Ministry of Environmental Protection and Nuclear Safety
in cooperation with the
Programme Coordination Unit
UNDP/GEF Assistance
Preface

The National Reviews were designed to produce basic data and information for the elaboration of the Pollution Reduction Programme (PRP), the Transboundary Analysis and the revision of the Strategic Action Plan of the International Commission for the Protection of the Danube River (ICPDR). Particular attention was also given to collect data and information for specific purposes concerning the development of the Danube Water Quality Model, the identification and evaluation of hot spots, the analysis of social and economic factors, the preparation of an investment portfolio and the development of financing mechanisms for the implementation of the ICPDR Action Plan.

For the elaboration of the National Reviews, a team of national experts was recruited in each of the participating countries for a period of one to four months covering the following positions:

- Socio-economist with knowledge in population studies,
- Financial expert (preferably from the Ministry of Finance),
- Water Quality Data expert/information specialist,
- Water Engineering expert with knowledge in project development.

Each of the experts had to organize his or her work under the supervision of the respective Country Programme Coordinator and with the guidance of a team of International Consultants. The tasks were laid out in specific Terms of Reference.

At a Regional Workshop in Budapest from 27 to 29 January 1998, the national teams and the group of international consultants discussed in detail the methodological approach and the content of the National Reviews to assure coherence of results. Practical work at the national level started in March/April 1998 and results were submitted between May and October 1998. After revision by the international expert team, the different reports have been finalized and are now presented in the following volumes:

- Volume 1: Summary Report
- Volume 2: Project Files
- Volume 3 and 4: Technical reports containing:
  - Part A : Social and Economic Analysis
  - Part B : Financing Mechanisms
  - Part C : Water Quality
  - Part D : Water Environmental Engineering

In the frame of national planning activities of the Pollution Reduction Programme, the results of the National Reviews provided adequate documentation for the conducting of National Planning Workshops and actually constitute a base of information for the national planning and decision making process.

Further, the basic data, as collected and analyzed in the frame of the National Reviews, will be compiled and integrated into the ICPDR Information System, which should be operational by the end of 1999. This will improve the ability to further update and access National Reviews data which are expected to be collected periodically by the participating countries, thereby constituting a consistently updated planning and decision making tool for the ICPDR.

UNDP/GEF provided technical and financial support to elaborate the National Reviews. Governments of participating Countries in the Danube River basin have actively participated with professional expertise, compiling and analyzing essential data and information, and by providing financial contributions to reach the achieved results.
The National Reviews Reports were prepared under the guidance of the UNDP/GEF team of experts and consultants of the Danube Programme Coordination Unit (DPCU) in Vienna, Austria. The conceptual preparation and organization of activities was carried out by Mr. Joachim Bendow, UNDP/GEF Project Manager, and special tasks were assigned to the following staff members:

- Social and Economic Analysis and Financing Mechanisms: Reinhard Wanninger, Consultant
- Water Quality Data: Donald Graybill, Consultant,
- Water Engineering and Project Files: Rolf Niemeyer, Consultant
- Coordination and follow up: Andy Garner, UNDP/GEF Environmental Specialist

The Ukrainian National Reviews were prepared under the supervision of the Country Programme Coordinator, Mr. Vasyl Vasylchenko. The authors of the respective parts of the report are:

- Part A: Social and Economic Analysis: Ms. N. Tomashes’ska
- Part B: Financing Mechanisms: Ms. I. Sherban
- Part C: Water Quality: Ms. O. Tarasova
- Part D: Water Environmental Engineering: Mr. A. Obodovsky

The findings, interpretation and conclusions expressed in this publication are entirely those of the authors and should not be attributed in any manner to the UNDP/GEF and its affiliated organizations.

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Vienna – Austria, November 1998
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Project 18  Construction of the polygon for storage of solid waste in Chernivtsi (2nd stage)

Project 19  Expansion and reconstruction of Chernivtsi canalization system including increase of its daily capacity up to 200,000 m³

Project 20  To support agricultural reforms and to prevent the future ecological problem from unsustainable animal farming

Project 21  Reconstruction of existing and construction of new WWT facilities and accumulation pounds, improvement of the technology processes
Project 1

Automatically controlled information measuring system for flood forecasting and Tysa River water resources management – 1st stage (ACIM-Tysa)
Project title
Automatically controlled information measuring system for flood forecasting and Tysa River water resources management – 1st stage (ACIM-Tysa).

Promoter
Authority/Company: Transcarpathian Regional Production Department for irrigation and water management
Address: 61a Zagorska St., Uzhgorod
Tel: 03122 31361
Fax: 03122 31334

Project Target
Scientific support for flood and water resources pollution control; automation and expansion of control areas, of information acquisition and processing in intensive yield formation areas, of well-timed pollution detection, flood formation and behavior warning, and taking of proper measures in order to protect water resources against pollution and lands against flooding.

Investment Cost
2.900.000 HRV (1.450.000 $US)

Status of Project
Ongoing project
1. **Project title**

Automatically controlled information measuring system for flood forecasting and Tysa River water resources management - 1st stage (ACIM - Tysa):

   a. construction of center for information acquisition and processing with technological support in Uzhgorod;
   b. equipment for information exchange.

2. **Promoter Details**

2.1. **Authority/Company**

Name: Transcarpathian Regional Production Department for irrigation and water management

Address: 61a Zagorska St., Uzhgorod

Tel: 03122 31361

Fax: 03122 31334

2.2. **Contact Persons**

Ivanytskiy Orest Mykhaylovych, Head of Regional Department for Water Management

2.3. **Advisor/Consultant**

Chipak Volodymyr Petrovych, Chief Engineer of Regional Department for Water Management

2.4. **Legal/Financial Status**

As a subdivision of State Committee of Ukraine for Water Management it comes out as a client for antiflood measures in the region financed by national budget.

Annual turnover of last three years is 2,880,000 hrv.

2.5. **Authority/Company Profile**

The general tasks are: efficient utilization and protection of water resources; protection of population, national economy sites and facilities against damage caused by spring and storm flood, improvement of existing water management complex.

2.6. **Planning/Implementing Capacity of the Authority**

Projects for antiflood protection in the region are being developed according to the order of the Regional Department for Water Management and State "Integrated Schedule for Antiflood Measures for 1994 - 2000" as Ukrainian national budget funds are available.
Implementation of the schedule is as follows (January, 1998):

<table>
<thead>
<tr>
<th></th>
<th>Schedule for 1994 — 2000, km</th>
<th>Work fulfilled during 1994-1997, km</th>
<th>Average annual productivity, km</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reconstruction and erection of embankments</td>
<td>200</td>
<td>32,4</td>
<td>8,0</td>
</tr>
<tr>
<td>Training</td>
<td>162</td>
<td>48,2</td>
<td>12,0</td>
</tr>
<tr>
<td>Bank protection</td>
<td>51</td>
<td>20,2</td>
<td>5,0</td>
</tr>
</tbody>
</table>

2.7. **Key Participants**

Transcarpathian Regional Production Department for irrigation and water management and Regional Upper-Tysa Department for water management of Hungary as a contractor.

2.8. **Key Operators**

Transcarpathian Regional Department for irrigation and water management

3. **Project Description**

3.1. **Project outline**

1st stage of ACIM - Tysa: to erect center for information acquisition and processing with technological support in Uzhgorod, to establish direct connection in order to provide information exchange between Uzhgorod center and corresponding center of Upper-Tysa Department for water management in Niredkhaza (Hungary).

3.2. **Primary Need for Project**

Flood control and protection of water resources against pollution are the most typical problems in Tysa River area. Since Tysa is one of the largest tributaries of Danube these problems are concern of neighboring regions of Ukraine, Romania, Hungary, Slovakia, i.e. they are international.

Current flood-warning service is not perfect at the terms of both limitations of information areas and primitive technology of observation and meteorological information acquisition, transmission and processing.

Establishing of ACIM-Tysa is aimed to provide scientific support for flood and pollution control programme. It will give an opportunity of implementing an automation and expansion of information acquisition, transmission and processing in intensive yield formation areas (mountain and foothills areas) necessary for well-timed pollution detection, flood formation and behavior warning, and taking of proper measures in order to protect water resources against pollution and lands against flooding.

3.3. **Status of Project Reports**

Additional information is available if necessary.
3.4. Quality of Project Reports

<table>
<thead>
<tr>
<th></th>
<th>Feasibility Study</th>
<th>Detailed Design</th>
<th>Construction/Implementation Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fully adequate</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>Partial adequate</td>
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<tr>
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<td></td>
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</tr>
<tr>
<td>English summary (yes/no)</td>
<td>no</td>
<td>no</td>
<td>no</td>
</tr>
</tbody>
</table>

Technical documentation for the 1st stage of ACIM-Tysa is properly ratified and now is being implemented.

3.5. Technology Proposed

ACIM-Tysa system will be implemented in terms of phases in 2 stages:

1st stage: hydrologic data and information on water facilities acquisition is carried out using traditional methods, afterwards data is being stored in computer database in order to provide information exchange with neighboring countries, forecast drawing up and advising on failure-proof flood passing.

2nd stage: erection of first 7-10 automatically controlled stations in Ukrainian area of Tysa River. Their simultaneous operation with Hungarian meteorological radar would allow to estimate a threat of flood in Tysa River area. In future the number of stations is to be increased up to 25. This will allow to perform complete flood forecast in automatic mode and to simulate possible versions of antiflood protection in upper part of Tysa area in Ukraine and Hungary.

3.6. Site Context Definition

Additional description information is not available.

3.7. Specific Project Item

The complex should be passed to "Uzhgorod Production Department for water supply and canalization" for operation.

4. Area/Site Description/Instructions

4.1. Planning Permitting Status

According to international experience, creation of automatically controlled systems similar to ACIM - Tysa System in Germany (Rheine area) and Netherlands is possible only in co-operation with experts of all countries suffering from pollution and harm made by water, with financial support of international organizations and funds. Such conclusion has been made by experts of Ukraine, Hungary, Romania, Sweden and Denmark at their meeting in Niredkhaza (Hungary, April 23-24, 1996).

As far as we know, institutions of Hungary, Romania and Slovakia involve international funds to implement automatically controlled water facilities information measuring and transmission systems.
4.2. Regulatory Liaison to Date

Erection work is performed by Ukrainian organizations. Upper-Tysa Department for Water Management (Hungary) and foreign companies supplying the equipment will participate in adjustment and alignment work.

4.3. Public’s Expression of Interest

Inhabitants of Ukrainian, Hungarian, Romanian and Slovakian regions situated in the upper part of Tysa River area expect that the problem of flood protection will be solved soon. There is no doubt that they are interested in the implementation of ACIM-Tysa project.

5. Environmental Assessment

5.1. Scale of Existing Impacts/Risks

<table>
<thead>
<tr>
<th>Quality</th>
<th>Impact Scale/Target</th>
</tr>
</thead>
<tbody>
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<td></td>
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<td>None</td>
<td></td>
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<tr>
<td>Expert Opinion</td>
<td>important</td>
</tr>
</tbody>
</table>

Flooding of the territory causes deterioration of the environmental situation and landscape and inflicts both mental and material loss. Implementation of the project will have a positive impact on all the risks.

5.2. Risk of Deterioration

Non-implementation of the project will make impossible creation of up-to-date system of monitoring and information transmission within the area of flood formation and well-timed sufficient measures at the territory of 12,500 km² (Tysa River area within Transcarpathian Region of Ukraine) of 18,300 km² (this territory includes 5,500 km² of Hungarian part of Tysa River area, which is already automated).

5.3. Sensitivity of Locality/Receptor

Thickly populated areas of Transcarpathian lowland, of Tysa River valley and its right-hand tributaries (Uzh, Latovitsa, Borzhava, Rika, Tereblya, Teresva), where most of the plants are situated.
5.4. **Primary Benefits of Project**

Implementation of the project will allow to carry out prompt and long-term measures on protection of population and national economy sites against flood, and water resources - against pollution on all geographical levels: local, regional, national and international, considering the follows:

- Location of the neighboring regions of Ukraine, Romania, Hungary and Slovakia in Tysa River area.
- 40% of the Tysa's annual yield is produced within the Transcarpathian region of Ukraine (its area is less than 10% of the Tysa River area); 55 - 70% of this yield is produced during the flood period.
- Most of flood is produced in the mountain part of Tysa River area and has a very high speed. Thus often it is destructive and disastrous.

5.5. **Construction/Operational Impacts Evaluation:**

<table>
<thead>
<tr>
<th>Quality</th>
<th>Construction/Implementation</th>
<th>Operation/Follow up phase</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
</tr>
<tr>
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<td>yes</td>
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<td></td>
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<tr>
<td>Experts Opinion</td>
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</table>
Project 2

Construction of embankment on Tysa River in Tyachiv
Project title
Construction of embankment on Tysa River in Tyachiv

Promoter
Authority/Company: Transcarpathian Regional Production Department for irrigation and water management
Address: 61a Zagorska St., Uzhgorod
Tel: 03122 31361
Fax: 03122 31334

Project Target
Protection of built-up city area and treatment facilities against Tysa flood water flooding.

