

Standard Summary Project Fiche for the Transition Facility

1. Basic Information

1.1 CRIS Number: 2005/017-495-02-01

Twinning Contract *LV/2005-IB/EN/02/01*

1.2. Title: **Water quality**

1.3. Sector: Environment

1.4 Location: The Republic of Latvia.

Leading institution: Latvian Environment, geology and meteorology agency (LEGMA)-
Maskavas iela 165, Riga, LV- 1019

Supervised by: Ministry of Environment - Peldu iela 25, Riga, LV-1494.

2. Objectives

2.1 Overall Objective :

To ensure water quality monitoring.

2.2 Project purpose:

Development of modelling capacity to support water quality monitoring.

2.3. Justification:

Latvia shall implement Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (Water Framework Directive, WFD) according to the deadlines of the Directive. The first report on implementation of the Water Framework Directive (2000/60/EC) in Latvia (June, 2004) was created according to the requirements of the directive and according to the Guidance on Reporting under the Water Framework Directive (draft, November 10, 2003).

3. Description

3.1 Background and justification:

Transposition of the WFD into Latvian legislation has been initiated with the development of "Law on Water Management" in 2002. In 2004 and 2003 the process of harmonization of Latvian legislation with the requirements of the WFD were undertaken by development of a range of Cabinet of Ministers (CM) Regulations under the mentioned law (Regulations No. 858 of the Cabinet of Ministers "Regulations on typology of surface water bodies, classification, quality elements and procedures for identification of anthropogenic loads"; Regulations No. 857 of the Cabinet of Ministers "Regulations on groundwater quality elements and procedures for gathering information about groundwater resources"; Regulations No. 92 of the Cabinet of Ministers "Requirements regarding monitoring of surface water, groundwater and protected areas and regarding development of programmes for the monitoring"; Regulations No. 736 of the Cabinet of Ministers "Regulations on water resources use permits"; Regulations No. 283 of the Cabinet of Ministers "Regulations on river basin management plans and programmes of measures"; Regulations No. 179 of the Cabinet of Ministers "Regulations on boundaries of the river basin districts"). The Regulations specify the procedures for the establishment of monitoring, including reference network, typology of water bodies and procedures for its classification and management of water resources.

Existing capacity of water monitoring system

Existing water monitoring system functioning according to National Environmental Monitoring Program (15.05.2002.) and coordinated by Latvian Environment, geology and meteorology agency (LEGMA) (institutional structure of LEGMA and its main tasks are given in annex 4), will fulfill requirements of "old" water directives but will not fully provide data and information needed for implementation of WFD. Significant assistance to the monitoring system will be provided by help of investments from Phare 2002 project "Environment monitoring".

In 2003 several water quality monitoring programmes were running to fulfill “old” water directives. More detailed information is given in annex 5.

Monitoring of bathing waters and drinking water is performed by institutions subordinated to Ministry of Health.

Monitoring programmes shall be established and approved by the end of 2005, and shall be fully operational at the latest by the 1st January 2006 according to the Latvian “Law on Water Management”. The WFD also requires monitoring programmes to be fully operational at the latest by the 22nd December 2006.

It is planned to start monitoring for WFD purposes in 2006.

A key Article of the WFD in relation to monitoring and the design of appropriate programmes for surface waters and groundwater is Article 5. It requires river basin districts to be characterised, and the environmental impact of human activities to be reviewed in accordance with Annex II. The risk assessments that are specified in Annex II play a key role in the initial design and subsequent revision of the monitoring programmes required by the Directive.

Although models are not mandatory required by WFD they will be an effective tool for the improvement of reliability and certainty of monitoring data as well as they will reduce monitoring costs in future. The last reason is very important for development of a cost effective monitoring system. Modelling techniques will help to get a maximum amount of information on the status of the environment and the impact of pressures compared with the resources allocated.

Modelling techniques for assessment of water quality can be extremely powerful tools to assist in the development and implementation of practical water management practices. Experiences in this field (e.g. nutrient run-off models etc.) are not well developed in Latvia. Therefore, adoption of modelling tools, a comprehensive training and upgrading of the modelling competence in Latvia could be a significant contribution to the development of administrative capacity of LEGMA and other involved institutions for the implementation of WFD. Also raising awareness about modelling system as water quality assessment technology in target groups: governmental institutions, municipalities, industry, and public is big task which will be partly involved in present proposal but will be also included in other projects.

LEGMA has been working for long time with GIS tools to improve the database and reporting capabilities: the website for presenting inland water quality data has been established with Internet Map Server technology (http://imaps.vdc.lv/website/ukm_lv/) and lots of ancillary data sets (soil map, land cover map, main watersheds, main wastewater discharges etc.) has been developed that can be used for modelling purposes, as well, with some adoption efforts. For next 3 years the integrated hydrological GIS database (river network and relief grid) for scale 1:50000 will be developed to meet WFD reporting requirements.

Hydrological observations and water quality monitoring have quite long history, therefore, basic data, which would be required for modelling, are available in Latvia.

