LIFE 02 ENV/LV/000481
Layman's report.

"Elaborating of new comprehensive **Ziemelsuseja River Basin** Management System based on ecosystem approach and wide stakeholders involvement into decision-making process at local level".

Project idea – based on EU water policy

When Latvia joined the EU it undertook the obligation to comply with the requirements of qualitative environment. And Water Framework Directive (WFD) is the main document that determines the principles and objectives of water protection and management in the EU member states. It introduces a new approach where the management of water resources is based on the river basin principle. To achieve good quality standards for surface and underground waters according to the ecological and chemical parameters by the year 2015 it is necessary to develop co-operation between different levels of governance and administrative territories. Likewise it is important to ensure active public participation in the planning and decision-taking process.

In 2001 before the project beginning it was not clear how to implement the principles of the WFD in practise, while there were several urgent problems to be solved concerning the wastewater treatment systems and supply with qualitative drinking water.

Background information

The project focuses on solving water sector problems in a number of small rural municipalities that are located in the Ziemeļsuseja River basin territory and covers 39% of the total population in the rural area of the district. Essential problems identified before the start of the project were – bad quality drinking water and inappropriate wastewater treatment facilities. The problems concerning the water quality arise and solutions are usually found in the municipalities where people live and work and they are influenced by the taken decisions.

Picture shows the project territory.

Project goals were set up according to this challenge:

1. Create a new river basin management system in Latvia that integrates local, regional and national interests and decreases the pollution in Ziemeļsusēja River basin and the Baltic Sea.
2. Create mechanisms and tools for public involvement while preparing river basin management plan and prepare set of indicators and procedures for river basin quality monitoring to be implemented by local inhabitants and school children.
3. Demonstrate alternative possibilities for improving wastewater treatment facilities in small rural municipalities by the help of pilot projects based on resource economy and use of eco-technologies.

Project implementation period: November 1, 2002 – November 1, 2005.

Budget: Total 1 042 825 EUR consisting of partner co-financing – 534 423 EUR and EC grant – 508 412 EUR. The Environmental Protection Fund of Latvia provided grants for several project activities.

Project partners and responsibilities

Jekabpils District Council was the leading partner and responsible for project overall management and reporting to the EU.

Asare, Rubene, Sala, Selpils, Zasa, Dignaja, Dunava, Kalna and Leimani municipalities ensured coordination of project activities at the local level and took part in the implementation of pilot projects.

REC Latvia office provided the methodological guidance, implemented training programmes, facilitated public participation and co-ordinated the preparation of the river basin management plan..

Ltd "Vide 2001" supervised implementation of pilot projects, organised technical activities for engineering and construction works and capacity building for water specialists.

Steering Committee meeting.

Project results

Elaboration of institutional models

A new decision-taking institution was created in November, 2003 – public organization "Suseja", whose task is to co-ordinate the implementation of Ziemelsuseja River Basin management plan, to take decisions that regard more than one administrative territory and to perform integrated monitoring of river quality and development processes.

For the first time in Latvia unified operator feasibility study was carried out about the possibilities to create an inter-municipal enterprise in Jekabpils district that performs water sector services. In the result three possible development options were proposed for decision makers consideration.

Round-table meeting of the members of the public orgnization "Suseja"

Characterization of Ziemelsuseja river basin and Water management plan

Ziemelsuseja river is 52 km long, the area of river basin is 491 km^2 , that is ~1,8% from the total territory of the Daugava river basin catchments. Characterization of Ziemelsuseja river basin and Water management plan was prepared through active involvement of local human resources in seminars and work group meetings, as result essential problems were identified and action programme in water sector prepared. The document was discussed during public hearings and accepted by the local municipal councils and in the joint meeting of "Suseja" and LIFE project Steering Committee. The measures included in the Water management plan will be integrated in the Daugava river basin management plan.

Public participation and water monitoring

Public participation was ensured:

- involving specialists and local inhabitants in working groups during the preparation process of the management plan,
- performing opinion polls and questionnaires about water and the quality of water sector services,
- arranging teacher and pupils training and practical activities about river biological monitoring and spring research. Students took part also in the competition about water economy measures in households.
- preparing water quality indicators for voluntary monitoring by the local inhabitants. The gained information was integrated in the Ziemelsuseja river basin Monitoring Report.

The school teams participating in the project activities

Demonstration projects and eco-technologies for improving water sector performance

Essential problems identified before the start of the project were– bad quality drinking water and obsolete wastewater treatment facilities.

Project activities resulted in health and environment benefits and technical improvements for 9 local municipalities:

- 1680 inhabitants from 6 municipalities (16% from total population) were supplied with good-quality drinking water
- wastewater treatment facilities were improved in 8 villages.

