Bosnia and Herzegovina

Water Quality Protection Project

Environmental Assessment

Executive Summary

Sarajevo, February 2004.
GENERAL INFORMATION

This Study has been prepared on behalf of Ministry of agriculture, waterworks and forestry of Federation of Bosnia and Herzegovina.

Consultant

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This Environmental Assessment study has been prepared for exclusive use by the Ministry of agriculture, waterworks and forestry of Federation of Bosnia and Herzegovina, and the World Bank. Information contained in this Study were correct at the time of its preparation. Minor changes may occur during the implementation of the Water Quality Protection project, however, such changes will not affect the conclusions of this Study as long as there are no changes to the sub-components of the main project.

The team assigned wishes to thank the persons responsible for this project at the City of Mostar and Municipalities of Odžak, Živinice and Trnovo for the help provided and understanding during the preparation of this Study.
EXECUTIVE SUMMARY

The ultimate goal of the Water Quality Protection (WQP) Project is to reduce the general pollution of the Neretva and Bosna Rivers, as parts of the Adriatic and Black Sea basins, resulting from releases of municipal wastewater. The sub-goals of the project are: a) preparation of a wastewater management improvement plan, b) establishment of a joint commission of BiH and Croatia for implementation, coordinated by Montenegro, and c) development and implementation of high priority capital investments in the water sector, with low financing.

As support to the GEF (Global Environmental Facility) Program, the WQP Project would address the environmental degradation of the Neretva and Bosnia Rivers, coordinate regional priorities, and develop a Wastewater Improvement Management Plan for Bosnia and Herzegovina (BiH). The Wastewater Improvement Management Plan should clarify the institutional framework for Wastewater Management; formalize the cooperation with institutions in Croatia and Montenegro; build a network of public and private institutions that are needed for effective wastewater management; and prepare the groundwork for innovative low cost wastewater treatment methods.

In support of the GEF Program, the WQP Project comprises the following components:

Component A
Action Plan for reduction of river pollution in BiH

Component B High priority investments
Mostar – first stage construction of a wastewater treatment plant, and main sewage collectors,
Ođak – reconstruction/rehabilitation of the existing sewage treatment plant and main collector, construction of an outfall pipeline,
Živinice – construction of a main sewage collector, and wastewater treatment plant
Trnovo – rehabilitation of the existing sewage treatment plant

Component C
Wetland conservation

Component D
Project management

Component E
Project implementation and replication

The following study represents the Environmental Assessment (EA) supporting the WQP Project, which on the basis of potential impact has been designated as a category A project. The EA has been prepared in strict compliance with both the requirements of BiH legislation and the World Bank operational policies and procedures (WB OP/BP/GP 4.01). Since these respective requirements are not identical, in order to reconcile their differences, the EA study was prepared in accordance with the more stringent World Bank requirements, which
are not in discrepancy with the local requirements. This approach was approved by the Federal Ministry of Physical Planning and Environment of the Federation of Bosnia and Herzegovina, and the Study as such will be used during the completion of the procedure according to requirements of legislation in force in the Federation of Bosnia and Herzegovina (FBiH). Thus the World Bank Operational Procedure/Bank Procedure 4.01 on Environmental Assessment was used as a key reference during the preparation of the Study.

Any World Bank financed project involving resettlement components is subject to the World Bank Operational Policy (WB OP) 4.12 Involuntary Resettlement, revision April 2004, and Bank Procedure (BP) 4.12 of December 2001, which describe instruments and procedures for eliminating negative economic, social and environmental issues that may arise. This policy is triggered not only with physical relocation, but any loss of land resulting in relocation or loss of shelter, loss of assets or access to assets and loss of income sources and means of livelihood. No need for resettlement is expected within any of the four project components. If it is determined that any investment requiring land acquisition is to be made using other funds, the process that is outlined in this Study and the Environmental Framework Policy document must be followed.

Furthermore, WB OP 4.04 on Natural Habitats is triggered, aiming to ensure that the WB-supported infrastructure projects preserve and protect biodiversity and the wealth of natural habitats to the extent possible. This applies to the wetlands component which will be further identified during implementation.

