

Financing Agreement
RO-PHARE-2005/17-690.01.01
Floods related measures in the environmental sector

1 Basic Information

The sector programme 2004/16-772.03.03 “Environment” describes measures, which will be funded from EU resources of the budgetary years 2004 to 2006. This programme fiche complement is developed to add to the 2004 to 2006 measures a specific task related to the flood damages which occurred in the course of the year 2005. While following the same rationale as the Multi-Annual sector programme, this task will be implemented with the support of 2005 Phare funds, subject of the Financing Agreement 2005-17-690. Contracting deadlines for projects under this programme and deadline for execution of contracts are determined in this FA as well.

CRIS Nr	2005.17-690.01.01	Country: Romania
Title	Flood related measures in the environment sector	
Sector	Priority sector Environment	Evaluation sector ENV
Budget	Total [€Mio] 2	Phare contribution [€Mio] 2
<p>The main goals of the multi-annual sector programme environment are related to strengthening institutional capacities at national, regional and local levels, making environmental authorities able to perform their planning, licensing, monitor and control duties under the environmental acquis in a manner that meets EU environmental legislation objectives.</p> <p>Within these priorities, tasks may also include actions arising from flood damage rehabilitation and prevention needs.</p>		

2 Objectives concerning the complement

The Objectives of the sector programme remain unchanged; however they are complemented by specific objectives concerning the floods 2005.

2.1 The Needs

The particularly catastrophic nature (70 + people killed, damage estimated at more than € 1.5 Billion) of the flooding in many regions of Romania during 2005 has brought to a head longstanding concerns about the need for a coherent national flood-damage prevention strategy and action plan.

The floods damage concerns in particular public infrastructure and investments. Romania identified a need for tasks, which would help to reduce strongly the damages coming from future floods.

2.2 Specific Objective of the complement to the sector programme

The complement addresses the need for this strategy by the task: “*Contributions to the development of the flood risk management strategy*”.

2.3 Programme priorities and its impact on the sector

This task is coherent with the multi-annual sector programme PHARE /2004/016-772.03.03 Environment, which addresses inter alia the following tasks relevant to floods damage:

<i>Phare priorities</i>	Main tasks
Waste management	<ul style="list-style-type: none">• Strengthen institutional capacities at regional and local levels in implementing and enforcement of domestic waste and industrial waste management related legislation,• Improve administrative capacity at regional level for investment planning and elaboration of regional waste management plans
Water quality	<ul style="list-style-type: none">• Support to the River Basin Management Plan for the Ialomita-Buzau river basin• Elaboration of an investment methodology for Water Framework Directive (WFD) within a River Basin
Nature protection	<ul style="list-style-type: none">• Strengthen institutional capacities at regional and local levels in implementing and enforcement of nature protection related legislation
GIS	<ul style="list-style-type: none">• introduce and maintain Geographical Information System (GPS) techniques• improve institutional management and technical performance of the staff

The task shall develop the floods damage prevention strategy within the framework of these priorities.

The strategy will take into account the floods damage prevention activities on landfills, protected areas, sewerage systems, water supply.

The GIS system will give support in preparing the hazard and floods risk maps and in improving the informational and decisional flow for flood management.

2.4 Cross Border Impact

The particularly catastrophic floods during 2005 have also caused cross-border damage, for example in Serbia&Montenegro. The measures now included in this amended project will contribute to the establishment of a properly coherent Romanian national flood-damage prevention strategy that takes into account the need to avoid consequential cross-border damage.

3 Description

Within the sector programme environment this complement shall contribute by a practical task, which is incorporated in project 5 as identified in the sector programme as task 4

<i>Task nr</i>	<i>Title</i>	<i>Relates to priority nr</i>
5.4	<i>Contributions to the development of the flood risk management strategy</i>	<i>IV.</i>

The project aims to develop:

- the medium and long-term flood risk management strategy
- the Action Plan regarding flood risk management
- methodology for development of hazard and risk maps
- methodology for hydro-technical works damage assessment
- hazard and flooding risk maps for the Siret river basin (as a pilot basin)
- the preventive measures for the risk reduction of the floods
- a system for increasing public awareness concerning flood risk
- documentation for three investment projects ready to be financed by Structural/Cohesion Funds

Means required:

- Maximum one Service contract
- Key experts and a pool of short term experts;

3.1 Background and justification:

Flood events are part of nature and could not be prevented. They have always existed and will continue to exist. In the context of the global climate changes, floods frequency and importance will rise in the future, due to the population increasing and assets located within the risk flood areas.