Investment Cost
1,740,000 HRV (870,000 $US)

Status of Project
Ongoing project.
1. Project title
Construction of embankment on Tysa River in Tyachiv

2. Promoter Details

2.1. Authority/Company
Name: Transcarpathian Regional Production Department for irrigation and water management
Address: 61a Zagorska St., Uzhgorod
Tel: 03122 31361
Fax: 03122 31334

2.2. Contact Persons
Ivanytskiy Orest Mykhaylovych, Head of Regional Department for Water Management

2.3. Advisor/Consultant
Litvinov Mykola Dmytrovych, Chief Specialist of Regional Department for Water Management

2.4. Legal/Financial Status
As a subdivision of State Committee of Ukraine for Water Management it comes out as a client for antiflood measures in the region financed by national budget.
Annual turnover of last three years is 2.880.000 hrv.

2.5. Authority/Company Profile
The general tasks are: efficient utilization and protection of water resources; protection of population, national economy sites and facilities against damage caused by spring and storm flood, improvement of existing water management complex.

2.6. Planning/Implementing Capacity of the Authority
Projects for antiflood protection in the region are being developed according to the order of the Regional Department for Water Management and State "Integrated Schedule for antiflood measures for 1994 - 2000" as Ukrainian national budget funds are available.

2.7. Key Participants
Transcarpathian Regional Production Department for irrigation and water management
2.8. Key Operators
Proper water management organizations,
Erection - Mobile Mechanized Pack MMP-240
Operation - Tyachiv Department for drainage and antiflood facilities

3. Project Description

3.1. Project Outline
Area protection by means of banking and Tysa River bank stabilization

3.2. Primary Need for Project
Tysa flood water-flooding protection of built-up city area and treatment facilities.

3.3. Status of Project Reports
Erection is performed in accordance with planning and preliminary estimation documentation developed and approved.

3.4. Quality of Project Reports

<table>
<thead>
<tr>
<th></th>
<th>Feasibility Study</th>
<th>Detailed Design</th>
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<tr>
<td>English summary (yes/no)</td>
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</tbody>
</table>

3.5. Technology Proposed
Earthfill embankment 4.12 km and bank stabilization 0.69 km long

3.6. Site Context Definition
Status of proprietary rights – state property.

3.7. Specific Project Item
Additional description information is not available.
4. Area/Site Description/Interactions

4.1. Planning Permitting Status

Erection work is carried out according to the order of the Regional Department for Water Management and State "Integrated Schedule for antiflood measures for 1994 - 2000".

4.2. Regulatory Liaison to Date

Erection work is performed by Ukrainian organizations. Upper-Tysa Department for Water Management (Hungary) and foreign companies supplying the equipment will participate in adjustment and alignment work.

4.3. Public’s Expression of Interest

In 1970 Tyachiv was flooded; in 1992, 1993 and 1995 the area of its treatment facilities was underflooded. So, there is no doubt that Tyachiv population is interested in implementation of this project.

5. Environmental Assessment

5.1. Scale of Existing Impacts/Risks

<table>
<thead>
<tr>
<th>Quality</th>
<th>Soil</th>
<th>Water</th>
<th>Air</th>
<th>Ecosystem</th>
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</table>

Insufficiently purified and unpurified wastewater discharge of Uzhgorod CTF causes deterioration of Uzh River surface water quality characteristics -- a source of drinking water for Slovakian locations situated further with the stream. The probability of accidental discharge is very high.

5.2. Risk of Deterioration

Non-implementation of the project will lead to increased discharge of insufficiently purified wastewater -- and later of unpurified wastewater - to the Uzh River. First of all, this will result in water supply deterioration for the Slovakian locations, whose first intake is situated 3 kilometers from the place of Uzhgorod CTF discharging to the Uzh River.

5.3. Sensitivity of Locality/Receptor

The project has an impact on environmental situation in Uzh River - Bodrog River's tributary (Tysa).
5.4. Primary Benefits of Project

Project will have benefits on different geographical levels: local, regional, national and international.

5.5. Construction/Operational Impacts Evaluation:

<table>
<thead>
<tr>
<th>Quality</th>
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<tr>
<td>Experts Opinion</td>
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</tr>
</tbody>
</table>
Project 3

Complex utilization of timber with introduction of environmentally friendly technologies in Teresva Woodprocessing Enterprise
**Project title**

**Promoter**
Authority/Company: Closed joint-stock company Tersvyansk Woodprocesssing Enterprise
Address: 1 Zavodska St., Teresva, Tyachivsky Rayon
Tel: 21 246
Fax: 03134/22414

**Project Target**
Technological re-equipment according to advanced European technologies in order to produce environmentally clean products, termination of untreated wastewater discharge to Tisa River, establishment of low waste production

**Investment Cost**
5,000,000 $US

**Status of Project**
Planned project.
1. **Project title**
Complex utilization of timber with introduction of environmentally friendly technologies in Tersvyansk Woodprocessing Enterprise

2. **Promoter Details**

2.1. **Authority/Company**
Name: Closed joint-stock company Tersvyansk Woodprocessing Enterprise
Address: 1 Zavodska St., Teresva, Tyachivsky Rayon
Tel: 21 246
Fax: 03134/22414

2.2. **Contact Persons**
Bilanych Ivan Andriyovych, General Director

2.3. **Advisor/Consultant**
Not identified

2.4. **Legal/Financial Status**
Information not available

2.5. **Authority/Company Profile**
JSC Tersvyansk Woodprocessing Enterprise produces sawn timber, chip wood boards, pasted boards, sliced veneer, cabinet furniture - sets

2.6. **Planning/Implementing Capacity of the Authority**
Local authorities will promote development and implementation of projects

2.7. **Key Participants**
JSC Tersvyansk Woodprocessing Enterprise, Ivano-Frankivsk Planning and Construction Institute, "Bison Verke" company

2.8. **Key Operators**
JSC Tersvyansk Woodprocessing Enterprise, Ivano-Frankivsk Planning and Construction Institute, "Bison Verke" company
3. **Project Description**

3.1. **Project Outline**

Complex utilization of low quality timber and waste from logging and woodworking. Utilization of existing areas and saturation of them with advanced technologies and high-producing equipment made by Bison Verke and other companies. The project shall be implemented during 2-3 years for interest-free or low interest loans, both foreign and Ukrainian, their repayment during five years after reaching the design capacity. The project shall be implemented in two phases:

Phase I - reconstruction of chip wood boards factory, water purification works and furniture production

Phase II - other production facilities

3.2. **Primary Need for Project**

a. cleaning of industrial air emissions from pollutants: inorganic matters - HS, CO, SO, NO and organic limit, non-limit aromatic hydrocarbons, alcohols, ethers, aldehydes, ketones, formaldehyde and others. Air cleaning degree will be 80 to 98% due to usage of the special plant, as well as:

   - reuse of boiler house off-gas in the process of chip drying
   - intake of formaldehyde from presses and other equipment with scrubber and biofilters
   - use of boiler house blast air to heat thermal oil
   - operation of the production plant on solid fuel with the integrated thermo oil boiler to heat drying and press
   - use of filter plants to clean foul air and gases (formaldehyde, carbon and nitric oxides, acenone, solvents, varnishes, wood dust and others)
   - providing admissible normative width deviations for chip wood boards and the corresponding reduction in labor input for calibration and polishing of wood dust and other activities;

b. purification of water from organic compounds - petroleum derivatives, phenols of aromatic hydrocarbons, alcohols, organic acids, mercaptans and others, as well as from inorganic ones like sulfides, sulphates, nitrates, nitrides and others due to introduction of advanced technology and expansion of water treatment facilities, introduction of circulating water supply in production and others.

c. complex utilization of timber, in particular timber management, logging and woodworking will allow to avoid raw waste lumber in the areas, rivers, streams of the forest and low lumberyard.

3.3. **Status of Project Reports**

No investment for the current being
3.4. Quality of Project Reports

<table>
<thead>
<tr>
<th></th>
<th>Feasibility Study</th>
<th>Detailed Design</th>
<th>Construction/Implementation Report</th>
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<td>Ukr</td>
<td></td>
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</tbody>
</table>

3.5. Technology Proposed

High efficiency of the proposed project is achieved by the deep low waste technology of the local low quality lumber processing, introduction of new technologies, use of modern complex equipment, as well as almost complete processing of chip wood boards at the Enterprise.

The project is viable in both technical and economic terms and makes significant profit, which ensures loan repayment and operation of the main activities of the works.

3.6. Site Context Definition

Status of proprietary rights - joint stock property

3.7. Specific Project Item

No

4. Area/Site Description/Interactions

4.1. Planning Permitting Status

The project has passed sanitary, ecological and technical examination.

4.2. Regulatory Liaison to Date

Design works will be performed with involvement of design organizations of leading industrial design companies and Ivano-Frankivsk design institute.

Erection, adjustment and alignment work is planned to be performed by Ukrainian organizations and foreign companies supplying the equipment

4.3. Public’s Expression of Interest

Implementation of the project will allow to maintain the current number of personnel, to create additional new jobs due to more complete use of capacities. Increased capacities of treatment facilities at Tersvyansk Woodprocesssing Enterprise will allow to use them as municipal treatment facilities.
5. Environmental Assessment

5.1. Scale of Existing Impacts/Risks

<table>
<thead>
<tr>
<th>Quality</th>
<th>Impact Scale/Target</th>
</tr>
</thead>
<tbody>
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<tr>
<td>Expert Opinion</td>
<td>important</td>
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</tbody>
</table>

Current production equipment, treatment facilities for hazardous emissions are obsolete, their physical depreciation reaches 40%. It results in pollution of the environment with different matters. The enterprise is not able to meet limit permissible standards for emissions and discharges. Furthermore, burning fuel oil, gas, lumber waste at the works produces gaseous substances also adversely affecting the environment (NO\textsubscript{x}, CO\textsubscript{2}, CO). Exhaust aspiration air systems do not envisage filter systems directly at workbenches.

Due to imperfect technology, condition of aspiration-ventilation systems, the formaldehyde inside concentration 2,5-4 times exceeds the admissible level and accounts for 0,70-1,25 mg/m\textsuperscript{3}. No production meets permissible limits of air emissions, which should not exceed the following values: dust - not more than 1,0 g/sec, formaldehyde - not more than 0,12 g/sec, nitric oxide - not more than 1,23 g/sec, carboxide - not more than 6,43 g/sec. However they are significantly higher.

Water is used for both production and social needs. Chip wood board production uses water to prepare resin solutions, to wash equipment, containers, pipelines and fittings, to cool machinery. According to the norms, water consumption per 1 m\textsuperscript{3} of the manufactured board is 3,32 m\textsuperscript{3} or over 300,000 m\textsuperscript{3} annually.

Industrial wastewater in chip wood boards production originates from washing the equipment while specific pollutants are urea and formaldehyde resins and adhesives polluting the wastewater with formaldehyde (1 class hazardous).

5.2. Risk of Deterioration

Non-implementation of the project will lead to increased discharge of untreated wastewater containing organic compounds like petroleum derivatives, phenols, aromatic hydrocarbons, mercaptans, as well as inorganic compounds, increased ambient air emissions will not allow to adopt low waste production and manufacture of environmentally clean product.

5.3. Sensitivity of Locality/Receptor

The project has an impact on transboundary ambient air pollution of the neighboring Romania, on environmental situation in the settlement of Teresva and on water quality in Tisa River - Danube's tributary.
5.4. **Primary Benefits of Project**
Radical measures on reconstruction of chip wood boards plant, replacement of existing technology and equipment in order to ensure international environmental standards and production of environmentally clean product. Project will have benefits on different geographical levels: local, regional, national and international

5.5. **Construction/Operational Impacts Evaluation:**

<table>
<thead>
<tr>
<th>Quality</th>
<th>Construction/Implementation</th>
<th>Operation/Follow up phase</th>
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<tbody>
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<tr>
<td>Experts Opinion</td>
<td>Implementation of the project will allow to improve environmental, sanitary and epidemic situation in the region</td>
<td></td>
</tr>
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</table>
Project 4

Complex utilization of timber with introduction of environmentally friendly technologies in Velykobychkiv Wood Chemistry Enterprise
Project title
Complex utilization of timber with introduction of environmentally friendly technologies in Velykobyshkov Wood Chemistry Enterprise

Promoter
Authority/Company: Joint-stock company Velykobyshkov Wood Chemistry Enterprise
Address: 37 Promyslova St., V. Bychkiv, Rakhivsky Rayon
Tel: 21 514
Fax: 03132/21514

Project Target
Technological re-equipping according to advanced European technologies in order to stop intensive wastewater discharge from production of urea and formaldehyde resins to Shopurka River (tributary of Tisa River) with undertreated wastewater in the amount of 830,000 m³ per year.

