to 2,000 permanent inhabitants;
- large villages – from 2,000 to 5,000 permanent inhabitants.

As an example, in the territory of the 14 coastal municipalities from the regions of Varna, Dobrich and Bourgas there are 235 human settlements with a total population of 692.779 inhabitants. This is the 8,46 % of the total population of Bulgaria. In 1999 the total population of Bulgaria was 8.190.876 inhabitants, from which the 83,3 % lived in cities and towns and the 16,7 % in villages.

The first human settlements in the Bulgarian coast dated from ancient times. In the second half of the VII century A.C. the first Greek colonies were established near the old Thracian settlements. This was done in view of the richness of natural resources and commercial possibilities. These towns are still existing e.g. Odessos (Varna), Heliopolis (Obzor), Messambria (Nessebar), Anhialo (Pomorie) and Apolonya (Sozopol). During the last two centuries quite a number of new towns and villages were built along the coast e.g. Bourgas, Primorsko, Byala, Tzarevo.

After the establishment of the independent Bulgarian state in 1876 part of the Turkish population left the coastal settlements and some Bulgarians came from the regions of the Strandja mountain, Thracia and Macedonia. Another important migration phenomenon took place after the First World War when there was a new wave of people coming to the coastal region and the settlements started to develop more intensively.

### B. Functional Types of the Coastal Human Settlements

Several criteria can be used for the functional classification of the settlements. These are as follows:

- industrial and agricultural functions, estimated through the employment rate in these sectors;
- tourism function, estimated through the number of beds available;
- service function, estimated on the basis of full or partial episodic, periodic and daily services;
- transport function, estimated on the basis of the transport network and transport services available.

If all the factors and classifications are used in combination the coastal human settlements can be ranked in the following three groups:

I. Multifunctional centres of regional and national significance as transport and communication centres, with a developed industry, tourism functions for the whole region and situated in a rich agricultural area – Varna and Bourgas.

II. Centres with more than three major functions mostly with local significance – usually the municipal centres.

III. Settlements with up to three functions – typically with the priority of agriculture or tourism, especially if they are near to the coast.

As a conclusion we can identify the following typical functions of the coastal human settlements along the Bulgarian coast:

- industry;
- services;
- culture;
- extraction of natural resources.
- tourism;
- forestry;
- communication;
- agriculture;
- fisheries;
- construction;
- transport;
- sports;
- light and food industry;

## 1.2. STATE OF THE COAST

### 1.2.1. Land use and land use changes

An approximate indication of the coastal occupation by sectoral development is given in Table 3. As for its natural characteristics, 53% of the coast of Bulgaria comprises old and young cliffs, while 34% are beach strips of different sizes and 13% is a coast of abrasion landslides.

**Table 3. Coastline and the occupation by sectoral development**

Country	Bulgaria	Total Coastline Length		412 km
Type of development		Code	Length (km)	%
Urban occupation		U	75	18,2
Industrial Development		I	36	08,7
Roads and Railways		T	12	02,9
Recreation		R	68	16,5
Coastal Protection		H	18	04,4
Other Uses, Like Military Use		D	17	04,1
Agriculture		A	62	15,0
Fisheries		F	15	03,6
Free from Development		S	109	26,6

Human activities and economic development cause negative effects on the environment and on human life in general, especially during the period of transition to a market economy. Major adverse effects on the landscape are the following:

- increased pollution of the coast;
- active coastal erosion and abrasion degrading the coast and the valuable coastal lands;
- degradation of dunes and beaches because of their improper use;
- problems with forests because of limited finances, property conflicts and management deficiencies;
- adverse effects of the industrial and transport activities;
- active urbanisation, mainly within the built-up area;
- planning and management problems in the field of construction.

### 1.2.2. Water quality and pollution

The problems affecting water quality in the Bulgarian Black Sea coastal zone can be defined as follows:

- the factors adversely affecting the **quality of potable water** are:
  - insufficient environmental infrastructure,
  - insufficient investments,
  - inadequate sectoral management,
  - increasing urbanisation;
- the factors adversely affecting the **quality of sea water** are:
  - pollution from the large rivers e.g. Danube,
  - agricultural, industrial and transport activities,
  - oil and gas production, processing and transportation,
  - increasing urbanisation and inadequate sectoral management.

### 1.2.3. Coastal and Marine biodiversity: state and trends

The Bulgarian coast has some basic characteristics with a positive impact on nature conservation. These are as follows:

- excellent and protected landscape - only 10-15% of the coast is highly urbanised;
- a wide number of beautiful dunes and sandy beaches covering an area of 1052 ha along the coast. The beaches carrying capacity is of 946.625 places with a normative limit of 12 m<sup>2</sup> per person.
- protected territories and national parks and reserves;
- interesting marine environment;
- rare combination of mountains, forests and beaches;
- valuable coastal lakes, lagoons, mangroves;
- valuable coastal resources like sands, mineral waters, medical mud, oil and gas, copper ore;
- well developed transportation infrastructure;
- developed social infrastructure;
- rich historic and cultural heritage;
- multi-purpose, international tourism e.g. sea-hunting and fishing, agro-tourism.

Table 4 shows the approximate area of coastal habitats in Bulgaria.

*Table 4. Some of the Present Coastal Habitats in Bulgaria*

Habitat	Area (km <sup>2</sup> )
Sand Dunes	98
Salt Marshes	36
Lagoons and Limans	136
Shingle Habitats	Length: 3 km
Rocky Coast & Cliff Habitats	Length: 218 km
Underwater Forests	4

### Habitat Loss and Decline

There is not updated, accurate data for the habitat loss or decline in the Bulgarian coastal zone. There are however expert conclusions on what the main causes of degradation are for

each kind of habitat. Degradation of the dunes is mainly caused by local excavation, construction of recreational facilities, afforestation, overgrazing, urbanisation in general and coastal erosion and abrasion. In the case of salt marshes, there is the degrading role of reclamation, draining, industrial activities and different kinds of human interventions for economic or recreational purposes. Lagoons, limans and coastal lakes suffer significantly by pollution from industry and agriculture, by inadequate and complex management and by the increased pressure for economic development. Coastal habitats are protected in Bulgaria by the protected areas system, land-use plans, coastal defence measures and management tools used on municipal level.

### 1.2.4. The problem of erosion and abrasion

#### Status of the problem

Erosion and abrasion are amongst the most destructive processes in the Bulgarian coastal zone, causing a serious negative impact on the environment. They act at a regional scale and demand an active counteraction although such activities require various and expensive surveys and actions. The technogenic loading in the zones with geological risk is a stimulator of the public interest. During recent years, specialists have tried to combine this information with the status of the environment, but the rather simplified attempts still fall short of what is required.

The orientation has recently changed towards quantitative evaluation and mathematical modelling of the processes, their impacts and consequences. The most important in the whole variety of activities are:

- quantitative characterisation of the processes;
- outlining the zones with greatest geological hazards and
- mapping and map-making of the processes, phenomena and consequences of the geological hazards.

► The quantitative characterisation of the processes is examined according to the probe method and covers sections suffering different rates of geological risk. The rate of this risk has been determined on the basis of the analysis of a wide range of components, influencing the development of the coastal zone.

► The zoning of the areas bearing geological hazard is defined in separate sections and it is carried out in accordance with certain requirements regarding the actual and perspective development of the infrastructure.

#### Erosion processes

Due to the existing natural geographic conditions in the Bulgarian coastal zone, the erosion processes, although being widely distributed, are not a serious geological hazard. A complex of factors influences the rate of erosion: morpho-dynamic, lithological, vegetation, hydro-climatic conditions and the anthropogenic activities.

The area and linear erosion is a process that develops along all the coastal slopes.

- Area erosion covers almost all terrains with inclination above 3 degrees. Decreased erosion resistance is characteristic for the coasts textured by loess deposits, delapsive deposits and sand-clay materials.

- Deep linear erosion is characteristic for terrains with inclination above 8 degrees. It is most intensive in the denuded terrains textured by delapsive materials on the north of the cape of Ikantalaka and the flyschlike sediments on the south of the cape of Emine.

The high rate of erosion in the loess sediments is due to the high content of carbonates and water-soluble salts. The performed observations on the rate of erosion export to the north of the cape of Shabla show maximum diluviation of the cliff of 0,18 m/year. During the spring-summer period of 1986, e.g., erosion in this area affected a length of 13 km of coastline, actively destroying an area of 0,182 m<sup>2</sup> and a volume of materials of 149,3 m<sup>3</sup>. This tendency continued through the next years with some insignificant deviations.

The speed of erosion in the delapsive materials varies from 0.04 to 0.12 m/year and depends on the rate of secondary thickening and the vegetation development.

The sandstone sediments have high coefficient of porosity and filtration which causes a lower rate of erosion in the coastal slopes. In cliffs with a higher inclination, the average rate of the erosion reaches values of up to 0.20 m/year. In the section between the town of Nessebar and the village of Aheloy, materials with a volume of 1930 m<sup>3</sup> eroded in a one-year period.

Negative consequences resulting from the different types of erosion processes are:

- destruction of soils in the base of the coastal slopes,
- activation of the landslides,
- screes and pollution of the narrow beach strips.

Nevertheless erosion also influences the coast positively, as it supplies feeding materials, called in-wash, to the coastal zone. All activities aiming to control and limit erosion should be decided only after the evaluation of the in-wash components.

### Abrasion processes

Abrasion is one of the most important factors of geological hazard along the Black Sea coast. The recent abrasion processes concern not only the coast but also the coastal parts of the shelf. They appear along the whole length of the coast except for the zones protected by engineering facilities. The speed of coastal zone destruction and the intensity of the process depends upon a complex of natural factors and conditions. Wave factors and the lithological and morphological texture of the coast are especially significant factors for the development of abrasion processes.

Wave abrasion is either from a mechanical, biogenic or hemogenic type. The mechanical type of wave abrasion has a prevailing influence and is connected with wave-surf activity of the sea and coastal streams.

Research on the speed of the process conduction had been carried out in locations having hydrodynamic loading and litho-morphological characteristics. These researches investigated loess sediments, delapsing materials, sandstone cliffs, as well as coasts textured by limestone, flysch, and intrusive and effusive wrecks.

The cliffs textured by loess and sandstone deposits are most intensively suffering abrasion. The speed of cliff destruction in separate zones is up to 1.8 m/year. In order to determine the speed of negative change in those coasts textured by delapsing materials it is necessary to conduct a general analysis of the data acquired for the speed of land sliding and abrasion. Data about space deformation of land-sliding terrains has been acquired by a

method obtaining the vectors of shift in discrete points, although the complex analyses have been left uncorrected.

The effect of wave abrasion provokes changes in the coastal strip which results in extraction of sand mass from the beaches, diluvation and destruction of rocks and texturing of the coast.

The consequences are as follows:

- activation of old landslides or provoking of new ones;
- landslips;
- destruction of supporting walls and facilities;

The final effect is a slow and continuous changing of the coast.

### **1.3. COASTAL AND MARINE PROTECTED NATURAL AREAS**

The system of protected territories in the Bulgarian coastal zone spreads over one of the most valuable and still preserved ecosystems and habitats which have great importance for the preservation of the biological diversity. The system includes the wetlands under the aegis of the Ramsar convention – the lakes of Atanasovsko and Durankulak-; the dense flooded forests of Kamtchia and Ropotamo; unique sand dunes and specific landscapes. The reserves of Kamtchia and Uzunbudjak are included in the biosphere reserve list of UNESCO.

The regimen of preservation and use of these sites differs. According to these differences the protected territories in the Black Sea municipalities are characterised as follows:

#### **1.3.1.National Parks**

The following national parks were established in the Bulgarian coastal zone:

- the national park GOLDEN SANDS includes the forest habitats in the region of the same name. In this area restrictions are imposed for construction works, use of forests, hunting etc. Specific measures for its management and use are still to be established in the Park-Regulation Project.
- the national park ROPOTAMO includes the estuary of the Ropotamo River. It was established in 1940 to preserve valuable and interesting natural elements like underwater forests, rocky formations, swamps along the river and sea and rich and versatile flora and fauna in an area representing a combination of land, sea and river;
- the national park STRANDJATA includes the entire mountain Strandja and it spreads over forests and some agricultural lands. More than 20 settlements are to be found within its boundaries. The park aims to protect biodiversity and landscape with special stress on the south Euxine vegetation. Polluting industries and import of alien species are prohibited. Permitted activities are those related to traditional use of lands and resources as well as the construction of buildings according to the urban territorial planning. The territorial scope of the park requires the elaboration of a plan for its management in which the regimes should be detailed according to the status of the resources.

