STANDARD SUMMARY PROJECT FICHE

1. Basic Information

1.1 Project Number: SR0113.02
1.2 Title: Waste water disposal system of the villages in the basin of the River Morava
1.3 Sector: Cross-border co-operation Slovakia - Austria
1.4 Location:
   Region: Bratislava
   District: Malacky
   Location: Gajary, Malé Leváre, Velké Leváre, Nivky, Závod, Studienka, Kostolište and Jakubov

2. Objectives

2.1 Overall Objective(s):

Improvement of the surface and ground water quality in the riverbed of border river Morava.

Fostering the conditions for sustainable development in the Malacky district.

2.2 Project purpose:

Reduction of pollution of the ground and surface water near CHKO (Nature Protected Area) Zahorie-Gajary Micro-region.

2.3 Accession Partnership and NPAA priority

Accession Partnership – short-term priorities

"Accelerate the transposition and enforcement of framework legislation in the areas of water quality, waste management, Integrated Pollution Prevention Control, nature protection and air quality"

NPAA (2000)

Chapter 3.6.1 – Environment, Part D – Protection of water, Sub-parts D.1 Directives on the water quality and D.2 – Directives relating to the protection of the water environment from discharges

National Environmental Action Plan (Annex to NPAA) - Section Protection and rational utilisation of water
2.4 Contribution to National Development Plan

The project is in line with the National Development Plan approved by the Governmental Decree 240/2001, namely with the Sectoral Operational Programme "Environment", specific goal "Water protection" and the Regional Operational Programme for the Bratislava region.

Joint Programming Document: The project is in line with the priority V: “Sustainable Spatial and Environmental Development”, Measure 2: “Measure for Nature and Environmental Protection including National and Nature Parks”.

2.5 Cross Border Impact

The area covered by this project is located in the basin of the cross-border river Morava. The most significant contribution of the given project is the improvement of the groundwater quality on both sides of the river Morava. This will be achieved by phasing-out the existing cesspools and septic tanks.

This project will contribute to decrease the organic pollution in a region populated by approximately 14,000 inhabitants. With a treatment efficiency of 95% in terms of BOD$_5$ and a coverage of 60% of the above mentioned population, the reduction of the pollution expressed in BOD$_5$ shall represent 170 t/p.a.

The Slovak villages co-operate with the municipalities of the Austrian border region Dürnkrut and Angen.

3. Description

3.1 Background and justification:

The cross border river Morava is highly polluted. This hinders the full development of tourism and other business activities in the relevant area.

The ground-water table can be found at a depth varying from 2 to 5 m.

The current pollution characteristics in the Morava river in the discharge profile are as follows:
expressed in terms of BOD$_5$  –  10,6 mg/l
expressed in terms of SS –  18,0 mg/l.

The aim of the project is to improve the water quality in the water course Malina and the river Morava which has a great potential for the development of the tourism industry. The improvement of the water quality is very important for the protection of the water sources in the Záhorie region, of the protection of the land fund in the Natural Reserve ChKO Záhorie and of the preservation of the regional bio-centre for the population of both Slovakia and Austria.
Since 1990, in the framework of the joint project “Nature without boundaries”, the village of Gajary is actively co-operating with the Austrian village of Dürnkrut in the field of meadows protection. The Austrian partner institution ECO-PLUS Niederösterreich prepared, with the aim at supporting the regional co-operation of the partners from the region Dürnkrut – Angern – Malacky, a project defining the main areas of co-operation. In the sector of ecological constructions a great emphasis is placed on the wastewater disposals from the villages due to the ecological stability on both sides of the river Morava. The existing waste water treatment system is not operating efficiently and the cesspools and sink tanks are not systematically in place.

The construction of a sewer network in the villages Gajary, Malé Leváre, Velké Leváre, Závod, Studienka, Jakubov and Kostolište would solve the wastewater disposal and contribute in a great extent to the protection of the environment and the increased living standard of the population.

Taking into account the recommendations of the Danube River Basin Authority and concerning the nature of the recipients near the adjoining municipalities, the existing WWTP in Gajary and Malacky shall be used also for the treatment of the waste water from the above mentioned municipalities. The waste water in the concerned area will be collected through two lines A and B.