Areas where models will be used are the following:

- Extrapolation of monitoring results to all stretches of river or whole area of lake – will help to fulfil Annex V - 1.4.2. of WFD (*Presentation of monitoring results and classification of ecological status and ecological potential*);
- Assessment of ecological status of water bodies using monitoring data – Article 4 of WFD (*Environmental objectives*);
- Assessment of the susceptibility of the surface water status of bodies to the pressures and identification of water bodies at risk of failing the environmental quality objectives – will help to fulfil Annex II – 1.4. of WFD (*Assessment of impact*);
- Specification of monitoring stations’ network (according to emission sources, water mixing, waterworks) – will help to fulfil Article 8 (*Monitoring of surface water status ...*);

- Revision of established type-specific reference conditions for surface water body types – will help to fulfil Annex II – 1.1. of WFD (*Establishment of type-specific reference conditions for surface water body types*);
- Revision of differentiated surface water bodies within the river basin - will help to fulfil Annex II – 1.1. of WFD (*Characterization of surface water bodies*);
- Assistance for development, revision and evaluation of programmes of measures – will help to fulfil Article 11 of WFD (*Programmes of measures*).

3.2 Linked activities:

- Project *Environment monitoring* (LE.02.09.01, Phare 2002).

The purpose of this project is to strengthen institutions responsible for environmental monitoring in the areas of drinking water, wastewater, surface water, waste, and air quality. The scope of the project is as follows:

- Strengthening of administrative and institutional capacity at central and mainly at regional level for drinking water monitoring, wastewater monitoring; waste compliance monitoring;
- Strengthening of technical monitoring capacity, including waste monitoring, wastewater monitoring, drinking water monitoring, surface water monitoring and air quality monitoring.

In this project significant assistance is provided for above mentioned monitoring systems by:

- Provision of modern information systems for data processing and dissemination;
- Provision of modern sampling, field measurement and laboratory equipment;
- Development of guidelines for monitoring and control of polluting emissions including List I and List II substances in wastewater;
- Development of the guidelines on the hazardous waste handling;
- Development of the recommendations for improvement of existent drinking water monitoring programme according EU Directive and local needs.

The main results of this project are strengthening of technical capacity of central and mainly regional environmental laboratories and technical capacities of the involved institutions so the functions can be efficiently carried out to fulfil EU directives concerning air, water, and waste. In the case of water legislation this project helps to fulfil so-called “old water directives” –

- Directive on Pollutions Caused by Certain Dangerous Substances Discharged into the Aquatic Environment of the Environment of Community, 76/464/EEC;
- Urban Waste Water Treatment Directive, 91/271/EEC;
- EU reporting requirements (Exchange of Information Decision (77/795/EEC) amended by Decision 86/574/EEC, Decision 95/337/EC amending Decision 92/446/EEC, Directive 91/692/EEC).

A more detailed description of project *Environment monitoring* (LE.02.09.01, Phare 2002) is given in annex 6.

The main beneficiaries of this project are Latvian Environment, geology and meteorology agency and State Environmental Service.

The termination of the project *Environment monitoring* can not be considered as precondition for starting of proposed project (at least 1st component of it).

Other relevant projects in Latvia are described in more detailed in Annex 7.

There are several initiatives at European level for development of different modelling tools to support WFD implementation financed by Research Framework Programmes and LIFE. One of the most comprehensive such project is project under 5th Framework Programme called “Harmoni-CA” (*Harmonised Modelling Tools for Integrated Basin Management for implementing the Water Framework Directive developing river basin management plans, backed up by high quality ICT tools*). One work package of this project deals with improving the communication and dialog between the monitoring community and the modelling community.

In selection process of the best suitable models for Latvia these projects (specially Harmoni-CA project) will be carefully investigated and models developed in these projects will be bases for Latvian modelling system.

3.3 Results:

Mandatory twinning results:

- The best suitable models for Latvia selected;
- Needs for development of new models (if necessary in exceptional cases) identified;
- Concept of hierarchical modelling system (which consists at least from four models - hydrological model, model for calculation of source apportionment, water quality model and pollution dissemination model) developed;
- Concept on the information system developed (including detailed description of structure of system and technical requirements for establishment of the system).

Technical assistance results:

- Modelling system (including new models, if necessary) developed according with concept of hierarchical modelling system (component 1);
- Information system developed (for information needed for running of models) compliant with concept of information system on the bases of existing data bases;
- All necessary data and information prepared for running of modelling system in pilot river basin (including field inventory);
- Running modeling system;
- Calibrated and validated models;
- Implementation plan for further extension of the developed modelling system (enhancement components of model system, building capability to benefit from it, implementation of system for further river basins) prepared;
- Staff of involved institutions capable to use models in Latvia.

3.4 Activities:

The following activities are planned within the project:

Component 1: Selection and / or development of the best suitable models for Latvian conditions which ensure assessment of impact of different diffuse and point source load to surface water quality (source apportionment) and *vice versa*; real-time assessment of river water quality in any stretch of river using available monitoring data; prediction of pollution dissemination in rivers.

