Transboundary River Basin Management of the Körös/Crisuri River #313 – Hungary-Romania

ABSTRACT

Description:

The European Water Framework Directive (2000/60/EC Directive) was adopted in year 2000. The Water Framework Directive (WFD) requires all Member States to achieve and/or maintain a good chemical and ecological status or potential for surface waters, and a good chemical and quantitative status for ground waters by 2015. These provisions were accepted by the countries of the whole Danube River Basin as well. One of the milestones of the implementation of the WFD is the elaboration of the water management plan by 2009. Administratively, each country is responsible for the development of a river basin management plan for its territory. At the same time basin wide coordination is necessary for international river basins. The Körös/Crisuri river basin, a sub-basin of the Tisza River the biggest tributary of the Danube also shared by two countries: Hungary and Romania. A joint pilot project was launched in 2005 to implement the provisions of the WFD and to help the later elaboration of the coordinated River Basin Management Plan. The results of the Körös/Crisuri project give a sound base for the future preparation of a harmonized Körös/Crisuri river basin management plan.

Lessons learned

The experiments and outputs of the Körös/Crisuri project could be used for other rivers shared by Hungary and Romania (Szamos/Somes, Maros/Mures), and by all the countries of the Tisza/Tisa and the Danube basin. The forwarding of the results of the project to the regional levels is ensured by the ICPDR (International Commission on Protection of Danube River), which is the ideal channel for information dissemination in this geographical area. As all RBM Plans should be elaborated by 2009, this pilot project can be helpful for planning.

The implementation of the project developed a functioning structure of the co-operation of the two countries` experts and authorities.

Importance for IWRM

The project results will help for both countries experts to harmonize their efforts during the development of the River Basin Management Plan for their transboundary waters. The project implementation gave a good opportunity to work together involving all stakeholders. Public participation issues were also dealt in the project frame, which is as essential part of the process. The project also emphasized the necessity to coordinate measures regarding accidental pollution prevention and response activities.

Tool used:
C2.2 – River Basin Management planning
C5.2 – Shared vision planning
C8.2 – Sharing data for IWRM

Keywords
EU WFD, river basin management plan, transboundary waters

MAIN TEXT

Background and problems

The Körös/Crisuri River is one of the main sub-basins of the Tisza/Tisa River, being the largest (157 186 km^2) and longest (966 km) tributary of the Danube. The springs of the Körös/Crisuri, sub-basin of the Tisza/Tisa shared between Hungary and Romania, are located in the Carpathian Mountains at the Northwest of Romania. Its waters cross Hungarian border when entering into the Pannonian plain. The sub-basin is constituted 4 main river courses crossing the border from east to west: the three Körös/Crisuri Rivers and the Berettyó/Barcau river. The three Körös/Crisuri Rivers are Crisul Repede, Crisul Negru and Crisul Alb becoming in Hungary Sebes-Körös, Fekete-Körös and Fehér-Körös (Fast, Black and White Körös/Crisul). In Hungary, they all finally merge into one and flow into the Tisza/Tisa next to the city of Csongrád at about 150 km from its confluence with the Danube. The catchment area covers about 30.000 km^2, about half in each country. The yearly volume of the water resources is estimated at 3 437 million m^3 for the whole basin.

The European Water Framework Directive (WFD) (2000/60/EC) was adopted in year 2000. The WFD requires all Member States to achieve and/or maintain a good chemical and ecological status or potential for surface waters, and a good chemical and quantitative status for sub-surface waters by 2015. This requires immense work to elaborate river basin management plans (RBMP) for the river basins in Europe by 2009. The largest river basin in the Europe is the Danube River Basin where concerted effort is necessary as 13 countries share the basin. According to the requirements of the WFD, for the whole Danube River basin one RBMP should be elaborated. Under the umbrella of the International Commission for the Protection of the Danube River (ICPDR) all Danubian countries agreed to fulfill the WFD requirements. Administratively, each Danubian state is responsible for the development of a river basin management plan for its territory. One of the main obstacles of the elaboration of the RBMP is the promotion of the coordinated work on multi country level. It is especially important for international river basins. The Körös/Crisuri River basin, a sub-basin of the Tisza River also shared by two countries: Hungary and Romania.

A joint pilot project was launched in 2005 to implement the provisions of the WFD and to provide a sound base for the later elaboration of the coordinated River Basin Management Plan for the sub-catchment area of the Körös/Crisuri River. The project aimed to enable the Romanian and Hungarian authorities to implement a sustainable development policy in this transboundary river basin, using balanced management of water resources, meeting the users' needs and preserving ecosystems and aquatic environments, taking into account the WFD requirements. The project also aimed to involve all stakeholders into the decision making procedure and also to harmonize the two countries authorities, directorates to prevent accidental water pollution events and mitigate jointly the harmful effects of such pollution with the elaboration of the harmonized contingency plan for the Körös/Crisuri River.