Investment Cost
5,000,000 $US

Status of Project
Planned project.
1. **Project title**  
Complex utilization of timber with introduction of environmentally friendly technologies in Velykobychkiv Wood Chemistry Enterprise

2. **Promoter Details**

2.1. **Authority/Company**  
Closed joint-stock company  
Name: Joint-stock company Velykobychkiv Wood Chemistry Enterprise  
Address: 37 Promyslova St., V. Bychkiv, Rakhivsky Rayon  
Tel: 21 514  
Fax: 03132/21514

2.2. **Contact Persons**  
Kuzmyk Vasyl Mykhailovych, Director

2.3. **Advisor/Consultant**  
Not identified

2.4. **Legal/Financial Status**  
Joint stock company, financial information is not available

2.5. **Authority/Company Profile**  
JSC Velykobychkiv Wood Chemistry Enterprise produces the range of 20 products: charcoal, acetic acid technical, refined, reactive, food, methyl alcohol, thinner, formalin, glue-melt and other products

2.6. **Planning/Implementing Capacity of the Authority**  
Local authorities will promote development and implementation of projects

2.7. **Key Participants**  
JSC Velykobychkiv Wood Chemistry Enterprise

2.8. **Key Operators**  
JSC Velykobychkiv Wood Chemistry Enterprise
3. **Project Description**

3.1. **Project Outline**

Complex utilization of low quality timber and waste from logging and woodworking. Utilization of existing areas and saturation of them with advanced technologies and high-producing equipment made by Grill & Grossman and other companies. The project shall be implemented during 2-3 years for interest-free or low interest loans, both foreign and Ukrainian, their repayment during five years after reaching the design capacity.

3.2. **Primary Need for Project**

a. cleaning of industrial air emissions from pollutants: inorganic matters - HS, CO, SO, NO and organic limit, non-limit aromatic hydrocarbons, alcohols, ethers, aldehydes, ketones, formaldehyde and others;

b. purification of water from organic compounds - petroleum derivatives, phenols of aromatic hydrocarbons, alcohols, organic acids, mercaptans and others, as well as from inorganic ones like sulfides, sulphates, nitrates, nitrides and others due to introduction of advanced technology and expansion of water treatment facilities, reuse of water in production and others.

3.3. **Status of Project Reports**

No investment at the current time.

3.4. **Quality of Project Reports**

<table>
<thead>
<tr>
<th></th>
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<th>Detailed Design</th>
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<tr>
<td>English summary (yes/no)</td>
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</table>

3.5. **Technology Proposed**

Reconstruction of urea and formaldehyde resins workshop and transfer of this production to low waste. Reconstruction will increase annual resins output to 40 thousand tons compared to the current volume of 15 thousand tons. The proposals and preliminary planning were performed by "Grill & Grossman" /Austria/ in 1993. Austrian and German equipment is proposed to be used for reconstruction. For the first half of 1998 it is planned to commission a new workshop of activated carbon with the annual capacity of 50 tons.

The project is viable both technically and economically, it makes significant profit, which will ensure loans repayment and the main work of the enterprise.

3.6. **Site Context Definition**

Status of proprietary rights - joint stock property
3.7. Specific Project Item
No

4. Area/Site Description/Interactions

4.1. Planning Permitting Status
The project has passed sanitary, ecological and technical examination.

4.2. Regulatory Liaison to Date
Design works will be performed with involvement of design organizations of leading industrial design companies. Erection, adjustment and alignment work is planned to be performed by Ukrainian organizations and foreign companies supplying the equipment.

4.3. Public’s Expression of Interest
Implementation of the project will allow to maintain the current number of personnel, to create additional new jobs due to more complete use of capacities. Increased capacities of treatment facilities at Velykobychkiv Wood Chemistry Enterprise will allow to use them as municipal treatment facilities.

5. Environmental Assessment

5.1. Scale of Existing Impacts/Risks

<table>
<thead>
<tr>
<th>Quality</th>
<th>Impact Scale/Target</th>
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<tr>
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<td>None</td>
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<td>Expert Opinion</td>
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</tbody>
</table>

The environment of the settlement of Velyky Bychkiv, Rakhiv Rayon, is adversely affected by production activity of the wood Chemistry Enterprise, in particular production of urea and formaldehyde resins and acetic acid.

5.2. Risk of Deterioration
Non-implementation of the project will lead to increased discharge of untreated wastewater containing organic compounds like petroleum derivatives, phenols, aromatic hydrocarbons, mercaptans, as well as inorganic compounds, increased ambient air emissions will not allow to adopt low waste production.
5.3. Sensitivity of Locality/Receptor

The project has an impact on the ambient air quality, on environmental situation in the settlement of Velyky Bychkiv and on Tisa River - Danube's tributary.

5.4. Primary Benefits of Project

Radical measures on reconstruction of chip wood boards plant, replacement of existing technology and equipment in order to ensure international environmental standards and production of environmentally clean product. Project will have benefits on different geographical levels: local, regional, national and international.

Implementation of the project will allow to use new technologies to achieve purification of water from organic compounds: petroleum derivatives, phenols, aromatic hydrocarbons, mercaptans, and inorganic compounds, to expand treatment facilities; to stop discharge of untreated wastewater to Tisa River; to create low waste production and to manufacture environmentally clean product.

5.5. Construction/Operational Impacts Evaluation

<table>
<thead>
<tr>
<th>Quality</th>
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<th>Operation/Follow up phase</th>
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<tr>
<td>Experts Opinion</td>
<td>Implementation of the project will allow to improve environmental, sanitary and epidemic situation in the region</td>
<td></td>
</tr>
</tbody>
</table>
Project 5

Extension and reconstruction of Wastewater Treatment Facilities of Uzhgorod (3rd turn)
Project title
Extension and reconstruction of Wastewater Treatment Facilities of Uzhgorod (3rd turn)

Promoter
Authority/Company: "Uzhgorod Production Department for water supply and canalization", State Municipal Enterprise
Address: 1 Mytna St., Uzhgorod
Tel.: 363 10
Fax : 03 122 / 43 503.

Project Target
To provide standardized purification of wastewater to Uzhgorod treatment facilities, to terminate discharge of insufficiently purified wastewater.

Investment Cost
25.000.000 USD

Status of project
Planned project.
1. **Project Title**  
Reconstruction and extension of Uzhgorod Wastewater Treatment Facilities (3rd turn)

2. **Promoter Details**

2.1. **Authority/Company**  
Name: "Uzhgorod Production Department for water supply and canalization", State Municipal Enterprise  
Address: 1 Mytna St., Uzhgorod  
Tel.: 363 10  
Fax: 03 122 / 43 503.

2.2. **Contact Persons**  
Ganin Serhiy Genadiyovych

2.3. **Advisor/Consultant**  
Not identified

2.4. **Legal/Financial Status**  
With independent balance of economic activity

2.5. **Authority/Company Profile**  
Among the general tasks of the Department activity are the follow ones:  
- Yield, production, transportation and distribution of drinking water to consumers.  
- Intake, disposal and purification of wastewater.  
- Technical operation of city water supply and canalization system, support of its repair and operation.  
- Development of technical policy concerning development of water supply and wastewater purification.

Number of persons employed - 460.

2.6. **Planning/Implementing Capacity of the Authority**  
Local authorities will promote development and implementation of projects

2.7. **Key Participants**  
Client: "Uzhgorod Production Department for water supply and canalization", State Municipal Enterprise; Uzhgorod City Council
2.8. **Key Operators**
Not identified because of lack of financing

3. **Project Description**

3.1. **Project Outline**
Expansion and reconstruction of Uzhgorod canalization treatment facilities in complex with erection of Canalization Pump Plant # 4bis. Increase of treatment facilities daily capacity from 50,000 m$^3$ up to 200,000 (I complex), termination of annual discharge of insufficiently purified wastewater to boundary Uzh River (the tributary of Bodrog River, Tysa) in amount of 13,000,000 m$^3$.

At the current moment daily 100,000 m$^3$ of influent water comes in Uzhgorod treatment facilities whose daily capacity is 50,000 m$^3$. This results in insufficiently purified wastewater discharge to the boundary Uzh River - Bodrog River's tributary (Tysa) - at the annual amount of 13,000,000 m$^3$.

3.2. **Primary Need for Project**
The staff of the "Lvivgiprocombud" Research Institute has designed technical and economic basis for the construction of the 3rd stage, expansion and reconstruction of Uzhgorod canalization treatment facilities (CTF) including daily capacity increase from 50,000 m$^3$ to 200,000 m$^3$.

The technical and economic basis has been approved by proper institutions and passed state examination. In terms of 01/03/98 with the planning and surveying work costs of 82,630 hrv., the cost of the planning and surveying works performed by the staff of the Institute is 22,360 hrv., including 17,960 hrv. – according to the documentation of the 1st starting complex. The planning has been stopped because of lack of budget funds.

3.3. **Status of Project Reports**
No investment for the current being

3.4. **Quality of Project Reports**

<table>
<thead>
<tr>
<th></th>
<th>Feasibility Study</th>
<th>Detailed Design</th>
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<tr>
<td>English summary</td>
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There has been paid 311,000 hrv. (of 495,344 hrv.) for performing of preliminary estimation documentation, project examination, and performing of siting project.
3.5. Technology Proposed

1st starting complex consists of the following main facilities:

Intake box, grids lattices, primary sedimentation tanks, aerotanks, secondary sedimentation tanks, bioreactors, aerobic mineralizers, transformer substation, reservoirs, engineering communications, discharge station, etc.

Mechanical and total purification of wastewater using a complex of such facilities as racks, primary sedimentation tanks, aerotanks of a corridor type (used for biological purification), secondary sedimentation tanks, aftertreatment constructions, etc.

3.6. Site Context Definition

State municipal economy.

3.7. Specific Project Item

The complex should be passed to "Uzhgorod Production Department for water supply and canalization" for operation.

4. Area/Site Description/Interactions

4.1. Planning Permitting Status

The project has passed sanitary, ecological and technical examination.

4.2. Regulatory Liaison to Date

At the current moment lack of funds does not allow to get proper institutions involved in erection works.

4.3. Public’s Expression of Interest

Implementation of the project will allow to insure standardized wastewater purification, improve water quality in Uzh River, reduce the risk of water supply deterioration for those Slovakian locations, whose first intake is situated 3 kilometers from the place of Uzhgorod CTF discharging to the Uzh River.
5. Environmental Assessment

5.1. Scale of Existing Impacts/Risks

<table>
<thead>
<tr>
<th>Quality</th>
<th>Impact Scale/Target</th>
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<tbody>
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<tr>
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</table>

Insufficiently purified and unpurified wastewater discharge of Uzhgorod CTF causes deterioration of Uzh River surface water quality characteristics. Uzh River is a source of drinking water for Slovakian locations situated further with the stream. The probability of accidental discharge is very high.

5.2. Risk of Deterioration

Non-implementation of the project will lead to increased discharge of insufficiently purified wastewater – and later of unpurified wastewater - to the Uzh River. First of all, this will result in water supply deterioration for the Slovakian locations, whose first intake is situated 3 kilometers from the place of Uzhgorod CTF discharging to the Uzh River.

5.3. Sensitivity of Locality/Receptor

The project has an impact on environmental situation in Uzh River – Bodrog River’s tributary (Tysa).

5.4. Primary Benefits of Project

Implementation of the project will allow to increase treatment facilities daily capacity from 50,000 m$^3$ to 200,000 m$^3$. This will result in termination of insufficiently purified wastewater discharge. Project will have benefits on different geographical levels: local, regional, national and international.

5.5. Construction/Operational Impacts Evaluation:

<table>
<thead>
<tr>
<th>Quality</th>
<th>Construction/Implementation</th>
<th>Operation/Follow up phase</th>
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<tr>
<td>Experts Opinion</td>
<td>Implementation of the project will allow to improve environmental, sanitary and epidemic situation in the region</td>
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Project 6

Automatically controlled information measuring system for flood forecasting and Tysa River water resources management – 2nd stage (ACIM-Tysa)
**Project Title**
Automatically controlled information measuring system for flood forecasting and Tysa River water resources management – 2nd stage (ACIM-Tysa).

**Promoter**
Authority/Company: Transcarpathian Regional Production Department for irrigation and water management
Address: 61a Zagorska St., Uzhgorod
Tel: 03122 31361
Fax: 03122 31334

**Project Target**
Scientific support for flood and water resources pollution control; automation and expansion of control areas, of information acquisition and processing in intensive yield formation areas, of well-timed pollution detection, flood formation and behavior warning, and taking of proper measures in order to protect water resources against pollution and lands against flooding.
Creation of peripheral network of automatically controlled stations for on-site measuring of parameters (water level, temperature of water and air, reservoir filling level, degree of hydraulic facilities damage, etc.) and transmitting data through the communication system to information acquisition center.