Some data about the concerned villages - line A:

<table>
<thead>
<tr>
<th>Village</th>
<th>PE</th>
<th>Daily WW Quantity Q_d m³/d</th>
<th>Pollution in terms of BOD₅ kg/d Present</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gajary</td>
<td>2 500</td>
<td>475</td>
<td>150</td>
</tr>
<tr>
<td>M. Leváre</td>
<td>1 000</td>
<td>125</td>
<td>60</td>
</tr>
<tr>
<td>Rudava</td>
<td>762</td>
<td>76</td>
<td>46</td>
</tr>
<tr>
<td>V. Leváre</td>
<td>3 200</td>
<td>608</td>
<td>192</td>
</tr>
<tr>
<td>Nivky</td>
<td>20</td>
<td>2.8</td>
<td>1.2</td>
</tr>
<tr>
<td>Závod</td>
<td>2 600</td>
<td>494</td>
<td>156</td>
</tr>
<tr>
<td>Studienka</td>
<td>1 600</td>
<td>224</td>
<td>96</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>11 682</strong></td>
<td><strong>2 005</strong></td>
<td><strong>701</strong></td>
</tr>
</tbody>
</table>

Some data about the concerned villages - line B.

<table>
<thead>
<tr>
<th>Village</th>
<th>PE</th>
<th>Daily WW Quantity Q_d m³/d</th>
<th>Pollution in terms of BOD₅ kg/d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jakubov</td>
<td>1 300</td>
<td>182</td>
<td>78</td>
</tr>
<tr>
<td>Kostolište</td>
<td>850</td>
<td>106</td>
<td>51</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2 150</strong></td>
<td><strong>288</strong></td>
<td><strong>129</strong></td>
</tr>
</tbody>
</table>

The line A will be connected to the existing WWTP in Gajary with the capacity of equivalent population PE = 3.500. This WWTP consists of structures for
preliminary treatment and biological treatment of waste water including pressure discharge main with a length of approximately 3.5 km into the river Morava.

The line B will be connected to the existing WWTP in Malacky which has sufficient capacity to treat the waste water from additional municipalities. The parameters of the WWTP in Malacky are as follows:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Unit</th>
<th>Present state</th>
<th>Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total population</td>
<td>PT</td>
<td>17 800</td>
<td>22 000</td>
</tr>
<tr>
<td>Population served.</td>
<td></td>
<td>11 320</td>
<td></td>
</tr>
<tr>
<td>WW Quant.: $Q_{24}$</td>
<td>m³·d⁻¹</td>
<td>4 700</td>
<td>6 500</td>
</tr>
<tr>
<td>$Q_{max}$</td>
<td>m³·d⁻¹</td>
<td>6 800</td>
<td>8 125</td>
</tr>
<tr>
<td>$Q_{hod}$</td>
<td>m³·h⁻¹</td>
<td></td>
<td>430</td>
</tr>
<tr>
<td>$Q_{24}$</td>
<td>l·s⁻¹</td>
<td>54</td>
<td>75</td>
</tr>
<tr>
<td>$Q_{max}$</td>
<td>l·s⁻¹</td>
<td></td>
<td>120</td>
</tr>
<tr>
<td>Pollution BOD₅</td>
<td>kg·d⁻¹</td>
<td></td>
<td>1 320</td>
</tr>
</tbody>
</table>

In the second stage the WWTP in Gajary will be extended to a capacity of 13.000 PE and the sewerage system will be completed for the entire population of this micro-region.

It is envisaged that a mirror project will be prepared on the Austrian side of the border.

3.2 Linked activities:

- ECO PLUS Niederösterreich - regional co-operation project
- PHARE CBC 1995, 1998 - Mechanical-biological WWTP for 3300 PE and raising mains built in Gajary,
- 2000 completion of the WWTP in Malacky
- Phare Partnership project “Nature without boundaries” - The co-ordinator of this project is the endowment Daphne – Institute for Applied Ecology.

3.3 Results:

Sewer network in the municipalities Gajary, Malé Leváre, Velké Leváre, Závod, Studienka, Jakubov and Kostolište built.

Capacity of the WWTP in Gajary extended to 6500 PE.

The sewerage network will have following parameters:

<table>
<thead>
<tr>
<th>Sewerage network total</th>
<th>18 738,0 m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raising mains</td>
<td>26 451,0 m</td>
</tr>
<tr>
<td>Pumping stations</td>
<td>15 pcs</td>
</tr>
</tbody>
</table>
The effluent from the WWTP Gajary will meet the following parameters:

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Concentration in the effluent kg m$^{-3}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biochemical oxygen demand (BOD$_5$)</td>
<td>0.015</td>
</tr>
<tr>
<td>Chemical oxygen demand (COD)</td>
<td>0.050</td>
</tr>
<tr>
<td>Suspended solid – dried solids (SS)</td>
<td>0.025</td>
</tr>
<tr>
<td>Total nitrogen (N$_{tot}$)</td>
<td>0.025</td>
</tr>
<tr>
<td>Ammonia nitrogen (N-NH$_4^+$)</td>
<td>0.003</td>
</tr>
<tr>
<td>Nitrate nitrogen (NO$_3$-N)</td>
<td>0.020</td>
</tr>
</tbody>
</table>

The quality of the effluent will meet also the values of indicators given in the Statutory Order of the Government of SR ? 242/1993 for discharging into receiving waters, indicated as “other water courses”.

