## STANDARD SUMMARY PROJECT FICHE

## 1. Basic information

Désirée number:	RO0103.02
Title:	Integrated monitoring of the Romanian Black Sea Coast between Midia – Vama - Veche
Sector:	Environment (EN)
Geographical Location:	Romania – South East Region – Constanta County

# 2. Objectives

# 2.1. Overall Objectives

- Protection of the Black Sea littoral patrimony trough the prevention and control of the marine water pollution.
- Initiate a cross-border co-operation for the preservation of the Black Sea littoral.

## 2.2. Purpose of the project

- Improvement of the monitoring of the Black Sea coast.
- Surveillance of the coastal zone with new technologies.
- Procurement of fast interventions equipment in case of limited pollution.
- Strengthening of the co-operation between the relevant Romanian and Bulgarian institutions.

## 2.3. Accession Partnership and NPAA priority:

## AP (medium-term priority):

• Develop the monitoring and enforcement capacity in particular through decentralisation to environmental protection agencies.

## NPAA (short-term priority):

• Rehabilitation of ecologically damaged sites and protection of environmentally vulnerable sites with economic potential, including natural sites and areas with tourism potential.

### 2.4. Cross Border Impact:

This project mirrored the Bulgarian project "Integrated monitoring of the Bulgarian Black Sea Coast between Durankulak and Rezovo", which is expected to be financed through the Phare CBC 2001 Bulgarian allocation.

The objective of this project is to ensure the prevention and a warning in time of the accidental pollution in the seacoast, and to establishing the vulnerable points all along the seaside. This Phare CBC project will provide the instruments for the integrated monitoring of the Black Sea both for Romanian and Bulgarian sectors, and will have the following cross-border impact:

- Control of the cross-border contamination,
- Implementation of an integrated monitoring system between Bulgaria and Romania,
- Implementation of an early warning system between Bulgaria and Romania in case of an accidental maritime pollution,
- Exchange of monitoring data between Bulgaria and Romania,
- Implementation of the Bucharest Convention for the protection of the Black Sea and the Black Sea Strategic Action Plan.

### **3. Description**

### 3.1. Background and justification:

#### Background

In this moment, the monitoring activity for the water quality in the seacoast zone is not integrated in a national or interregional system. The impossibility of monitoring seawater within an integrated system prevents any efficient information exchange between Romania and Bulgaria. Moreover, the absence of performance equipment makes the regional co-operation and common actions impossible.

#### Justification

The upgrading of the marine monitoring system under this CBC project is expected to contribute to the improvement of the co-ordination between the institutional bodies involved as well to make the system more sustainable. It will allow:

- A better knowledge of the evolution of the environments parameters.
- The comparison of the local information with the regional or global information and to use in many national or international programs that Romania participates in.
- The rapid estimation or the seriousness of accidents incidents as regards their impact on the environment.
- The elaboration of a common strategy between Romanian and Bulgarian in the crisis situations.
- The setting up of a control cell at interregional level for following and maintaining water quality.

This project is fully in line with the priorities that are indicated in the Joint Programming Document (JPD). The JPD constitutes the general framework for the co-operation between the two countries and was agreed

between the Romanian and Bulgarian authorities in early 2000. Under the priority 2 "Environmental Protection", the JPD stress the importance of "the protection for the natural resources of the areas (...)"

# 3.2. Linked activities

- National Phare 2001: Improvement of maritime and inland waterway safety. Some equipment for OPRC (Oil pollution Preparedness Response and Co-ordination) will be purchased and based mainly at Constanta Port.
- EDRD, UNO-EEC, NIB/ NEFCO (1st stage 1990 1997): Environment Management and Protection in the Black Sea Area
- GEF Program: Strategic Action Plan for Protection Black Sea against pollution. (1993 1997, 30 mil \$)

## 3.3 Results

- Assessment of the situation.
- Tender documentation for project components.
- Upgraded laboratory.
- Functioning water-monitoring system.
- Upgraded 'Chefalul" ship.
- Procurement of a fast intervention boat.

## 3.4. Activities

Close co-ordination will be ensured with the activities that are currently taking place in the framework of the Danube Convention, and with the other projects related to (fresh) water monitoring that are financed under the national Phare programmes. In particular, a start up co-ordination meeting and a wrap up meeting at the end of the project will be organised with the relevant potentially interested institutions and organisations.

This project includes 4 components.