Contract 1 Twinning

- Review of available experiences in water quality modeling in different EU countries for possibility to adapt them to Latvian conditions;
- Analysis of existing and foreseen Latvian data availability and organisation for models' requirements;
- Definition of target outputs from the modelling system;
- Selection of the best suitable models for Latvia (on the bases of main criteria – e.g. possibility to adapt to Latvian conditions and availability of necessary data in Latvia etc.);
- Identification of needs for new models;
- Development of concept for water modelling system in Latvia.

Means (indicative):

- RTA (12 m/m) on managing the project and making sure all requirements of the project are met
- short term expertise (10 m/m) on review of situation in different EU countries, selection of the best suitable models for Latvia, identification of needs for new models and development of concept for water modelling system in Latvia.

Component 2: Development of modelling system and supporting information system.

Contract 2 Technical assistance (Service):

- Development and/or adaptation of the software of modelling system;
- Development of information system (for information needed for running of models).

Means (indicative):

- Short term expertise (10 m/m) on pollution pathways in terrestrial and water environment;
- Short term expertise (6 m/m) on software development (examination);
- Short term expertise (8 m/m) on environmental information assessment.

Contract 3 Technical assistance (Service):

- Collection of necessary data and information for running of selected models in pilot river basin, including field inventory.

Means (indicative):

- Short term local expertise (3 m/m) for acquiring hidrological, pedological, meteorological, land use etc. data from relevant institution responsible for data collection
- Short term local expertise (12 m/m) for field survey to collect hydromorphological, runoff, evaporation etc. lacking data.

Component 3: Adaptation of modeling system in one pilot river basin.

Contract 2 Technical assistance (Service):

- Implementation of modelling system for selected river basin:
 - installation of modelling system;
 - calibration of models;
 - validation of models;
- Development of the implementation plan for further extension of the developed modelling system;
- Preparing of guidance for use of models;
- Training of staff how to work with developed modeling system.

Means (indicative):

- Short term expertise (9 m/m) on adoption of models;
- Short term expertise (8 m/m) on environmental information assessment.
- approx. 10 days training (3 training sessions each 3 days and 1 final seminar 1 day) for the staff how to work with developed modeling system.

Experts profile:

Twinning

RTA's profile:

- A senior official, with overall practical experience (preferably at least 10 years) in the field of environmental assessment using modelling approach applicable for water quality assessment in accordance with EU *acquis*;
- Broad knowledge about existing modelling approaches developed in EU countries;
- Previous cooperation with Baltic countries in environmental assessment will be an asset;
- Management skills at managing PHARE projects will be an asset;
- Good knowledge in the field of the Twinning projects will be an asset;
- Positive minded person;
- Fluency in English.

Short-term experts' profiles:

- Specific knowledge and practical experience (minimum 5 years) about existing modelling approaches developed in EU countries;
- Knowledge and experience in collecting and assessment of environmental information;
- Knowledge about environmental assessment required in Water Framework Directive;
- Experience with implementation of modelling approaches in similar geographical regions;
- Competence for examination of local environmental conditions;
- All experts should be fluent in English

Technical assistanceLocal experts' profiles:

- Knowledge and experience with environmental information collection system in Latvia;
- Knowledge and experience in Latvian hydrological conditions and institution network for obtainment of data;
- Competence in assessment of Latvian environment.

Short-term experts' profile:

- Knowledge and experience with environmental information assessment;
- Knowledge and experience with development and adoption of models' software;
- Fluency in English.

3.5 Lessons learned:

No direct recommendations that could be referred to this project are given in previous evolution and monitoring reports.

However, taking into account experience with the other projects where different partners and stakeholders benefit from project (even indirectly), the Steering Committee of the project will be established. Through regular meetings supervision of project and coordination with all players involved in implementation of WFD (governmental organisations, municipalities, NGOs) and related activities will be made.

4. Institutional Framework

The responsible institution of the project will be the Ministry of Environment.

The beneficiary organisations of the project will be:

- Latvian Environment, geology and meteorology agency.

According to "Law on Water Management" the central competent authority is MoE, but to deal with practical management a river basin management unit has been established under LEGMA.

LEGMA and the State Environmental Inspection according to "Law on Water Management" will play a significant role in the implementation of WFD.

The main functions of the institutions involved in the implementation process of WFD are given in annex 7.

The Steering Committee of the project will consist of representatives of the MoE (Environmental protection department), LEGMA (former Latvian Environment Agency, State Geological Survey and Latvian Hydrometeorology Agency), Resident Twinning Adviser, and be supervised by the SPO of the Ministry of Environment.

5. Detailed Budget

€M	Transition Facility support			Co-financing			Total cost (TF plus cofinancing)
	Investment Support	Institution Building	Total TF (=I+IB)	National Public Funds(*)	Other Sources(**)	Total co-financing of the project	

Year 2005							
Contract 1: Twinning		0,36	0,36	0,036*		0,036	0,396
Year 2006							
Contract 2: (Service) Development of modelling system		0,78075	0,78075	0,26025*		0,26025	1,041
Contract 3: Technical assistance (service)		0,1575	0,1575	0,0525*		0,0525	0,21
Total		1,29825	1,29825	0,34875*		0,34875	1,647

**contributions from National, Regional, Local, Municipal authorities, FIs loans to public entities, funds from public enterprises*

***private funds, FIs loans to private entities*

The national co-financing will be ensured from the Latvian State budget 2005-2006.