#### **1.3.2.Natural Reserves**

The most important natural reserves are:

- the reserves of SILKOZIA, UZUNDJAK and part of ROPOTAMO, KAMTCHIA and BALTATA. They include different types of ecosystems.
- the reserve ATANASOVSKO LAKE. It is a habitat for aquatic birds.
- the reserves VODNI LILII (WATER LILIES) and PIASACHNA LILIA (SAND LILY) preserve the dwelling places for aquatic birds and the population of the same named vegetable species.
- the reserve KALIAKRA includes specific habitats of steppe vegetation as well as coastal ecosystems (the only water area included in the protected site).

The most common objective in the destination of the reserves is the protection of the ecosystems or the habitats in their natural condition. Therefore no human activity is permitted in these areas

### 1.3.3. Natural Sites and Protected Sites

This group covers sites like:

- the natural sites DURANKULAK, YALATA, KAZASHKO, ALEPU; the protected sites SHABLENSKO LAKE, VAYA, PODA, NANEVO; and the islands St. JOHN and PETER and STAMOPOLU . All there areas are typical wetlands protected to preserve the habitats of aquatic birds. Their regime includes prohibition of construction works, hunting, and disturbance of the hydrology;
- the natural site PIASACHNI DIUNI (SAND DUNES) preserves the characteristic landscape of the dune formations with their typical vegetation The construction works are not permitted there as well as activities like sand extraction etc.;
- the natural site POBITI KAMANI (Petrified Forest) is declared as such for its unique geological formations and typical landscape. It is the habitat for rare plant species too. Activities like construction works, damaging formations, and taking plants are prohibited;
- the natural sites MASLEN NOS (OIL CAPE), NOS CHERVENKA (RED CAPE) and NOS EMINE (CAPE EMINE) include the coastal rock phenomena and fjords. Prohibition concerns the damage of rocks and destruction of vegetation;
- the natural sites PIREN and RAKITNIK are destined to preserve the natural location of the same named vegetation species. Construction works, use of these places as pastures and taking plants are prohibited activities;
- the natural site KURIATA comprises an ancient elm-tree forest and the regime limits construction works and felling;
- the protected sites IRAKLI and KAMTCHIISKI PIASATZI (KAMTCHIA SANDS) comprise typical coastal habitats of rare and threatened vegetation species. The forbidden activities there include construction works, campsites, planting of new species and using it as a pasture;
- the protected site MARINKENA REKA (MARINKENA RIVER) comprises the forest habitats of east-beech trees and *Quercus frainetto* and undergrowth of periwinkle (*Vinca spp*). Construction works, main cuttings and planting of species non-typical for the region are not permitted.

### 1.3.4. Main threats for the protected territories

The most characteristic threats for the protected territories over the last few years are the following:

- the restoration of the ownership of agricultural lands within the protected territories or in their neighbourhood. The change of ownership provokes changes of the land use as well as the creation of new accommodation facilities, service sites, communications, etc.;



- deterioration of the natural water regime and qualities of water in certain wetlands;
- waste pollution in the tourist season;
- poaching and collecting of protected plants and animals.

The administration and preservation of the protected territories along the Black Sea coast is a duty of different authorities and organisations.

The condition of the sites falling under the Forest Fund is comparatively good as for management and protection conditions. It responds to the existing structures of the state forestry services.

The condition of the wetland zones – lakes and marshes – is disturbing. The ownership of lakes and marshes is unclear and disputable. Similar is the situation with the sand dunes and the agricultural lands of the municipalities. The municipalities are responsible for these areas but they seldom ensure the conditions of their real protection. These areas are not guarded and therefore their protection regimen is not respected.

The Ministry of Environment and Water controls the protected territories through the Regional Environment Inspections (REI) from Varna, Dobrich and Bourgas.

A good management of the protected territories would help the development of the tourist business in the region, performing their duties at the same time. Therefore it is necessary to carry out a set of measures including institutional consolidation, better co-ordination between the institutions and a monitoring system as well as to provide financial support for conservation and restoration measures and educational and training programmes.

## **2. MANAGEMENT AND PLANNING**

### **2.1. COASTAL MANAGEMENT / ICM**

#### **2.1.1. Legal Framework, laws and regulations**

The legal framework for the development of ICM in Bulgaria consists of those relevant Conventions and Documents ratified by Bulgaria and the national normative regulating to some extent the sustainable development of the coastal zone. A list of Conventions ratified by Bulgaria is provided in annex 3. The most important national normative acts and official documents of the Republic of Bulgaria regulating the coastal zone and related to the ICM and its role for the sustainable development of the coastal zone are the following:

- Draft Black Sea Coastal Law, 1995;
- Republic of Bulgaria, Ministry of Environment, Environmental Strategy Study for Bulgaria, World Bank, Sofia 1992 - 1994;
- Republic of Bulgaria, Ministry of Environment, National Biodiversity Strategy, World Bank, Sofia 1991 - 1994;
- Regulation No. 3/ 1993 for the Land-use Planning and Management of the Bulgarian Black Sea Coast (defines the Bulgarian Black Sea coastal zone as the territory of all the municipalities bordering the sea - political boundaries), MRDC;
- Regulation No. 2/1995 for Norms and Rules of Land-use Planning and Management of the Bulgarian Black Sea Coast, MRDC;

- Black Sea Regional Scheme on the Territorial Development and Management, MRDC, 1995;
- Official Land-use Plans of the 14 coastal municipalities developed in 1996-97.

There are, however, many other regulations that affect to some extent the ICM processes. That is the case of the legislation regulating sectoral development. This normative constitutes a stable basis for further development towards integration.

Table 5 (Annex 4) gives an overview of the existing laws in the fields of property rights, environment, spatial, urban and land-use planning, infrastructure management, agriculture, construction, economy, health and culture as they are considered the most important subjects for the future sustainable development of the Bulgarian coast.

### 2.1.2. Administrative responsibilities

The political and administrative boundaries of the Bulgarian coastal zone are as follows:

- the state boundaries with Rumania to the north and with Turkey to the south;
- the boundaries of the three administrative regions – Varna, Dobrich and Bourgas and
- the boundaries of the municipalities.

According to *the Law for the Administrative and Territorial Division of the Republic of Bulgaria* the "administrative and territorial units" are the regions and the municipalities. The "territorial units" are the "human settlements" – towns and villages and the "settlements' formations" (zones for second houses, industrial zones, resort complexes and resort areas, which are situated in the surrounding agricultural lands and forests belonging to the appropriate human settlement).

#### A. Regional Administrative Boundaries

The regions in the country are administrative and territorial units including a definite number of municipalities. The territory of the region consists of the territories of the municipalities included in this region. Varna region includes 12 municipalities and 9 of them are bordering the Black Sea. Bourgas region includes 13 municipalities and 6 of them are bordering the Black Sea. Dobrich region has 8 municipalities and 3 of them are bordering the Black Sea.

The northern border of the Varna region coincides with the state border with Romania and the southern border of the Bourgas region coincides with the state border with Turkey.

The regions are administrative units of the republic having appointed a regional governor and a deputy governor. Regional governors are responsible for the implementation and enforcement of the state policy, for the protection of the national interests, for the proper implementation of the existing laws, for the public order and the protection of the population from natural and other hazards. They are also responsible for the administrative control in the region. They are appointed officials by the government.

#### B. Local Units and Their Administrative and Political Functions

Municipalities are the local units with administrative and political functions. They are the subjects of the local self-government in compliance with *the Law for Local Self-government and Local Administration*. Their borders are defined by *the Law for Administrative and*

*Territorial Division of the Republic of Bulgaria* on the basis of factors such as a maximum distance of all the human settlements from the municipal centre of 20 km, and others of a geographic, economic, communication, transportation, or historic type.

The municipal Council defines the policy of the municipality for its development, solves problems connected with economy and finances, environment, health care, education, culture and services, land-use and urban planning and construction, municipal property, transportation safety, traffic and public order.

The *Law for Local Self-government and Local Administration* proclaims as municipal property:

- the water sources serving only the municipality,
- the dams and lakes with their beaches in the municipal boundaries with local significance,
- the parcels of land and buildings, property of the state, already paid to their owners,
- local IV-class roads, roads network in the human settlements, and
- the municipal social and technical infrastructure not included in the fixed assets of the state service enterprises.

The territory of the country is organised in three "funds":

- Urbanised lands in the construction limits of the human settlements,
- Agricultural lands and
- Forests.

There are 18 municipalities bordering the Black Sea as shown in Tables 6 and 7 (Annex 4). The average area of these municipalities is around 50 ha. The agricultural lands represent the main part of the coastal zone. Forests can be found in the middle and in the southern parts of the territory at the Balkan and Strandja Mountains. The data for the area covered by the agricultural lands and forests prove the importance of these sectors of economy for the Bulgarian coast.

Only Varna and Bourgas have relatively small lands and forests in their municipalities because they are among the biggest towns of Bulgaria so the urbanisation rate is very high.

### 2.1.3. National Achievements in the field of ICM

Relatively good results have been achieved in Bulgaria because of the active role and impact of the Black Sea Environmental Programme (BSEP) and the Bulgarian ICM Programme financially supported by the World Bank. The main results have been the following:

- The ICM theory and practices were introduced to the country at the three different levels of government – national, regional and local;
- A public ICM information campaign was organised and carried out including public hearings, seminars, discussions with different levels of government and with all the stakeholders of the coast;
- The first legal steps towards the development of an ICM programme were the approval of the Regulation no.3/1995 for the arrangement of the Black Sea Coast and the Regulation no.2/1995 for Land-use Planning Norms and Rules for the Black Sea Coast. The boundaries of the coastal zone were also established by these regulations;
- The establishment of an ICM Network in the country on a national, regional and local level and horizontally among all the stakeholders in the coastal zone;

- The establishment of a prototype of an Auxiliary Commission with representatives of state agencies, regional governors' administrations, municipalities, NGOs, scientific and professional communities;
- A national ICM Report was prepared in 1995: the report was presented to the coastal and national authorities and approved by the Ministry of the Environment;
- The development of a GIS and database was initiated although the database has to be extended to include all the necessary information for the decision-making process on the municipal level. The new land-use plans of all the coastal municipalities have also been included in the GIS data base;
- The Black Sea Coastal Law was prepared in 1995 and planned in the legislative programme of the government for the spring of 2001. This law introduces some of the principles of ICM but mainly covers the problems of coastal planning;
- The ICM implementation plan was prepared based on the document 'National ICM Policies and Strategies', and it was included in the Bulgarian National Strategic Action Plan prepared under BSEP;
- A lot of problems encountered in the development of ICM are subject to several draft laws at the moment.

### 2.1.4. Problems and constraints for the development of ICM

Quite a number of problems, however, have affected the real implementation of ICM in Bulgaria. These problems can be summarised as follows:

- The results of the existing legal and administrative system of coastal management are negative because of the lack of co-ordination and understanding of ICM;
- An insufficient and ineffective definition of the responsibilities of the state agencies and other subjects of authority for different sectors and activities of the coast, i.e. coastal beach strip, beaches and dunes, coastal lakes, fisheries and some tourism establishments;
- A need for improvement of the implementation and enforcement of the existing and well defined environmental legislation for the area;
- A strong need for new laws or amendments of existing laws, including a need to strengthen local governments;
- Insufficient real instruments for public participation in the decision-making process for development projects of the coast;
- A need for an adequate planning and development of the environmental and technical infrastructure in the region;
- A need for new tools and procedures for the co-ordination of conflicting sectoral interests and the conflicting interests of all the parties involved in the coastal development and preservation;
- Increased pollution or damage of natural resources;
- Decrease of the efficiency of the existing instruments for the management of the territory – permitting process, control, implementation of the existing urban and land-use plans;
- Problems with the effective management of active urbanisation of the coast and construction in the whole area, but fortunately only within the construction limits of the human settlements;
- Ineffective control and enforcement of the legal procedures in the processes of the survey and extraction of natural resources;

- Insufficient protection of historical and cultural heritage;
- Need for better sectoral monitoring and management of the coast;
- Need for integration of the sectoral management systems;
- Need for financially strong local self-government and certain de-centralisation of power to the regional and municipal levels of government;
- Conflicts in the authority and functions of the government agencies responsible for the different sectors and elements of the coast;
- Evident need of the integrated coastal zone management based on the well developed international and Bulgarian experience;
- Legal establishment of the proper and effective institutional structure for the ICM;
- Implementation and enforcement of new land-use and urban plans for the coastal zone;
- Improvement of the planning, development and management of the adequate environmental and technical infrastructure;
- Development and continuous support of the coastal GIS and data base.