During 2005, the highest floods in the last 35 years, affected Romania. The main cause of the floods was the huge precipitation quantities of extreme extent and intensity, and often with torrential character. Those rainfalls led to the rising of the volume of the water courses (occurred also on the small streams and on non-permanent water courses), which conducted to the rapid increasing of the volumes and levels on the rivers and exceeded the flood levels. Historical high floods occurred, with an incidence probability of 1 to 1000 years. During the first 9 months of 2005, three significant waves of floods occurred, as follows: the first in April – May, which affected mainly the south-western part of Romania, especially Banat area, the second, in July which affected mainly the southern and eastern areas (Argeş, Olt, Jiu, Siret and Prut river basins), and last flood wave, in August, which affected the north-western, central and eastern part of Romania, respectively Mureş, Olt, Someş, Tisa şi Siret river basins.

Floods occurred on an extended scale during 2005, affected over 1.5 million people and an important part of the infrastructure. The evaluation carried out by specialists revealed that about 43,000 houses, 4682 bridges, 590 social purposes buildings and 10,334 km of roads were affected almost entirely.

Because of the floods occurring, leading to human loses and material damages, the more complex control and prevention works developed in a sustained manner. Presently, Romania has a flood protection system including:

- 9920 km dikes, out of which 4880 km, more than 30 years old;
- 6300 km river beds regulation
- 3160 km river banks protection;
- 2.02 km³ of high floods attenuation volumes in reservoirs and non-permanent storages (polders).

Despite of the control and protection works, floods frequency and floods damages increased, as follows:

- in 1970 - the river overflowing affected mainly the western and central part of Romania. Statistical data were quite confused at that time, but there were over 100 human losses, at least 30,000 households were affected, thousands of km of roads was affected, thousands of bridges and footbridges were affected. The rescue actions had been taken by the military forces;
- in 1975 – the river overflowing affected the western part of Romania, 35,000 households were destroyed and 330,000 ha were flooded;
- in 1991 – floods affected mainly Moldova, especially Bacau county. Over 60 human losses were registered, mainly due to the breaking down of a dam in the neighbourhood of Beresti-Tazlau zone. The destroyed houses were rebuild in more secure locations, supported by budgetary funds;
- in 1997 – the river overflowing affected mainly the western and central part of Romania. 18 human losses were registered, 177,000 ha and over 12,000 households were affected;
- in 1998 – 28 human losses were registered mainly within western and central part of Romania. Over 12,000 households were affected.
- in 1999, floods were more severe than the previous. 46 human losses were registered, 341,000 ha and 1287 households were flooded. Almost 2500 bridges and footbridges were affected;
- during the period 2000-2003 floods affected the western, central and northern part of Romania, resulting in 47 human losses, over 600,000 ha and more than 21,000 households flooded. Also there were affected thousands of km of roads and more than 5,000 bridges and footbridges were affected;
- in 2004, the most affected areas were Aries, Mures, Tarnave, Crisuri, Somes, Jiu Barlad, Trotus, and Buzau river basins. About 1.16 million ha and 18,700 households were flooded, 174 social-economical buildings were affected and 19 dead.

Floods occurred in 2005, revealed weakness both of flood protection techniques and of response capacity for the phenomenon (crisis) management. The recent floods also showed the vulnerability of communities supposed to risks, proved through weak capacity of response to face the flood effects and also recovery capacity after flood occurrence. All the above mentioned was converted into reasons for the changing the perspective regarding flood issue approach and to change from the “passive action” to the “active action” one, in order to reduce the potential havocs and the vulnerability at floods.