**Investment Cost**
1.800.000 HRV (900.000 $US)

**Status of Project**
Planned project.
1. **Project Title**

Automatically controlled information measuring system for flood forecasting and Tysa River water resources management – 2\textsuperscript{nd} stage (ACIM-Tysa)

2. **Promoter Details**

2.1. **Authority/Company**

Name: Transcarpathian Regional Production Department for irrigation and water management

Address: 61a Zagorska St., Uzhgorod

Tel: 03122 31361

Fax: 03122 31334

2.2. **Contact Persons**

Ivanytskiy Orest Mykhaylovych, Head of Regional Department for Water Management

2.3. **Advisor/Consultant**

Chipak Volodymyr Petrovyych, Chief Engineer of Regional Department for Water Management

2.4. **Legal/Financial Status**

As a subdivision of State Committee of Ukraine for Water management it comes out as a client for antiflood measures in the region financed by national budget.

Annual turnover of last three years is 2.880.000 hrv.

2.5. **Authority/Company Profile**

The general tasks are: efficient utilization and protection of water resources; protection of population, national economy sites and facilities against damage caused by spring and storm flood, improvement of existing water management complex.

2.6. **Planning/Implementing Capacity of the Authority**

Projects for antiflood protection in the region are being developed according to the order of the Regional Department for Water Management and State "Integrated Schedule for antiflood measures for 1994 - 2000” as Ukrainian national budget funds are available.

Implementation of the schedule is as follows (January, 1998):

<table>
<thead>
<tr>
<th></th>
<th>Schedule for 1994-2000, km</th>
<th>Work fulfilled during 1994-1997, km</th>
<th>Average annual productivity, km</th>
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</thead>
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<td>Reconstruction and erection of embankments</td>
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<tr>
<td>Bank protection</td>
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<td>20,2</td>
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</table>
Because of the lack of state budget financing allocated for the project implementation regional department for water management proposes to involve investments of international funds in order to construct the 2\textsuperscript{nd} stage of ACIM - Tysa.

### 2.7. Key Participants

Transcarpathian Regional Production Department for irrigation and water management and Regional Upper-Tysa Department for water management of Hungary as a contractor.

### 2.8. Key Operators

Transcarpathian Regional Department for irrigation and water management

### 3. Project Description

#### 3.1. Project Outline

1\textsuperscript{st} and 2\textsuperscript{nd} stages of ACIM-Tysa: to erect center for information acquisition and processing with technological support in Uzhgorod, to establish direct connection in order to provide information exchange between Uzhgorod center and corresponding center of Upper-Tysa Department for water management in Niredkhaza (Hungary).

#### 3.2. Primary Need for Project

According to the project of the 2\textsuperscript{nd} stage of ACIM-Tysa system creation (the 1\textsuperscript{st} stage is currently being erected), erection of first 7-10 automatically controlled stations in Ukrainian area of Tysa River is planned. In future the number of stations is to be increased up to 25. This will allow to perform complete flood forecast in automatic mode and to simulate possible versions of antiflood protection in upper part of Tysa area in Ukraine and Hungary.

Flood control and protection of water resources against pollution are the most topical problems in Tysa River area. Since Tysa is one of the largest tributaries of Danube these problems are concern of neighboring regions of Ukraine, Romania, Hungary, Slovakia, i.e. they are international.

Current flood-warning service is not perfect at the terms of both limitations of information areas and primitive technology of observation and meteorological information acquisition, transmission and processing.

Establishing of ACIM-Tysa is aimed to provide scientific support for flood and pollution control programme. It will give an opportunity of implementing an automation and expansion of information acquisition, transmission and processing in intensive yield formation areas (mountain and foothills areas) necessary for well-timed pollution detection, flood formation and behavior warning, and taking of proper measures in order to protect water resources against pollution and lands against flooding.

#### 3.3. Status of Project Reports

Additional information is available if necessary.
3.4. Quality of Project Reports

<table>
<thead>
<tr>
<th></th>
<th>Feasibility Study</th>
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<tr>
<td>English summary (yes/no)</td>
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</table>

Technical documentation for the 2\textsuperscript{nd} stage of ACIM-Tysa is planned to be drawn up in 1998 at the expense of international funds.

3.5. Technology Proposed

ACIM-Tysa system will be implemented in terms of phases in 2 stages:

1\textsuperscript{st} stage: hydrologic data and information on water facilities acquisition is carried out using traditional methods, afterwards data is being stored in computer database in order to provide information exchange with neighboring countries, forecast drawing up and advising on failure-proof flood passing.

2\textsuperscript{nd} stage: erection of first 7-10 automatically controlled stations in Ukrainian area of Tysa River. Their simultaneous operation with Hungarian meteorological radar would allow to estimate a threat of flood in Tysa River area. In future the number of stations is to be increased up to 25. This will allow to perform complete flood forecast in automatic mode and to simulate possible versions of antiflood protection in upper part of Tysa area in Ukraine and Hungary.

3.6. Site Context Definition

Status of proprietary rights – state property.

3.7. Specific Project Item

The complex should be passed to "Uzhgorod Production Department for water supply and canalization" for operation.

4. Area/Site Description/Interactions

4.1. Planning Permitting Status

According to international experience, creation of automatically controlled systems similar to ACIM-Tysa System in Germany (Rheine area) and Netherlands is possible only in co-operation with experts of all countries suffering from pollution ad harm made by water, with financial support of international organizations and funds. Such conclusion has been made by experts of Ukraine, Hungary, Romania, Sweden and Denmark at their meeting in Niredkhaza (Hungary, April 23-24, 1996). As far as we know, institutions of Hungary, Romania and Slovakia involve international funds to implement automatically controlled water facilities information measuring and transmission systems.
4.2. Regulatory Liaison to Date
Erection work is performed by Ukrainian organizations. Upper-Tysa Department for Water Management (Hungary) and foreign companies supplying the equipment will participate in adjustment and alignment work.

4.3. Public’s Expression of Interest
Inhabitants of Ukrainian, Hungarian, Romanian and Slovakian regions situated in the upper part of Tysa River area expect that the problem of flood protection will be solved soon. There is no doubt that they are interested in the implementation of ACIM-Tysa project.

5. Environmental Assessment

5.1. Scale of Existing Impacts/Risks

<table>
<thead>
<tr>
<th>Quality</th>
<th>Impact Scale/Target</th>
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<tbody>
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<tr>
<td>Expert Opinion</td>
<td>important</td>
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</table>

Flooding of the territory causes deterioration of the environmental situation and landscape, and inflicts both mental and material loss. Implementation of the project will have a positive impact on all the risks.

5.2. Risk of Deterioration

Non-implementation of the project will make impossible creation of up-to-date system of monitoring and information transmission within the area of flood formation and well-timed sufficient measures at the territory of 12.500 km² (Tysa River area within Transcarpathian Region of Ukraine) of 18.300 km² (this territory includes 5.500 km² of Hungarian part of Tysa River area which is already automated).

5.3. Sensitivity of Locality/Receptor

Thickly populated areas of Transcarpathian lowland, of Tysa River valley and its right-hand tributaries (Uzh, Latovitsa, Borzhava, Rika, Tereblya, Teresva), where most of the plants are situated.
5.4. Primary Benefits of Project

Implementation of the project will allow to carry out prompt and long-term measures on protection of population and national economy sites against flood, and water resources - against pollution on all geographical levels: Local, regional, national and international, considering the follows:

- Location of the neighboring regions of Ukraine, Romania, Hungary and Slovakia in Tysa River area.
- 40% of the Tysa’s annual yield is produced within the Transcarpathian region of Ukraine (its area is less than 10% of the Tysa River area); 55 - 70% of this yield is produced during the flood period.
- Most of flood is produced in the mountain part of Tysa River area and has a very high speed. Thus often it is destructive and disastrous.

5.5. Construction/Operational Impacts Evaluation

<table>
<thead>
<tr>
<th>Quality</th>
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<th>Operation/Follow up phase</th>
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<td>Experts Opinion</td>
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Project 7

Priority measures on protection against flooding and improvement of sanitary and epidemic situation in Vilkovo
Project Title
Priority measures on protection against flooding and improvement of sanitary and epidemic situation in Vilkovo.

Promoter
Authority/Company: Department for housing and municipal engineering and energy economy of Odessa Region State Administration.
Address: 37 Pushkinska St., Odessa
Tel: (0482) 22 32 18
Fax: (0482) 22 60 39

Project Target
To improve environmental situation and water supply of the least satisfactory (at the aspect of the sanitary and epidemic situation) parts of Vilkovo, elimination of the threat of dwelling flooding

Investment Cost
1.700.000 HRV (8.500.000 $US)

Status of project
Planned project.
1. **Project Title**
Priority measures on protection against flooding and improvement of sanitary and epidemic situation in Vilkovo.

2. **Promoter Details**

2.1. **Authority/Company**
Name: Department for housing and municipal engineering and energy economy of Odessa Region State Administration
Address: 37 Pushkinska St., Odessa
Tel: (0482) 22 32 18
Fax: (0482) 22 60 39

2.2. **Contact Persons**
Siyanko Oleksandr Mykhaylovych, Head of Department of Capital Development; tel.: (0482) 22 84 71

2.3. **Advisor/Consultant**
Chegurkov Grygoriy Borysovych, Technical Director of “Ukrpivdenvodgosp” Institute 2.4

2.4. **Legal/Financial Status**
Public authority

2.5. **Authority/Company Profile**
Among the general tasks of department activity are the following ones:
- Yield, production, transportation, and distribution of drinking water to consumers.
- Intake, disposal and purification of wastewater.
- Technical operation of city water supply and canalization system, support of its repair and operation.
- Development of technical policy concerning water works and wastewater purification development.

Number of persons employed is 520

2.6. **Planning/Implementing Capacity of the Authority**
Lack of financial resources; local authorities will promote development and implementation of projects
2.7. **Key Participants**
Client: Department for housing and municipal engineering and energy economy

2.8. **Key Operators**
“Odesakomunproekt”, Institute Contractor: “Dunayvodbud”

3. **Project Description**

3.1. **Project Outline**
To erect embankment in Pridunaysky St., to bury the shallow channel fragments in B. Khmelnitsky St. in order to run water supply line, to break a solid covered road and to reconstruct shallow channels running between Ochakiv mouth and Radyanska St.

3.2. **Primary Need for Project**
Complex of work defined in the project will allow to provide the least satisfactory (at the aspect of the sanitary and epidemic situation) parts of Vilkovo with drinking water and to eliminate the threat of dwelling flooding

3.3. **Status of Project Reports**
The project has passed sanitary, ecological and technical examination

3.4. **Quality of Project Reports**

<table>
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3.5. **Technology Proposed**
To erect the embankment, to bury the shallow channel fragments, to run the water supply line, to break the road

3.6. **Site Context Definition**
Municipal property
3.7. Specific Project Item
Cholera locations arise occasionally in the region

4. Area/Site Description/Interactions

4.1. Planning Permitting Status
The project has passed sanitary, ecological and technical examination.

4.2. Regulatory Liaison to Date
At the current moment lack of funds does not allow to get proper institutions involved in erection works

4.3. Public’s Expression of Interest
Implementation of the project will allow to insure the safety of life for city inhabitants and to improve environmental situation

5. Environmental Assessment

5.1. Scale of Existing Impacts/Risks

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Further flooding of Vilkovo, deterioration of the sanitary and epidemic situation.

5.2. Risk of Deterioration
Further flooding of Vilkovo, deterioration of the sanitary and epidemic situation.

5.3. Sensitivity of Locality/Receptor
The project has an impact on ecological, sanitary and epidemic situation in unique Danube delta ecosystem.

5.4. Primary Benefits of Project
Project will have benefits on different geographical levels: local, regional, national and international
## 5.5. Construction/Operational Impacts Evaluation

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<tr>
<td>Experts Opinion</td>
<td>Implementation of the project will allow to improve environmental, sanitary and epidemic situation in the region</td>
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Project 8

Kiliya protection against flooding (emergency measures)
**Project Title**
Kiliya protection against flooding (emergency measures).

**Promoter**
Authority/Company: Department for housing and municipal engineering and energy economy of Odessa Region State Administration.
Address: 37 Pushkinska St., Odessa
Tel: (0482) 22 32 18
Fax: (0482) 22 60 39

**Project Target**
Protection of Kiliya built-up area of personal plots against wastewater flooding, improvement of environmental, sanitary and epidemic situation

**Investment Cost**
3.800.000 HRV (1.900.000 $US)

**Status of Project**
Planned project.
1. **Project Title**
Kiliya protection against flooding (emergency measures).

2. **Promoter Details**

2.1. **Authority/Company**
Name: Department for housing and municipal engineering and energy economy of Odessa Region State Administration
Address: 37 Pushkinska St., Odessa
Tel: (0482) 22 32 18
Fax: (0482) 22 60 39

2.2. **Contact Persons**
Siyanko Oleksandr Mykhaylovych, Head of Department of Capital Development tel.: (0482) 22 84 71

2.3. **Advisor/Consultant**
Chegurkov Grygoriy Borysovych, Technical Director of “Ukrpivdenvodgosp” Institute

2.4. **Legal/Financial Status**
State enterprise

2.5. **Authority/Company Profile**
Among the general tasks of Department activity are the following ones:
- Yield, production, transportation, and distribution of drinking water to consumers.
- Intake, disposal and purification of wastewater.
- Technical operation of city water supply and canalization system, support of its repair and operation.
- Development of technical policy concerning water works and wastewater purification development.
Number of persons employed is 520

2.6. **Planning/Implementing Capacity of the Authority**
Local authorities will promote development and implementation of project.