In addition to this, WB OP 7.50 on International Waterways is also triggered since it applies to any water project involving the use or potential pollution of international waterways. This safeguard focuses on resolving issues related to a project's effects on international waterways. However, it specifically exempts from the notification requirement minor additions or alterations to existing schemes that will not adversely change the quantity or quality of water flows to other riparians. As these investments seek to improve the water quality of the waterways in the region, the project clearly meets this definition.

Chapter 2 of the Study provides a review of FBiH EA requirements with extensive description of procedures imposed by the secondary legislation, while Chapter 3 gives a brief review of WB EA requirements with a reference to the major WB safeguards applicable.

Another essential part of the Study represents Environmental Assessment for four sub-project areas in the form required by WB, and contains the necessary chapters addressing: description of project areas, baseline data, analysis of alternatives, identified environmental impacts, and environmental management plan.

The baseline data collected for the project locations include qualitative and quantitative parameters for each of the watercourses on which the project will have direct effect. The data provided depict recent mean measurement values. The frequency of the measurements and the scope of the analyses vary according to location, due to the characteristics or the usage of the watercourse and the area in general. Actual data should be obtained prior to the operational start up of the treatment plants.
Further chapters give an overview of the different project alternatives, as well as a consideration of possible environmental impacts, and propose a suitable environmental management plan to avoid or minimize them. Most short term impacts on the environment, i.e. immediate surrounding of the site, are expected to occur during the construction or future decommissioning activities. These impacts typically include traffic disruptions and congestion, dust, construction waste noise generation. No impacts on historical sites or cultural heritage objects are expected on the locations of the identified four project components. However, in case of Mostar, special precaution measures should be taken during the works in or around the old city area, where numerous significant structures are concentrated.

The project is expected to have a direct positive effect on the surface water quality, especially in the water bodies that have been the recipients of raw sewage. Due to a strong interplay of groundwater and surface water in karst areas, in case of Mostar component there will also be a positive effect on groundwater.

By diverting the sewage from open rivers and water courses, the general pollution in the water bodies will be reduced, hence significantly contributing to overall public health situation. In case of Trnovo component, the project is expected to directly help protect the drinking water source of Sarajevo and improve the drinking water quality, which will also have positive effect on the health of local population.

No negative impacts on natural environment are expected as a result of this project. By careful planning, as well as following the adequate mitigation measures recommended in this Study, the project is expected to have positive overall effect on the nature. Improvement of water quality in the watercourses concerned is expected, which will in turn help preserve and protect the biodiversity and ecosystems.

While different aspects of project alternatives have been considered, it is obvious that the negative environmental impacts of a "do nothing" alternative would be much greater than the impacts that may arise during the construction and the later operation of any of the facilities considered.

Within the project task of the Study preparation, two public consultations were organized for each of the identified four project locations on the following dates:

<table>
<thead>
<tr>
<th>Location</th>
<th>First Public Consultation</th>
<th>Second Public Consultation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trnovo</td>
<td>October 25, 2004</td>
<td>December 09, 2004</td>
</tr>
<tr>
<td>Živinice</td>
<td>October 26, 2004</td>
<td>December 09, 2004</td>
</tr>
<tr>
<td>Odžak</td>
<td>October 27, 2004</td>
<td>December 10, 2004</td>
</tr>
<tr>
<td>Mostar</td>
<td>October 28, 2004</td>
<td>December 10, 2004</td>
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</tbody>
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Extensive documentation from these public consultations (minutes of meetings, with lists of participants) is given in the appendix, along with Environmental Clauses for Civil/Performance Works Contractors that will be used in further project implementation.

Based on this Study, it can be concluded that the overall long term positive effects of the investment at the four identified project sites exceed by far any short term, mostly minor
negative impacts related to facility rehabilitation and construction that may occur. This favorable ratio of the positive and negative effects will be enhanced even further by strict application of the mitigation measures recommended in this study.

For further investments yet to be identified during the project implementation, new Environmental Assessment studies will be based on this initial model Study.