## Component 1 - Assistance for the preparation of the project (0.2 Meuro)

Some technical assistance will be provided in order to review the foreseen activities, assess the kind of equipment that will be necessary, prepare the technical specifications and prepare the tender documentation for the different components.

The consultant will ensure the consistency with the Bulgarian mirror project during the whole period of the project, thanks to the Romanian and Bulgarian experts' collaboration from the involved institutions.

# Component 2 - Purchase of laboratory equipment (0.4 Meuro)

## Description of the existing laboratory

The Department of Waters Dobrogea – Litoral (DADL) is one of the eleven branches of the National Company of Romanian Waters S.A. It has its own laboratory, based at Constanta (127 Mircea cel Batran Str., 8700).

The laboratory uses the following equipment:

- Conductometer;
- Ph-meter;
- Oxygenometer;
- Spectrophotometer UV-vis;
- Microbalance;
- Incubator +/-0 to 25 Celsius degree;
- High temperature furnace;
- Flamphotometer;
- Autoclave

The laboratory is included into the Danube Monitoring Programme, since 1996 and takes part, four times a year, on the Inter-laboratory Programmes together with other 27 laboratories from Danube boundary countries.

12 persons among which 2 chemist engineers, 2 biologists, 2 laboratory assistants and 2 laboratory technicians carry out the laboratory activity. It performs physical-chemical, biological and bacteriological analysis for 5 specific water subsystems: flowing surface waters, lakes, under ground waters, waste waters marine waters. At present, a quality assurance system is being developed with a view to an accreditation to ISO 17025 (accreditation foreseen for June 2001).

The laboratory is directly involved in the Danube Trans-national Monitoring Program for the inferior sector between Ostrov and Sulina (Danube discharge on the Black Sea). There are three sections included in the Program having monthly analysis.

Regarding the Black Sea, 17 control sections with monthly analysis in representative areas are established. These section sites are located along the shore, representing the swimming areas, the purpose being seawater quality surveillance in the tourist zones. The activity of the laboratory consists on drawing, preserving and processing samples, data validation, analyses, report elaboration and theirs transmission to the monitoring department for data interpretation.

## Activity

Under this component, it is foreseen to purchase additional equipment to improve the quality of the laboratory activity (indicative):

- 1. Atomic Absorption Spectrometer AAS:
  - Specification: photometer (with base-line stability)
    - lamp turret: PC controlled 6 place lamp turret for fully automatic operation
    - background correction: D2 hollow cathode lamp with ISO Hz

Accessories: - auto-sampler for liquid samples for graphite furnace technique - auto-sampler for flame technique with dilution function;

For analyses of metals in aqueous samples

- 2. Micro N/C TOC/TN Analyser for analyses of TOC/TC and TN in aqueous samples.
- 3. Analytical System for distillations, extractions and thermal reactions for the following procedures: cyanide determination;

4. Workstation for aqua regia digestion of heavy metal samples ( to perform six-twelve simultaneous digestion for heavy metal analysis):

Components: - heating block with 6-12 cavities;

- external temperature controller;
- reaction vessels, condensers, vapour traps, tubes and cooling water distributor.
- 5. Laboratory autoclave (1-6 bar in autoclave room and temperatures up to 200<sup>0</sup>C) for microbiological analyses (warning, humidifying and keeping warm culture media, for solving agar) in steam atmosphere.
- 6. Thermostats (temperatures:  $37^{0}C \pm 0.01^{0}C$ ,  $44^{0}C \pm 0.01^{0}C$ ) for microbiological analyses.
- 7. Shaking Water Baths for heating and shaking of samples.
- 8. Micropipettes with air cushion with variable volume adjusting (1 channel or multichannel).
- 9. Microbalances to weigh in the range 0 1000g.
- 10. Analytical balances (precision balances) to weigh in range 0 400 g (with automatic self adjustment with built in weighs);
- 11. FTIR Spectrometer with liquid or gas chromatograph.

Specifications: - spectral range MID – IR ( $6000 - 350 \text{ cm}^{-1}$ )

- $\begin{array}{l} MID IR \;( \;\; 5500 \; 225 \; cm^{-1}) \\ MID IR \;(11000 3800 \; cm^{-1}) \end{array}$
- system controller;
- spectral libraries for phenols, hydrocarbon oils.

The supplier of the equipment will provide training to Romanian staff.