This experience has shown also, that is time to start the process to reshape and update the existing water management schemes and, in this respect we have started to develop a Strategy for flood control and that the old patterns are no longer valid in the new climatic conditions and the existing protection works are not effective, as they have been designed, because the environmental conditions have been dramatically changed. The developments undertaken in the last 50 years have had a major influence in these disastrous floods. Consequently, the need for solutions to correct this situation is a

priority one. An important issue which should be clarified is connected to the relation between the flood control activities and implementation of the Water Framework Directive. Romania has started already concrete activities in order to enhance its capacity to tackle, particularly, the problem of floods and generally the dangerous meteorological phenomena. In this respect was modernized the national meteorological system and hydrological system is in process of modernization of. Also a project aiming at the improving the intervention capacity will start.

International experience shows that floods can not be avoided; however, they can be administrated and theirs results can be reduced by remedial measures and actions aimed at decreasing the risks associated to this phenomenon.

Diminishing of damages, and especially of the human life loses which result from floods, doesn't depend just on the actions taken during floods' occurrence, actions sometimes approached separately under the name "*emergency situation management*". Diminishing of flood damages is the result of a vast combination of measures and actions taken prior to, during and after the floods' occurrence (reconstruction works and lessons learnt as result of the respective phenomenon). For this reason, the holistic notion of the *integrated floods management*, which includes both *risk management* and *flood related emergency situation management*, is currently used at global level.

3.2 Sectoral rationale

The flood related activity is embedded into the sector rational as described in fiche 16-772.03.03

3.3 Linked Activities:

PHARE CBC RO/HU 1996 project "Prevention of flood in Cris River Basin"

The project has been aimed to protect this area against floods and reduce the damages produced by floods (through a permanent meteorological radar surveillance of precipitation regime).

PHARE CBC RO/HU 1999 project "Flood Prevention in the Upstream Tisa River Basin"

The objective of this project was to increase the anticipation time of the flood wave on the Romanian territory from 1-2 hours to 24-36 hours. The project envisaged the upper basin of Tisa and its tributaries Tur, Viseu and Iza. For many years, they represented some of the most dangerous rivers from Eastern Europe through the frequency of the floods, which are bringing about different damages every year. To promote the environmental protection by establishing and developing a geographic information system (GIS) and extension of activities concerning flood prevention.

PHARE CBC RO/HU 2000 project « Suplacu de Barcău Permanent Accumulation Basin »

The project has been aimed at promoting the environmental protection by reducing the effects of natural calamities in the flood meadow of the Barcău River and supplying the necessary water during the period of low water.

PHARE 2002 project "Establishment of an information system and a database for water management field according to the requirements of the Water Framework Directive"

The results of this project were as follows:

- A report containing the assessment of the existing situation in the field;

- Methodologies for elaboration of reports - in accordance with EU directives, the international conventions, bilateral conventions or agreements - which have to be submitted to the Commission, River Basin Committees or to the public;
- The Action Plan for Cadastre numeration (data bases, GIS for data and cadastre maps);
- Joint technical language and data dictionaries;
- The Technical Unit responsible for the implementation of the Action Plan and the financing strategy for the information system;
- The financing strategy for the information system;
- A system of flowing information;
- Procedures for quality assurance and pilot area identified and equipped.

PHARE II “Fighting the damages made by the floods in 1998”

The results of this project were as follows:

- Rehabilitation of banks, small bridges and the local road in Poiana Teiului village, Neamt county.
- Rehabilitation of flood preventing works on Romnai river at Orbic, Neamt county
- Rehabilitation of flood preventing works on Apa Sarata river, Salaj county.
- Rehabilitation of Craidorolti complex - Varsolt, Salaj county.
- Consolidation of banks and road - Orlatel river at Orlat, Sibiu county.
- Repairs at the hydro-technical works on Porumbacu river, Sibiu county.
- Rehabilitation of flood preventing works on Olt river at Bogata, Brasov county.
- Rehabilitation of flood preventing works on Cugir river, Alba county.
- Raising the protection dike on Mures river at Branisca, Hunedoara county.
- Recovery of the dike in Lapusnic, Hunedoara county.
- Recovery of banks and protection works at Baru Mare, Hunedoara county.
- Consolidation of the banks of Mures river at Mandruloc, Arad county.
- Dike rehabilitation on Mures river in Comlod, Mures county.