2.7. **Key Participants**
Client: Department for housing and municipal engineering and energy economy
2.8. Key Operators
Designer Institution: “Odesakomunproekt” Institute Contractor: “Dunayvodbud”

3. Project Description

3.1. Project Outline
Construction of yield collecting channel in west and north parts of Kiliya, reconstruction of reservoir in Dzerzhinskogo St., construction of subsurface drain.

3.2. Primary Need for Project
Implementation of the project will insure protection of Kiliya built-up area of personal plots against wastewater flooding, normalization of medical hygiene situation, improvement of environmental situation

3.3. Status of Project Reports
The project has passed sanitary, ecological and technical examination

3.4. Quality of Project Reports

<table>
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3.5. Technology Proposed

3.6. Site Context Definition
State municipal economy.

3.7. Specific Project Item
Cholera locations arise occasionally in the region
4. Area/Site Description/Interactions

4.1. Planning Permitting Status
The project has passed sanitary, ecological and technical examination.

4.2. Regulatory Liaison to Date
At the current moment lack of funds does not allow to get proper institutions involved in erection works

4.3. Public’s Expression of Interest
Implementation of the project will allow to insure safe conditions for population, to improve environmental situation and to reduce emission of pollutants from diffuse producers.

5. Environmental Assessment

5.1. Scale of Existing Impacts/Risks

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5.2. Risk of Deterioration
Flood water flooding of Kiliya results in contaminated water concentration and deterioration of Danube surface water and Kiliya underwater quality characteristics. Since Kiliya is situated at a distance of 30 km from the Danube mouth and Danube area wetlands the probability of emergency yield exists.

5.3. Sensitivity of Locality/Receptor
The project has an impact on ecological, sanitary and epidemic situation in unique Danube delta ecosystem.

5.4. Primary Benefits of Project
Project will have benefits on different geographical levels: local, regional, national and international
## 5.5. Construction/Operational Impacts Evaluation

<table>
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<th>Quality</th>
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<tr>
<td>Experts Opinion</td>
<td>Implementation of the project will allow to improve environmental, sanitary and epidemic situation in the region</td>
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Project 9

Creation of the Wastewater Treatment Facilities in Reni
**Project Title**
Creation of the Wastewater Treatment Facilities in Reni.

**Promoter**
Authority/Company: Department for housing and municipal engineering and energy economy of Odessa Region State Administration.
Address: 37 Pushkinska St., Odessa
Tel: (0482) 22 32 18
Fax:(0482) 22 60 39

**Project Target**
Standardized purification of wastewater coming through to treatment facilities of Reni, termination of insufficiently purified wastewater discharge.

**Investment Cost**
5.600.000 HRV (2.800.000 $US)

**Status of Project**
Planned project.
1. **Project Title**  
Creation of the Wastewater Treatment Facilities in Reni.

2. **Promoter Details**

2.1. **Authority/Company**  
Name: Department for housing and municipal engineering and energy economy of Odessa Region State Administration, Reni Seaport  
Address: 37 Pushkinska St., Odessa  
Tel: (0482)  22 32 18  
Fax: (0482) 22 60 39

2.2. **Contact Persons**  
Siyanko Oleksandr Mykhaylovych, Head of Department of Capital Development  
tel.: (0482) 22 84 71

2.3. **Advisor/Consultant**  
Tyurev William Fedorovych, Technical Director of “Odesakomunproekt” Institute

2.4. **Legal/Financial Status**  
Public authority, regional executive authority

2.5. **Authority/Company Profile**  
Among the general tasks of Department activity are the following ones:  
- Yield, production, transportation, and distribution of drinking water to consumers.  
- Intake, disposal and purification of wastewater.  
- Technical operation of city water supply and canalization system, support of its repair and operation.  
- Development of technical policy concerning water works and wastewater purification development.  

Number of persons employed is 520

2.6. **Planning/Implementing Capacity of the Authority**  
Lack of financial resources; local authorities will promote development and implementation of projects.

2.7. **Key Participants**  
Client: Department for housing and municipal engineering and energy economy
2.8. Key Operators
OdessaKomunproekt”, Institute Contractor: “Dunayvodbud”

3. Project Description

3.1. Project Outline
Erection of new canalization treatment facilities with daily capacity of 10,000 m$^3$.

3.2. Primary Need for Project
Treatment and aftertreatment facilities listed in the project allow to improve the quality of yield to the amount of 5.8 mg/liter, suspension substance – to 3 mg/liter according to the requirements of environmental protection legislation.

3.3. Status of Project Reports
The project has passed sanitary, ecological and technical examination

3.4. Quality of Project Reports

<table>
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<tr>
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3.5. Technology Proposed
Mechanical and total purification of wastewater using a complex of facilities such as racks, primary sedimentation tanks, biological purification aerotanks of a corridor type (used for biological purification), secondary sedimentation tanks, aftertreatment facilities.

3.6. Site Context Definition
Municipal property

3.7. Specific Project Item
Cholera locations arise occasionally in the region
4. Area/Site Description/Interactions

4.1. Planning Permitting Status
The project has passed sanitary, ecological and technical examination.

4.2. Regulatory Liaison to Date.
At the current moment lack of funds does not allow to get proper institutions involved in erection works.

4.3. Public’s Expression of Interest
Implementation of the project will allow to insure standardized wastewater purification, improve water quality in Danube River, reduce the risk of environmental situation deterioration in the area of Danube River delta.

5. Environmental Assessment

5.1. Scale of Existing Impacts/Risks

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Insufficiently purified and unpurified wastewater discharge of Reni CTF causes deterioration of the quality characteristics of Danube River surface water directly near Danube River delta.

5.2. Risk of Deterioration
Non-implementation of the project will lead to increased discharge of insufficiently purified wastewater and unpurified wastewater to Danube River. First of all, this will result in water quality deterioration. It will also harm such sensitive environmental system as Danube delta.

5.3. Sensitivity of Locality/Receptor
The project has an impact on ecological, sanitary and epidemic situation in unique Danube delta ecosystem.

5.4. Primary Benefits of Project
Project will have benefits on different geographical levels: local, regional, national and international
### 5.5. Construction/Operational Impacts Evaluation

<table>
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<td>Experts Opinion</td>
<td>Implementation of the project will allow to improve environmental, sanitary and epidemic situation in the region</td>
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Project 10

Construction of Vilkovo Wastewater Treatment Facilities
**Project Title**
Construction of Vilkovo Wastewater Treatment Facilities.

**Promoter**
Authority/Company: Department for housing and municipal engineering and energy economy of Odessa Region State Administration.
Address: 37 Pushkinska St., Odessa
Tel: (0482) 22 32 18
Fax: (0482) 22 60 39

**Project Target**
Protection of Vilkovo built-up area of personal plots against wastewater flooding, improvement of environmental, sanitary and epidemic situation

**Investment Cost**
13.000.000 HRV (6.500.000 $US).

**Status of Project**
Planned project.
1. **Project Title**

Construction of Vilkove Wastewater Treatment Facilities.

2. **Promoter Details**

2.1. **Authority/Company**

Name: Department for housing and municipal engineering and energy economy of Odessa Region State Administration

Address: 37 Pushkinska St., Odessa

Tel: (0482) 22 32 18

Fax: (0482) 22 60 39

2.2. **Contact Persons**

Siyanko Oleksandr Mykhaylovych, Head of Department of Capital Development
tel.: (0482) 22 84 71

2.3. **Advisor/Consultant**

Tyurev William Fedorovych, Technical Director of “Odesakomunproekt” Institute

2.4. **Legal/Financial Status**

Public authority, regional executive authority

2.5. **Authority/Company Profile**

Among the general tasks of Department activity are the following ones:

- Yield, production, transportation, and distribution of drinking water to consumers.
- Intake, disposal and purification of wastewater.
- Technical operation of city water supply and canalization system, support of its repair and operation.
- Development of technical policy concerning water works and wastewater purification development.

Number of persons employed is 520

2.6. **Planning/Implementing Capacity of the Authority**

Lack of financial resources; local authorities will promote development and implementation of projects.

2.7. **Key Participants**

Client: Department for housing and municipal engineering and energy economy
2.8. Key Operators
“Odesakomunproekt”, Institute Contractor: “Dunayvodbud”

3. Project Description

3.1. Project Outline
Erection of new canalization treatment facilities with daily capacity of 4.000 m³ and complete biological treatment and aftertreatment facilities with the daily capacity of 3.000 m³.

3.2. Primary Need for Project
Treatment and aftertreatment facilities listed in the project allow to improve the quality of yield to the amount of 5,8 mg/liter, suspension substance – to 3 mg/liter according to the requirements of environmental protection legislation.

3.3. Status of Project Reports
The project has passed sanitary, ecological and technical examination

3.4. Quality of Project Reports

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3.5. Technology Proposed
Mechanical and total purification of wastewater using a complex of facilities such as racks, primary sedimentation tanks, biological purification aerotanks of a corridor type (used for biological purification), secondary sedimentation tanks, aftertreatment facilities

3.6. Site Context Definition
Municipal property

3.7. Specific Project Item
Cholera locations arise occasionally in the region
4. Area/Site Description/Interactions

4.1. Planning Permitting Status
The project has passed sanitary, ecological and technical examination.

4.2. Regulatory Liaison to Date
At the current moment lack of funds does not allow to get proper institutions involved in erection works

4.3. Public’s Expression of Interest
Implementation of the project will allow to insure standardized wastewater purification, improve water quality in Danube River, reduce the risk of environmental situation deterioration in the area of Danube River delta.

5. Environmental Assessment

5.1. Scale of Existing Impacts/Risks

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Insufficiently purified and unpurified wastewater discharge of Vilkove CTF causes deterioration of the quality characteristics of Danube River surface water directly near Danube River delta.

5.2. Risk of Deterioration
Non-implementation of the project will lead to increased discharge of insufficiently purified wastewater and unpurified wastewater to Danube River. First of all, this will result in water quality deterioration. It will also harm such sensitive environmental system as Danube delta.

5.3. Sensitivity of Locality/Receptor
The project has an impact on ecological, sanitary and epidemic situation in unique Danube delta ecosystem.

5.4. Primary Benefits of Project
Project will have benefits on different geographical levels: local, regional, national and international.
### 5.5. Construction/Operational Impacts Evaluation

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Project 11

Extension of the Wastewater Treatment Facilities in the Izmail Paper Factory (city WWTP)
Project Title
Extension of the Wastewater Treatment Facilities in the Izmail Paper Factory (city WWTP)

Promoter
Authority/Company: Department for housing and municipal engineering and energy economy of Odessa Region State Administration.
Address: 37 Pushkinska St., Odessa
Tel: (0482) 22 32 18
Fax: (0482) 22 60 39

Project Target
Standardized purification of wastewater coming through to treatment facilities of Reni, termination of insufficiently purified wastewater discharge

Investment Cost
7.200.000 HRV (3.600.000 $US).

Status of Project
Planned project.
1. **Project Title**

Extension of the Wastewater Treatment Facilities in the Izmail Paper Factory (city WWTP)

2. **Promoter Details**

2.1. **Authority/Company**

Name: Department for housing and municipal engineering and energy economy of Odessa Region State Administration, Izmail Paper and Pulp Plant
Address: 37 Pushkinska St., Odessa
Tel: (0482) 22 32 18
Fax: (0482) 22 60 39

2.2. **Contact Persons**

Siyanko Oleksandr Mykhaylovych, Head of Department of Capital Development
tel.: (0482) 22 84 71

2.3. **Advisor/Consultant**

Tyurev William Fedorovych, Technical Director of “Odesakomunproekt” Institute

2.4. **Legal/Financial Status**

Public authority, regional executive authority

2.5. **Authority/Company Profile**

Among the general tasks of Department activity are the following ones:
- Yield production, transportation, and distribution of drinking water to consumers.
- Intake, disposal and purification of wastewater.
- Technical operation of city water supply and canalization system, support of its repair and operation.
- Development of technical policy concerning water works and wastewater purification development.

Number of persons employed is 520

2.6. **Planning/Implementing Capacity of the Authority**

Lack of financial resources; local authorities will promote development and implementation of projects.
2.7. **Key Participants**
Client: Department for housing and municipal engineering and energy economy, Izmail Paper and Pulp Plant

2.8. **Key Operators**
“Odesakomunproekt”, Institute Contractor: “Dunayvodbud”

3. **Project Description**

3.1. **Project Outline**
Increase of the plant daily capacity from 24,000 m³ up to 50,000 m³ with regard to the city wastewater intake and purification

3.2. **Primary Need for Project**
Treatment and aftertreatment facilities listed in the project allow to improve the quality of yield to the amount of 5.8 mg/liter, suspension substance – to 3 mg/liter according to the requirements of environmental protection legislation.