DADL will bear the maintenance cost for the foreseen equipment.

## Component 3 - Commissioning of a monitoring system (0.95 Meuro)

#### Description of the existing monitoring system

The water monitoring concerns the evaluation of physical, chemical and biological parameters of the water in relation with the human health and ecological conditions. The monitoring activity within DADL is presently carried out by 10 persons, distributed as follows: chemist engineers, biologists, hydrologist, geologist, hydrotechnical works engineers. It mainly consists of:

- Collecting and stocking analytical data that come from the laboratory and, from the water users. Unfortunately, these data are not sufficient to perform a precise monitoring.
- Analysis and evaluations of the data for producing information,
- Identifications and monitoring of pollution sources, •
- Assessment of the quality of the Black Sea water, •
- Management of water resources through awarding of water permits and licenses to water users.

The Black Sea monitoring structure is based on the integrated approach at hydrographic river basin level. At present, the monitoring of Romanian Black Sea waters is achieved with physical, chemical and biological parameters, which are analysed in 17 checking sections. The parameters come from the checking stations and they are processes in the laboratory. At the actual stage, there are no automatic stations for the monitoring of the Black Sea.

#### Activity

Under this component, it is planned to improve the monitoring. The advantage of the new system will mainly consist in a continuous water quality monitoring, and an improved accuracy. The following equipment will be commissioned:

- 5 automatic stations for fast data registering of sea water parameters as follows: 1 station in Midia, 1 station in Mamaia, 1 station in Constanta-South, 1 station in Costinesti and 1 station in Vama Veche. These stations will measure, at least, five specific parameters (pH, DO, salinity, total nutrients, and oil) and if it is possible a microbiological parameter. This measurement will be made on a daily basis. The data will be transferred from the station to the monitoring department informational system (PC-PC by satellite or by stocking data) according to the recommendations of the feasibility study.
- 3 Geographical Information Systems (G.I.S.) sensors in Midia, Constanta and Mangalia. G.I.S. is an active expert system (source and impact) having as primary role: pre-process model-input data, display model output (topical maps), and analyse model output (overlay and buffer analysis). Power of G.I.S. consists in visualisation using the familiar paradigm of the map. The data transmission is made by satellite.
- GIS system (software, hardware and data transmission)

The supplier of the equipment will provide training to Romanian staff.

NCRW will bear the running and maintenance cost for the foreseen equipment.

#### Component 4 - Upgrade of "Chefalul" ship and procurement of a fast intervention ship (1.32 Meuro)

#### Description of the "Chefalul" ship

The 'Chefalul" ship, property of DADL, performs measurements and samples drawing of the seawater, 4 times / year and any time in necessary. This ship is intended to make hydrometrical profiles 2 - 4 times/year. Thanks to these profiles, hydro-metrical parameters of the sea water (temperature, water test for salinity and density, sea current, earth test from the bottom of the sea, water transparency, water colour etc.) are measured. There are 7 hydrometrical profiles at open sea, till the 55-m depth. Each profile has 5 or 6 stations at the isobath of 5 - 10 - 20 m...etc. This water and sediments samples are given at the laboratory to be analyses.

This ship was built in 1954 and is 26 m long, 6 m wide, 2.4 m draught. It can sail until 4 Beaufort degree, that is a wave of 2 m, 19 mile from the coast. The engine is 150 HP - Diesel. This ship was in the shipyard in 1999 for rehabilitation work and now it is in good shape.

Activity

The ship needs apparatus and devices in order to perform precise measures. Under this component, the following equipment will be financed (indicative):

- G. P. S. EQUIPEMENT WITH 10 METERS PRECISION
- ULTRASOUND DEVICE FOR THE BOTTOM ANALYSE OF THE SEA.
- PERSPECTOMETER FOR THE COAST OBSERVATIONS.
- DIGITAL ANEMOMETER FOR THE AVERAGE INTENSITY WIND MEASUREMENTS.
- AUTOMATICAL BUOY FOR THE MOST IMPORTANT CHARACTERISTICS OF THE SEA WAVES.
- AUTORECORDING FLOW METERS .
- REFRACTIONMETERS FOR THE PHYSICAL AND CHEMICAL PROPERTIES OF THE SEA WATER .
- TURBULENCE DEVICE .
- LEVELLING MAGNETIC CARD DEVICE .
- REVERSIBLE THERMOMETER FOR THE DEPTH .
- CHEMICAL CASE FOR THE MOST IMPORTANT INDICATIONS (PH , OXYGEN CONCENTRATION , SALINITY , ALKALINITY) ; SALINOMETER .
- VISIBILITY DISC ACC. TO SECCHI
- UNIVERSAL WATER SAMPLERS .
- SEDIMENT CORERS .
- LAPTOP COMPUTER .