Decisions and actions taken

The Körös/Crisuri project was launched and complemented with French financial and technical assistance. The project was approved in 2002, by the Hungarian Ministry of Environment and Water, the Romanian Ministry of Environment and Water Management and the French Fund for Global Environment (FFEM). In both countries other governmental

organisations were involved into the project. From Hungary: the Regional Directorates for Environment and Water (KÖVIZIG) of the Körös Region and Trans-Tisza Region, the Regional Inspectorates for Environment, Nature and Water of the Körös Region and Trans-Tisza Region. From Romania: the National Administration Romanian Waters (ANAR) specialists at national level, Crisuri Water Directorate, the National Institute of Hydrology (NIHWM). From both sides, the independent national experts and consultant companies were involved.

The contracting authority of the project was the International Commission for the Protection of the Danube River, the prime contractor the International Office for Water (IOW) directing a pool of experts. The project was financed by the French part in the form of a subsidy of 1,024,000 Euro, which represents about 28 % of the total program (about 3, 7 million Euros). The rest of the budget was provided by the countries in a form of expert participation, local organization, transport and direct contracting with external consultants..

The project formulation has started in 2002 and after a long preliminary phase the actual implementation was launched in 2005. The project has terminated by the end of 2007. The French expert group led by IOWater, assisted the authorities of both countries to orient, prioritize and coordinate the activities implemented by national experts.

A project supporting team was established in each country to facilitate the work implementation such as mission program preparation, data collection and information exchange in each national sector. In addition, the project coordinator was responsible of the following practical tasks:

- Provide good logistical support in the organization and setting up of meetings
- To support the project team and experts by assisting them at the meetings;
- To support the project team and experts by developing and maintaining close working contacts and relations with staff and officials involved in the project;
- To assist the project leader in identifying, contracting and monitoring service contracts;
- To support the project management team to organize and co-ordinate all local travels, accommodation and related problems within the confines of the project.
- To support the project management team and experts in the activities on expert level by interpretation and by informal translation of documents, preparation of minutes etc.

One of the main goals of the project was to strengthen the Hungarian and Romanian co-operation between organizations in charge of environment and water management including public participation, data exchange and structuring, and preventing accidental water pollution. The responsible ministries and regional organizations, hydrographic institutions with relevant databases and consulting companies were involved in the project from both countries. The stakeholders, including the public and civil organizations, were also involved in the discussions of the planned improvements.

Beside the above mentioned project goals the following other activities were taken into account:

- Creation and animation of a Hungarian-Romanian Steering Committee under the aegis of the ICPDR, for the project, proposal and development of structure to facilitate stakeholders consultation
- Increasing the capacity for collecting and analyzing the data related to water quality management from both countries

- The improvement of data structuring, exchange and standardization of analysis methods inside and between both parties. Data assessment with the help of different modeling tools in both country (e.g. WAC model, WaQ model, QUAL2K model)
- Assistance with the improvement of action processes and their coordination in case of accidental water pollution
- Assistance with the further elaboration of the basin characterization and procedures for the development of a preliminary transboundary harmonized management plan in accordance with the recommendations of the WFD (e.g. Annex VII.)
- Elaboration of the methodology of the harmonized contingency planning.

The following activities were undertaken to complete the objectives of the project. They have been assigned to one component on project management and four on technical components requiring specific technical assistance.

Work Package A:	Project management - Setting up of the working groups structure, follow up and general coordination of the project
Work Package B:	Enhancement of response to accidental water pollution
Work Package C:	Information handling and analysis, general GIS of the basin Support for the current implementation of the WFD Support for the future preparation of a harmonized Körös/Crisuri River basin management plan in a participative process

The objectives of the project were achieved mainly through a joint collaborative work between French, Hungarian and Romanian experts, the overall works being supervised by the ICPDR through the steering committee.

The project included French expert visits, workshops, training courses on data management, and two study visits in France for Hungarian and Romanian experts.

In total 70 expert missions has been carried out since the beginning of the Körös/Crisuri project including 12 missions in the work package A, 8 in the work package B, 10 in the work package C1, 23 in the work package C2 and 18 in the work package C3.

Workshops were organized with the support of central and regional institutions of the countries, taking into account:

- the relevant implementation issues at Danube and Tisza basin, bilateral and national levels
- the existing organization in both national sector of the catchment area
- the activities of the ICPDR thematic expert working groups
- transboundary activities

Beside workshops training activities were performed in the frame of the project

- 2-days training on quality management for water analysis in each country (11 participants in Hungary and 16 participants in Romania)
- Blank audit on quality management of the two main water quality analysis laboratories of the pilot basin region (Debrecen and Oradea)

- 2-day training on biological elements sampling methods including practical exercise 15 participants)
- 3-days training session on GIS for 9 persons with specific training on Arcmap, Arc-catalog, Arc tools.

The workshops included presentations of French and European experiences, presentation of Hungarian and Romanian experts on the works undertaken for these topics on the pilot basins, discussion on the coordination of the work and conclusions on the suitable improvement.