6. Implementation Arrangements

6.1 Implementing Agency

- Central Financing and Contracting Agency, Ministry of Finance, Smilšu iela 1, Riga LV 1919;
PAO **Mrs Inta Vasaraudze**, Deputy State Secretary of the Ministry of Finance;
- The overall technical responsibility is under the Ministry of Environment, Peldu street 25, Riga LV-1494,
Contact person **SPO: Mrs. Vija Geme**, Deputy State Secretary, Director of Investment Department, Ministry of Environment, Phone: +371 7026401, Fax: +371 7820442, e-mail: vija.geme@vidm.gov.lv

6.2 Twinning

For the twinning contract the counterpart will be the Ministry of Environment; Peldu iela 25, Riga LV-1494;

- Contact person: SPO: **Mrs. Vija Geme**, Deputy State Secretary, Director of Investment Department, Ministry of Environment, Phone: +371 7026401, Fax: +371 7820442, e-mail: vija.geme@vidm.gov.lv

The operational counterpart of the Twinning will be:

- **Mrs. Inita Stikute**, Deputy Director, Information provision & Development
Latvian Environment, geology and meteorology agency
Phone: +371 7032603; Fax: +371 7145154, e-mail: inita.stikute@meteo.lv
- **Mr. Atis Rektinš**, Acting Head of Monitoring Programme Division,
Latvian Environment, geology and meteorology agency
Phone: +371 7032616; Fax: +371 7145154, e-mail: Atis.Rektins@meteo.lv

The RTA and short-term experts will be deployed at the LEGMA offices in Riga

6.3 Non-standard aspects.

There will be no non-standard aspects regarding implementation of the project. For twinning the twinning manual will be followed.

Ratio: if during project implementation the project cost for some reason will decrease, the Transition Facility financing will also decrease proportionally.

6.4 Contracts

Contract 1 - Twinning Contracts EUR 360 000 (parallel co-financing)

Contract 2 - Technical assistance (service) EUR 1 041 000 (joint co-financing excluding all taxes and duties)

Contract 3 – Technical assistance (service) EUR 210 000 (joint co-financing excluding all taxes and duties)

7. Implementation Schedule

	Start of tendering	Start of project activity	Completion
Contract 1 Twinning contract	3 rd quarter 2005	1 st quarter 2006	3 rd quarter 2006
Contract 2 Service contract	1 st quarter 2006	3 rd quarter 2006	3 rd quarter 2007
Contract 3 Technical assistance (service)	1 st quarter 2006	3 rd quarter 2006	3 rd quarter 2007

8. Sustainability

- The necessary parallel co-financing within the framework of the Twinning Contracts will be provided from the state budget
- The necessary joint co-financing within the framework of the supply contract will be provided from the state budget.
- LEGMA has sufficient staff and budget to maintain the administrative function after the project completion. The staff trained during the project will remain at LEGMA or instruct additional staff provided by the budget.
- LEGMA has an adequate supply of information technology and electronics specialists employed from the budget to maintain equipment acquired during the project in optimal working condition.

9. Conditionality and sequencing

- Political commitment at the State level to continue support the implementation of Water Framework Directive;
- LEGMA has requested co-financing for the project activities from the state budget;
- Co-financing from the state budget for the project activities is earmarked;
- Project Steering committee established by the start of the project.

Pre-conditions for the project are:

- Cabinet of Ministers Regulations under the “Law on Water Management” are adopted;
- Adequate staff available.

ANNEXES TO PROJECT FICHE

1. Logical framework matrix in standard format
2. Detailed implementation chart
3. Contracting and disbursement schedule by quarter for full duration of programme (including disbursement period)
4. Institutional structure of Latvian Environment, geology and meteorology Agency and its main tasks
5. Water quality monitoring programmes run in 2004
6. Description of the assistance of European Commission for Latvian environmental monitoring sector in project *Environment monitoring* (LE.02.09.01, Phare 2002)
7. Description of relevant projects in water sector in Latvia
8. The main functions of the institutions involved in the implementation process of WFD according to „Law on Water Management”

Annex 1**TF log frame**

LOGFRAME PLANNING MATRIX FOR Project	Programme name and number	
Water quality	Contracting period expires	Disbursement period expires
	Total budget : EUR 1,647million	TF budget : EUR 1,29875million

Overall objective	Indicators of Achievement	Sources of Information	
<ul style="list-style-type: none"> To ensure water quality monitoring 	<ul style="list-style-type: none"> The institutions responsible for implementation of WFD are able to fulfil requirements of directive. 	<ul style="list-style-type: none"> Annual environmental reports indicating situation in Latvia. 	
Project purpose	Indicators of Achievements	Sources of Information	Assumptions
<ul style="list-style-type: none"> Development of modelling capacity to support water quality monitoring 	<ul style="list-style-type: none"> Modelling system is available and is used in LEGMA after termination of the project; River Basin Authorities and other institutions involved in water quality management are capable to use modelling approach to analyse situation, make decisions and are able to report to European Commission after termination of the project. 	<ul style="list-style-type: none"> Annual environmental reports indicating situation in Latvia; Project Final Report; Sectoral evaluation reports; TF sectoral Monitoring reports; Internet homepage of LEGMA (www.lvgma.gov.lv). 	<ul style="list-style-type: none"> The identified tasks are completed in time and effectively; Relevant institutions involved will be willing to cooperate in the frames of the project; Adequate provision from the state budget. Political commitment at the State level to continue support the implementation of Water Framework Directive.

