

Tailor-made: Croatia's Twinning Project

A two-year Twinning Project on EU Water Framework Directive implementation, pairing Croatia with Germany as senior twinning partner and the Netherlands as junior partner, has addressed environmental issues to ensure sustainable solutions for water management.

In many ways, the ecological status of rivers in Croatia is surprising. Water quality as indicated by aquatic insects shows that there is a need to reduce organic pollution from households by installing adequate waste water treatment. Yet the impact is less significant than expected.

Croatia is a heterogenic country in terms of its economic and ecologic situation. The Dinaric part on the one hand side is dominated by karstic and coastal areas and is a popular region with tourists. The Pannonian part on the other side comprises the vast floodplains of the rivers Sava, Drava and Danube. Agriculture is the most important source of income in this region. Consequently one size fits all solutions, especially in regard to water management issues, do not apply in Croatia. Tailor-made concepts have to be developed in order to meet the objectives set by the EU Water Framework Directive (WFD).

The main WFD objective for rivers in Europe is to achieve 'good ecological status'. While in EU Member States the results of the assessment are publicly available, there is only very limited information about the ecological status of the rivers Sava, Drava and Danube in Croatia. To get a first impression the EU Twinning Project 'Water Framework Directive Implementation in Croatia', together with the Croatian Ministry of Regional Development, Forestry and Water Management and its background institute 'Croatian Waters', launched joint actions for monitoring, risk analysis and developing a programme of measures.

Understanding Croatia's water status. Biological monitoring is the core of WFD compliant monitoring, and the Twinning Project strongly promoted its implementation in Croatia. A team of German and Croatian experts carried out a monitoring campaign in order to compile comparable and reliable information on the ecological status of Croatia's transboundary rivers.

In many ways, the results were surprising. Organic pollution as indicated by aquatic insects (saprobian index) shows that there is the need to reduce impacts

from households by installing adequate waste water treatment. Yet the impact is less significant than expected, as can be seen on the first saprobic map of



Croatia. An overload of nutrients can also be observed and is indicated by the phytobenthos (microscopic flora found on river bed material) community in areas of intensive agriculture.

A significant but underestimated problem is the structural degradation of rivers. River regulation for flood protection and agricultural purposes has led to a severe loss of river habitats, indicated by macrophytes (free floating or attached plants), fish and macroinvertebrate communities, especially for rivers of the Pannonian flatland.

Managing a variety of new policies. To achieve the economic and ecological targets of the WFD it is necessary to consider other water-related directives, especially those on urban wastewater treatment. Most

of these directives came into force before the WFD, and in older Member States the EU water acquis was implemented step by step. Croatia and other Candidate Countries, on the other hand, have to implement these directives simultaneously, and setting priorities carefully is crucial.

While the WFD has a strong focus on the ambient side (the 'good status' is the main objective) the Urban Wastewater Treatment Directive focuses on the implementation of an adequate wastewater infrastructure, and this infrastructure is costly. In rural countries like Croatia, which have scattered settlements and low

instruments such as implementing a user/polluter-pays fee system. Other examples include:

- To improve wastewater treatment in small settlements, robust low-cost, decentralised or semi-centralised systems should have priority. Combined sewerage should be avoided.
- Morphological alterations can be reduced by a more ecological-oriented maintenance. The 'give space to the rivers' approach should be introduced. Examples from Member States demonstrate that natural structures can be developed in harmony with flood protection and agricultural needs.
- Codes of good agriculture practice should be ap-



A significant problem in the region is the structural degradation of rivers, and river regulation for flood protection and agricultural purposes has led to a severe loss of river habitats (left). However, morphological alterations can be reduced by a more ecological-oriented maintenance, introducing the 'give space to the rivers' approach. Examples from Member States demonstrate that natural structures can be developed in harmony with flood protection and agricultural needs (right).
Credit: Vidakovic

population density, many rivers do not show negative impacts from wastewater. Thus, heavy investments in collecting and treatment systems are not always the right answer. Other water problems like diffuse pollution from agriculture or hydromorphology might be more pressing and thus the priority of investments should also be directed to these sectors.

Project results for real improvement. The results of the Twinning Project identify the need for improvements, primarily in the field of river structures.

Based on the outcomes of the monitoring and impact analysis, tailor-made toolboxes have been created for all significant pressures. The proposed measures range from wastewater treatment installations to an optimised enforcement of permit systems to economic

plied, such as installing buffer zones or establishing financial mechanisms to promote ecological, friendly farming.

- Water saving irrigation systems should be introduced and water leakages in the drinking water sector should also be reduced for climate change adaptation.
- Finally, the dialogue with major water users, research organisations and NGOs has to be widened, and data should be available, up to date and understandable.

The project was finalised in October 2009 but cooperation is ongoing. For complete project results, including, background information, photos, news coverage and a film clip of the EU DG Enlargement about the project, please visit www.wfd-croatia.eu.

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