In Table 8, all the problems are summarised for the actual situation in the Bulgarian Black Sea coastal zone.

**Table 8. Priority Issues and Problems of the Bulgarian Black Sea Coast**

SECTORS/SYSTEMS	PRIORITY ISSUES AND PROBLEMS
ENVIRONMENTAL INFRASTRUCTURE	1. INSUFFICIENT WASTE TREATMENT PLANTS 2. IMPROVED MANAGEMENT.
LEGISLATION	3. LACK OF INVESTMENTS. 4. UNFINISHED OBJECTS.
ENVIRONMENT	1. NEED OF NEW LAWS OR AMENDMENT OF THE EXISTING LAWS. 2. NEED OF THE ICM LAW. 3. NEED OF LEGAL STRENGTHENING OF LOCAL GOVERNMENTS.
URBAN, LAND-USE AND FOREST-USE PLANNING AND CONSTRUCTION	1. INCREASED POLLUTION OR DAMAGE OF NATURAL RESOURCES. 2. DANGER OF DEGRADATION. 3. ASSIMILATION OF VALUABLE LANDS FOR DEVELOPMENT USES.
ECONOMY IN GENERAL	4. TRANSFRONTIER POLLUTION. 5. OIL LEAKAGE IN THE PORTS. 6. SEA TRAFFIC POLLUTION. 7. COASTAL EROSION AND ABRASION, LANDSLIDES.
TOURISM	1. NEED OF THE PLANS' ENFORCEMENT. 2. ACTIVE URBANISATION. 3. UNFINISHED CONSTRUCTION OBJECTS. 4. CONSTRUCTION VIOLATIONS. 5. OWNERSHIP CONFLICTS.
AGRICULTURE	6. VIOLATIONS OF THE EXISTING URBAN AND LAND-USE PLANS 7. DEVELOPMENT VERSUS PRESERVATION CONFLICTS. 8. COMPETITION FOR RESOURCES.
TRANSPORT	1. RESTITUTION CONFLICTS. 2. HIGH UNEMPLOYMENT.
NATURAL RESOURCES	1. NEED OF RESTRUCTURING 2. QUALITY OF SERVICES. 3. OWNERSHIP CONFLICTS. 4. OVERUSE OF AGRICULTURAL LANDS FOR TOURISM
INDUSTRY	5. PRESSURE FOR DEVELOPMENT WITHOUT PROPER MARKET ANALYSIS. 6. NEED OF FINANCIAL SUPPORT OF THE STATE FOR TOURISM MARKETING.
SOCIO-ECONOMIC ISSUES AND PROBLEMS	1. SLOW LAND REFORM. 2. LOSS OF AGRICULTURAL LANDS FOR DEVELOPMENT PURPOSES. 3. PROBLEMS WITH INTERNATIONAL MARKETS.
	4. MANAGEMENT OF FISHERIES. 5. NON-POINT POLLUTION. 6. NEED OF MODERN TECHNOLOGIES.
	1. CONFLICTS WITH THE MUNICIPALITIES FOR THEIR LANDS. 2. POLLUTION. 3. NEED OF MODERNISATION.
	1. OVER-EXPLOITATION OF THE NATURAL RESOURCES. 2. ILLEGAL EXTRACTION OF LAND AND SEA RESOURCES. 3. POLLUTION AS A RESULT OF THE SURVEY AND EXPLOITATION.
	1. DEPRESSION. 2. PROMOTION OF SMALL ENTERPRISES. 3. NEED FOR MODERN TECHNOLOGIES.
	4. RESTORATION OF OLD MARKETS AND FINDING NEW MARKETS.
	1. RELATIVELY HIGH UNEMPLOYMENT RATES. 2. NEGATIVE DEMOGRAPHIC TRENDS.

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|  | <ul style="list-style-type: none"><li>3. PROTECTION OF CULTURAL AND HISTORIC HERITAGE.</li><li>4. DECREASE OF THE STANDARD OF LIVING OF THE POPULATION.</li><li>5. INVESTMENTS AND NEW FINANCING SYSTEM FOR THE HEALTH CARE, EDUCATION, R &amp; D, CULTURE, SPORTS.</li><li>6. CONFLICTS AMONG THE DEVELOPMENT, PRESERVATION AND PUBLIC INTERESTS.</li></ul> |
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### 2.1.5. ICM policy development and priorities

In order to address the above mentioned problems some practical solutions are needed at a national and international level.

#### National level actions:

Some solutions can be recommended to address the problems existing in the coastal zone: the most important steps are to promote

- Development of an ICM system in the framework of the environmental management system of the country;
- Legal establishment of the protected coastal strips - zoning schemes;
- Use of pilot projects as one of the most effective principles allowing the introduction of new ideas and new, bottom-up approaches;
- Use of regulatory programmes;
- Use of management programmes for particular resources or for particular sites;
- Pilot use of a concept of Integrated River Basin Management (IRBM) together with ICM where it is possible;
- Effective land-use planning and management;
- Use of action programmes for protecting, correcting or restoring degraded coastal resources or for solving coastal problems;
- Use of local area, municipal, regional, sectoral or national ICM plans;
- Legal establishment of the tools and bodies for conflict resolution and decision-making with the participation of all the stakeholders at the coast;
- Use of modern information systems, computerised atlases and archives, GIS and data bases;
- Establishment and improvement of the legal basis for public participation in the decision-making process for the coast;
- Use of economic instruments - funds, taxes, user charges, license and permit fees, fines and incentives within tight regulatory framework;
- Use of the legal tools for environmental management and all the other sectoral tools, like protected areas, national reserves, cultural monuments, protected forests, protection of arable lands, protection of waters.

#### International Level Actions:

Actions at the international level have to proceed under the co-ordination of the Istanbul Black Sea Commission in the following directions:

- to continuously support of the Black Sea ICM network as a basis for further co-operation and regional ICM integration and development;
- to approximate the new legislation and norms among the countries and with the EU normative acts;

- to support the co-operation of countries having developed ICM systems with other related international organisations;
- to organise and lead co-operation among all the Black Sea basin states and in particular between Black Sea coastal states and Danube river basin states and among the regional seas programmes;
- to seek international support for the Black Sea countries in the process of the protection and rehabilitation of the sea;
- to introduce the ICM principles in all the components of the BSEP.

Priorities for the development of ICM policy in Bulgaria have been analysed in the Framework of the "Bulgarian ICM Policies and Strategies" of the Ministry of Environment and Waters (Table 9, Annex 4). An Action Plan (Table 9, Annex 4) has been developed to achieve these priorities but, unfortunately, has not yet been implemented, mainly due to lack of funding.

## 2.2. SPATIAL PLANNING

### 2.2.1. The Bulgarian Spatial Planning System

The spatial planning system in Bulgaria has a good traditional basis from the last quarter of the 19<sup>th</sup> century when European experts assisted the young independent state to establish its institutions, legislation and practices of planning, construction, management, control and development.

On the national level Bulgaria has a *National Plan for Economic Development* and a *National Plan for Balanced Regional Development*. These plans establish the macro framework for the development of the country. Statement of policies by the state on the national level are followed by the adoption of national strategies in different fields like e.g environment, agriculture, industry, etc. On the lower level there are the legally established plans for the management of the territory which could be defined as spatial planning.

The organisation of this type of planning process is based on the division of the territory into three 'funds' - urbanised territory (the towns and villages in their construction limits), agricultural lands and forests.

The urban and village cadastral plans are fully operational and these plans could be found in the technical offices or cadaster offices of the municipalities. Because of the changes of the political system after the II World War some of the villages have lost their plans. The cadastral services are now developing these plans for about 6% of the villages in the country.

The cadastral plans for agricultural lands, which traditionally constitute the property of the inhabitants of a town or a village, are now computerised and supported by land commissions that were established for the restitution of the property on agricultural lands. The process of agricultural land restitution should be finished by the end of the year 2000. The combination of the cadastral plans of all the human settlements in a municipality, usually 10 to 20, constitute the plan of the agricultural lands of this municipality. The combination of plans of a number of municipalities, usually around 10, produces thus the plan of a region (oblast).

The cadastral plans for forests are now in process of reorganisation because the restitution of the real property on forests is under way. Before the war, property of forests was roughly 10% - private forests, 20% - municipally owned forests and 70% - state owned or public forests at mountains like Balkans, Rodopes, Rila, Strandja and Pirin are included. People in the mountains usually owned forest privately as there were no arable lands there. The privatisation is now an important source of income and employment in the mountainous areas. The economic activities in the forests are under the strict control of the Forestry offices.

According to this logic the plans for the arrangement, control, administration, management, development and construction are divided into the following groups:

- Urban and village plans including all the functions listed above are adopted by the municipal Councils after a mandatory EIA procedure (Bulgaria has around 270 municipalities ("obshtini") and 28 regions ("oblasti") elected by their population and administered by the municipal technical offices;
- Land-use or municipal territory plans, which again incorporate the functions stated above (arrangement, control, management, etc.). They are adopted by the municipal Councils after a mandatory EIA procedure. These plans include the territories of the three funds - urbanised, agricultural lands and forests - and they constitute the local law for the management of the municipal territory. They are also administered by the municipal technical offices;
- Agricultural land-use plans are prepared on the basis of the regulations for the "proper agricultural practices" - a group of more than 10 laws, for e.g. apiculture, wine production, etc;
- Forest-use or forest arrangement plans are prepared by the forestry offices and administered by them. In fact these plans are the basis for the normal management of forests.

The first two groups of plans - urban and land-use - are based on the *Law for Territorial Arrangement* and the third group on the basis of the Law for Forests.

The planning process described is supported by additional planning sub-systems such as:

- infrastructure management plans - energy supply, water supply, sewerage systems, waste water treatment stations, transport network;
- environmental management plans
- social developments plans;
- hazards management plans;
- regional territorial development schemes.

### 2.2.2 Legislation and Regulations

The basic laws and regulations in this subject are the following:

- Law for Urban and Land-use Planning (for Territorial Arrangement) (1973);
- Law for the Administrative and Territorial Division (1995);
- Law for the Regional Development (1999);
- Law for the Cadastre and Property Register (1999);
- Regulation No. 3 for Territorial Arrangement of the Black Sea Coast (1994);
- Regulation No. 5 for Construction Norms and Rules (1995);



- Draft Law for the Black Sea Coast planned for April, 2001;
- Draft Law for the Mountainous Areas planned for January, 2001;
- Law for Forests (1995);
- Law for the Property and Use of the Agricultural Lands (1991);
- Law for the Protection of the Arable Lands (1973);
- Laws for the proper agricultural practices.

### 2.2.3. Administrative Competencies

The main agencies responsible for the territorial planning process of the country are:

- Ministry of Regional Development and Welfare;
- Ministry of Environment and Waters;
- Ministry of Agriculture and Forests;
- Ministry of Transport and Communications

Their regional offices and inspections are responsible for the coastal regions.

### 2.2.4. Coastal Policy

The coastal policy of Bulgaria was, until 1993, similar to any regional policy and corresponding planning. The role of the coastal zone, however, was under-estimated and during the last years there has been a slow trend towards change although it needs to be strongly supported at a national and international level in order to reach real positive results.

Some specific elements of a new coastal policy were introduced in the course of the World Bank-supported, Bulgarian ICM Programme. Then *the Regulation No. 3 for the territorial arrangement of the Bulgarian Black Sea coast* was promulgated and enforced. By this normative act based on the *Law for Territorial Arrangement* some general principles of ICM were included and the institutional framework was established. The *draft ICM law* was prepared in 1995. This draft law is waiting, after some modifications, for adoption by the Parliament.