3.3. **Status of Project Reports**
The project has passed sanitary, ecological and technical examination

3.4. **Quality of Project Reports**

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3.5. **Technology Proposed**
Mechanical and total purification of wastewater using a complex of facilities such as racks, primary sedimentation tanks, biological purification aerotanks of a corridor type (used for biological purification), secondary sedimentation tanks, aftertreatment facilities

3.6. **Site Context Definition**
Municipal property
3.7. **Specific Project Item**
Cholera locations arise occasionally in the region

4. **Area/Site Description/Interaction**

4.1. **Planning Permitting Status**
The project has passed sanitary, ecological and technical examination.

4.2. **Regulatory Liaison to Date**
At the current moment lack of funds does not allow to get proper institutions involved in erection works

4.3. **Public’s Expression of Interest**
Implementation of the project will allow to insure standardized wastewater purification, improve water quality in Danube River, reduce the risk of environmental situation deterioration in the area of Danube River delta.

5. **Environmental Assessment**

5.1. **Scale of Existing Impacts/Risks**

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Insufficiently purified and unpurified wastewater discharge of Vilkove CTF causes deterioration of the quality characteristics of Danube River surface water directly near Danube River delta

5.2. **Risk of Deterioration**
Non-implementation of the project will lead to increased discharge of insufficiently purified wastewater and unpurified wastewater to Danube River. First of all, this will result in water quality deterioration. It will also harm such sensitive environmental system as Danube delta.

5.3. **Sensitivity of Locality/Receptor**
The project has an impact on ecological, sanitary and epidemic situation in unique Danube delta ecosystem.
5.4. Primary Benefits of Project

Project will have benefits on different geographical levels: local, regional, national and international

5.5. Construction/Operational Impacts Evaluation

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<td>Experts Opinion</td>
<td>Implementation of the project will allow to improve environmental, sanitary and epidemic situation in the region</td>
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Project 12

Vilkovo city-channels erec reconstruction
Project Title
Vilkovo city-channels erec reconstruction

Promoter
Authority/Company: Department for housing and municipal engineering and energy economy of Odessa Region State Administration.
Address: 37 Pushkinska St., Odessa
Tel: (0482) 22 32 18
Fax: (0482) 22 60 39

Project Target
To insure water exchange in shallow channels in order to improve sanitary and epidemic situation in Vilkovo and Danube delta area and to protect historical peculiarity of Vilkovo as of “Ukrainian Venice”.

Investment Cost
4.800.000 HRV (2.400.000 $US).

Status of Project
Planned project.
1. **Project Title**
Vilkovo city-channels erec reconstruction

2. **Promoter Details**

2.1. **Authority/Company**
Name: Department for housing and municipal engineering and energy economy of Odessa Region State Administration
Address: 37 Pushkinska St., Odessa
Tel: (0482) 22 32 18
Fax: (0482) 22 60 39

2.2. **Contact Persons**
Siyanko Oleksandr Mykhaylovych, Head of Department of Capital Development; tel.: (0482) 22 84 71

2.3. **Advisor/Consultant**
Chegurkov Grygoriy Borysovych, Technical Director of “Ukrpivdenvodgosp” Institute

2.4. **Legal/Financial Status**
Public authority

2.5. **Authority/Company Profile**
Among the general tasks of Department activity are the following ones:
- Yield production, transportation, and distribution of drinking water to consumers.
- Intake, disposal and purification of wastewater.
- Technical operation of city water supply and canalization system, support of its repair and operation.
- Development of technical policy concerning water works and wastewater purification development.

Number of persons employed is 520

2.6. **Planning/Implementing Capacity of the Authority**
Lack of financial resources; local authorities will promote development and implementation of projects.

2.7. **Key Participants**
Client: Department for housing and municipal engineering and energy economy
2.8. **Key Operators**

“Odesakomunproekt”, Institute Contractor: “Dunayvodbud”

3. **Project Description**

3.1. **Project Outline**

To clear and to deepen the major shallow channel and some of minor ones, to run a new network of shallow channels between the city and the navigable channel in order to provide water discharge to Bilgorod channel and to the Black Sea

3.2. **Primary Need for Project**

To insure water exchange in shallow channels in order to improve sanitary and epidemic situation in Vilkovo and Danube delta area and to protect historical peculiarity of Vilkovo as of “Ukrainian Venice”.

3.3. **Status of Project Reports**

The project has passed sanitary, ecological and technical examination

3.4. **Quality of Project Reports**

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3.5. **Technology Proposed**

Mechanical and total purification of wastewater using a complex of facilities such as racks, primary sedimentation tanks, biological purification aerotanks of a corridor type (used for biological purification), secondary sedimentation tanks, aftertreatment facilities

3.6. **Site Context Definition**

Municipal property

3.7. **Specific Project Item**

Cholera locations arise occasionally in the region
4. Area/Site Description/Interaction

4.1. Planning Permitting Status
The project has passed sanitary, ecological and technical examination.

4.2. Regulatory Liaison to Date
At the current moment lack of funds does not allow to get proper institutions involved in erection works

4.3. Public’s Expression of Interest
Implementation of the project will allow insuring safety of life and improving environmental situation

5. Environmental Assessment

5.1. Scale of Existing Impacts/Risks

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5.2. Risk of Deterioration
The further pollution and water exchange slowing down in the shallow channels results in eutrophication of these channels and water quality deterioration, underflooding of Vilkovo and disappearing of unique landscapes of the Danube delta.

5.3. Sensitivity of Locality/Receptor
The project has an impact on ecological, sanitary and epidemic situation in unique Danube delta ecosystem.

5.4. Primary Benefits of Project
Project will have benefits on different geographical levels: local, regional, national and international
5.5. Construction/Operational Impacts Evaluation

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<td>Implementation of the project will allow to improve environmental, sanitary and epidemic situation in the region</td>
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Project 13

Extension and reconstruction of the Kolomiya Wastewater Treatment Facilities up to 45,000 m$^3$ capacity
**Project Title**
Extension and reconstruction of the Kolomiya Wastewater Treatment Facilities up to 45,000 m³ capacity

**Promoter**
Authority/Company: Ivano-Frankivsk Regional Administration, Regional Administration Department for Capital Development
Address: 67 Galitska St., Ivano-Frankivsk
Tel: 031 225 2215

**Project Target**
Improvement of Prut River water quality as a result of the capacity increase and Kolomiya waste water purification system development

**Investment Cost**
16,600,000 HRV (8,800,000 $US)

**Status of Project**
Planned project.
1. Project Title
Extension and reconstruction of the Kolomiya Wastewater Treatment Facilities up to 45,000 m³ capacity

2. Promoter Details

2.1. Authority/Company
Name: Ivano-Frankivsk Regional Administration, Regional Administration Department for Capital Development
Address: 67 Galitska St., Ivano-Frankivsk
Tel: 031 225 2215
Fax: 031 225 2215

2.2. Contact Persons
Odukha Mykola Serhiovych, Director of “Lvivgiprokomunbud” Institute, tel.: (032) 75 1254

2.3. Advisor/Consultant
“Lvivgiprokomunbud” Institute, address: 6 Bohomoltsa St., Lviv tel.: (032) 1254

2.4. Legal/Financial Status
Public authority, information on the annual turnover of last 3 years is not available

2.5. Authority/Company Profile
General task is to design and maintain erection and operation of the municipal sites including wastewater treatment facilities

2.6. Planning/Implementing Capacity of the Authority
Lack of resources needed to plan and implement projects

2.7. Key Participants
Ivano-Frankivsk Regional Administration, Kolomiya Municipality

2.8. Key Operators
Kolomiya Department for water supply and canalization
3. **Project Description**

3.1. **Project Outline**
Improvement of Prut River environmental situation, wastewater purification.

3.2. **Primary Need for Project**

3.3. **Status of Project Reports**

3.4. **Quality of Project Reports**

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3.5. **Technology Proposed**
Mechanical and total purification of wastewater using a complex of facilities such as racks, primary sedimentation tanks, biological purification aerotanks of a corridor type (used for biological purification), secondary sedimentation tanks, after treatment facilities.

3.6. **Site Context Definition**
Municipal property

3.7. **Specific Project Item**

4. **Area/Site Description/Interactions**

4.1. **Planning Permitting Status**
Technical and economic basis has been designed, it has passed the state examination.

4.2. **Regulatory Liaison to Date**

4.3. **Public’s Expression of Interest**
5. Environmental Assessment

5.1. Scale of Existing Impacts/Risks

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Project 14

Additional engineering networks and facilities for the processing for the Kolomiya WWTP
**Project Title**  
Additional engineering networks and facilities for the processing for the Kolomiya WWTP

**Promoter**  
Authority/Company: Ivano-Frankivsk Regional Administration, Regional Administration Department for Capital Development  
Address: 67 Galitska St., Ivano-Frankivsk  
Tel: 031 225 2215

**Project Target**  
Improvement of the quality of Prut River water

**Investment Cost**  
9.300.000 HRV (4,650.000 $US)

**Status of Project**  
Planned project.
1. **Project Title**
Additional engineering networks and facilities for the processing for the Kolomiya WWTP

2. **Promoter Details**

2.1. **Authority/Company**
Name: Ivano-Frankivsk Regional Administration, Regional Administration Department for Capital Development
Address: 67 Galitska St., Ivano-Frankivsk
Tel: 031 225 2215
Fax: 031 225 2215

2.2. **Contact Persons**
Odukha Mykola Serhiiovych, Director of “Lvivgiprokomunbud” Institute, tel.: (032) 75 1254

2.3. **Advisor/Consultant**
“Lvivgiprokomunbud” Institute address: 6 Bohomoltsa St., Lviv, tel.: (032) 1254

2.4. **Legal/Financial Status**
State Scientific and Research Institute, information on the annual turnover of last 3 years is not available

2.5. **Authority/Company Profile**
General task is to design and maintain erection and operation of the municipal sites including wastewater treatment facilities

2.6. **Planning/Implementing Capacity of the Authority**
Lack of resources needed to plan and implement projects

2.7. **Key Participants**
Ivano-Frankivsk Regional Administration, Kolomiya Municipality

2.8. **Key Operators**
Kolomiya Department for water supply and canalization
3. **Project Description**

3.1. **Project Outline**
Improvement of Prut River environmental situation, wastewater purification

3.2. **Primary Need for Project**

3.3. **Status of Project Reports**

3.4. **Quality of Project Reports**

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3.5. **Technology Proposed**

3.6. **Site Context Definition**
Municipal property

3.7. **Specific Project Item**

4. **Area/Site Description/Interaction**

4.1. **Planning Permitting Status**
Technical and economic basis has been designed, it has passed the state examination.

4.2. **Regulatory Liaison to Date**

4.3. **Public’s Expression of Interest**
5. Environmental Assessment

5.1. Scale of Existing Impacts/Risks

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5.2. Risk of Deterioration

5.3. Sensitivity of Locality/Receptor

5.4. Primary Benefits of Project

Project will have benefits on different geographical levels: local, regional, national and international.

5.5. Construction/Operational Impacts Evaluation

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Project 15

Implementation of the extended project of sewer erection designated for Luzhany industrial area wastewater discharge and implementation of wastewater purification technology at Luzhany Pilot Distillery Plant
Project Title
Implementation of the extended project of sewer erection designated for Luzhany industrial area wastewater discharge and implementation of wastewater purification technology at Luzhany Pilot Distillery Plant.

Promoter
Authority/Company: Luzhany Pilot Distillery Plant
Address: Luzhany, Chernivtsi Region

Project Target
To raise the technogenetic and environmental safety in Prut River area and to improve providing population with quality drinking water in Prut River area along with spirit production economic indexes.

Investment Cost
2,700,000 hrv. (1,350.00 $US)

Status of Project
Ongoing project.
1. Project title

Implementation of the extended project of sewer erection designated for Luzhany industrial area wastewater discharge and implementation of wastewater purification technology at Luzhany Pilot Distillery Plant.

2. Promoter Details

2.1. Authority/Company

Name: Luzhany Pilot Distillery Plant
Address: 53, Centralna St., Luzhany
Tel: 93 293
Fax: 91 278

2.2. Contact Persons

Zavadovskiy V. A., Director of the Plant

2.3. Advisor/Consultant

“Giprocivilprombud” Institute

2.4. Legal/Financial Status

Gross Assets - 12,300,000 hrv (6,150,000 $US), sales volume - 9,800,000 hrv. (4,900,000, profit - 2,330,000 hrv. (1,165,000 $US)

2.5. Authority/Company Profile

2.6. Planning/Implementing Capacity of the Authority

No capacity

2.7. Key Participants

Chernivtsi Regional State Administration, Chernivtsi City Council

2.8. Key Operators

Luzhany Pilot Distillery Plant
3. Project Description

3.1. Project Outline

Since 1992 there has been carried out erection of the sewer to divert discharge mixture of Luzhany Pilot Distillery Plant to Chernivtsi treatment facilities in order to prevent Prut River pollution and sludge areas formation within the area of drinking water source (Luzhany and Mamayevka).