With a view of implement the Black Sea National Strategic Action Plan, a small capacity ship for fast interventions in case of accidental pollution will be purchased. The Romanian Naval Register will establish the size of the ship and the crew number in compliance with international rules.

This boat will also be used to monitor and prevent the damages caused by the algae blossom phenomena registered during the last years, which spoil the tourist beaches. The ship will therefore be supplied with specific equipment, such as: oil-floating barrage, absorbent substances, retaining nets for alga blossom.

The supplier of the equipment will provide training to Romanian staff.

DADL will bear the running and maintenance costs for 'Chefalul" ship properly equipped, as described in the project.

NCRW will bear the running and maintenance costs for fast intervention ship to be purchased.

#### 4. Institutional framework

The National Company of Romanian Waters S.A. is a public national authority, whose purpose is the implementation of the strategy of water management. It has juridical personality and it is represented in Romania by 11 branches of management. Department of Waters Dobrogea – Litoral (DADL) is one of them, with the following responsibilities:

- it studies the integrated management of the sea coast zone,
- it ensures the application of the laws for the use and for the protection of the waters resources,
- it follows the evolution of waters resources and organises the warning system in case of accidental pollution.

The beneficiary of the project is The National Company of Romanian Waters S.A (NCRW) and the project will be implemented within its Department of Waters Dobrogea – Litoral (DADL). Project Manager: PhD. Eng. Petru SERBAN, Director / NCRW Local Project Co-ordinator : Eng. Iosefina Carmen LIPAN / DADL NCRW will be the owner of all the equipment, and will bear the maintenance and running cost for all the lifetime of the equipment. It will also bear the administrative costs during the all duration of the project.

## 5. Detailed Budget

In MEUR	Phare Supp	ort				
Components	Investment Support	Institution Building	Total PHARE	National Co- financing (*)	IFI	Total
1 - Assistance for the preparation of the project		0.2	0.2			0.2
2 - Purchase of laboratory equipment	0.4		0.4			0.4
3 - Commissioning of a monitoring system	0.95		0.95			0.95
4 - Upgrade of "Chefalul" ship and procurement of a fast intervention ship	0.65		0.65	0.67		1.32
TOTAL	2	0.2	2.2	0.67	0	2.87

(\*) co-financing will be provided by NCRW

## 6. Implementation Arrangements

## **6.1. Implementing Agency**

The Implementing Agency will be the Ministry of Development and Prognosis, through its Cross Border Cooperation Directorate, which will retain overall responsibility for the implementation of the programme, including: approval of tender documents, evaluation criteria, evaluation of offers, signature of contracts, authorisation of invoices. The payments of invoices will be made by the Payments Directorate within the same ministry.

The CBC Directorate also includes a unit for the National Co-ordination of CBC programmes nominated as CBC Programme Co-ordination Unit (CBC - PCU). This unit will liaise with the beneficiary institutions and with the line Ministries to prepare Terms of Reference, tender documents, evaluation criteria, evaluation of offers, negotiation of contracts, invoices for payment etc.

NCRW will be the beneficiary, and will be in close relationship with the MDP for the practical and technical issues, during the implementation of the project.

## 6.2. Non-standard aspects

There are no "non-standards aspects". The "Practical Guide to Phare, Ispa and Sapard contract procedures" will strictly be followed.

### 6.3. Contracts

Four contracts are expected, 1 for Technical assistance (maybe through a framework contract) and 3 for works. The expected amount of each contract is indicated in the table under point 5.

### 7. Implementation schedule

Start of tendering	Start of project activities	Completion
October 2001	January 2002	March 2004

### 8. Equal opportunity

Equal opportunity for men and women to participate in all the components of the project will be ensured.

### 9. Environment

This project aims at improving the environmental situation of Black Sea

#### **10.Rates of return**

N/A

#### **11.Investment Criteria**

#### **11.1. Catalytic effect:**

Without Phare assistance, the project would have been delayed up to 10 years, any investment being dependent on the Romanian economic situation.