LIFE 2000 Project “The protection of RIVER LIFE by mitigation of flood damages” (RIVERLIFE)

The results of this project were as follows:

- Evaluation and forecast of the flood
- Elaboration of a River Management plan for Timis Bega trans boundary river system;
- Establishing of the public consultation system
- To inform the community about measures have to be taken in case that certain flood occurred.

Under the DBEC programme:

The project has been aimed to achieve **new works and to rehabilitate the hydro-technical works for flood prevention in areas with high flooding risk in Romania, as:**

- Flood prevention works along the Someşul Mic River in the sector Cluj-Dej, along Someş River in the area of localities Cetan, Vlad and Valea Grosilor, in Cluj County;
- Flood prevention works on Crasna River and its downstream tributaries of Varsolt Reservoir and rehabilitation of the existing dikes along the Crasna River in the sector of the Varsolt Reservoir frontier, Salaj and Satu Mare counties;

- Hydro-technical works in Crisul Negru River Basin in the sector of Taut-Soimi-Beius and in the area of the localities Tinca and Taut, Bihor county;
- Hydro-technical works in the Niraj river Basin and its tributaries (phase I) and Niraj temporary reservoir, Mures county;
- Hydro-technical works of Romani brook and its tributaries in the area of Buhusi city and hydrotehnic works for the correction of Romani brook in the Buhusi city, Bacau county;
- Hydro-technical works to combat floods in the Olt River basin downstream of the confluence with Negru River-the confluence with Cormos River and protection works of Olt River banks for the safety of embankments in the sector of Negru River confluence-River Cormos confluence, Covasna and Brasov counties.

Under PSO/PSO+ Programme- Netherlands:

- **“Pilot flood prevention project Suceava County – Upper Bistrita river”**
The project has been aimed to elaborate Flood prevention Strategy for Upper Bistrita river catchments, having as objectives:
 - the definition of a monitoring and assessment strategy, in line with the Water Framework Directive;
 - upgrading of the existing flood warning system, by selecting, purchasing and installation modern measuring and data transmission equipment for one or two stations;
 - improving knowledge on EU WFD;
- **“Flood management related to an integrated approach to water management (pilot project - Jijia river basin)”**
The objective of this project was to:
 - Elaborate the national basin-level flood management system;
 - Integrated flood management plan for the Jijia river basin;
 - Establish the simulation and forecasting tools;
 - Elaborate the operational plans for the Jijia river basin, making use of flood forecasts;
 - Improve knowledge on integrated flood management;
 - Spin-off for Dutch flood management sector;

SIMIN Project (National Integrated Meteorological System)

The project is finalized and has been aimed to provide both, essential dates for hydrological forecast and equipments what will be used by the national operators (National Administration “ROMANIAN WATERS”) and by water management systems.

DESWAT Project (Destructive Water Abatement Effects and Disaster Control) is aimed for flood impact reducing. The project is on going. The project aimed to achieve:

- the development of adequate guidelines and institutional structures in flood protection, including public information;
- the assessment of the feasibility of updating of present hydrological monitoring network in Romania.

and had the following objectives:

- to improve the capacity and forecasting rate;
- to improve the forecasting precision;
- use of SIMIN (National Meteorological Integrated Monitoring System) project facilities;
- assessment of the potential damage – costs, in of flood occurrence.

WATMAN Project (Water Management Integrated System in natural disaster cases), will provide support for Water Framework Directive implementation. WATMAN project carried out integration of data and meteorological and hydrological forecasts produced under the projects SIMIN and DESWAT. The project will be implemented in near future.

The main objectives of the project are the following:

- upgrading of the present informational system in water management field and its interconnection with those of the central and local public administration;
- development of operational intervention plans in order to optimise actions of involved stakeholders.

The main result of the WATMAN project will be:

- a complete inventory of the data sources
- to develop further recommendations on *future data integration* for certification of trans boundary data exchange.