While improving wastewater treatment (WWT) facilities new eco-engineering principles were tested which had double effect – materials and energo-resources saved and the operational period extended in comparison with conventional systems:

2-level biological pond and wetland system was created in Sala municipality Birzi village

New-type WWT facility with gravel filter planted with reeds was created in Kalna municipality

2-level system of biological ponds was created in Leimani municipality Mezgale village

Reconstruction of the existing WWT systems was carried out in Zasa, Dunava and Asare municipalities simultaneously installing new energo-effective air pumps, cleaning and improving the territory.

Reconstruction of the existing WWT systems was carried out in Dignaja and Selpils reducing the nominal capacity 0,5-2 times. Additionally wetlands were included in the system that ensures extra cleaning of sewage waters.

High quality of cleaned sewage water was ensured improving aeration systems and creating biological ponds with reeds thus reducing pollution risk in the Ziemelsuseja river basin and the Daugava river.

Experience exchange and dissemination of project results

Experience exchange seminars were organized in Latvia, Baltics and Central Europe. International conferences were held in Warsaw (Poland), Szentender (Hungary) and Jekabpils (Latvia).

As dissemination tools project web-page was created www.suseja.lv and project bulletins distributed. Results and achievements were promoted in other events on national and international levels.

Environmental benefits

The project managed to address the demand of WFD that says that regional and local authorities have to introduce measures to improve efficiency of water use and encourage necessity to protect water resources and quality. Common strategy – targets, action plan and management principles – was prepared. It is an important document that will help to attract investment for environment projects in the region and solve water sector problems in the rural municipalities. The capacity of human resources was considerably raised by the training programme and local specialists will be able to prepare and implement projects also through the established public organization "Suseja".

The implementation of the pilot projects allowed to improve the quality of drinking water, reduce the pollution load in the ZS river basin territory and introduce water saving measures.

The first biological river monitoring was carried out in 2005 and it will be repeated in the following periods thus providing with certain data. The data will be compared and analysed and used in the monitoring reports. The first generation monitoring report was prepared according to the project schedule by 30/10/2005. The following conclusions were drawn about:

1) the quality of drinking water was improved for 16 % of the population in the Ziemelsuseja river basin territory in the following parameters: turbidity, amount of ammonium, concentration of iron. These parameters did not meet the standards of water quality before the project implementation. It was solved by instalment of iron removal equipment.

The improvement is shown in the table:

Place	Level of iron	Turbidity	
Sēlpils MC "Līkumi"	1,94 mg/l	10,10 mg/l	Before
	<0,1 mg/l	<0,58mg/l	After
Kalna MC Dubulti	1,90 mg/l	6,84 mg/l	Before
	0,18mg/l	<0,58 mg/l	After
Rubene MC Slate	1,21 mg/l	10,00 mg/l	Before
	0,48 mg/l	1,39 mg/l	After
Rubene MC Rubene	1,82 mg/l	21,08 mg/l	Before
	0,11 mg/l	<0,58 mg/l	After
Dunava MC Dunava	0,35 mg/l	<0,58 mg/l	Before
	0,32 mg/l	1,45 mg/l	After
Dignāja MC Vandāni	0,11 mg/l	-	After

2) The main type of sewage water is household or municipal wastewaters. The amount of wastewater is reducing in the territory (233,2 m^3 in year 2002 and 172,5 m^3 in year 2004) due to the decrease of population and due to the water saving measures.

The pilot projects improved the wastewater treatment systems that are used by 1507 inhabitants or 58% of the total population in the villages of the project municipalities.

Economic and environmental benefits.

The cost-benefit effect of the project can be described in 2 fields:

1) The implemented pilot projects in the municipalities demonstrate the use of energo-effective technical means and mechanisms - pumps for wastewater treatment facilities and drinking water stations that consumes less electricity than before and heat isolation for buildings; the use of eco-engineering

principle minimized the amount of construction materials and additionally these facilities have longer life-time in comparison to conventional technologies. At the same time, the new technologies are more effective and allow reducing pollution load with nitrate (N) and phosphorus (P).

2) The raised capacity of local specialists and improved planning process will allow to save financial means implementing future investment projects in water sector. Public involvement in the project activities has increased citizens' awareness about water sector problems thus eliminating possible pollution caused by adverse household practises.

Application possibilities in some and other sectors (transferability) on local and EU level.

The project has high national and international potential of transferability. There are no expected administrative, legislative or technical barriers for it.

The number of small size local communities in Latvia exceeds 300. So it is important to demonstrate them positive experience about opportunities to solve their water sector problems by cost-effective, low investment capacity projects offered by eco-engineering.

Participation of local citizens and other stake holder groups in decision making will demonstrate how public involvement can be effectively encouraged. List of indicators and data collecting methodology by public involvement tools developed during the project will allow similar use of this type of instrument for other sectors where quality is monitored like waste management, heating supply etc.

The mechanism of public participation and involvement in the decision making process can be used without essential changes in other local municipalities in other Central and East European countries where the level of active involvement is approximately the same as in Latvia. The methodology can be applied also in West European countries only in this case it should be specified to their specific needs.