## 11.2 Co-financing

The project is co-financed by NCRW which will provide 0.67 MEUR, 25% of the cost of the investment components.

#### 11.3. Additionally

No other financing sources from the private sector or from IFIs were available for financing this project.

### **11.4.** Project readiness and size

In October 2000, the Pre-feasibility Study "Integrated Monitoring of the Romanian Coastal Zone, between Midia and Vama Veche". has been produced. The author of the study is Chamber of Commerce, Industry, Shipping and Agriculture of Constanta (see annex 4).

The implementation of the project can start according to the implementation chart (Annex 2). The project complies with the 2 MEUR minimum Phare allocation requirement.

## 11.5. Sustainability

The equipment will be operated in accordance with EU standard and procedures. NCRW will bear the running costs and will ensure maintenance of the financed equipment.

### 11.6. Compliance with state aids provisions

The project respects the state aids provision.

### 12.Conditionality and sequencing

- The Romanian authorities will ensure there co-financing to the project.
- The National Company of Romanian Waters (NCRW) will cover the operating costs and the maintenance costs for the equipment.
- NCRW undertakes to finance any additional costs which may arise in order to ensure timely completion of the project.
- The Romanian authorities and the Bulgarian authorities will ensure a close co-ordination for the preparation and the implementation of the two mirror projects.
- All the results will be shared freely with the relevant Bulgarian authorities.

# ANNEXES TO PROJECT FICHE

- Logical framework matrix
   Detailed implementation chart
   Contracting and disbursement schedule by quarter
- 4. Reference to feasibility /pre-feasibility studies.

<b>ANNEX 1: Logframe Matrix</b> Integrated monitoring of the Row	Contracting period ends: 30/11/2003	Disbursement period expires: <b>30/11/2004</b>						
Overall Objective	2.87 MEUR         2.2 MEUR           Assumptions         1000000000000000000000000000000000000							
<ul> <li>Protection of the Black Sea littoral patrimony trough the prevention and control of the marine water pollution.</li> <li>Initiate a cross-border co-operation for the preservation of the Black sea littoral.</li> </ul>	<ul> <li>Real protection will increase 100%.</li> <li>We increase the possibility to obtain the blue flag for tourist beaches.</li> </ul>	<ul> <li>Data base.</li> <li>Interregional information system.</li> </ul>	Assumptions					
Project Purpose	Indicators of Achievement	Sources of Information	Assumptions					
<ul> <li>Improvement of the monitoring of the Black Sea coast.</li> <li>Surveillance of the coastal zone with new technologies.</li> <li>Procurement of fast intervention equipment in case of limited pollution.</li> <li>Strengthening of the co-operation between the relevant Romanian and Bulgarian institutions.</li> </ul>	<ul> <li>Alignment the European standards regarding the Black Sea monitoring and surveillance.</li> <li>Cross-border collaboration</li> <li>Adopting standards until to.</li> </ul>	<ul> <li>Coast Guard reports collaboration regional official journal,</li> </ul>						
Results	Indicators of Achievement	Sources of Information	Assumptions					
<ul> <li>Assessment of the situation.</li> <li>Tender documentation for project components.</li> <li>Upgraded laboratory.</li> <li>Functioning water-monitoring system.</li> <li>Upgraded 'Chefalul" ship.</li> <li>Procurement of a fast intervention boat.</li> </ul>	• Assurance of the monitoring system for Romanian coastal zone intervention for crisis to situations in case of pollution.	• Technical assistance reports.						
Activities	Means	Sources of Information	Assumptions					
<ul> <li>Assistance for the preparation of the project</li> <li>Purchase of laboratory equipment</li> <li>Commissioning of a monitoring system</li> <li>Upgrade of "Chefalul" ship and procurement of a fast intervention ship</li> </ul>	<ul> <li>Technical assistance contract purchase of equipment training of the personnel.</li> </ul>	•	<ul> <li>booth organisa retain adequate</li> <li>Co-operation of standards.</li> <li>Realising a fea the Bulgarian I</li> </ul>	tion recruit and e staff of under institution sibility study for Black Sea coast				