Under this project are to be created 11 coordination centres at river basin levels and 28 centres for interventions, a modern surveillance centre for dams and hydro-technical works as well as its integration in the local administrative network.

WATFRAME Project

The achievement of the project will aim:

- The improvement of water urban infrastructure;
- The solving of water supply and waste water treatment problems in small and medium localities;
- The enhancement of the number of inhabitants able to have access at drinking water according European standards;
- The fulfillment of commitments assumed for Chapter 22 Environment and at Summit in Johannesburg.

Hazard Risk Mitigation and Emergency Preparedness Project”- Flood and Landslide Risk Reduction – project developed with World Bank

The project aimed to achieve to improve risk mitigation measures related to floods and dam safety . Will be rehabilitate

-3 critical Danube River area

-8 selected large and five small dams

another

-9 flood mitigation schemes are upgraded or rehabilitated

and

-Landslide risks are mapped and used for land management and planning

3.4 Lessons learned:

Interim Evaluation No. R/RO/CBC/03037

Ref: Flood prevention Suplacu de Barcau project (PHARE CBC RO-0003.02.01)

“The project should have a significant impact on a large number of people in the bordering areas through alleviation of natural calamities and cost savings for flood damage repairs.”

The 2003 Regular Report.

„...The Inter-Ministerial Committee, which is responsible for co-ordination between ministries to ensure that the environment is taken into account by all sectors concerned.

Close attention is therefore needed to start integrating environmental considerations into the development and implementation of other policies.

There is still, however, much more work to be done in ensuring public information and participation in both the development and the implementation of environmental policy. ”

The Comprehensive Monitoring Report, Bruxelles 25 October 2005

*„Ensuring compliance with the **acquis** requires significant investment, but also brings significant benefits for public health and reduces costly damage to forests, buildings, landscapes and fisheries. Concerning **nature protection** [...] while administrative capacities have been established, the roles and responsibilities of the various institutions involved should be clearly defined and put into practice. Attention should be paid to more coordination with the implementation of the **water framework directive**.*

.....
*In the field of **nature protection**, Romania should ensure that relevant **protection measures** are applied by accession.”*

4 Expected Results of the complement to the programme

The project refers to the long-term strategy that means a general plan of action for addressing the impacts of climatic changes, including climate variability and extremes. It will include a mix of policies and measures with the overarching objective of reducing the country's vulnerability. The project is a result of the historical realities of our country and in special of the recent events occurred last year.

Within the overall achievements of the sector this complement will contribute to Romania's efforts to establish a realistic flood risk management strategy, which will help to do the necessary administrative measures and where necessary the physical investments, which would allow to reduce the damages emerging from heavy floods. This strategy should in particular deliver planning tools such as flood area maps and flooding risk maps for a pilot river basin (Siret). The complement shall also support improving the administration of flood events. This strategy should also lead to legislative measures, which include flood prevention considerations in any public and private investments.

The expected results of the project are:

- The medium and long-term flood risk management strategy elaborated
- The Action Plan regarding flood risk management established
- Methodology for development of hazard and risk maps elaborated
- Methodology for hydro-technical works damage assessment elaborated
- Hazard and flooding risk maps for the Siret river basin (as a pilot basin) elaborated
- The preventive measures for the risk reduction of the floods established
- System for increasing the public awareness concerning floods risk
- Investment projects prepared

5 Detailed Budget

Under the Provisions of the Financing Agreement 2005/017-690 “concerning flood damage rehabilitation and prevention measures” the following task will be implemented by this complement to the sector programme environment:

	Investment Support	Institution Building	Total EU (=I+IB)	National Co-financing*	IFI*	TOTAL
Contributions to the development of the flood risk management strategy	-	2.0	2.0	-	-	2.0

5 Implementation Arrangements

This programme will be implemented under the provisions of Financing Memorandum 2004-16-772 and Financing Agreement 2005 –17-690. Any budgetary figures contained in this document not covered by these agreements shall be considered as estimates not committing any of the two parties to the agreements for providing finance.