Results	Indicators of Achievement	Sources of Information	Assumptions
<p>Component 1. Selection and / or development of the best suitable models for Latvian conditions which ensure assessment of impact of different diffuse and point source load to surface water quality (source apportionment) and <i>vice versa</i>; real-time assessment of river water quality in any stretch of river using available monitoring data; prediction of pollution dissemination in rivers:</p> <ul style="list-style-type: none"> - The best suitable models for Latvia selected; - Needs for development of new models (if necessary) identified; - Concept of hierarchical modelling system (which consists at least from four models - hydrological model, model for calculation of source apportionment, water quality model and pollution dissemination model) developed; - Concept on the information system developed (including detailed description of structure of system and technical requirements for establishment of the system). <p>Component 2. Development of modelling system and supporting information system:</p> <ul style="list-style-type: none"> - Modelling system (including new models, if necessary) developed according with concept of hierarchical modelling system (component 1); - Information system developed (for information needed for running of models) compliant with concept of information system on the bases of existing data bases; - All necessary data and information prepared for running of modelling system in pilot river basin (including field inventory). <p>Component 3. Adaptation of modelling system in one pilot river basin:</p> <ul style="list-style-type: none"> - Running modelling system; - Calibrated and validated models; - Implementation plan for further extension 	<ul style="list-style-type: none"> • Concept of hierarchical modelling system approved. • Concept of the information system for the employment of the modelling system approved; • Modelling system developed; • Information system for collection of information needed for running of models developed and available for LEGMA; • Modelling system is used in daily work in LEGMA; • Implementation plan for further extension of the developed modelling system approved; • 30 experts of LEGMA. 	<ul style="list-style-type: none"> • RTA and technical assistance reports; • Project Interim and Final Reports; • Sectoral evaluation reports • TF sectoral Monitoring reports • Internet homepage of LEGMA (www.lvgma.gov.lv). 	<ul style="list-style-type: none"> • Officials of institutions involved will work closely with the project team; • Sufficient manpower in the institutions responsible for environmental protection in the water sector for meeting the EU requirements in this area.

<p>of the developed modelling system (enhancement components of model system, building capability to benefit from it, implementation of system for further river basins) prepared;</p> <ul style="list-style-type: none"> - Staff of involved institutions capable to use models in Latvia. 			
Activities	Means		Assumptions
<p>Component 1.</p> <ul style="list-style-type: none"> • Review of available experiences in water quality modelling in different EU countries for possibility to adapt them to Latvian conditions; • Analysis of existing and foreseen Latvian data availability and organisation for models' requirements; • Definition of target outputs from the modelling system; • Selection of the best suitable models for Latvia (on the bases of main criteria – e.g. possibility to adapt to Latvian conditions and availability of necessary data in Latvia etc.); • Identification of needs for new models; • Development of concept for water modelling system in Latvia. <p>Component 2.</p> <ul style="list-style-type: none"> • Development and/or adaptation of the software of modelling system; • Development of information system (for information needed for running of models); • Collection of necessary data and information for running of selected models in pilot river basin, including field inventory. <p>Component 3.</p> <ul style="list-style-type: none"> • Implementation of modelling system for selected river basin: <ul style="list-style-type: none"> - installation of modelling system; - calibration of models; 	<p>Component 1. Twinning:</p> <ul style="list-style-type: none"> • Long term expert (RTA) 12 m/m; • Short term expertise - 10 m/m; <p>Component 2. Short term expertise: 10+6+8=24 m/m in total; Local experts: 15 m/m in total</p> <p>Component 3. Short term expertise: 9+8=17m/m in total Training of officials of LEGMA:</p>		<ul style="list-style-type: none"> • The MoE will ensure free access to information on water quality, hydrology and pressures under the responsibility of the Ministry and its subordinated institutions; • All efforts from MoE and other ministries (Ministry of Agriculture, Ministry of Education and Science etc.) will be made to assist the project team to gather sufficient (and sufficiently reliable) information and data, as far as they are available • Relevant institutions (e.g. MoE and subordinate organisations, research and scientific institutes etc.) will be willing to cooperate in the project within those areas for which they are responsible or where responsibility is shared.

