

# The RIVER 21 concept: envisioning the future of international river basins

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## Abstract

The RIVER 21 concept, as developed by universities in France, Belgium and the Netherlands, is a tool for teaching vision-building processes on international river issues. The concept is based on a combination of traditional knowledge transmission and interactive, outdoor learning activities in an international context. In a two weeks project, staff and students experience important steps of a decision making process in a multi-stakeholder context with absence of central authority. The concept inspires students to be visionary thinkers and learn how to deal with uncertainties of the future. Vision building enables stakeholders to share information and to reach a common understanding of stakes and goals. It can be a tool for planners by looking at an entire river basin system and structuring problem solving. Finally, vision building is important for politics: a shared vision makes it easier to hold stakeholders accountable.

## Introduction

Decision making processes on international river issues are highly influenced by the hydro-geographic context (upstream-downstream relationships), the absences of central authority, the presence of multi-level negotiation games (multinational, bi-national, intra-national, inter- and intra-organisational), socio-economic characteristics, power balance, institutional and cultural differences (Clevering, 2002; Santbergen, 2000; Meijerink, 1999).

Experiences from the Scheldt River Basin, shared by France, Belgium and the Netherlands, learn that the International Scheldt Commission (installed in 1998) mainly deals with unstructured, wicked problems in which no consensus on values and knowledge has been reached and ill-structured problems in which consensus only on knowledge (and not on values) exists (applied after de Bruijn & ten Heuvelhof, 2002; Table 1).

Related to the Scheldt river basin, Meijerink (1999) speaks about a pluricentric perspective of decision making in which interdependent stakeholders play games in multi-level

	No consensus on values	Consensus on values
No consensus on knowledge	Unstructured problems	Moderately structured problems
Consensus on knowledge	Ill-structured problems	Structured problems

Table 1. Four types of policy problems (de Bruijn & ten Heuvelhof, 2002).

networks, driven by self-interest and maintaining autonomy.

Above all, a lack of political ambition of the riparian states on a shared (and supported) long term vision on sustainable development and management of the Scheldt river basin, seems to hinder progress, more than the impact of historical grown distrust, language barriers and cultural differences (Santbergen, 2000). Or to quote a former Dutch chairman of one of the working groups: "Now, when we look back at the first five years of the International Scheldt Commission, I think we will have to admit that we have been too blind to our common interests".

Expectations are that the European Water Framework Directive, aiming at river basin management plans for all European river basins, will cause a window of opportunities for transboundary river basin commissions like the International Scheldt Commission. The river Scheldt pilot project on testing the guidance's on the implementation of the Water Framework Directive will improve the international cooperation on integrated water management and will result in a shared international management plan for the entire river Scheldt district (Scaldit, 2003). According to universities in the Scheldt river basin, such a river basin management plan should be based on a shared long-term vision of all stakeholders involved. The first step in achieving future cooperation is to train students and young professionals in 'transboundary river basin thinking' (Ruijgh-van der Ploeg & Verhallen, 2002). Therefore, the ENGREF Montpellier Center of the National School of Water Management and Forestry, the University of Ghent, the University of

Antwerp, Delft University of Technology and Wageningen University and Research Centre, developed a concept in which students and staff undergo a two weeks vision-building process together. This concept, RIVER 21 (aiming at envisioning the future of the world's rivers in the 21<sup>st</sup> century), has been developed and applied in the Scheldt river basin (2000, 2001, 2002 and 2003) and partly in the Tisza river basin (shared by Romania, Ukraine, Hungary and Yugoslavia; 2002).

## Materials and methods

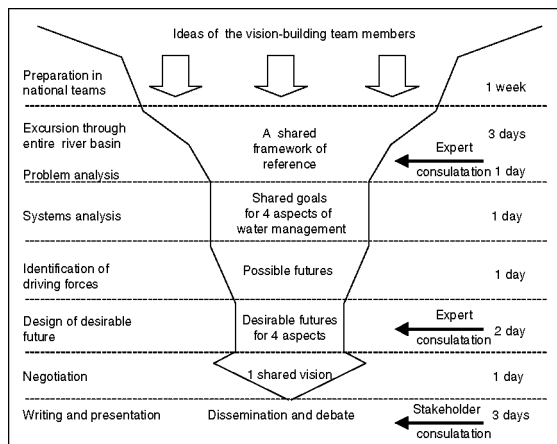


Figure 1. The River 21 concept (in: Ruijgh-van der Ploeg & Verhallen, 2002).