## 2.3. COASTAL DEFENCE

Coastal defence is not regulated by law but only by regulation on the basis of the *Territorial Arrangement Law*. The general principle is that the owner pays for the defence. It could be the state, the municipality or private owners. There is a clear need for special regulations in this subject.

Controversy specially arises from the obsolete procedures of investment, design, development, management and control. There is proper potential in the country in the fields of science, design and construction of coastal defence facilities but the management process needs to be improved.

## 2.4. ECONOMIC DEVELOPMENTS, IMPORTANT SECTORS AND TRENDS

The favourable combination of geographical factors in the territory of the Bulgarian coastal zone provides very good conditions for its perspective economic development.

Coastal regions are very important for the national economy. Their territory covers 5,3% of the country producing 12,1 % of GDP. Moreover, it is in this area that the 10,5 % of the fixed assets of Bulgarian economy are situated. The basic sources of income here are industry, construction, transport, oil and gas, tourism, chemical production, services and agriculture.

During the last two years the municipalities in the Varna Region have suffered a higher rate of unemployment, increasing from 12 to 28%. This is mainly caused by the industrial decline in the transition period and by the structural industrial reform. Along the Bulgarian coast this average rate has reached 18%. It is higher than in the rest of the country mainly because of the seasonal factor of the dominant tourism development which is the most important specific economic function of the coast.

In the Bulgarian coastal zone the main concentration of the labour force can be found in the two major urban areas, Varna and Bourgas. The classification of the municipalities based upon the working population includes three groups:

- Varna and Bourgas – over 150,000;
- 3 municipalities – Balchik, Nessebar and Pomorie – up to 30,000;
- 9 municipalities – up to 10,000.

From the ICM point of view such dislocation is favourable to the state of the environment and it is a perspective potential in the near future for the implementation of the basic principles of sustainable development of the coastal zone. As an example, it is much easier to improve the employment situation through the promotion of small enterprises in smaller municipalities and, at the same time, to improve the environmental situation in the points of active urbanisation in the area of the Varna and Bourgas municipalities.

The most important sectors of economy in the coastal zone are industry, transport, construction, agriculture, tourism, services and forestry. Fishery is not an important sector because of the relatively small catch of fish. Some economic negative results come however from industry and the transport system e.g. railroads.

The so-called non-material production sectors of economy have such a low financial benefit that they can be neglected as an important economic factor for the coast. Nevertheless, they cover important issues from the social point of view, like science, R & D, education, health care, culture and sports.

### 2.4.1. Recreation and tourism

Tourism is one of the most important sectors from the point of view of economic and social results. Further, it is also important from the point of view of the protection of the environment because the adverse effects of tourism are by far less than those from other economy sectors. Directly or indirectly, the whole coastal population is involved in tourism activities.

The normative act regulating tourism is the *Ordinance no. 35 for the Development of the Tourism as Priority Sector of the National Economy, 1990*.

The main accommodation facilities for tourists are hotels; camping sites; rooms in private houses; rest houses; mountain chalets; mountain rest houses; hunting houses; seaside rest houses; health spas; youth camps; agricultural tourism houses and sport resorts.

A tourism complex or resort represents a territorial tourism unit including a resort, group of resorts, resort areas and human settlements where there are tourism facilities for health improvement or recreation. The surrounding parks, forest parks, zones for sports, green zones, etc are also included. In Bulgaria a tourism complex can be:

- a tourism resort, which concentrates a group of hotels and the surrounding infrastructure like e.g. Golden Sands Resort; or
- an area where different tourism establishments are located.

In order to determine the tourism potential of the coast it is important to stress that the recreational capacity of the Bulgarian coast is a very important factor in the planning process. The overloading of the coast leads to definite negative results in the sector. The total recreational capacity of the coastal area is estimated, based on the available beach strip of 10,52 million m<sup>2</sup>, on about 1,000,000 visitors per day. The normative rate is of 12 m<sup>2</sup> per visitor.

### 2.4.2. Industry

Industry is a very important sector in the coastal area. The reasons for Bulgarian industrial development are tightly connected to the coastal resources and conditions. The whole country has had an important industrial development during the last decades, mainly due to the opening of a huge market in the COMECON countries. Bulgaria is not a country rich in mineral resources e.g. oil, gas and coal, but it holds a significant potential of qualified and trained labour force, a well developed R & D system and a favourable geo-political location.

Industrialisation delivered, in fact, positive results for the economy of the country. It came along however with all the negative factors typical for industrialised nations as pollution, dependence from the import of mineral resources, need for high-energy production and risks of high unemployment. This last factor has worsened in the last few years because of the industrial depression caused by the transition to a market economy.

### 2.4.2. Agriculture

Agricultural activities are regulated by the following normative acts:

- *Law for the Protection of the Agricultural Lands (1995);*
- *Law for the Promotion of Agricultural Products (1996);*
- *Law for the Renting of Agricultural Lands (1996);*
- *Draft Law for Fishery and Aquaculture (2000);*
- *Law for the Property and Use of the Agricultural Lands (1991);*
- *Law for the Protection of the Arable Land and Pastures (1973);*
- *Law for Fishery (1982);*
- *Law for the Game Reserve (1982);*
- *Law for the Apiculture (1983);*
- *Law for Forests (1958);*
- *Law for the Restitution of the Property of Forests (1998).*

The favourable natural and geographic characteristics of the Bulgarian coast are an important factor for the development of agriculture. In some coastal municipalities agriculture is the priority sector for economic development. In some other areas of the coast the agricultural production has developed as an additional economic function to the prevailing tourism development.

Agricultural development is based on three main factors:

- the availability of the cultivated lands;
- the availability of the labour force;
- the level of the qualification and experience in the field.

From a total coastal area of 572.453 ha the "agricultural fund" covers 357.200 ha (61.1%). Agricultural lands in the northern part of the Bulgarian coast (in Varna and Dobrich regions) cover 70.0 % of the area whereas in the southern part it is only 54.7 %. The reason for such a difference is the relief of the North (Eastern Dobrudja and the Frangen plateau) where plains are prevailing. The mountainous relief of the remaining part of the coastal region leaves significantly less arable lands.

On the basis of the income from agricultural production and its quantity, three groups of coastal municipalities can be identified:

- A. With primarily agricultural functions: Shabla, Balchik, Kavarna, Aksakovo and Avren.
- B. With agricultural functions supporting tourism: Byala, Pomorie, Sozopol, Primorsko, Dolny Chiflik.
- C. With less active agricultural development: Varna, Beloslav, Bourgas, Nessebar, Tzarevo.

### 2.4.3. Fisheries and Aquaculture

These sectors are currently regulated by the *Law for Fishery from 1982*. However, a new law for Fishery and Aquaculture has been produced and is ready for parliamentary adoption in the year 2000. Fisheries are not an important sector in Bulgaria because of the relatively small catch of fish due mainly to pollution. It is an interesting fact that the level of the exploitation of the fish resources in Bulgaria is far under the permissible norms.

On the basis of the fisheries data of all the Black Sea countries over the last 10 years some comparisons can be made. Comparison with Turkey, for example, shows that Bulgarian fishing quantity for the anchovy was 1,433 times less, for the bluefish 1,487 times less, for the scad 94 times less and for the *Allosa vessleri* 27 times less. The highest catch is the sprat and even in this case it is far from the permissible norms.

The fish mortality coefficient for exploitation of stock (Fex) is several times less than the critically permissible rate of 0.43. For example, for *Allosa vessleri* this coefficient was 0.99 for all the Black Sea countries while for Bulgaria it was only 0.035. A higher mortality coefficient applies to the turbot - 0.57-, but it is due to Turkish vessels fishing in Bulgarian waters.

Aquaculture is a new activity for the country. At this moment only a few centres have been established in Bourgas and Shabla for the production of black mussels and *Atherina mochon pontica*.

In this situation it is important to preserve the existing resources from the increasing pressure from foreign companies for shellfish, mussels and turbot. This is mainly a managerial problem and concerns the competent authorities.

#### **2.4.4. Transport**

The main laws regulating this sector are the following:

- *Law for the Bulgarian Marine Space (1987);*
- *Law for the Road Traffic (1999);*
- *Commercial Navigation Code (1970);*
- *Law for Ports (1999).*

In the coastal region, infrastructure has been developed for all types of transport systems. Two of the four Trans-European transport corridors designated by the EU and crossing Bulgaria are connected with the coastal area:

- VII corridor – Rivers Rain-Main-Danube-Black Sea. As a consequence the railway connection Rousse-Varna has to be modernised and the traffic Danube-Black Sea organised;
- VIII corridor – Duras-Tirana-Skopie-Sofia-Plovdiv-Bourgas-Varna. This corridor brings the need to construct a railway line Bulgaria-Macedonia, to modernise the Bulgarian railway lines, and to develop traffic, infrastructure and technology at the Bourgas and Varna ports.

The network of coastal Bulgarian roads consists of 1911.3 km. The average density for the region is 0.28 km/km<sup>2</sup>, which is less than in other parts of the country.

The length of the railroad network is 195 km. Its density is 28.5 km/km<sup>2</sup> and the average density for the country is 38.7. The main railroads are Sofia-Varna (No. 2) and Sofia-Bourgas (No. 8), both of which are electrified. They serve the large centres of Varna and Bourgas and their ports.

**Maritime transport** covered in the last years 98% of the import-export operations of the country through the Varna and Bourgas ports. The Bulgarian cargo fleet has 69 vessels with a total of 507,144 gross registered tons – general cargo ships, ferries, container vessels, RO-RO ships, tankers, refrigerator cargo ships and trawlers. The local small ports are operating in Balchik, Nessebar, Pomorie, Sozopol and Tzarevo.

The main problem of the sector is pollution. The problem is not lack of control but the difficulty to prevent some accidents *e.g.* at the ports there are often oil leaks, the competence of the State Naval Inspection. There is also a special service for cleaning the ports and the sea from such leaks. In some cases, pollution is caused by vessels that are discharging their wastewater, mixed with oil, in the sea which then reaches the coast.

At the coastal regions there are two **airports** with international significance, these are Varna and Bourgas airports. They have domestic and international lines. Charter flights to European countries are more intensive in the summer season.

In the big towns there are regular **bus and trolley bus lines**. There are also intercity bus lines and all the resorts, usually located near the towns, are connected with bus lines. Private bus owners and companies have already undertaken some of the regular bus lines, mainly those that were ineffective for the state-owned companies. The competition in this field caused

some troubles at the beginning but there is already a good balance between the private and state-owned companies.

In the municipalities of Shabla, Kavarna, Balchik, Byala, Nessebar, Sozopol, Primorsko and Tzarevo (9 out of 15) there are no public transport services.

The air pollution caused by automobiles is also significant. There is a governmental plan to intensify the production of eco-gasoline and it can already be found in most of the gas stations. Cars, however, are relatively old and they are not adapted to such gasoline.

One of the most urgent measures to improve the quality of transport services in Bulgaria is the reconstruction of the road network and the construction of new roads relatively far from the coast. This problem is difficult to solve because of the shortage of financial investments. Nevertheless some works have started. There is a special grant system from the state budget for the IV class roads, which are the responsibility of the municipalities. Another important measure should be the construction of ring-roads around the biggest towns in order to transfer the traffic outside of their centres. Municipalities will need government assistance to construct them.

As in most of the economic sectors, in the transport sector there is a conflict of interest between the economic factors – profit, employment, services for the population- and the environmental requirements.

### 2.4.5. Harbours and Shipping

There are two big cargo ports in Varna and Bourgas and several, local small ports operating in Balchik, Nessebar, Pomorie, Sozopol and Tzarevo.

The Bourgas Port Complex includes the following parts:

- Port "East" for general cargoes;
- Port "Bulk Cargoes" for coals and ores;
- Port "West" for metals;
- Oil Port "Drouzhba";
- The ports Nessebar, Pomorie, Sozopol and Tzarevo.

The Varna Port Complex includes the following parts:

- Port "Varna – East" for general cargo and for passengers;
- Port "Varna – West" for bulk cargoes – coals, chemicals, sugar, container vessels and packaged cargo;
- Port "Varna Thermoelectric Plant";
- Port "Varna Airport";
- Port "Oil";
- Port Balchik.