60% of the population of the micro-region (8,000 inhabitants) will be connected to a suitable waste water treatment system. The reduction of the pollution will be 170 t BOD$_5$ per year.

3.4 Activities:

The sewage network will be built in two lines to collect the waste water from some 60% of the population living in the micro-region.

**The line A** includes the municipalities Malé Leváre, Velké Leváre, Nivky, Závod and Studienka.

In the framework of the line “A” the extension of the WWTP in Gajary to a capacity of 6,500 PE will be realised. **The line “A”** is designed to collect the waste waters from the municipalities lying south-east from Gajary. The collected waste waters will be treated in the waste water treatment plant in Gajary.

**The line “B”** will be built for the municipalities Jakubov and Kostolište. The waste waters from the line B will be lead into the already existing WWTP in the town Malacky.

For the calculation of the investment costs following prices have been used:

- DN 400 105 EUR
- DN 300 90 EUR
- Pressure mains
  - DN 100 40 EUR
  - DN 150 47 EUR
  - DN 200 51 EUR
- Pumping station 10 500 EUR/pc
- Extension of WWTP 280 460 EUR
Activity 1 – Construction of the lines A and B:

**Line A**

**Gajary**
Sewer network from PVC pipes:
DN 400 965 m
DN 300 2 480 m
Raising main in the village
DN 50 386 m
Pumping stations on the sewer network 5 pcs

**Malé Leváre**
Sewer network from PVC pipes:
DN 400 1 040 m
DN 300 350 m
Raising main from PVC pressure pipes
DN 200 3 825 m
Raising main in the village from PP pipes
DN 50 530 m
Pumping stations on the sewer network 2 pcs

**Velké Leváre**
Sewer network from PVC pipes:
DN 400 2 065 m
DN 300 2 215 m
Raising main from PVC pressure pipes
DN 125 750 m
Raising main from PP pipes
DN 150 1 180 m
Pumping stations on the sewer network 2 pcs

**Závod**
Sewer network from PVC pipes DN 300 3 610 m
Pumping station 1 pc
Raising main from PP pressure pipes DN 100 in the direction Nivky 2 650 m

**Studienka**
Sewer network from PVC pipes DN 300 2 260 m
Pumping station 1 pc
Raising main from PP pressure pipes DN 100 in the direction Nivky 7 400 m

**The settlement Nivky**
Sewer network from PVC pipes DN 300 —
Pumping station 1 pc
Raising main from PP pressure pipes DN 125 3 650 m
Line “B”:
Jakubov
Sewer network from PVC pipes DN 300            1 805 m
Pumping station     2 pcs
Raising mains in the village from PP pipes DN 50    800 m
Raising main from PVC pressure pipes DN 80
in the direction Kostolište                   4 150 m

Kostolište
Sewer network from PVC pipes DN 400    998 m
Pumping station       1 pc
Raising main from PVC pressure pipes DN 125
in the direction Malacky                    1 930 m

Means: Works and technical assistance for a total value of 2,974 MEUR out of which 2,000 MEUR are foreseen for Phare financing. The national co-financing up-to 0,974 MEUR is foreseen for the construction of line B and sewerage in Gajary.

Activity 2: Intensification of WWTP Gajary for the line „A“:

The existing WWTP in Gajary with the capacity of 3,200 PE consists of following structures:
- inlet pumping station and receiving tank for faeces – preliminary treatment and grit chamber
- aggregated object for biological treatment, consisting of:
  - aeration tanks – 2 pcs, V = 2 x 400 m$^3$ = 800 m$^3$
  - secondary settlement tanks – 2 pcs, S = 72 m$^2$
  - sludge box – 1 pc, V = 168 m$^3$, H = 6,2 m
- machine room
- service building
- pressure discharge main into the river Morava

The capacity of the WWTP will be extended to 6,500 PE. This will be achieved by the intensification of the biological treatment by means of floating support media and construction of two new secondary settlement tanks.

Means: Works for a total value of 0,280 MEUR are foreseen for the national co-financing.