Fig. 1 summarizes the RIVER 21 concept and includes the following steps:

- Teaching principles of integrated water management, policy analysis and systems analysis (at each individual university).
- Preparations in national teams: literature review by staff and students, interviews with stakeholders.
- Joint excursions and meetings with stakeholders in the river basin: in the field, students are introduced to the major water-related issues of an European transboundary river and asked to explore the future of water management in the basin in a systematic manner, together with their European peers.
- Systems analysis in international sub-groups aiming at formulating shared goals for several aspects of river basin management.
- Integration of systems analysis for the different aspects in a plenary session.
- Scenario analysis in international sub-groups aiming at identification of driving forces and possible futures.
- Design of desirable futures for the different aspects in international sub-groups.

- Negotiation and decision-making on one shared vision in a plenary session.
- Presentation of the vision to the involved stakeholders of the riparian states.

## Results

Lessons learned so far are:

- The RIVER 21 concept is a good instrument to learn how to deal with cultural diversity and to express oneself in a not native tongue.
- The RIVER 21 concept offers possibilities to develop negotiating skills; to experience one's own strengths or weaknesses in negotiation and the gap between one-side statements and common interests.
- A lot of participants were not familiar with vision building and learned that the systems analysis and vision building language is not a common language. For example: ways of learning at universities in Hungaria and Romania are different than in the Netherlands.
- The multi-disciplinary and visionary perspective was new for most participants and the usefulness of the underlying systems analysis was acknowledged as a tool to structure available information and to come to joint fact-finding.
- There is not one central way to integrated river basin management. Involvement of different disciplines doesn't automatically lead to an integration of knowledge from  $\alpha$ ,  $\beta$  and  $\gamma$  sciences.
- By applying the RIVER 21 concept, views, issues and interests of the different riparian countries become clear; students bring in new and fresh ideas but also are tempted to defend their own countries interests.

## Discussion

The RIVER 21 concept is no new method or a blueprint, but a concept in which existing methods like systems and scenario analysis are combined in a multi-stakeholder context. The essence of the approach is that stakeholders undergo an entire process together, from problem definition to envisioning the future and defining actions. In this sense, the concept can be seen as an active form of public participation as mentioned by the European Water Framework Directive (article 14). Although only completely tested by university staff, students and young professionals in the Scheldt river basin, the concept can be applied in other transboundary river basins as well as by planners, decision-makers, scientists and other stakeholders at different institutional, spatial and temporal scales and at strategic, normative and/or

operational levels. Students and young professionals are the water managers of tomorrow. Unfortunately, universities do not have much of interactive, transboundary programmes in regular their bachelor-master curricula. The problem of how to secure these intensive courses needs to be addressed urgently.

### Conclusions and recommendations

Transboundary water management issues can be tackled by considering the river basin as a unit including everyone affected, and, while temporarily ignoring boundaries, discovering the issues and possible solutions for the future. Building a vision challenges us to be creative and allows us to dream. According to the students, vision building enables stakeholders to share information and learn from each other in order to reach a common understanding of the stakes and goals. Vision building can be a tool for planners: it structures problem solving when spatial scales are large and time scales are long. It demands that planners look at the entire system. Vision building is important for politicians; a shared vision makes it easier to hold stakeholders accountable. According to the staff, the concept can help delegation leaders of international river basin commissions at the highest levels to overcome business as usual, if they are willing and political supporting the creation of a shared vision by actively participating in the process. The concept can be further developed and improved in transboundary river basins with different hydro-geographic, political-institutional, cultural and socio-economic

contexts. In 2004, the fifth Scheldt edition will take place involving university staff, students and stakeholders from all riparian states (including Brussels and Wallonia). Plans are developed to apply (and improve) the concept in former Soviet states and accession countries to the European Union.

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