The project also provided presentations and discussions on project activities with ICPDR Expert Groups related to the work of the project and in particular, River Basin Management Expert Group (RBM), GIS Expert Subgroup, Accident Prevention Control Expert Group (APC) and the Ad Hoc Tisza Expert Group. Experts from these groups were involved in project activities as workshop participants and/or experts to ensure integration with the work of the ICPDR.

The study visits were organized on specific subjects for Hungarian and Romanian specialists from the public administration supporting the WFD implementation in order to meet different specialists and stakeholders involved in the elaboration of river basin management plans and programmes of measures and to see the actual results of the process.

The major outputs of the project are the following:

- Elaboration of a harmonized accidental pollution prevention plan,
- Elaboration of a programmes of measures (PoM's) following the logic of a management plan for the Crisuri Repede/Sebes Körös sub-basin,
- Preparation of a guidance document gathering the main methodologies used for the main steps leading to the development of a management plan.

The final project phase was mainly targeted to project results dissemination. A leaflet is under preparation for international experts.

Outcomes

The results of the Körös/Crisuri project gave a sound base for the future preparation of a harmonized Körös/Crisuri sub-river basin management plan. The output of the project is homogeneous in every detail, and can be equally useful in both Romania and Hungary. During the project implementation many information and data were exchanged and a common platform was elaborated for data management based on GIS, including maps, which can be sustained in the frame of further transboundary cooperation.
All work packages were elaborated a satisfactory way, the results will be used in the later phase of the RBM planning.

During the implementation of the project, French technical support was provided in the form of expert missions. For example, the French partner helped Romania assemble all the necessary geographical information software and hardware. The involvement of external experts in the project was also highly beneficial e.g. in Hungary the VITUKI Consult Ltd. provided translations and technical help. Furthermore, the representatives of the regional organizations participated in technical study visits to France. The share of the know-how

among the three countries experts is one of the main results of the successful implementation. A public participation consultation test was also organized including the preparation of adapted communication supports. The PP consultation has been conducted in both country separately with the help of the French experts. Supporting material (leaflet) was prepared about the project objectives, preliminary results, etc. During the stakeholder consultation/hearing all relevant partners were invited including local municipalities, NGO's water authorities, etc. Their contribution was valuable for the finalization of the project.

The experts elaborated the possible programmes of measures for the entire river basin to achieve the good status by 2015. Both basic and supplementary measures were taken into account regarding point sources of pollution (urban, industrial) diffuse sources from agriculture, hydromorphological restoration, flood management measures, wetland, habitat restoration, economic tools, etc, by using the results of water quality and quantity related models. The programmes of measure covered both surface and groundwaters. Important part of the process was the economical analysis of the affordability, cost effectiveness and the global cost recovery analysis of the envisaged PoM's. In the frame of the project the analysis was also conducted on the water quality foreseen after PoM implementation. According to the expected results of the PoM implementation the good water status can be reached by 2015 via the thorough implementation of basic and supplementary measures.

The most problematical parts of the project were the economic efficiency and cost-benefit analysis. However, although the final modeling is still under construction, the project has been implemented and the experts from both countries have gained a number of valuable experiences.
This project also respects the requirements of the Helsinki Convention about the protection and utilization of transboundary water and international lakes and the Hungarian-Romanian Transboundary Water Commission, especially in the prevention of accidental pollution events.

Lessons learned and replicability

The experiments and outputs of the Körös/Crisuri project could be used for other rivers shared by Hungary and Romania (Szamos/Somes, Maros/Mures), and by all the countries of the Tisza/Tisa and the Danube basin. The forwarding of the results of the project to the regional levels will be ensured by the ICPDR, which is the ideal channel for information dissemination in this geographical area. As all RBM Plans should be elaborated by 2009, this pilot project can be helpful for planning.

The implementation of the project developed a functioning structure of the co-operation of the two countries` experts and authorities.

The project implementation helped the development of common understanding for the countries experts in the implementation procedure. It also gave a good possibility to work together, using a common language for better understanding.

It was learned that on the field of accidental water pollution prevention, the efficiency of data exchange harmonization should be strengthened and is important both at international level but as well between administrative regions of a same country.

On the field of the implementation of the WFD although that several technical efforts have happened, but due to the different GWB delineation processes in Hungary and Romania the harmonization of the transboundary GWB's is still need further inputs, and political agreement.

The final report is available, the evaluation of the project results are in progress.

The events where the project results were presented are the following:

- Tisza Expert Group meeting in Bucharest on 20 February 2007.
- GIS expert group of the Danube basin in Brno (Czech Republic) on 19-20 March 2007
- International seminar on integrated water management before the Euro RIOB meeting in Debrecen on 6 June 2007
- Presentation of the project results on groundwater monitoring on 7-9 June 2007 at the Belgrade conference on ground water management in the DRB and other large river basins including the publication of a scientific communication.

The successful implementation required political support, financial resources and expertise as well.

Contacts, references, organizations

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The project documentations are available at the ICPDR WEB site. www.danubis.org