<ul style="list-style-type: none"> - validation of models; • Development of the implementation plan for further extension of the developed modelling system. • Preparing of guidance for use of models; • Training of staff how to work with developed modelling system. 	<ul style="list-style-type: none"> • development of guidance; • 3 training courses (3 days each); • 1 final seminar (1 day). 		
			<p>Preconditions</p> <ul style="list-style-type: none"> • Cabinet of Ministers Regulations under the “Law on Water Management” are adopted; • Adequate staff available.

Annex 2

Detailed implementation chart

Project Title: **Development of modelling capacity to support water quality monitoring in Latvia**

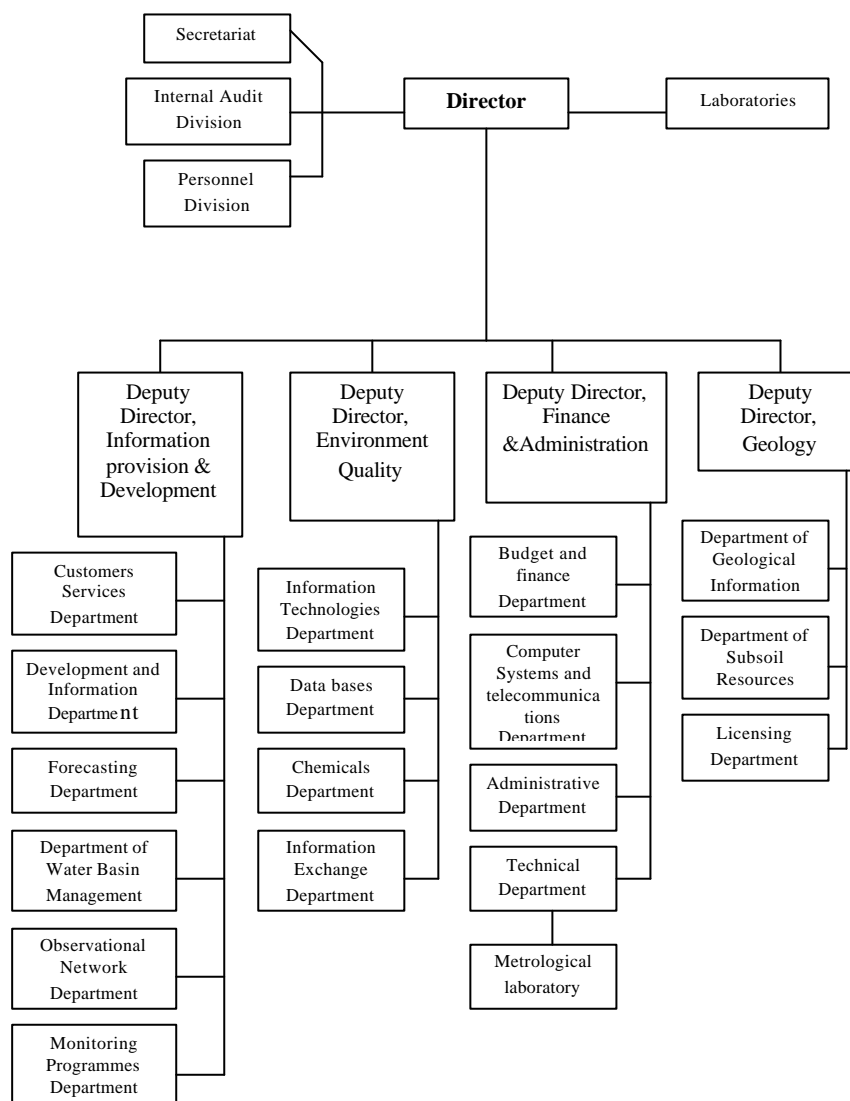
	2005											2006											2007										
	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
Contract 1: Twinning																																	
Review of available experiences in water quality modelling in different EU countries for possibility to adapt them to Latvian conditions																																	
Analysis of existing and foreseen Latvian data availability and organisation for models’ requirements																																	
Definition of target outputs from the modelling system																																	
Selection of the best suitable models for Latvia (on the bases of main criteria – e.g. possibility to adapt to Latvian conditions and availability of necessary data in Latvia etc.)																																	
Identification of needs for new models																																	
Development of concept for water modelling system in Latvia																																	
Contract 2 : Technical Assistance (Service)																																	
Development and/or adaptation of the modules of modelling system																																	
Development of information system (for information needed for running of models)																																	
Implementation of modelling system for selected river basin: - installation of modelling system; - calibration of models; - validation of models.																																	
Development of the implementation plan for the developed modelling system																																	
Preparing of guidance for use of models																																	
Training of staff how to work with developed modelling system																																	
Contract 3 : Technical Assistance (Service)																																	

	2005										2006												2007									
	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Collection of necessary data and information for running of selected models in pilot river basin, including field inventory																																

Annex 3

Cumulative contracting and disbursement schedule (MEUR)
Development of modelling capacity to support water quality monitoring in Latvia