This complement may be implemented in close liaison with measures foreseen under the multi-annual sector programme environment.

5.1 Institutional Framework

This complement will be managed by the CFCU

5.2 Implementing Authority

The **Implementing Authority** will be Ministry of Environment and Water Management (MEWM), through the General Directorate for Structural Instruments Management and the Water Management Department.

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5.3 Implementation Schedule

The task should be implemented during July 2006 –December 2007.

5.4 Monitoring and indicators of achievement

The monitoring of the programme will be assured by the Phare PIU within MEWM.
Twice/year the projects will be monitored through SMSC 9 and yearly through JMC.

Projects' monitoring will be conducted according to the PHARE rules.

5.5 Contract completion

Contract activities must be completed three months before the last date for execution under the Financing Agreement for the Phare 2005 Programme 17-690.

Addressing identified needs for:	Indicators of performance
Strategy	Strategy endorsed by the Romanian government in early 2007
Action Plan	Action Plan established by mid 2007
Methodology for hazard and risk maps	Methodology approved by early 2007
Methodology for damage assessment	Methodology approved by early 2007
Hazard and risk maps for Siret river basin	Maps established by the end 2007
Preventive measures for reduction of the floods	List of measure mandatory at the national level available at the end 2006 Guidelines for establishing the list of preventive measures at the basin level by the end 2006
System for increasing the public awareness concerning floods risk	Guidelines for a national awareness campaign by the end of 2006
Investment projects prepared	Three investment projects ready to be financed by Structural/Cohesion Funds, by the end of 2007

LOGICAL FRAMEWORK

LOGFRAME PLANNING MATRIX FOR PROJECT		Programme name and number	
Contributions to the development of the flood risk management strategy		Contracting period expires 30/11/2007	Disbursement period expires 30/11/2008
		Total budget: 2 MEUR	Phare budget: 2 MEUR
Overall objective	Relates to Copenhagen criterion and Acquis chapter	List of other projects with same objective	
<i>Strengthening the administrative, monitoring and enforcement capacities and capabilities to implement environmental legislation and to fulfil the EU requirements on environmental acquis</i>	Romania's Negotiations on Chapter 22 - Environment	<ul style="list-style-type: none"> • PHARE CBC RO/HU 1996 project "Prevention of flood in Cris River Basin" • PHARE CBC RO/HU 1999 project "Flood Prevention in the Upstream Tisa River Basin" • PHARE CBC RO/HU 2000 project « Suplacu de Barcău Permanent Accumulation Basin » • PHARE 2002 project "Establishment of an information system and a database for water management field according to the requirements of the Water Framework Directive " • PHARE II "Fighting the damages made by the floods in 1998" • LIFE 2000 Project "The protection of RIVER LIFE by mitigation of flood damages" (RIVERLIFE) • DBEC programme 	

		<ul style="list-style-type: none"> • <i>PSO/PSO+ Programme-Netherlands</i> • <i>SIMIN Project (National Integrated Meteorological System)</i> • <i>DESWAT Project (Destructive Water Abatement Effects and Disaster Control)</i> • <i>WATMAN Project (Water Management Integrated System in natural disaster cases)</i> • <i>WATFRAME Project</i> • <i>Hazard Risk Mitigation and Emergency Preparedness Project"- Flood and Landslide Risk Reduction – project developed with World Bank</i> 	
Project purpose	Objectively Verifiable Indicators	Sources of Verification	Assumptions
<ul style="list-style-type: none"> • Support the environmental authorities in flood prevention and risk mitigation by developing the a medium and long-term flood risk management strategy 	<ul style="list-style-type: none"> • Number of populated areas protected from floods through the implementation of the flood risk management strategy; • Number of environmental infrastructures that will be protected through implementation of flood prevention strategy; • Number of organisms established in view of setting up flood prevention communication networks 	<ul style="list-style-type: none"> • Program evaluation reports • Monitoring Reports prepared for Sector Monitoring Sub-Committees (SMSC); • Reports prepared for Joint Monitoring Committee (JMC); • EU Commission Interim Evaluation Reports • Regular reports of international environmental cooperative programmes; • Position Paper on chapter 22; 	<ul style="list-style-type: none"> • National legislation compliant with EU legislation; • Enforcement of WFD is continued in a pro-active way; • The environmental authorities involved prepared to cooperate during the project life
Results	Objectively Verifiable Indicators	Sources of Verification	Assumptions
<ul style="list-style-type: none"> • The medium and long-term flood risk management strategy elaborated 	<ul style="list-style-type: none"> • Strategy endorsed by the Romanian government in early 2007 • Action Plan established by mid 	<ul style="list-style-type: none"> • TA project reports and documentation; • Minutes of the Project Steering Committee meetings; 	<ul style="list-style-type: none"> • Horizontal and transparent co-operation between key stakeholders;