There are some private initiatives for the construction of new cargo ports or oil terminals in the existing ports, but they have not been yet realised. Bulgarian ports are state property and they are managed by the Ministry of Transport. Ports are nowadays organised as independent enterprises. The most important problem affecting big ports is their extension because of the increased traffic in the last few years.

Other problems are the need of constant dredging operations and the need of new depots for the dredged sediments. Big ports in the country are traditionally in conflict with towns

and municipalities. The reason is that ports have taken significant areas of municipal lands almost in the centre of the towns. Further, ports close, in some cases, the access of the public to the sea. Despite this conflict, there is no doubting the importance of ports for the municipal economy. Ports provide the municipalities with taxes and employment, and improve the living standard of the local population.

A strong trend in the country is the construction of marinas in most municipalities. The construction projects however are very often not supported by the market analysis of the Association of the Bulgarian Black Sea Marinas. Due to the financial situation the chances of these projects being carried out are very small.

Port construction is a process that needs a complex permitting procedure. The Council of Ministers has, because of the national interests and importance of such projects, the final decision on the approval of new ports. At the moment there is no real perspective for new construction of big seaports.

The operation and problems of ports connected with their adverse impact on the environment are one of the main issues for Bulgaria. ICM processes have to take this issue into account for the successful management of the coast.

### **2.5. ENVIRONMENTAL POLICY AND NATURE CONSERVATION IN COAST AND SEA**

Environmental policy covers, in Bulgaria, all the elements of the ecosystem; therefore nature conservation is part of the environment protection system of the country. The environmental policy of the country is established through the strategies for the protection of environment, biodiversity and other elements of the environment. Strategies are developed and updated by the government every four years. The instruments for the realisation of these policies are the laws, regulations, norms and standards.

#### **2.5.1. Legislation and Regulations**

The main laws and regulations having significant impact on coastal management are the following:

- *Environment Protection Act (1991);*
- *Law for the Protection of the Air, Waters and Soils (1963);*
- *Law for the Protection of Nature (1967);*
- *Law for the Purity of the Atmospheric Air (1996);*
- *Law for the Solid Wastes Treatment (1997);*
- *Law for the Bulgarian Maritime Territory (1987);*
- *Law for the Waters (1999);*
- *Protected Areas Law (1999);*
- *Law for the Plants Protection (1960);*
- *Law for the Medicinal Plants (1999);*
- *Draft Law for the Biological Diversity, planned for October 2000;*
- *Draft Law for Mineral Resources;*
- *Regulation No. 4 for the EIA (1998) - the old one was from 1991;*
- *Regulation No. 8 for the Parameters and Norms for the Quality of the Coastal Sea Waters (1987);*
- *Regulation No. 2 for the Sanitary Safeguarding Zones Around the Water Sources and Facilities for Potable Water Supply for the Population (1989);*
- *Regulation no. 4 for the buffer zones around the reserves (1988).*

### **2.5.2. Administrative Competencies**

Environmental policy and management procedures are the responsibility of the Ministry of Environment and Waters (MOEW) which encompasses the functions of the management of natural resources, waste water treatment plants development, the national environmental fund and the national water board. Water supply companies are state owned and their management is a function of the Ministry for Regional Development. In the structure of MOEW there is a system of regional environment control inspections responsible for the EIA approval and for the implementation and enforcement of the national environmental protection policy. The most important ministries regarding the coastal zone are health, transport, agriculture, and the regional and municipal administrations.

### **2.5.3. Environmental Management Tools**

The main environmental management tools in Bulgaria are the following:

- laws, regulations, norms and standards;
- system of protected areas based on the Protected Areas Law including:
  - I. Strict Nature Reserve.
  - II. National Park.
  - III. Natural Monument.
  - IV. Managed Reserve.
  - V. Natural Park.
  - VI. Protected Site.
- mandatory EIA procedure including public hearings for all the development projects with significant impact on the environment;
- law enforcement system including charges and penalties;
- National Environment Protection Fund accumulating all the charges and fines for the violations of the environmental regulations, norms and standards and financing environmental protection facilities;
- national budget investments in the environmental infrastructure;
- scientific support system;
- use of the system of protection of the cultural heritage, historical and cultural monuments;
- use of the system of protected forests.

## **2.6.CURRENT DEVELOPMENTS IN ICM AND POSSIBILITIES FOR ICM PROJECTS**

In order to achieve the real introduction of ICM in Bulgaria, the most important objectives and measures to be taken were identified in the "Bulgarian National ICM Policies and Strategies". This report is an official document of the Ministry of Environment and Waters formulated within the framework of the Black Sea Environmental Programme. Measures to be taken in order to reach the ICM objectives have been formulated as ideas for project proposals as showed in table 10 ( Annex 4). Unfortunately none of these proposals have yet been carried out, mainly due to lack of funding.

However, Bulgaria has achieved a lot towards the establishment of an ICM framework.



Unlike other Black Sea countries, Bulgaria can counts upon a stable political system. In fact, during the last years the stability and efficiency of the public administration has notably improved.

Moreover the country is also financially stable.

The development of ICM in Bulgaria at year 2000 is summarised in Table 11.

**Table 11: ICZM system development in Bulgaria**

<b>ICZM SYSTEM DEVELOPMENT IN BULGARIA</b>		<b>BLACK SEA ENVIRONMENTAL PROGRAMME</b>	
<b>BULGARIAN ICZM PROGRAMME</b>		<b>BLACK SEA ENVIRONMENTAL PROGRAMME</b>	
<b>A</b>	<b>LEGISLATIVE AND NORMATIVE BASIS</b>	<b>A</b>	<b>LEGISLATIVE AND NORMATIVE BASIS</b>
1	Regulation 3/1993 for the Arrangement of the Black Sea Coast	1	Bucharest Convention for the Protection of the Black Sea Against Pollution/92
2	Regulation 2/1995 for Rules and Norms for Territorial Arrangement of the Black Sea Coast	2	Strategic Action Plan for the Protection and Rehabilitation of the Black Sea/1996
3	Draft Law for the Bulgarian Black Sea Coast/1995	3	Odessa Ministerial Declaration on the Protection of the Black Sea/1993
4	Draft Law for the Bulgarian Black Sea Coast/2000	4	Bulgarian National Strategic Action Plan for the Protection and Rehabilitation of the Black Sea/1998
5	Territorial Arrangement Plans of the Coastal Municipalities/1997-98	5	Bulgarian National ICZM Policies & Strategies/1997
6	Regulation 5/1997 of MRDPW for Beach Management	6	BSEP Black Sea Transboundary Diagnostic Analyses/1997
<b>B</b>	<b>INSTITUTIONAL BASIS</b>	<b>B</b>	<b>INSTITUTIONAL BASIS</b>
1	ICZM Department of the MRDC/1993-1997	1	Waters Department of the Bulgarian Ministry of the Environment/1992
2	Varna and Bourgas Regional ICZM (Regional Development) Offices/1993	2	BSEP National Coordinator and Bulgarian ICZM Focal Point/1993
3	Bulgarian Association of the BS Coast Municipalities/1993	3	Regional Environment Inspections/1992
4	Waters Department of the Bulgarian Ministry of the Environment/1992	4	Bulgarian National BSEP Focal Points/1992
5	Regional Environmental Councils/1991	5	Regional Environmental Councils/1991
6	Municipal Technical Councils/1994	6	National ICZM and Environmental Networks/1992-93
7	MRDC Supreme Expert Council/1993 and Pilot Coastal Commission/1993-97	7	Varna and Bourgas MRDC National and Regional ICZM Offices/1993
<b>C</b>	<b>ICZM OPERATIVE TOOLS, PROCEDURES, RESULTS</b>	<b>C</b>	<b>ICZM OPERATIVE TOOLS, PROCEDURES, RESULTS</b>
1	Territorial Arrangement Plans/1998	1	MOE National Expert Council/1992
2	Municipal Technical Councils/1994	2	National Environmental Fund/1994
3	MRDC Supreme Expert Council/1993	3	MRDC Supreme Expert Council/93
4	CZM Boundary Legal Definition/1993	4	CZM Boundary Legal Definition/1993
5	Regional Environmental Councils (EIA)/1992-93	5	Regional Environmental Councils (EIA)/1992-93

6	Coastal GIS	6	Coastal GIS
7	Bulgarian Association of the BS Coast Municipalities/1993	7	Territorial Arrangement Plans/1998
8	Pilot Coastal Commission/1993-97	8	Municipal Technical Councils/1994
9	ICZM Scheme for BS Coast/1995	9	Bulgarian Coastal NGO's Network/92

It can therefore be concluded that by year 2000 Bulgaria achieved an important improvement of most of the issues basic for the development and implementation of ICM, e.g:

- sectoral, regional and local coastal management are now stronger and more efficient;
- the National Policy prioritises environment protection, including a better coastal management;
- National Policies for economic development are environmentally friendly;
- the level of investments for coastal environmental infrastructure has notably increased;
- public participation has increased through the NGO network; and
- urban and land use planning and their implementation has improved.

From a legislative point of view, the sectoral legislative and regulatory basis for sectors like environment protection, agriculture, transport, planning, regional development, construction, health, industry, tourism, privatisation, finance and social policy has also improved.

Nevertheless, even though Bulgaria is one step ahead of the other Black Sea countries, the system of ICM is only established at a framework level. It is for this reason that pilot projects for the real implementation of ICM schemes are of utmost importance. Once the first practical step is taken the example will be set for other areas to follow.

### 3. INFORMATION SOURCES

- Statistical Yearbook 1994 – National Statistical Institute, Sofia, 1994-1999.
- Regions and Municipalities in the Republic of Bulgaria'94 – National Statistical Institute, Sofia, 1994-1999.
- Tourism'94 – National Statistical Institute, Sofia, 1994-1999.
- Technical Infrastructure and Communal Services – National Statistical Institute, Sofia, 1994-1999.
- Republic of Bulgaria, Ministry of Environment, Bulgaria Environment Strategy Study, World Bank, Sofia, 1992 – 1994.
- Republic of Bulgaria, Ministry of Environment, National Biodiversity Strategy, World Bank, Sofia, 1991 – 1994.
- Bulgarian CZM Programme – GIS DataBase, Sofia, 1995.
- United Nations Development Programme – Plan for Integral Development of the Bulgarian Southern Black Sea Coast, Black Sea Coast, National Centre for Territorial Development and Housing Policy (NZTRJP), Sofia, 1992.
- Guidelines for the Development of Land-use Plans of Coastal Municipalities – NCTRJP, Sofia, 1994.
- Regional Scheme for Territorial Arrangement and Development of the Bulgarian Black Sea Coast – Preliminary Stage, NZTRJP, Sofia, 1995.
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- Черно море - Научен сборник, Варна, 1978.
- Hydrometeorological Conditions of Block IV, Kamchiya. (1992). Rep. Leader - Z. Cherneva, Varna. Фонд ИО БАН 3/92.

ANNEXES

## ANNEX 1: Geology and morphology of the Bulgarian Coast

The **morphology** of the Bulgarian coast is exceptionally varied due to its complex geolithologic and tectonic texture. This is a consequence of the neotectonic and new movements of its constituting morphological structures. Abrasion processes in the periods of Pleistocene and Holocene influenced further this morphology.

**Landslides** are irregularly distributed along the coast. They prevail in the northern part where the slope comprises neogenic sediment with low solidity and higher deformation qualities.

In order to define the **segmentation** of the coast the coefficient of segmentation has to be calculated.<sup>1</sup> The coefficient represents the ratio between the real length of the coastline and its length taken as a straight line between the two ending points of certain strip. Based on this method the average segmentation coefficient (SC) of the Bulgarian coastline is 1.97. The Varna and Bourgas bays, which are coming deeply inland, cause such a high rate of segmentation.