4. Institutional Framework

The Ministry of Construction and Regional Development is the recipient institution and will be responsible for the monitoring of the overall project implementation.
The beneficiaries of the project are the municipalities members of the “Association of the municipalities in the river basin Morava: Malé Leváre, Velké Leváre, Gajary, Závod, Studienka, Kostolište and Jakubov”. The owner of the “project results” will be the relevant municipalities.

5. Detailed Budget in MEUR

<table>
<thead>
<tr>
<th>MEUR</th>
<th>Phare Support</th>
<th>Institution Building (IB)</th>
<th>Total Phare (=I+IB)</th>
<th>National Co-financing</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sewage network</td>
<td>2,000</td>
<td>2,000</td>
<td>0,974</td>
<td>2,974</td>
<td></td>
</tr>
<tr>
<td>Extension of WWTP</td>
<td>0</td>
<td>0</td>
<td>0,280</td>
<td>0,280</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2,000</td>
<td>2,000</td>
<td>1,254</td>
<td>3,254</td>
<td></td>
</tr>
</tbody>
</table>

Slovak co-financing will be secured by the municipal budget of the relevant municipalities for an amount of 1,254 MEUR (38,5% of the total project costs) and through a bank loan (with the possibility also of a contribution from the state budget in line with the Government Decree 135/2001).

6. Implementation Arrangements

6.1 Implementing Agency

Implementing Agency for Regional Development
Ministry of Construction and Regional Development of SR
Špitálska 8
816 44 Bratislava
Contact: Mr. Július Slovák
Tel: +421 7 5975 3819
Fax: +421 7 5975 3833

Implementing authority:
Department of the Programmes of Regional Projects and Co-ordination of the Structural Funds, CBC Unit
Ministry of Construction and Regional Development of SR
Špitálska 8
816 44 Bratislava
Contact: Róbert Šramko

6.2 Twinning: not applicable

6.3 Non-standard aspects
The Practical Guide for Phare, ISPA, Sapard will be strictly followed.

6.4 Contracts
One works contract for a total value of 2 MEUR.
7. **Implementation Schedule**

7.1 Start of tendering  
2\(^{nd}\) quarter 2002

7.2 Start of project activity  
3\(^{rd}\) quarter 2002

7.3 Project Completion  
4\(^{th}\) quarter 2004

8. **Equal Opportunity** – not applicable

9. **Environment**

The project is in line with the National Environmental Action Plan II. The project is not subject to a full environmental impact assessment (EIA) under Act 391/2000 amending the Act 127/94.

The environmental appraisal has been finalised and is available at the Office of the Government. The preliminary results are as follows:

**Major environmental effects**
- The project realisation will not cause any extraordinary air contamination, surface and underground waters contamination, noise and vibration, radiation, heat and odour and it will be without negative impacts on inhabitant’s health.
- No risks linked to the project realisation related to the environment are expected and the project will not negatively influence protected nature areas.

The realisation of the project will positively influence the environment, as a result of the completion of the waste water management system for about 8,000 inhabitants (out of a total population of about 13,800). The pollution will be reduced compared to the present situation by 170 t/year of BOD.

10. **Rates of return**

NPV after 30 years (without grant) = -1.72 MEUR  
NPV after 30 years (with grant) = 0.270 MEUR

IRR 30 years (without grant) = -6%  
IRR 30 years (with grant) = 2%

11. **Investment criteria**

11.1 Catalytic effect:  
Due to the distortion of the prices for sewage management, the operation of the WWTP and sewerage is not able to generate revenues sufficiently high to cover the financing of the project by commercial loans. On the other hand the scarce...
financial sources of the municipalities do not allow the total financing of the project from own sources. The grant allows to take immediate action.

11.2 Co-financing:
The national co-financing of the project is up to 1.254 MEUR, which represents 38.5% of the total budget.

11.3 Additionality:
Phare grant is not displacing private financing; the financial rate of return would become immediately negative if the investment costs would be considered.

11.4 Project readiness and Size:
The project size complies with the 2 MEUR threshold.
The Land Use Declaration for the project was issued in June 2001.
The building permit shall be issued by the end of 2001.

11.5 Sustainability:
The WWTP and sewerage will be operated in line with the provisions of the EU Water Framework Directive. The relevant municipalities will also ensure the sources for the future maintenance of the WWTP and sewerage.

The project will have no adverse effects upon the environment; on the contrary, it ensures improvement of the environment quality in the characteristic of surface and ground water protection in the region.

11.6 Compliance with state aids provisions
The Investment respects the state aids provisions of the Europe Agreement and the of the state aids law ? 231/99, §§ 1, 4, 9.