<ul style="list-style-type: none"> • The Action Plan regarding flood risk management established • Methodology for development of hazard and risk maps elaborated • Methodology for hydro-technical works damage assessment elaborated • Hazard and flooding risk maps for the Siret river basin (as a pilot basin) elaborated • The preventive measures for the risk reduction of the floods established • A system for increasing public awareness concerning flood risk established • Three investment projects ready to be financed by Structural/Cohesion Funds prepared 	<ul style="list-style-type: none"> • Methodology for development of hazard and risk maps approved by early 2007 • Methodology for hydro-technical works damage assessment approved by early 2007 • Hazard and flooding risk maps for the Siret established by the end 2007 • List of measure mandatory at the national level available at the end 2006 • Guidelines for establishing the list of preventive measures at the basin level by the end 2006 • Guidelines for a national awareness campaign by the end of 2006 • Three investment projects ready to be financed by Structural/Cohesion Funds, by the end of 2007 	<ul style="list-style-type: none"> • Minutes of the Phare Monthly Meetings; • Minutes of the Sectoral Monitoring Steering Committee Meetings; • EU Commission Interim Evaluation Reports 	<ul style="list-style-type: none"> • The high expertise provided by the Key Experts is properly ensured; • Input from National Administration for Hydrology and Meteorology and National Administration of Romanian Waters (ANAR) in terms of strategic documents delivered; • Guidelines and procedure manuals of similar programs in EU member states as example; • Project is contracted in due time ;
Activities	Means		Assumptions
<ul style="list-style-type: none"> • To develop a medium and long-term flood risk management strategy • To develop the Action Plan regarding flood risk management • To develop the methodology for development of hazard and risk maps 	<ul style="list-style-type: none"> ▪ Maximum one Service contract ▪ Key experts and a pool of short term experts; 		<ul style="list-style-type: none"> • Sufficient staff with necessary basic qualification available; • Good communication/

<ul style="list-style-type: none"> • To develop the methodology for hydro-technical works damage assessment • To elaborate the hazard and flooding risk maps for the Siret river basin (as a pilot basin) • To establish the preventive measures for the risk reduction of the floods • To develop a system for increasing public awareness concerning flood risk • To prepare three investment projects ready to be financed by Structural/Cohesion Funds 			<p>collaboration between consultant team and beneficiaries;</p> <ul style="list-style-type: none"> • Staff turnover is limited; • Qualified experts identified and mobilized rapidly.
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ANNEX 3

Contracting and disbursement schedule by quarter for full duration of programme

Multi-Annual Sector Programme 2004-16-772.03.03 ENVIRONMENT

Financing by PHARE 2005/ 17-690.01.01

Task 5.4 Contributions to the development of the flood risk management strategy

Components	Cumulative contracting schedule by quarter in MEUR (planned)																Total Phare Allocation
	2006				2007				2008				2009				
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	III	III	IV	
Task 5.4 Technical assistance				2.0													2.0
Total contracting:				2.0													2.0
Components	Cumulative disbursement schedule by quarter in MEUR (planned)																Total Phare Allocation
	2006				2007				2008				2009				
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	III	III	IV	
Task 5.4 Technical assistance				0.8	1.05	1.3	1.55	1.8	2.0								2.0
Total disbursement:				0.8	1.05	1.3	1.55	1.8	2.0								2.0