According to its morphological conditions the Bulgarian coastline is divided to **6 main sections**:

1. Doubrudjansko – covering the area between cape Sivribourun and the Batova river valley.
2. Frangensko-Avrensko – covering the area between Batova river valley and the mouth of Fandaklyiska river.
3. Staroplaninsko – located between the mouth of the rivers Fandaklyiska and Hadjyiska. The coastline is oriented in the direction North-South to cape Emine and East-West – to Hadjyiska River.
4. Bourgasko – the most varied coastline. The northern area is characterised by large areas of beaches and dunes (up to 11 m high). It is in this zone where the Sunny Beach resort is located. Going southwards there are two large peninsulas – Pomorie and Nessebar – with high SC of 2.12. In the southern area there are cliffs and accumulative-abrasive coast and finally the Pomorie lagoon, which is 60-70 cm under sea level.
5. Mednoridsko – covering the area between cape Choukalya and the mouth of the Dyavolska River. Its segmentation coefficient is very high, reaching 2.39.
6. Strandjansko – embraces the coast between the Dyavolska and the Rezovska river and has SC of 1.43. In this area the beach strips cover 24% of the coastline and the cliff coast the other 76%. The declinations of this part of the coast varies between 3 and 8 degrees, the VSC is between 1.0 and 2.5 km/sq. km and the VSC is between 100 and 200 m/sq. Km.

With regard to **the continental slope** it is mainly of the normal type (with inclination of 1 to 3 degrees). However, there are some areas near Kaliakra where the normal type is found combined with very steep slopes (with inclination of 20-30 degrees).

This information is especially relevant when developing ICM policies on coastal defence, transport and tourism development.

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<sup>1</sup> V. Popov and K. Mishev method

## ANNEX 2: Bulgarian Cultural heritage

The Bulgarian coastal zone has a very rich cultural heritage, and based upon their historic and cultural values, three coastal areas can be distinguished:

I. The Dobrudja Zone. It is the most southern part of the immense East European steppe. The first signs of human civilisation date from the middle of the stone age. This is the area of "Pobitite Kamany", near Varna. Settlements from the new-stone age and later times near Dourankulak and Shabla confirm the human presence in the area for millennia. The halcolith necropolis near Varna Lake, dated from V century B.C, is a monument of special historic value.

II. The Balkan Zone. Human presence was not so intensive in this coastal area. Access was very difficult and its natural resources and shape of the coast were not favourable for human settlements.

III. The Southern Black Sea Coastal Zone. The last submarine research dated the town of Urdovitza (the village of Kiten) as a Neolithic settlement from the IV century B.C. The ports of Nessebar, Athya peninsula and Sozopol are dated from the Bronze Age. The other important ports of the ancient times are at Cape Emine, Urdovitza and in the Arapy Bay near Tzarevo. The old well pits and tunnels near by the Varly Bryag Mine and other old ore mines and quarries, which remained from the ancient times, are a clear sign of the use of the natural resources, especially copper ore, for centuries.

In the area of Pomorie – Tzarevo and between the villages Marinka and Rossen (Tzarevo Municipality some megalith monuments can still be found.

From the **Bronze Age** the ports and towns at the Bulgarian coast are a constant catalyst of the Mediterranean economic and cultural influence through the navigation, trade, mining and metal manufacturing.

During the **Second Greek colonisation** (VIII – VI centuries B.C.) there was a collision of the two different cultural and political systems – the Greek system and the Eastern type of the Thracian state. In this period the main sea route led from Constantinople through Apolonya (Sozopol), Messambrya (Pomorie), Aristeum (Cape Emine), Martzianopol, and Odessos (Varna) to Northern Europe. Four important economic, political and cultural centres were located along the coast – Messambrya, Anhyallo, Apolonya and Debelt. Typical examples of the ancient urbanisation of the Southern coast are the Thracian towns Aristeum (Cape Emine), Hersonessos (at the Ropotamo River), Urdovitza and the Castle System Medny Ryd (Sozopol municipality)

The classical Greek culture spread mainly in the colonies and among the Thracian aristocracy through working tools and luxury goods. Architectural tradition in the coastal settlements followed the rules of the Greek classical arts. In the fields of religious architecture and the ritual practices there was a collision between the two different religious systems which influenced all the cultural development in the Southern Black Sea Coastal Zone and in the mountain of Strandja. Tumulus, necropolises, fortresses and rocky sanctuaries and cult places from this time are still preserved.

The **Roman invasion** turned the Bulgarian coast into a peripheral region of the Empire. This was a period of development decline. After the fall of the Roman Empire the **Bizantium Empire** was established as an inheritor of the Roman one. During the so-called Eastern Roman Empire with its capital at Constantinople, the development of the Southern Bulgarian Black Sea coast was intensified again and the region flourished.

The most significant monuments of the **Late Antiquity Epoch** in the coastal region are the towns of Deultum (the Debelt village) and Anhyalo (Pomorie).

After the restoration and exhibition of the historical church architecture in Nessebar new efforts are forthcoming for the restoration of the following historical monuments:

- King's Monastery "St. Ivan Prodrom" at the St. Ivan River near the town of Sozopol;
- the monasteries neighbouring Emona;
- the monastery complex Catholicon St. Dijo (Ahtopol).

In the area among the villages Kolovo, Gramatikovo and Balgary more than 20 small churches from the Middle Ages are fully or partially preserved.

### **ANNEX 3: Relevant Conventions and Documents Ratified by Bulgaria:**

- Rio de Janeiro Declaration on Environment and Development (1992);
- UNCED AGENDA 21, chapters 10 and 17 (1992);
- Strategic Action Plan for the Protection and Rehabilitation of the Black Sea (1996);
- BSEP Transboundary Diagnostic Analyses (TDA) (1995);
- BSEP Bulgarian National ICZM Report (1995);
- Bulgarian National ICZM Policies and Strategies (1996);
- European Union, Directive on Sustainable Development (1990);
- UNCLOS - UN Convention on the Law of the Sea (1987);
- MARPOL International Convention for the Prevention of Pollution from Ships (1973);
- Convention on the Protection of the Black Sea Against Pollution, ratified on 26.11.1992, in force since 15.01.1994, promulgated: SG, Vol. 49/ 17.06.1994;
- Convention on Environmental Impact Assessment in a Transboundary Context (Espoo, Finland, 1991), ratified, in force since 10.09.1997;
- International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties (Brussels, 1969), ratified, in force since 31.01.1984;
- Convention on the Transboundary Effects of Industrial Accidents (Helsinki, 1992), ratified in 1995;
- 8. International Convention for the Prevention of Pollution from Ships (London, 1973), The Convention and the Annexes I and II are in force since 12.03.1985, the Annexes III and V are in force since 13.08.1993;
- Convention between the Government of the Republic of Bulgaria and the Government of Romania on Environmental Co-operation, ratified in 1992;
- Convention on Long-range Transboundary Air Pollution 1979 Geneva , ratified in 1981, in force since 1983, Protocols to the Convention, ratified, in force;
- The 1985 Vienna Convention for the Protection of the Ozone Layer, ratified in 1989, in force since 1991. The 1987 Montreal Protocol on Substances that Deplete the Ozone Layer, ratified, in force;
- UN Framework Convention on Climate Change 1992, ratified in 1995, in force since 1995. Kyoto Protocol to the UN Framework Convention on Climate Change 1997, signed in 1998, not ratified;
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal 1989, ratified on 18.01.1996, in force since 16.05.1996;
- The 1992 Convention on Biological Diversity, ratified on 29.02.1996, in force since 16.07. 1996, promulgated: SG, Vol. 19/02.03.1999;

- Convention on Wetlands of International Importance Especially as Waterfowl Habitat (The Ramsar Convention) 1971, ratified, in force since 24.01. 1976, promulgated: SG, Vol. 56/10.07.1992;
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (The Washington Convention, CITES) 03.03.1973, ratified in 1990, in force since 16.04. 1991, promulgated: SG, Vol. 6/21.01.1992;
- Convention for the Protection of the World Cultural and Natural Heritage 1972 Paris, signed, ratified and is in force since 1976;
- Convention on the Conservation of European Wildlife and Natural Habitats, (The Bern Convention) 1979, ratified on 25.01.1991, in force since 01.05. 1991, promulgated: SG, Vol. 23/10.03.1995;
- Convention on the Conservation of Migratory Species of Wild Animals (The Bonn Convention) 23 June 1979 With Appendices As Amended 1985, 1988 in force since 1 November 1983, 1979. Bulgaria is not a party to the Convention, but took part in adoption and signing of other agreements on protection of migratory species;
- The Convention Concerning Fishing in the Black Sea, 1959 Varna, signed, ratified, promulgated;
- The Convention Concerning Fishing in the Danube Water, signed, ratified, promulgated;
- Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques, 18.05.1977 Geneva, ratified on 25.05.1978, in force since 05.10.1978, promulgated: SG, Vol. 22/16.03.1979.



## **Annex 4: Tables**

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**Table 1. Territory and Population of the Coastal Municipalities and Their Centres in 1999**

Municipal Centre	Territory			Population						
	Area (ha)	%	Total (ha)	Male	Female	Total - Centre	Density - Centre per km <sup>2</sup>	Total Area of Mun.(ha)	Total Municipality	Density - Municipality per km <sup>2</sup>
SHABLA	353	4,47	7904	1992	2037	4029	51	34628	6801	20
KAVARNA	502	9,49	5288	5820	6062	11882	225	48321	17785	37
BALCHIK	592	8,65	6848	5919	6066	11985	175	50496	22124	44
AKSAKOVO	140	6,38	2186	3443	3430	6873	314	47260	17569	37
VARNA	4696	31,75	14794	144460	151744	296204	2002	20449	302118	1477
BELOSLAV	197	5,46	3611	3975	4060	8035	222	9610	12199	127
DOLNY CHIFLIK	248	6,84	3625	3607	3586	7193	198	36639	20144	55
AVREN	143	2,67	5345	455	431	886	17	48595	8252	17
BYALA	204	3,88	5255	976	881	1857	35	16073	3157	20
NESEBAR	75	3,75	1990	2831	3283	6114	307	42100	16034	38
POMORIE	195	3,99	4899	6616	6876	13492	275	41313	26959	65
BOURGAS	2458	13,94	17634	94807	100028	194835	1105	45198	212067	469
SOZOPOL	82	5,23	1579	1758	1941	3699	234	79687	13815	17
PRIMORSKO	45	4,35	1034	950	934	1884	182	15790	3641	23
TZAREVO	151	4,37	2431	2575	2662	5237	215	36294	9114	25
TOTAL BBSCZ <sup>1</sup>	10081	11,94	84423	280184	294001	574185	Av. 680	572453	691779	Av. 121

<sup>1</sup> BBSCZ: Bulgarian Black Sea Coastal Zone

**Table 2. Human Settlements of the Coastal Municipalities**

<b>SETTLEMENTS MUNICIPALITY</b>	<b>Total Number of Human Settlements</b>	<b>Towns</b>	<b>Villages</b>	<b>Fishermen's Villages</b>	<b>Miners' Villages</b>	<b>Tourism Resorts</b>
SHABLA	16	1	15	2	-	-
KAVARNA	21	1	20	2	-	1
BALCHIK	22	1	21	2	-	1
AKSAKOVO	23	-	23	1	-	-
VARNA	5	1	4	2	-	2
BELOSLAV	5	1	4	1	-	-
DOLNY CHIFLIK	17	1	16	1	-	-
AVREN	18	-	18	2	-	1
BYALA	6	1	5	1	-	-
NESEBAR	14	2	12	2	-	2
POMORIE	17	2	15	2	-	-
BOURGAS	12	2	9	2	1	-
SOZOPOL	19	1	17	2	1	2
PRIMORSKO	5	2	3	2	-	1
TZAREVO	11	1	13	2	-	-
<b>TOTAL BBSCZ</b>	<b>235</b>	<b>17</b>	<b>192</b>	<b>24</b>	<b>2</b>	<b>10</b>

**Table 5. Legislation Concerning the ICM Process in Bulgaria by Ministries**

<b>CONSTITUTION OF THE REPUBLIC OF BULGARIA / 1991</b>	
<b>COUNCIL OF MINISTERS</b>	<b>DECREE NO. 77 FOR THE ESTABLISHMENT OF THE EXCLUSIVE ECONOMIC ZONE OF THE REPUBLIC OF BULGARIA/1987.</b>
<b>MINISTRIES OF THE:</b>	<b>LAWS, DRAFT LAWS AND REGULATIONS</b>
<b>ENVIRONMENT AND WATERS</b>	1. LAW FOR THE ENVIRONMENT/1991. 2. LAW FOR THE PROTECTION OF THE NATURE/1967. 3. LAW FOR THE PROTECTION OF THE AIR, WATERS AND SOIL/ 1963. 4. LAW FOR PLANTS PROTECTION/1960. 5. LAW FOR THE PURITY OF THE ATMOSPHERIC AIR/1996. 6. PROTECTED AREAS LAW/1999. 7. LAW FOR THE SOLID WASTES TREATMENT/1997. 8. LAW FOR WATERS/1999. 9. LAW FOR HUNTING AND PRESERVATION OF GAME/1999. 10. LAW PROTECTION OF THE MEDICINAL PLANTS/2000. 11. DRAFT SUBSURFACE RESOURCES LAW/2000. 12. DRAFT LAW FOR THE PROTECTION OF THE MARINE ENVIRONMENT. 13. REGULATION NO. 1 FOR THE EIA/1995(NOW NO.4/1998). 14. REGULATION NO. 4 FOR THE BUFFER ZONES AROUND THE RESERVES/1988.
<b>REGIONAL DEVELOPMENT AND WELFARE</b>	1. LAW FOR THE URBAN AND LAND-USE PLANNING (FOR URBAN AND TERRITORIAL ARRANGEMENT)/1973. 2. LAW FOR THE MINES AND QUARRIES/1957. 3. LAW FOR THE LOCAL SELF-GOVERNMENT AND LOCAL ADMINISTRATION/1991. 4. LAW FOR THE ADMINISTRATIVE AND TERRITORIAL DIVISION/1995. 5. LAW FOR THE CADASTRE AND PROPERTY REGISTER/1999.