	2005		2006				2007			
	III	IV	I	II	III	IV	I	II	III	IV
Contract1 -Twinning contract										
Contracted total:		0,36								
TF:		0,36								
National:		0,036								
Disbursed total:		0,288		0,324		0,36				
TF:		0,288		0,324		0,36				
National:		0,0078		0,0324		0,036				
Contract 2 - technical assistance (service)										
Contracted total:				1,041						
TF:				0,78075						
National:				0,26025						
Disbursed total:				0,2082						1,041
TF:				0,15615						0,78075
National:				0,05205						0,26025
Contract 3 – technical assistance (service)										
Contracted total:				0,21						
TF:				0,1575						
National:				0,0525						
Disbursed total:				0,042					0,21	
TF:				0,0315					0,1575	
National:				0,0105					0,0525	

Annex 4**Institutional structure of Latvian Environment, geology and meteorology agency**

Latvian Environment geology and meteorology agency is a governmental institution subordinated to the Ministry of Environment of the Republic of Latvia. Its objective is to implement governmental policy in the area of environmental data and information compilation, processing and dissemination. The one of task of the LEGMA is responding to demands for weather services through the timely provision of adequate information to human activities dependent on the climate and weather conditions and the environmental quality.

Annex 5

Water quality monitoring programmes run in 2004

- For Nitrates directive (91/676/EEC) - monitoring of surface water quality (23 stations, planned - 27), ground water (43 stations), marine water quality (63 stations) and agricultural run-off monitoring (6 stations) in compliance with requirements of directive.
- For Dangerous Substances directive (76/464/EEC) - monitoring of surface water quality (22 stations, planned - 35). In 2004 only metals, nutrients and oil hydrocarbons were monitored. All requirements will be met after purchase of laboratory equipment (Phare 2002 project “Environment monitoring”);
- For Freshwater Fish Directive (78/659/EEC) - monitoring of surface water quality (41 river stations, 6 lake stations);
- For EU Decision 77/795/EEC on Information Exchange - 4 river stations.

Annex 6

Description of the assistance of European Commission for Latvian environmental monitoring sector in project *Environment monitoring* (LE.02.09.01, Phare 2002)

The last investment project in environmental monitoring area with financial assistance from EU Phare programme is project *Environment monitoring* (LE.02.09.01, Phare 2002).

The purpose of the project is to strengthen institutions responsible for environmental monitoring in the areas of drinking water, wastewater, surface water, waste, and air quality.

The scope of the project:

- Strengthening of administrative and institutional capacity at central and mainly at regional level for drinking water monitoring, wastewater monitoring; waste compliance monitoring;
- Strengthening of technical monitoring capacity, including waste monitoring, wastewater monitoring, drinking water monitoring, surface water monitoring and air quality monitoring.

In the project significant assistance will be provided for above mentioned monitoring systems by:

- Provision of modern information systems for data processing and dissemination;
- Provision of modern sampling, field measurement and laboratory equipment;
- Development of guidelines for monitoring and control of polluting emissions including List I and List II substances in wastewater;
- Development of the guidelines on the hazardous waste handling;
- Development of the recommendations for improvement of existent drinking water monitoring programme according EU Directive and local needs.

Equipment delivered in this project:

- Spectroscopy Equipment (for drinking water monitoring):
 - ✓ Atomic absorption spectrometer with flame and graphite furnace atomizers, quantity - 1;
 - ✓ Graphite furnace (electrothermal) atomizers for upgrade of existing atomic absorption spectrophotometers AA 6650 (Shimadzu), quantity – 3.
- Chromatographic Equipment (for wastewater monitoring):
 - ✓ Gas Chromatograph (GC) with Mass Spectrometric Detector (MSD), quantity - 1;
 - ✓ High performance liquid chromatograph, quantity – 1.
- Analytical Equipment (for drinking water monitoring):
 - ✓ High performance liquid chromatograph, quantity - 1;
 - ✓ Ion chromatograph, quantity - 2;
 - ✓ pH meter with combination electrode and automatic temperature compensation, quantity - 6;
 - ✓ Conductivity meter, quantity - 6;
 - ✓ Visible spectrometers, quantity - 3;
 - ✓ UV/VIS spectrometer, quantity – 1.
- Analytical and Sampling Equipment (for wastewater monitoring):
 - ✓ Sample preparation equipment for chromatography;
 - ✓ Portable microprocessor-controlled water sampler with vacuum dosing system and built-in rechargeable battery, quantity - 3;
 - ✓ BOD measurement system - quantity – 9.
- Analytical and Sampling Equipment (for air quality monitoring):
 - ✓ Automatic troposphere ozone meter, quantity - 2;
 - ✓ Equipment for storage and preparation of air samples.
- Meteorological Equipment:

- ✓ Automatic meteorological station, quantity – 2.
- Equipment for air quality measurements:
 - ✓ DOAS air monitoring stations, dust monitors.
- Air and precipitation sampling equipment:
 - ✓ Air sampler systems;
 - ✓ Equipment for collection of precipitation samples;
 - ✓ Automatic «WET-Only» type precipitation sampler for mercury, quantity – 2.

Information systems developed in this project:

- Database on waste management permits, statistical waste data and corresponding web-based data processing software;
- Database on water usage and emission permits, wastewater statistical data and corresponding web-based data processing software;
- Database on surface water quality monitoring data and corresponding web-based data processing software;
- Database and corresponding web-based software to ensure processing and dissemination of the drinking water harmlessness and quality monitoring and self-monitoring data;
- Air quality monitoring information processing system;
- Purchase of workstations for drinking water and air monitoring data processing.