Annex 2 – Detailed implen	nen	taf	tior	ı cl	har	rt																																						
Integrated monitoring of the Romanian Black Sea Coast between Midia – Vama – Veche																																												
G	2001 2002 2003 2004																																											
Components	J	A	S	0	N	( D	J	Ĩ	FN	<b>1</b>	A N	1 J	11	J.	A	S	0	Ν	D	J	F	Μ	A	M	J	J	A	S	0	N	D	J	F	' M	( <b>A</b>	M	( J	J	A	1 8	5 (	1 C	N I	)
1 - Assistance for the project		D	D	C	C	C	Ι	]	IJ	[]	[ F	2																						Γ	Γ							Τ		
2 - Purchase of laboratory equipment										Ι	) [	) [	) (	2	Ι	Ι	Ι	Ι	Ι	Ι	Ι	R																						
3 - Commissioning of a monitoring system										Ι	) [	) [	) (	2	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	I	Ι	Ι	Ι	Ι	R										
4 - Upgrade of Chefalul ship and procurement of a fast intervention ship										Ι	)[	) [	) (	<b>r</b> )	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	Ι	R																		
D=Design/Tender preparation C=Contracting I-Implementation/works R=Review/evaluation																																												

Annex 3 – Contracting and	nnex 3 – Contracting and disbursement schedule by quarter																				
	Integrated monitoring of the Romanian Black Sea Coast between Midia – Vama – Veche																				
Cumulative contracting schedule by quarter in MEUR (planned) Total Phare															Tatal Dhama						
Components	20	01	1 otal Phare																		
	20	01 TV	<b>T</b> 7	20	02	<b>X</b> / <b>XX</b>	TX7	20 X	U3 	X/II	N/TIT	20 XXX	004 XXX7	Anocation							
	111		V 0.2					<u>X</u>							0.2						
1 - Assistance for the		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2						
2 Durphase of laboratory	 				0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4						
2 - Purchase of Taboratory					0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4						
2 Commissioning of a					0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05						
5 - Commissioning of a					0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95						
4 - Upgrade of Chefalul	l T				0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65						
ship and procurement of a					0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.00						
fast intervention ship																					
Total contracting:		0.2	0.2	0.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2						
	•																				
			Cum	ulative	disburs	sement	schedu	le by qı	ıarter i	n MEU	J <b>R (pla</b> i	nned)			<b>Total Phare</b>						
Components	20	01		20	02			20	03			20	04		Allocation						
	III	IV	V	VI	VII	VIII	IX	Χ	XI	XII	XIII	XIV	XV	XVI							
1 - Assistance for the			0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2						
preparation of the project																					
2 - Purchase of laboratory					0.1	0.2	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4						
equipment																					
3 - Commissioning of a					0.2	0.3	0.4	0.5	0.6	0.7	0.95	0.95	0.95	0.95	0.95						
monitoring system																					
4 - Upgrade of Chefalul					0.1	0.2	0.3	0.4	0.5	0.65	0.65	0.65	0.65	0.65	0.65						
ship and procurement of a																					
tast intervention ship			0.1	0.1	0.5		1.0	1 5	1.5	1.05											
Total disbursement:			0.1	0.1	0.6	0.9	1.3	1.5	1.7	1.95	2.2	2.2	2.2	2.2	2.2						

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### ANNEX 4 - Reference to feasibility /pre-feasibility studies

Integrated monitoring of the Romanian Black Sea Coast between Midia – Vama - Veche

The Pre-feasibility Study was elaborated in September 2000 by the Chamber of Commerce, Industry, Navigation and Agriculture of Constanta Country, on base of data given by the Water Directorate Dobrogea Litoral.

Next chapters are included in the study:

- General data of the project;
- Technical data of the project;
- Financial data of the project;

Developing the infrastructure for an integrated, monitoring of coastal waters between Midia and Vama Veche is the proposal mode by this project.

This project contribution will be to reduce major differences between Romania and EU regarding to the environmental standards.

The problems that will be solved by this project are due to the errors from the past, when industrial development politics have not been related to environmental protection political having as a result systemic degradation of water, air, soil and to beaches erosion.

The monitoring of the area, between Midia and Vama Veche, have been selected because of the existing water pollution sources on the shore, such as petrochemical industry and urban waste water treatment plants, and also, because of the coastal erosions process that make to decrease the Romanian coastal area with more than 20 square meters in the last 3 decades.

Materialisation of the project will improve the Romanian – Bulgarian co-operation in the field of environmental protection, the data exchanges between this two parts and also, common actions against the chronic and accidental pollution effects.

The Romanian littoral image will be improved, having direct influence for tourism and European investors and as a result, increase of the national income in the context of tourism development.