	6. LAW FOR REGIONAL DEVELOPMENT/1999. 7. LAW FOR THE MOUNTAINOUS 8. DRAFT LAW FOR THE ARRANGEMENT OF THE TERRITORY. 9. DRAFT LAW FOR THE CONSTRUCTION. 10. DRAFT LAW FOR THE BLACK SEA COAST/APRIL 2001. 11. DRAFT LAW FOR THE MOUNTAINOUS AREAS/JANUARY 2001. 12. REGULATION NO. 3 FOR THE ARRANGEMENT OF THE BLACK SEA COAST/1994. 13. REGULATION NO. 1 FOR THE GEOPROTECTION ACTIVITY/94. 14. REGULATION NO. 2 FOR THE CONSTRUCTION IN THE AGRICULTURAL LANDS/1993 WITH MINISTRY OF AGRICULTURE 13. REGULATION NO. 5 FOR THE CONSTRUCTION NORMS AND RULES/1995.
<b>AGRICULTURE</b>	1. LAW FOR THE PROPERTY AND USE OF THE AGRICULTURAL LANDS/1991. 2. LAW FOR THE PROTECTION OF THE ARABLE LAND AND PASTURES/1973. 3. LAW FOR FISHERY/1982. 4. DRAFT LAW FOR FISHERY AND AQUACULTURES/2000. 5. LAW FOR THE GAME RESERVE/1982. 6. LAW FOR THE APICULTURE/1983. 7. LAW FOR FORESTS/1958. 8. LAW FOR THE RESTITUTION OF THE PROPERTY OF FORESTS/1998. 9. LAW FOR THE PROTECTION OF THE AGRICULTURAL LANDS/1995. 10. LAW FOR THE PROMOTION OF THE PRODUCERS OF THE AGRICULTURAL PRODUCTS/1996. 11. LAW FOR THE RENTING OF AGRICULTURAL LANDS/1996.
<b>TRANSPORT AND COMMUNICATIONS</b>	1. LAW FOR THE BULGARIAN MARITIME TERRITORY/1987.      2. COMMERCIAL NAVIGATION CODE/1970. 3. LAW FOR THE ROAD TRAFFIC/1999.      4. LAW FOR THE PORTS/1999. 5. LAW FOR COMMUNICATIONS/1975.
<b>HEALTH</b>	1. HEALTH CARE LAW/1973. 2. REGULATION NO. 8 FOR THE PARAMETERS AND NORMS FOR THE QUALITY OF THE COASTAL SEA WATERS/1987. 3. REGULATION NO. 7 FOR THE HEALTH PROTECTION OF THE HUMAN SETTLEMENTS' ENVIRONMENT/1994. 4. REGULATION NO. 14 FOR THE RESORTS' RESOURCES, RESORTS' AREAS AND RESORTS/1987. 5. REGULATION NO. 2 FOR THE SANITARY SAFEGUARDING ZONES AROUND THE WATER SOURCES AND FACILITIES FOR POTABLE WATER SUPPLY FOR THE POPULATION/1989. 6. ORDER NO. 09-378 FOR THE ESTABLISHMENT OF THE SAFEGUARDED ZONES OF THE COASTAL BEACH STRIPS (SEA BEACHES)/1994.
<b>JUSTICE</b>	1. PROPERTY LAW/1951.      2. CITIZENS' PROPERTY LAW/1973. 3. LAW FOR THE NORMATIVE ACTS/1973.      4. LAW FOR CONCESSIONS/1995. 5. PROPERTY RESTITUTION LAWS/1991-93. 6. LAW FOR THE ADMINISTRATIVE PROCEDURES/1979. 7. LAWS FOR THE STATE AND MUNICIPAL PROPERTY/1998.
<b>CULTURE</b>	1. LAW FOR THE MONUMENTS OF CULTURE AND MUSEUMS/1969.
<b>PRIVATISATION AGENCY</b>	1. PRIVATISATION LAW/1992.      2. FOREIGN INVESTMENTS LAW/1992.
<b>FINANCE</b>	1. LAW FOR THE LOCAL TAXES AND FEES/1951.
<b>INTERIOR</b>	1. LAW FOR THE FIREGUARD SERVICE/1979.
<b>ECONOMY</b>	1. ORDINANCE NO. 35 FOR THE DEVELOPMENT OF THE TOURISM AS PRIORITY SECTOR OF THE NATIONAL ECONOMY/1990
<b>STATE AGENCY FOR ENERGY</b>	1. LAW FOR THE ENERGY/1975.
<b>NAT.STAT. INSTITUTE</b>	1. LAW FOR THE STATISTICS/1991.

**Table 6. Coastal Municipalities by Regions**

<b>VARNA REGION</b>		<b>DOBRICH REGION</b>	<b>BOURGAS REGION</b>	
1. Shabla.	6. Beloslav.	1. Shabla.	1. Nessebar.	6. Tzarevo.
2. Kavarna.	7. Avren.	2. Kavarna.	2. Pomorie.	
3. Balchik.	8. Dolny Chiflik.	3. Balchik	3. Bourgas.	
4. Aksakovo.	9. Byala.	-	4. Sozopol.	
5. Varna.	-	-	5. Primorsko.	

**Table 7. Territories of the Coastal Municipalities**

MUNICIPALITY	AGRICULTURAL LANDS	%	FORESTS	%	HUMAN SETTLEMENTS	%	TOTAL
	ha	-	ha	-	ha	-	ha
SHABLA	32222	93 ,05	1244	3 ,59	1161	3 ,36	34628
KAVARNA	44042	91 ,15	2668	5 ,52	1611	3 ,33	48321
BALCHIK	42506	84 ,18	6266	12 ,41	1725	3 ,41	50496
AKSAKOVO	34120	72 ,20	11528	24,39	1613	3,41	47260
VARNA	9353	45,74	6114	29,90	4982	24,36	20449
BELOSLAV	6578	68,49	2590	26,96	437	4,55	9610
AVREN	23574	64,34	11706	31,95	1360	3,71	36639
DOLNY CHIFLIK	19034	39,17	28174	57,98	1387	2,85	48595
BYALA	6762	42,07	8890	55,31	421	2,62	16073
NESSEBAR	19722	46,85	21187	50,32	1191	2,83	42100
POMORIE	29725	71,95	10420	25,22	1168	2,83	41313
BOURGAS	39880	88,24	1776	3,93	3541	7,84	45198
SOZOPOL	36071	45,27	42636	53,50	980	1,23	79687
PRIMORSKO	3134	19,85	12510	79,23	146	1,92	15790
TZAREVO	11122	21,35	40210	77,20	752	1,45	52084
TOTAL BCZ <sup>2</sup>	357846	60,83	207918	35,35	22474	3,82	588238
TOTAL RB	6845836	61,64	3854411	34,71	405938	3,66	11106185
RATE BCZ	5,23 %	-	5,39 %	-	5,54 %	-	5,30 %

<sup>2</sup> BCZ: Bulgarian Coastal Zone

**Table 9. ICM Strategic Action Plan**

Sheet 1

PROBLEM	Stakeholder	POLICY	STRATEGY	PROPOSALS			
				ACTION	PRODUCT	Term	USD
Underestimation of the Black Sea coastal zone	MOEW, other agencies, Council of Ministers (COM)	RESPECT THE IMPORTANCE OF THE BLACK SEA COASTAL ZONE (Cross-sectoral)	Input for BBSCZ to the state budget, MOEW budget or other agencies and to the Government program'98(GP'98)	Application for funding and planning from the state budget and from the other state agencies' budgets	Legal recognition of the importance of the Black Sea coastal zone	1999	100 000
	Ministry of Environment(MOEW)		Input to the: 1. GP'98. 2. MOEW R&D. 2. National Scientific Fund. 3. Universities' Programs. 4. Bulgarian Academy of Sciences.	Support of the R&D for the coastal zone and in the field of ICM from all the sources cited in strategies	Real recognition from the state and the science of the extreme importance of the coastal zone.	1998	50 000
	MOEW		1. To use every one of the pilot projects(PP) or some of them as an argument in favour of the ICM. 2. To use PP for normative base in planning field 3. To compare the approaches top-down vs. down-top.	Seek international support for these pilot projects proposed to and approved by the World Bank as technically feasible the coastal zone	International recognition of the importance of the coastal zone and of the ICM process	From 1998 to 2001	120 000
Sectoral coastal management and endangered environment	MOEW, all the state agencies involved in coastal management	RECOGNIZE THE NEED OF THE ICM AND START ITS IMPLEMENTATION	Development of the ICM system in institutional and technical aspect using the capacity of one agency or of all the agencies with one lead agency	Process of the institutional and technological development of the ICM system by one lead agency with the support of the Council of Ministers-decision	Legal recognition of the ICM as a National policy for sustainable development	1999	10 000
	MOEW, MRDPW, COM, Regional		To reach better results through: 1. Control procedures.	Avoiding the over-urbanisation of the coast through legal improvements of the	Legal improvement by the ICM Law and organisational improvement by better	From 1998	50 000

	Governors,  Municipalities, the Public	(Sectoral element)	2. Zoning restrictions. 3. Better planning. 4. Proper enforcement of the plans.	improvements of the monitoring, planning, zoning and enforcement of the plans	management and administration		
	MOEW, other agencies involved, COM, Parliament		Establishment of ICM economic base: - Fund; - charges and fees; - taxes; - credit tools; - incentives.	1. Introduction of the ICM Fund 2. Design of an economic tools system. 3. Implementation of the system	1. Operational ICM Promotion Fund. 2. ICM economic tools system. 3. Financial support of the ICM system.	1998 1999 2000	50 000 20 000 10 000
	MOEW, COM, all the state agencies and municipalities involved		Development of ICM monitoring and evaluation system by MOEW or using all existing systems and experience.	1. Design of the ICM monitoring system. 2. Design of the ICM evaluation system. 3. Implementation of both systems.	1. ICM monitoring system. 2. ICM evaluation system. 3. Improvement of the ICM results.	1998- 99 1998- 99 From 1998	20 000 20 000 30 000
	MOEW, COM, all the state agencies  involved in CZM		GIS application for: 1. ICM. 2. Construction . 3. Planning. 4. Integrated multipurpose system.	Application of an integrated GIS for the ICM of the BBSCZ	Improvement of the ICM functioning and the functioning of all the administrations - national, regional and local	From 1998	10 000 yearly
	MOEW, COM, local and regional  authorities, the public		ICM public participation through the efforts of one agency or of all the agencies involved and the three levels of government	Organisation and regular activities for the involvement of the public in the coastal decision-making process by all the stakeholders under one lead agency	1. Inter-sectoral commissions on national and regional levels of government. 2. Public education. 3. Public information.	From 1998	5 000/year  5 000 5 000
	MOEW, MOA&Forests MRDPW, COM,  Municipalities, Regional Governors		Improvement of the situation through: - strict implementation of the law; - amendment of the regulations; - better zoning and planning; - combination of all approaches.	Improvement of the current situation using all the proposed approaches	Sectoral programmes for the improvement of the environment protection of the forests and agricultural lands	From 1999	20 000/year

