

Building Benefits...Not Conflict

Introducing the Transboundary Waters Opportunity Analysis



Transboundary waters are rising on the international agenda. As the forces of climate change, population shifts, and economic stress converge on water scarce countries, the issues of shared freshwater resources move from long term concern to geopolitical urgency. For many nations, transboundary water is becoming essential water.

This is not an area that lends itself to easy decisions. Leaders in both developed and developing countries understand the importance of their shared water resources to public health, social stability and economic vitality. They also know that the water they share with other nations and regions can be a source of conflict or cooperation at many levels. But they are often hard pressed to know what to do about it.

What is needed is a practical way to understand the complex connections between water needs and available water resources, all within a context that emphasises optimised shared benefits as a viable alternative to simple competition for volume and access. This is the purpose of Transboundary Waters Opportunity (TWO) analysis, a methodology developed by SIWI and partners that enables shared water stakeholders to understand both opportunities and trade-offs through context-specific analysis.

Getting past zero-sum thinking

The obvious solution to most water challenges is to conserve the available water and use it prudently. But in regions where water is scarce and shared by numerous countries, more is needed. Some analysts have suggested that water shared by countries may incite violent conflict, if not war, in the future. However, the broader scientific consensus is that there is much more potential for cooperation over shared water rather than conflict. Still, much of the dialogue

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between countries has been focusing on how to divide the water rather than sharing the resource. This has inevitably led to a zero-sum thinking (“what you gain I lose”) instead of a positive-sum thinking.

During the last few years the concepts of water security and benefit sharing from water utilisation have been a major focus of the World Bank and the Nile Basin Initiative (NBI). This work has tried to broaden the scope for discussing transboundary water management. Rather than dividing the water resources along political and national boundaries, a broader basket of benefits can be gained through focus on optimal management of the shared water resource and

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securing an acceptable quantity and quality of water for health, livelihoods, ecosystems and production.

Understanding opportunity

Based on the work done previously on benefit sharing, SIWI, the Council for Scientific and Industrial Research (CSIR) in South Africa and Phillips and Robinson Associates (PRA) in Namibia have developed a report detailing a conceptual framework for use by basin states and other stakeholders sharing freshwater resources. The report, *TWO Analysis – Introducing a Methodology for the Transboundary Waters Opportunity Analysis*, outlines a concept for analysing potential benefit in a transboundary river basin that can optimise economic growth, political stability and regional integration for water security.

The TWO approach analyses the availability of water and then assesses the potential of socio-economic activities that could be supported by the resource. There are three potential sources of water to support development. “New water” can be introduced to a basin through desalination technologies, inter-basin transfers or other means of adding water to the inland water cycle. Water can also be made available through more efficient use of water. Thirdly, some basins have surplus water that can be

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put to productive use. The assessment of socio-economic development options includes hydropower, primary production, urban and industrial use, tourism and aesthetic use.

The different potential combinations of water sources and water uses are presented as development scenarios that will help stakeholders and countries identify next steps in exploring collaborative management and development opportunities. Further analysis would focus on costs and benefits of these scenarios and help in the decision-making process.

From analysis to application

The TWO framework was recently used in the Nile basin, where participants remarked on its utility to identify and distribute benefits, something that has been a primary goal for the Nile Basin Initiative for more than a decade. The SADC Water Sector (through GTZ) recently appointed the CSIR to implement this approach in the region, with a particular focus on the Orange-Senqu river basin.

The Baltic TurnTable (BTT) Initiative in Europe is also considering the approach, which will be the first application of TWO analysis for developed countries.

Although the TWO framework is already in use, the early experiences will help the SIWI team refine the methodology through quantitative indicators that might make it more specific and robust.

The report is accessible at: www.siwi.org.

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Factors: Development	Categories: Sources	a) New Water	b) Efficient use of water	c) Other sources in basins that are not closed
1. Hydropower and power trading		Location of reservoirs in high altitudes to minimise evaporative losses	Siting of multipurpose dams for e.g. hydropower and irrigation in optimal locations	Additional electricity generation through hydropower schemes and power pooling
2. Primary production		Re-use of treated wastewater for irrigation	Green Water use to increase agricultural outputs	Investment in bio-energy crops
		Interbasin water transfer schemes	Increase efficiency in irrigation	Introducing aquaculture
3. Urban growth and industrial development		Strengthen institutional management for water allocation to more high value use	Maximising economic returns per unit of water in industry	Recharge of groundwater
4. Environment and ecosystem services		Use of "green credit schemes" through e.g. water purification in wetlands	Optimising economic returns from developing fisheries and tourism sector	Allocate water to restore ecosystems
5. Others (every basin is unique and other opportunities may exist)		Desalinate water for high value use	Drought-proofing through improved land management	Flood protection

The conceptual framework for the TWO Analysis. The table includes examples of opportunities that could be realised using the TWO analytical framework in a specific river basin.