Annex 7**Description of relevant projects in water sector in Latvia**

- Danish Environmental Protection Agency's financed project "Transposition and implementation of the EU Water Framework Directive in Latvia" (project ref. No. M:128/023-0004).

Project has started in January 2003 and will be finished in the first quarter of 2004.

The main purpose of the project is to provide assistance to the Ministry of Environment (MoE) in order to develop the three CM regulations:

- CM Regulations "On Water Resource Use Permits";
- CM Regulations "On monitoring programmes in the river basin districts";
- CM Regulations "On Surface water typology, reference conditions and classification of Surface Water and Groundwater".

This project has four Immediate Objectives:

- Transposition of annexes II and V of the WFD;
- Ensure knowledge of the requirements of WFD at the relevant authorities;
- Assistance to the Ministry of Environment in defining reference network for Latvia;
- Elaboration of a specification of requirements and ToR for a data management/information system.

The project concentrate on transposition of the WFD into Latvian legislation and also cover a number of practical aspects of implementation, such as development of recommendations for establishment of monitoring programme, preparation of Action Plan for procedures to determine ecological classes, assistance to MoE in creating cooperation with neighbouring countries etc.

The beneficiary of the project is the Latvian MoE, which is responsible for transposition and implementation of WFD, its subordinated institutions especially the Latvian Environment, geology and meteorology agency, the Regional Environmental Boards, the State Environmental Inspectorate and the Marine Protection Board.

- Latvian – Dutch project "Assistance in carrying out the Economic Analysis according to the EU Water Framework Directive (2000/60/EC) in the River Basin Districts of Latvia".

Project started in 2003.

The following project results are foreseen for this project:

- Recommendations prepared to adjust tariff setting, financial instruments and incentive pricing policies to achieve environmental objectives at river basin level. These recommendations will be based on the following sub-results:
 - The four River Basins in Latvia characterised in terms of the economic significance of water uses;
 - current levels of cost recovery of the costs of water services assessed;
 - human impact on the four River Basins in Latvia reviewed on basis of pressure and impact indicators;
 - trends of key indicators and drivers, relevant to RBM projected up to 2015;
 - current water pricing policy applied in the four River Basins assessed.
- A manual produced with the methodology to implement articles 5 and 9 of the WFD, taking into account the WATECO Guidance Document and the specific conditions of Latvia; testing of the methodology in a number of pilot projects to be selected.

- Daugava River Basin project.

In March 2000, the joint Latvian – Swedish Daugava River Basin project was started. This co-operation has the overall objective of improving water management in Latvia. Specific objectives are development of a management plan for Daugava River Basin, demonstration of the possibilities

to implement Water Framework Directive and gaining of knowledge and experience to be used in other Latvian River Basin Districts. The project has developed a draft management plan. For one particular water body, Liela Jugla, a detailed programme of measures has been produced. Project experts have come up with initial proposals for typology of rivers and lakes and for ecological quality classes; however they should be further developed and supplemented with transitional waters, coastal water and groundwater.

In the framework of this project also proposals for development of monitoring programmes within Daugava River Basin were developed. These proposals will be taken as a base for development of monitoring programmes and will be significant also in the present project. The project ended in December 2003.

On the bases of this project Central River Basin Authority within the LEGMA was established in early 2004.

Annex 8**The main functions of the institutions involved in the implementation process of WFD****Functions according to „Law on Water Management”:**

- The Minister of Environment shall approve programmes for the monitoring of water status within each river basin district, which shall include monitoring of surface water, groundwater and protected areas.
- The Cabinet of Ministers determines monitoring requirements and requirements for the establishment of the monitoring programmes for the monitoring of water status within each river basin district, as well as requirements for monitoring of bathing waters and bathing sites.
- The Latvian Environment, geology and meteorology agency and its regional units (river basin authorities) shall:
 - 1) establish and update drafts of management plans and programmes of measures;
 - 2) carry out an economic analysis of water resources use;
 - 3) ensure participation of the public in production and updating of management plans and programmes of measures and informs about the plans and programmes those municipalities, which administrative territories are covered by these documents;
 - 4) co-ordinate the implementation of programme of measures;
 - 5) develop the budget proposals necessary for the implementation of the programme of measures;
 - 6) facilitate activities of the Co-ordination Committees;
 - 7) co-operate with the competent authorities of the relevant countries to ensure the achievement of the environmental objectives for the whole international river basin district, as well as shall implement joint programmes of measures;
 - 8) participate in the development and implementation of the programmes for monitoring of water status.
 - 9) develop programmes for monitoring of water status within each river basin district;
 - 10) develop budget proposals for the implementation of the monitoring programmes;
 - 11) co-ordinate and arrange implementation of the monitoring programmes;
 - 12) provide the European Commission with the information specified by the Cabinet of Ministers.
- The State Environmental Service shall supervise implementation of the programme of measures.