PROBLEM	Stakeholder	POLICY	STRATEGY	PROPOSALS			
				ACTION	PRODUCT	Term	Costs USD
Sectoral CZM and ineffective management	MOEW, MRDPW, COM	NEED OF ICM LEGAL AND INSTITUTIONAL BASIS	Adoption of the draft ICM law by the Parliament and preparation of all the necessary supporting norms or seeking amendments of existing laws	Adoption of separate ICM Law and the supporting normative basis	ICM Law	1998-1999	-
	MOEW, MRDPW, COM	(Cross-sectoral)	1. Support of the existing offices, their transfer to other agencies or new ICM offices establishment. 2. Organising the inter - sectoral commission now or after the adoption of the draft ICM law.	1. Keep the ICM offices in action. 2. Organise the commissions after the adoption of the draft ICM law.	1. Operational Regional ICM Offices. 2. Intersectoral commissions on the national and regional level.	1998 1999	10 000 /year Already given
	MOEW, COM		1. Management capacity building in an agency, or in several agencies and on several levels. 2. Preparation of new fees and charges in one agency or in several agencies.	1. Management capacity building in one state agency. 2. Preparation of new system of fees and charges on the level of the COM with one lead state agency.	1. Functioning ICM Department in one state agency with the necessary level of capacity - staff, knowledge, equipment 2. ICM economic tools system	1998 1999	5000/yearly Already given
	MOEW		1. Establishment of new type of plans by one or several agencies. 2. Establishment of common ICM planning rules for the BS from the existing Commission or otherwise.	1. New planning rules for ICM plans from one agency. 2. International ICM planning rules based on the Bucharest Convention.	1. ICM Planning Normative Act. 2. ICM Planning Recommendations for the Black Sea countries.	From 1999 From 1998	20 000 60 000
	MOEW, NGO's, Universities		1. Starting the ICM education from Sofia or from the coastal universities. 2. Training by the universities, NGO's or state agencies.	Using all the possible ways and authorised organisations for education, training and modern communications for the ICM Centre	Establishment and support of an ICM Public Involvement, Education and Information Centre	1998	20 000 + 5000/yearly



Endangered environment and over-exploitation of the coastal resources	MOEW, COM, all the stakeholders	PRESERVATION OF THE COASTAL RESOURCES	Environment protection by the new ICM law or using the existing laws and regulations	Environment protection and restoration using all the legislation and efforts for extension of laws for this protection.	Implementation of the new ICM Law and continuous process of the extension and improvement of the legislation and rules for sustainable development of the coastal zone	From 1998	5000/yearly
	MOEW, MRDPW, COM, public, Municipalities	(Cross-sectoral)	Coastal protection surveys and monitoring, or pilot projects or preparation of new regulations.	Coastal protection using science, state agencies efforts, international efforts through pilot projects, new laws and financial tools, efforts of the public and of the municipalities.	1. National survey of coastal erosion problems. 2. Preparation of proper legislation and regulations, including the economic tools and approaches.	From 1998	20 000  10 000
	Ministry of Culture, MOEW, COM	(Sectoral)	Protection of the CHH seeking only finances or including the adaptation to the market economy in the aspects of laws, financial and business management	Protection of the CHH using all the tools and approaches of the developed countries with market economy	New system of protection, use, financing, restoration and rehabilitation of the cultural heritage of coastal zone	1999	50 000
Before Bucharest Convention - very ineffective regional co-operation	COM, MOEW	INTERNATIONAL COOPERATION FOR SUSTAINABLE DEVELOPMENT (Cross-sectoral)	To keep alive the existing ICM network or to leave this activity for a future period of better economic and environmental conditions, or to use the existing international organisations where the BS countries are members	Support of the existing BS regional ICM Network having already quite useful experience and harmonisation of the BS countries ICM legislative and normative efforts	Operatively functioning ICM Network in the Black Sea countries ready to proceed with the development of common rules and approaches for the ICM in the region	1998	5000/yearly per country (ICM Centre not counted)

PROBLEM	Stakeholder	POLICY	STRATEGY	PROPOSALS			
				ACTION	PRODUCT	Term	Costs USD
Unused tourism potential in very difficult economic situation of the country, same about fisheries and aquaculture	Ministries of Commerce, of Agriculture and Forests, of Environment	IMPROVEMENT OF THE STANDARD OF LIVING OF THE COASTAL POPULATION (Cross-sectoral)	Development of tourism in one of the following ways: - proceeding in the same way as now; - introduction of new kinds of tourism and tourism services; - development of sustainable tourism based on the long-term strategy; - development of the fisheries as local crafts; - development of modern sustainable fisheries and aquaculture; - adaptation to the free market economy rules and procedures.	1. Development of sustainable tourism of different kinds supported by modern services and based on a long-term strategy prepared with international support. 2. Development of modern sustainable fisheries and aquaculture based on the sound scientific research basis.	1. Sustainable tourism development program for the coastal zone of the country.  2. Fisheries and aquaculture development programme for the coastal zone of the country.	1999	25 000
						1999	28 000
Insufficient and ineffective infrastructure	MOEW, MRDPW, COM, Cities and Municipalities, Public	IMPROVEMENT OF LIVING CONDITIONS BY IMPROVEMENT OF THE INFRASTRUCTURE (Cross-sectoral)	Improvement of the infrastructure through: - minor changes and support; - proper long-term planning;  - change of the investments system; - change of the management system.	Improvement of the infrastructure using all the possible modern tools, approaches and management techniques including long-term planning	1. Strategic programme for the development of the environmental infrastructure of the coastal zone of the country.  2. Investment programme for the coastal environmental infrastructure.	From 1999	40 000
							30 000

**Table 10. Urgent Proposals for the ICM Implementation Priority Actions/Projects in Bulgaria**

Sheet 1

N O	Objective	Stakeholder	PROPOSAL			
			Action	Product	Term	Cost (USD)
1	Development of a pilot project for the ICM including Kamchya river basin and estuary and the Avren Black Sea coastal zone for to decrease pollution by the river - the project for use of the basin-wide integrated management approach of a local area	MOEW, UNDP, UNEP, World Bank, EU, Istanbul Commission (ICBSEP), local and regional communities	This pilot ICM Plan for the biggest polluting river Kamchya at the BBSCZ and for the Avren CZ which has excellent environmental qualities will help the improvement the environmental of the basin area.	ICM Plan and Rules for its implementation and enforcement. Based on this plan, definition of a normative base for such management systems will be initiated.	2 years from 1998 or 1999	60000
2	Preparation of a local area ICM Plan for the Asparouhovo-Galata		Using this Plan, the solution of many important problems will be reached - coastal erosion, waste water treatment, social problems, avoidance of the over - urbanisation.	Local Area ICM Plan, rules for its development implementation and enforcement, legal provisions, norms and standards, carrying capacities, public participation legal rules	2 years from 1998 or 1999	25000
3	Byala-Obzor ICM & Environmental Management Plan		Environment protection of the area by an integrated management plan and regulation of the pressure for future development	Same as in P. 2 above.	2 years from 1998 or 1999	20000
4	Tzarevo Conservation Areas Integrated Management Plan		Establishment of an integrated management system for a group of conservation areas and improvement of their environmental qualities.	New type of integrated management plan, rules for its development, norms and standards, implementation and enforcement, legal provisions	2 years from 1998 or 1999	40000
5	Institutional capacity building ICM system, including staff, training, knowledge, establishment of institutional structure, operational rules for the ICM system, constant upgrading of the management capacity of the system	MOEW, UNDP, EBRD, EU programmes, BSEP IC	Real introduction of the ICM system in the institutional, operational and technological aspects	Management structure in one state agency with regional offices, legally established and included officially in the staff of the agency. Operational rules for the ICM institutional system.	1 year from 1998	65000
6	Establishment and application of a system of economic tools and procedures for the ICM	MOEW, other state agencies involved, COM, Parliament, IC BSEP, World Bank	Design of a system of economic tools and procedures for the ICM implementation, including the use of special purpose funds, charges and fees, fines, taxes, credit tools, incentives.	ICM implementation system of economic tools and procedures, operational rules and the legal basis for its use.	2 years from 1998 or 1999	20000

N O	Objective	Stakeholder	PROPOSAL			
			Action	Product	Term	Cost (USD)
7	Development of ICM evaluation system for the Bulgarian Black Sea coastal zone	MOEW, regions and coastal municipalities USAID, EU, UNEP	Design of the ICM evaluation system for to estimate regularly the results of the ICM process.	ICM evaluation system including the criteria and factors for the estimates, evaluation algorithms, operational tools and procedures, feed-back legal procedures.	3 years from 1998 or 1999	45000
8	Establishment of intersectoral commissions on national and on the regional levels of government and of their legal basis - operational rules and procedures	MOEW, COM, local and regional authorities	Establishment and integration of the decision-making process for the coast using the intersectoral commissions with participation of all the stakeholders	Functioning intersectoral commissions established legally with their legally defined rights and responsibilities by their operational rules	1 year from 1998	10000
9	Public participation system for the ICM including the decision-making for the development of the coast	MOEW, other state agencies, NGO's, local and regional authorities, EU programs, IC BSEP	Establishment of a system for: - increasing public awareness; - public information; - public participation in the decision-making process; - training and education of the public; - organisation of the system - staff, equipment, knowledge.	Public information and public participation system functioning and developing continuously in the country for the back-up of the ICM process.	1 year from 1998 for the first stage	30000
10	Legal establishment of the ICM planning process - local, municipal and regional ICM plans	MOEW, World Bank, UNEP, UNDP, EU, IC BSEP, local and regional authorities	Including ICM planning provisions into a new draft law for the Protection of the Sea Environment, including the scope and the principles of the ICM Plans and definition of the norms and rules in the normative acts supporting the draft law	Legally established and technically well defined system of ICM planning, which is entirely new for the country	2 years from 1998 or 1999	40000
11	Survey of coastal erosion processes at the Bulgarian BS coast, including description of the monitoring system and modern financial and technological approaches	MOEW, EU, IC BSEP, all the levels of government, R&D firms	1. Preparation of the survey with a general scheme for the BS coast protection against land-slides, abrasion and erosion. 2. Pilot project for coastal protection of Cape Galata.	Comprehensive survey of the coastal erosion problems of the Bulgarian BS coast with proposals for the coastal protection	2 years from 1998	30000 20000
12	Preparation of a new sustainable tourism development strategy	MOEW, Ministry of Commerce and Tourism, EU, IC BSEP local and regional authorities	The new sustainable tourism development strategy to be elaborated, including ecotourism, cultural and rural tourism, introduction of sustainability in the field, local high class tourism, tourism services, state incentives, privatization and modernization approaches	The new sustainable tourism development strategy covering all the problems and solutions at this transition period	2 years from 1998 or 1999	40000

Sheet 3

N O	Objective	Stakeholder	PROPOSAL			
			Action	Product	Term	Cost (USD)
1 3	Development of infrastructure plans for the Bulgarian BS coast	MOEW, EBRD, other state agencies, other levels of government	Preparation of comprehensive infrastructure plans for the locations of the waste water treatment plants(WWTP) and solid waste treatment facilities (SWTF)	Infrastructure plans for the WWTP and SWTF for the Bulgarian Black Sea coastal zone with the necessary investments, terms and their environmental effect	2 years from 1998 or 1999	38000
1 4	International cooperation in the field of ICM among the countries of the BS basin and with other coastal countries and organisations	MOEW, IC BSEP, Council of Ministers, international institutions in the field of environment protection, international programs for the conventions - Baltic Sea, Mediterranean, Biodiversity Strategy, etc.	Support of the international cooperation based mainly on Bucharest Convention and Odessa Declaration, including the most important support of the existing Black Sea ICM Network, harmonization and approximation of the legislation, rules, norms and standards in the ICM field in the BS basin countries, cooperation with the Danube river program as a first step towards the introduction of the basin-wide management approach.	System of international cooperation in the already mention fields, organised and supported constantly by the Istanbul Commission with the active participation and support by all the BS countries and the Krasnodar ICM Activity Center.	For 1 year from 1998	8000