The daily capacity of the sewer will be 1000 m$^3$. The total length of the sewer is 13.798 m. The total cost of the work fulfilled in 1992 - 1996 is 1.270.000 hrv. (considering the prices of that period). The rest of the work would cost 1.430.000 hrv. (prices of 1997).

It is planned to get investment (700.000 hrv.) on state guarantee of investment redeem within 5 years at the expense of Luzhany Pilot Distillery Plant production (rectified ethanol of the highest degree of rectification) sale.

3.2. Primary Need for Project

The General tasks of the project are:

- To implement the technology of wastewater biological purification for spirit production industry.
- To complete erection of the sewer that would cover all discharge of the Luzhany industrial area.

3.3. Status of Project Reports

Actual

3.4. Quality of Project Reports

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3.5. Technology Proposed

Spirit production wastewater biological purification according to the combined aerobic-anaerobic diagram and making of useful products of waste.

Coverage of all Luzhany industrial area.

3.6. Site Context Definition

3.7. Specific Project Item
4. Area/Site Description/Interactions

4.1. Planning Permitting Status
Authorization of the Regional State Department for environmental safety is available.

4.2. Regulatory Liaison to Date
The project has been approved by local authorities, land users and representatives of “Chernivtsivodokanal”.

4.3. Public’s Expression of Interest
Project has been approved by public opinion.

5. Environmental Assessment

5.1. Scale of Existing Impacts/Risks

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5.2. Risk of Deterioration
Non-implementation of the project will result in further pollution of the surface water and air.

5.3. Sensitivity of Locality/Receptor
Water intake and recreation Prut River areas.

5.4. Primary Benefits of Project
- Project will have benefits on different geographical levels:
- Local: Increase of the environmental safety in Prut River area and extra profit at the expense of utilization of waste and reduction of ecological taxes.
- Regional: Improvement of the environmental situation in Prut River area and of water supply in the village of Novoselitsa.
- National: Development of standard solution for the complex ecological and resource problem of spirit production industry of Ukraine.
- International: Reduction of the risk of international conflicts and development of methods of cooperation.
5.5. Construction/Operational Impacts Evaluation

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Project 16

Processing and raise of environmental safety of sludge formations in “Vodokanal” enterprise (Chernivtsi)
Project Title
Processing and raise of environmental safety of sludge formations in “Vodokanal” enterprise (Chernivtsi)
Promoter
Authority/Company: “Giprocivilprombud” State Enterprise/“Zirka”
Address: 200A Chervonoarmiyska St., Chernivtsi, 274013
Tel./Fax.: (03722) 735 30

Project Target
Rise of technogenetic and ecological safety in Prut River area and treatment facilities sludge partial utilization for utility purpose.

Investment Cost
2.000.000 HRV (1.000.000 $US)

Status of Project
Planned project.
1. **Project Title**
Processing and raise of environmental safety of sludge formations in “Vodokanal” enterprise (Chernivtsi)

2. **Promoter Details**

2.1. **Authority/Company**
Name: “Zirka” Enterprise/ “Giprocivilprombud” State Institute
Address: 200A, Chervonoarmiyska St., Chernivtsi, 274013
Tel: (03722) 735 30
Fax: (03722) 728 02

2.2. **Contact Persons**
Shevchuk Petro Ivanovych, Director of the Institute

2.3. **Advisor/Consultant**
Chernivtsi Regional State Department for Environmental Safety

2.4. **Legal/Financial Status**
Annual engineering work load – 220.000 hrv. (110.000 $US)

2.5. **Authority/Company Profile**
Among the general tasks of the Department activity are the follow ones:
- Yield production, transportation and distribution of drinking water to consumers.
- Intake, disposal and purification of wastewater.
- Technical operation of city water supply and canalization system, support of its repair and operation.

Development of technical policy concerning development of water supply and wastewater purification

2.6. **Planning/Implementing Capacity of the Authority**
No capacity

2.7. **Key Participants**
Chernivtsi Regional State Administration, Chernivtsi City Council/ “Chernivtsivodokanal”
2.8. **Key Operators**

“Zirka”/“Giprocivilprombud”

3. **Project Description**

3.1. **Project Outline**

Considering design capacity of “Vodokanal” enterprise (Chernivtsi) daily sludge entry in the treatment facilities is as large as 48,000 kg (translated into solid). Total accumulation of non-dehumidified sludge in disorganized areas exceeds 1,000,000,000 kg. As a result, the land gets disabled, filtrate gets into the river and subsoil water, the tonnage of sludge that might be washed away by underflooding is constantly increasing.

It is planned to design, erect and equip units of dehydration and sludge worming along with storing of sludge within the Chernivtsi treatment facilities area. It is planned to organize dehydrated sludge transportation to the farms or its utilization at forest strips owing to the strict control of sludge composition (heavy metals and other harmful substances).

At the same time it is planned to carry out design work, and afterwards to density and close existing unorganized sludge storage areas.

Designing of sludge dehydration unit costs 39,000 hrv., of worming unit - 3,500 hrv., of sludge storage areas - 3,500 hrv.

In total, erection work costs 1,500,000 - 1,700,000 hrv., considering utilization of existing facilities.

A number of alternative designs of dehydration unit equipping are under consideration, such as: equipping with Ukrainian or imported equipment, fixed or mobile. Approximate cost of equipment is 1,000,000 DM.

It is expected to redeem investment assets at the expense of waste concentration excess fee (in accordance with approved regulations for wastewater intake in Chernivtsi treatment facilities) accumulated on special account of the State Committee for Environmental Safety.

3.2. **Primary Need for Project**

General tasks of the project are:

- To design, erect and equip the units of sludge dehydration and worming in Chernivtsi and facilities for the following storing.
- To plan schedule of work and to close existing disorganized sludge storage areas

3.3. **Status of Project Reports**

The project of sludge drying and warming has passed ecological and sanitary examination.
3.4. **Quality of Project Reports**

<table>
<thead>
<tr>
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<th>Feasibility Study</th>
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<th>Construction/Implementation Report</th>
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3.5. **Technology Proposed**

Mud dehydration, drying and warming

3.6. **Site Context Definition**

3.7. **Specific Project Item**

4. **Area/Site Description/Interactions**

4.1. **Planning Permitting Status:**

Authorization of the State Committee for Architecture and Development is available

4.2. **Regulatory Liaison to Date**

4.3. **Public’s Expression of Interest**

Project has been approved by public opinion

5. **Environmental Assessment**

5.1. **Scale of Existing Impacts/Risks**

<table>
<thead>
<tr>
<th>Quality</th>
<th>Impact Scale/Target</th>
<th>Soil</th>
<th>Water</th>
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</table>
5.2. Risk of Deterioration
Pollution of surface, subsurface water and air

5.3. Sensitivity of Locality/Receptor
Subsoil water and recreation area of the Prut River.

5.4. Primary Benefits of Project:
Project will have benefits on different geographical levels:
- Local: For the plant: Increase of the environmental safety in Prut River area and extra profit.
- Regional: Improvement of the environmental situation in Prut River area and of water supply in the village of Novoselitsa.
- National: Development of standard solution for the complex ecological and resource problem of canalization treatment facilities.
- International: Reduction of the risk of international conflicts and development of methods of cooperation.

5.5. Construction/Operational Impacts Evaluation

<table>
<thead>
<tr>
<th>Quality</th>
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<th>Operation/Follow up phase</th>
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<td>Experts Opinion</td>
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</table>
Project 17

Sanitation, design and demonstration reconstruction of water supply and canalization facilities in Chernivtsi area of old building up aimed at improvement of water supply and reduction of soil displacement risk
**Project Title**
Sanitation, design and demonstration reconstruction of water supply and canalization facilities in Chernivtsi area of old building up aimed at improvement of water supply and reduction of soil displacement risk.

**Promoter**
Authority/Company: Chernivtsi Municipal Enterprise (Seba Company, Austria)
“Cernivtsivodokanal” State Municipal Economy
Address: 5 Komunalnykiv St., Chernivtsi
Tel./Fax: (03722) 474 60, (03722) 439 15.

**Project Target**
Experimental implementation of simultaneous city old part water supply improvement and reduction of man-made soil displacement declivity load.

**Investment Cost**
700,000 HRV (350,000 $US)

**Status of Project**
Planned project.
1. **Project Title**
Sanation, design and demonstration reconstruction of water supply and canalization facilities in Chernivtsi area of old building up in order to improve water supply and reduce risk of soil displacement

2. **Promoter Details**

2.1. **Authority/Company**
Name: Chernivtsi Municipal Enterprise (Seba Company, Austria)
“Cernivtsivodokanal” State Municipal Economy
Address: 5 Komunalnykiv St., Chernivtsi
Tel: (03722) 474 60
Fax: (03722) 439 15

2.2. **Contact Persons**
Botnar V. I

2.3. **Advisor/Consultant**
“Giprocivilprombud” State Institute

2.4. **Legal/Financial Status**

2.5. **Authority/Company Profile**

2.6. **Planning/Implementing Capacity of the Authority**
Partial project financing

2.7. **Key Participants**
Chernivtsi Regional Administration, Chernivtsi City Council

2.8. **Key Operators**
Chernivtsivodokanal” (“Seba”, Austria), “Giprocivilprombud” Institute
3. Project Description

3.1. Project Outline

The disastrous condition of water supply and canalization network in the Chernivtsi area of old building up causes excessive drinking water loss, inadmissible soil pollution with canalization drain. On the other hand, it causes intensification of soil displacement and thus acceleration of water and canalization network damage. The proposal developed by Ukrainian and Austrian experts at the conference on water supply improvement in Chernivtsi is to fulfill pilot and demonstration project of the water and canalization system renovation in the Chernivtsi area of old building up and reduction of displacement risk.

It is planned to perform sanitation and planning under supervision of “Seba” (Austria) experts, who implemented similar projects in a number of old European cities. It is also planned to perform demonstration reconstruction of water and canalization network in the assigned area of old building up.

3.2. Primary Need for Project

General tasks of the project are as follows:

- To perform the work and to acquire experience of sanitation and water supply network reconstruction planning under conditions of old building up and threat of soil displacement.
- To carry out service and reconstruction in the assigned part of the city using up-to-date technologies and materials.

3.3. Status of Project Reports

3.4. Quality of Project Reports

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3.5. Technology Proposed

3.6. Site Context Definition

3.7. Specific Project Item
4. Area/Site Description/Interactions

4.1. Planning Permitting Status

4.2. Regulatory Liaison to Date

4.3. Public’s Expression of Interest

5. Environmental Assessment

5.1. Scale of Existing Impacts/Risks

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</table>

5.2. Risk of Deterioration

5.3. Sensitivity of Locality/Receptor

5.4. Primary Benefits of Project

Project will have benefits on different geographical levels:

- Local: Improvement of water consumption, reduction of water loss and risk of soil displacement in the old building up area of Chernivtsi.
- Regional: Improvement of environmental situation in Prut River area and city water supplying.
- National: Acquisition of advanced international experience of sanitation and reconstruction using up-to-date equipment and materials aimed to solve problems of old building up areas in Ukrainian cities.
- International: Acquisition of experience of cooperation with EC countries in order to get Ukrainian, Moldavian and Romanian specialists acquainted with it afterwards by means of international projects.
5.5. Construction/Operational Impacts Evaluation

<table>
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<td>Experts Opinion</td>
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Project 18

Construction of the polygon for storage of solid waste in Chernivtsi (2nd stage)
**Project Title**
Construction of the polygon for storage of solid waste in Chernivtsi (2nd stage)

**Promoter**
Authority/Company: Department for housing and municipal engineering and energy economy of Chernivtsi City Council
Address: 20 Lomonosova St., Chernivtsi
Tel: 2 6546

**Project Target**

**Investment Cost**

**Status of Project**
Planned project.
1. **Project Title**
Construction of the polygon for storage of solid waste in Chernivtsi (2nd stage).

2. **Promoter Details**

2.1. **Authority/Company**
Name: Department for housing and municipal engineering and energy economy of Chernivtsi City Council
Address: 20 Lomonosova St., Chernivtsi
Tel: 2 6546
Fax:

2.2. **Contact Persons**
Kryzhanivskiy Vasyl Mykolayovych, Head of Industrial - Engineering Department

2.3. **Advisor/Consultant**
Chuprina V. P., “Dniprokomundorproekt” Institute

2.4. **Legal/Financial Status**
Annual turnover of last 3 years is 30.000 hrv.

2.5. **Authority/Company Profile**
Department for housing and municipal engineering
Number of persons employed is 39.

2.6. **Planning/Implementing Capacity of the Authority**
Department is planning and implementing the project.