11.7 Contribution to National Development Plan
The project is in line with the National Development Plan approved by the Government in 2001. It will contribute to the implementation of the Sector Operational Programme "Environment", specific goal "Water protection", measure "Implementation of the Water Framework Directive" and "Completion of the Infrastructure".

12. Conditionality and sequencing
The start of the tendering of the activities is conditional to the issue of the outstanding building permits.

Annexes to the project fiche
1. Logical framework matrix in standard format
2. Detailed implementation chart
3. Contracting and disbursement schedule by quarter for full duration of programme (including disbursement period)
**LOGFRAME PLANNING MATRIX**

<table>
<thead>
<tr>
<th>Waste water disposal system of the villages in the basin of the River Morava</th>
<th>Programme name and number: SR0113.02</th>
<th>Date of drafting: June 2001</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Contracting period expires: 30.11.2003</td>
<td>Disbursement period expires: 30.11.2004</td>
</tr>
<tr>
<td></td>
<td>Total Budget: 3.25 MEUR</td>
<td>PHARE contribution: 2. MEUR</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Overall Objectives</th>
<th>Objectively Verifiable Indicators</th>
<th>Source of Verification</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Improvement of the quality of surface water and ground water in the riverbed of the border river Morava</td>
<td>Pollution of the river Morava in the concerned discharge profile better than BOD 10,6 mg/l and SS 18,0 mg/l</td>
<td>Danube River Basin Authority records</td>
</tr>
<tr>
<td>- Fostering the conditions for sustainable development in the Malacky district</td>
<td>Number of SME in tourism and production sector increased</td>
<td>Annual report on the state of the Environment - Ministry of Environment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Records of the Ministry of Economy</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Project Purpose</th>
<th>Objectively Verifiable Indicators</th>
<th>Source of Verification</th>
<th>Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Reduction of pollution of the ground and surface water near the CHKO Zahorie - Gajary micro-region</td>
<td>60% of the population of the micro-region served by the sewerage system</td>
<td>Environmental District Office Malacky</td>
<td>Principles of sustainable development respected</td>
</tr>
<tr>
<td></td>
<td>Pollution reduced by 170 t/year of BOD</td>
<td>Regional Waterworks Company</td>
<td>The second stage of the sewerage network for the micro-region Gajary prepared</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Financial and legislative conditions for the implementation of the regional strategy ensured</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Results</th>
<th>Objectively Verifiable Indicators</th>
<th>Source of Verification</th>
<th>Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Sewer network in the municipalities Velke Levare, gajary, Male Levare, Zavod, Studienka, Jakubov and Kostoliste built</td>
<td>18.738 m of sewerage network built</td>
<td>Records of the Regional Waterworks company</td>
<td>The population willing to connect to the sewerage network</td>
</tr>
<tr>
<td>- Capacity of the WWTP in Gajary extended to 6.500 PE</td>
<td>26.451 m of raising main built</td>
<td>Final report of the project</td>
<td>Austrian partner organisations active in the area of water protection</td>
</tr>
<tr>
<td>- 15 pumping stations operational</td>
<td>Effluent from the WWTP meets the EU standards on discharged waters</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Activities Means Cost Assumptions

<table>
<thead>
<tr>
<th>Activities</th>
<th>Means</th>
<th>Cost</th>
<th>Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Construction of the sewerage lines A and B</td>
<td>Works</td>
<td>2.97 MEUR</td>
<td>New sewerage and treatment charging policy applicable</td>
</tr>
<tr>
<td>2. Intensification of the WWTP in Gajary</td>
<td>Works</td>
<td>0.28 MEUR</td>
<td>Preconditions Building permit issued in 2001</td>
</tr>
</tbody>
</table>
## Annex 2

**Detailed implementation chart of the project**  
**Waste water disposal system of the villages in the basin of the River Morava**

<table>
<thead>
<tr>
<th>Investment</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Construction of the sewerage lines A and B</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>2 Intensification of the WWTP in Gajary</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
Contracting and disbursement schedule by quarter for full duration of the project  
Waste water disposal system of the villages in the basin of the River Morava

<table>
<thead>
<tr>
<th></th>
<th>2002</th>
<th></th>
<th>2003</th>
<th></th>
<th>2004</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1st Q</td>
<td>2nd Q</td>
<td>3rd Q</td>
<td>4th Q</td>
<td>1st Q</td>
<td>2nd Q</td>
</tr>
<tr>
<td>Contracted (MEUR)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disbursed (MEUR)</td>
<td></td>
<td>0.2</td>
<td>0.4</td>
<td>0.6</td>
<td>0.8</td>
<td>1.0</td>
</tr>
</tbody>
</table>