2.7. **Key Participants**
Chernivtsi City Council

2.8. **Key Operators**
2428; Tel.: 3 8363
3. Project Description

3.1. Project Outline
Complete technology of solid waste products storing in artificial trenches with maximum possible excavation level (considering geological and hydro-geological conditions).

3.2. Primary Need for Project
General task of the project is to insure protection of air, neighboring lands, surface and subsurface water against pollution, to keep pollutants out of the Prut River.

3.3. Status of Project Reports
The results of technical and ecological examination of the project are positive

3.4. Quality of Project Reports

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<td>English summary (yes/no)</td>
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</table>

3.5. Technology Proposed
Parameters of sanitary and protection area of the range correspond to the proper standards. All the work concerning the range for solid waste products, strengthening of isolation and further cultivation is mechanized.

3.6. Site Context Definition
Municipal economy

3.7. Specific Project Item
The project has been developed in the accordance with the Instructions on project contents and drawing up
4. Area/Site Description/Interactions

4.1. Planning Permitting Status
The project has passed state ecological examination (# 18-4/7-164 of 24/12/1993), examination of the State Committee of Ukraine for Construction (# 67 of 25/05/1990), the detailed project has been approved by the City Executive Committee

4.2. Regulatory Liaison to Date
City Executive Committee, Department for housing and municipal engineering of Chernivtsi City Council

4.3. Public’s Expression of Interest
Public opinion is positive

5. Environmental Assessment

5.1. Scale of Existing Impacts/Risks

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<tr>
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<td>Expert Opinion</td>
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</table>

5.2. Risk of Deterioration
Termination of the range erection will result in deterioration of the city and the Prut River (Danube’s tributary) environmental situation because it will cause elementary landfilling.

5.3. Sensitivity of Locality/Receptor
Lack of organized landfill has a negative impact on Prut River water quality

5.4. Primary Benefits of Project
Project will have benefits on different geographical levels: local, regional, national and international
### 5.5. Construction/Operational Impacts Evaluation:

<table>
<thead>
<tr>
<th>Quality</th>
<th>Construction/Implementation</th>
<th>Operation/Follow up phase</th>
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Project 19

Expansion and reconstruction of Chernivtsi canalization system including increase of its daily capacity up to 200,000 m³
**Project Title**
Expansion and reconstruction of Chernivtsi canalization system including increase of its daily capacity up to 200,000 m$^3$.

**Promoter**
Authority/Company: Chernivtsi City Council  
Address: 1 Central Sq., Chernivtsi  
Tel: 2 5924  
Authority/Company: “Chernivtsivodokanal” Enterprise  
Address: 5 Komunalnykiv St., Chernivtsi  
Tel.: 4 7460  
Fax: 4 3915.

**Project Target**

**Investment Cost**
3,200,000 HRV (1,600,000$US)

**Status of Project**
Ongoing project.
1. Project Title

Expansion and reconstruction of Chernivtsi canalization system including increase of its daily capacity up to 200,000 m³

2. Promoter Details

2.1. Authority/Company

Authority/Company: Chernivtsi City Council
Address: 1 Central Sq., Chernivtsi
Tel: 2 5924

Authority/Company: “Chernitsvsivodokanal” Enterprise
Address: 5 Komunalnykiv St., Chernivtsi
Tel: 4 7460
Fax: 4 3915.

2.2. Contact Persons

Chief Engineer of “Chernitsvsivodokanal” tel.: 4 7460, 4 7461

2.3. Advisor/Consultant

Chief Engineer of “Chernitsvsivodokanal” tel.: 4 7460, 4 7461.

2.4. Legal/Financial Status

Local Municipal Authority

2.5. Authority/Company Profile

Among the general tasks of the Department activity are the follow ones:
- Yield production, transportation and distribution of drinking water to consumers.
- Intake, disposal and purification of wastewater.
- Technical operation of city water supply and canalization system, support of its repair and operation.

Development of technical policy concerning development of water supply and wastewater purification

2.6. Planning/Implementing Capacity of the Authority

Lack of finance
2.7. Key Participants
“Chernivsivodokanal” State Municipal Economy

2.8. Key Operators

3. Project Description

3.1. Project Outline

3.2. Primary Need for Project
To avoid Prut River area pollution and to improve its environmental situation. To provide capacity for extra wastewater intake and purification to standard rate.

3.3. Status of Project Reports

3.4. Quality of Project Reports

<table>
<thead>
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3.5. Technology Proposed

3.6. Site Context Definition

3.7. Specific Project Item

4. Area/Site Description/Interactions

4.1. Planning Permitting Status

4.2. Regulatory Liaison to Date

4.3. Public’s Expression of Interest
5. Environmental Assessment

5.1. Scale of Existing Impacts/Risks

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<td>Expert Opinion</td>
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</table>

5.2. Risk of Deterioration

Non-implementation of the project will result in significant deterioration of Prut River area environmental situation that is of the situation in Ukrainian part of Danube area.

5.3. Sensitivity of Locality/Receptor

The project has an impact on environmental situation in Danube River area and its delta.

5.4. Primary Benefits of Project

Project will have benefits on different geographical levels:

- Local: Improvement of environmental situation in the city and its suburbs.
- Regional: Improvement of environmental situation in Prut area (downstream of Chernivtsi).
- National and International: Improvement of environmental situation in one of the Ukrainian parts of Danube area.

5.5. Construction/Operational Impacts Evaluation

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<td>Hot Spot Name, River &amp; Location (distance from mouth)</td>
<td>Parameters &amp; Values which Define the Problem</td>
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<tr>
<td>Animal farming in Kylia Region</td>
<td>Includes two low priority hot spots and issues of introduction ecologically sustainable agricultural practices in animal farming pollution inventory, feasibility study</td>
<td>low priority</td>
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<td>Kylia Collective Farm “Put Lenina”; Total BOD: no data Phenols: no data Total discharge: 25.71 th.cub.m per year Lack of sewage treatment; possible pollution of ground water with direct impact on human health</td>
<td>low priority</td>
<td>non-structural project No 21</td>
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<td>Lisky Collective Farm “Pogranichnik”, Kylia District; Total BOD: no data Phenols: no data Total discharge: 20.th.cub.m per year Lack of sewage treatment; possible pollution of ground water with direct impact on human health</td>
<td>low priority</td>
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Project 20

To support agricultural reforms and to prevent the future ecological problem from unsustainable animal farming
**Project Title**
To support agricultural reforms and to prevent the future ecological problem from unsustainable animal farming

**Promoter**
Kylyia district authorities in Odessa Region

**Project Target**
Upgrading existing animal farms, farmers training, establishing the training center for farmers in the Kilia district of Odessa region (lower Danube)

**Investment Cost**
250.000 $US

**Status of Project**
Planned project
1. **Project Title**
Expansion and reconstruction of Chernivtsi canalization system including increase of its daily capacity up to 200,000 m$^3$

2. **Promoter Details**

2.1. **Authority/Company**
Will be specified

2.2. **Contact Persons**
Will be specified

2.3. **Advisor/Consultant**
Will be specified

2.4. **Legal/Financial Status**
Local agricultural authorities and farmer associations

2.5. **Authority/Company Profile**
Will be specified

2.6. **Planning/Implementing Capacity of the Authority**
Lack of finance educational resources, small scale machinery

2.7. **Key Participants**
Kiliya agricultural authorities; farmers of the Kylia district

2.8. **Key Operators**

3. **Project Description**

3.1. **Project Outline**

3.2. **Primary Need for Project**
To prevent future lower Danube area pollution and to improve its environmental situation. To promote agricultural reform and ecologically sustainable development of agriculture
3.3. Status of Project Reports

3.4. Quality of Project Reports

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<td>not adequate</td>
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<tr>
<td>English summary</td>
<td>no</td>
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</tr>
</tbody>
</table>

3.5. Technology Proposed

Conducting inventories of diffuse pollution sources; farmer training; piloting ecologically sound farming

3.6. Site Context Definition

Will be specified

3.7. Specific Project Item

Will be specified

4. Area/Site Description/Interactions

4.1. Planning Permitting Status

None

4.2. Regulatory Liaison to Date

None

4.3. Public’s Expression of Interest

Very high
5. Environmental Assessment

5.1. Scale of Existing Impacts/Risks

<table>
<thead>
<tr>
<th>Quality</th>
<th>Impact Scale/Target</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<tr>
<td>Adequate</td>
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<td></td>
</tr>
<tr>
<td>Expert Opinion</td>
<td>needs study</td>
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</tbody>
</table>

5.2. Risk of Deterioration
Non-implementation of the project will result in strategic mismanagement in agriculture and future heavy pollution with nutrient and pathogenic microorganisms of Lower Danube area; may impact very important wetlands.

5.3. Sensitivity of Locality/Receptor
The project has an impact on environmental situation in Danube River area and its delta.

5.4. Primary Benefits of Project
Project will have benefits on different geographical levels:
- Local: Improvement of environmental situation in the area and wetlands.
- Regional: Improvement of environmental situation in Lower Danube river
- National and International: Improvement of environmental situation in one of the Ukrainian parts of Danube area and wetland of international importance

5.5. Construction/Operational Impacts Evaluation

<table>
<thead>
<tr>
<th>Quality</th>
<th>Construction/Implementation</th>
<th>Operation/Follow up phase</th>
</tr>
</thead>
<tbody>
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<tr>
<td>Partial adeq</td>
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<tr>
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</tr>
<tr>
<td>Experts Opinion</td>
<td>the introduction of sustainable agricultural practices in the region will have extremely high impact</td>
<td></td>
</tr>
</tbody>
</table>
Project 21

Reconstruction of existing and construction of new WWT facilities and accumulation pounds, improvement of the technology processes
**Project Title**
Reconstruction of existing and construction of new WWT facilities and accumulation pounds, improvement of the technology processes

**Promoter**
Rakhiv Cardboard Factory
Rakhiv City Administration

**Project Target**
Feasibility study for investment to upgrade technology at the Rakhiv Cardboard Factory and improve waster water treatment facilities

**Investment Cost**
250,000 $US

**Status of Project**
Planned project
1. **Project Title**
Reconstruction of existing and construction of new WWT facilities and accumulation pounds, improvement of the technology processes

2. **Promoter Details**

2.1. **Authority/Company**
Rakhiv Regional Authority, Rakhiv Cardboard Factory Management; Carpathian Fund for Regional Development

2.2. **Contact Persons**
Director of Rakhiv Cardboard Factory; Mayor of Rakhiv; Head of NGO

2.3. **Advisor/Consultant**
Will be identified.

2.4. **Legal/Financial Status**
Local Municipal Authority, Local Rakhiv Cardboard Management, NGO

2.5. **Authority/Company Profile**
Among the general tasks of the Department activity are the follow ones:
- Cardboard production and affiliated goods.
- Intake, disposal and purification of waste water.
- Technical operation of cardboard water supply and canalization system, support of its repair and operation.

2.6. **Planning/Implementing Capacity of the Authority**
Lack of finance

2.7. **Key Participants**
Rakhiv municipalities, NGO “Carpathian Fund for Regional Development”

2.8. **Key Operators**
Will be identified
3. Project Description

3.1. Project Outline

3.2. Primary Need for Project
Reduction of the Tisza River pollution with phenols, oil products and especially BOD organic from Rakhiv Cardboard Factory

3.3. Status of Project Reports
Not available

3.4. Quality of Project Reports

<table>
<thead>
<tr>
<th></th>
<th>Feasibility Study</th>
<th>Detailed Design</th>
<th>Construction/ Implementation Report</th>
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<td>English summary (yes/no)</td>
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</tbody>
</table>

3.5. Technology Proposed
Reconstruction of existing and Construction of new WWT facilities and accumulation pounds, improvement of the technology processes

3.6. Site Context Definition
Will be identified

3.7. Specific Project Item

4. Area/Site Description/Interactions

4.1. Planning Permitting Status
Will be identified

4.2. Regulatory Liaison to Date
Will be identified
4.3. Public’s Expression of Interest

Strong

5. Environmental Assessment

5.1. Scale of Existing Impacts/Risks

<table>
<thead>
<tr>
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<tr>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Expert Opinion</td>
<td>high</td>
</tr>
</tbody>
</table>

5.2. Risk of Deterioration

Non-implementation of the project will result in significant deterioration of Tisza area environmental situation, human and ecosystem health, that is of the situation in Ukrainian part of Danube area

5.3. Sensitivity of Locality/Receptor

The project has an impact on environmental situation in Danube River area and its delta.

5.4. Primary Benefits of Project

Project will have benefits on different geographical levels:

- Local: Improvement of environmental situation in the city and its suburbs.
- Regional: Improvement of environmental situation in Tisza area (downstream of Rakhiv).
- National and International: Improvement of environmental situation in one of the Ukrainian parts of Danube area

5.5. Construction/Operational Impacts Evaluation

<table>
<thead>
<tr>
<th>Quality</th>
<th>Construction/Implementation</th>
<th>Operation/Follow up phase</th>
</tr>
</thead>
</table>