

Global High-Level Panel on Water and Peace

Discussion Note



Sharing benefits in shared basins

What are the opportunities of and experiences with benefit-sharing in transboundary basins?

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The analysis and recommendations in this note represent only the opinion of the authors.

1.1. Objective of this paper

This paper provides a short overview of opportunities of benefit-sharing in transboundary basins as well as some of the lessons learnt from initiatives to put this concept into practice. It aims to support the High-Level Panel (HLP) in deliberating how to prevent and cope with water-related transboundary conflicts and to facilitate the role of water in building peace and cooperation. To this end, it starts out with a short reflection on the potential benefits of transboundary cooperation and how these could be shared. Based on this, it discusses the challenges that remain in operationalising the concept of benefit-sharing to foster transboundary cooperation and that may benefit from international guidance such as the HLP aims to provide.

1.2. The concept of benefit-sharing

Benefits of transboundary cooperation

The main idea behind the concept of benefit-sharing is that riparian countries in transboundary basins should focus on sharing the benefits that accrue from the use of the basin's resources instead of focusing solely on the allocation of water resources among riparians. In terms of a basin's political economy, this is about shifting from a necessarily competitive zero-sum game (where one country's water allocations come at the expense of the other's) into an at least partly cooperative positive-sum game, creating incentives for cooperation (e.g. where one country's water use and management produces co-benefits for other riparians, or the optimization of water across the basin creates a 'benefit surplus' that can be shared among riparians).

Cooperation in transboundary river basins can yield different types of benefits including economic, environmental, and political benefits: Economic benefits may accrue directly, e.g. from improved hydropower production and transmission, flood protection, and increased agricultural output, or indirectly, e.g. from better integration of markets and trade. Environmental benefits include improved water quality, secured environmental flows, and wetland conservation. Political benefits finally may include increased regional cooperation as well as regional security and stability. A commonly used typology to systemize benefits related to cooperation in transboundary basins has been developed by Claudia Sadoff and David Grey (2002) and is reflected in table 1 below.

The idea of benefit-sharing is based on the fact that international coordination in the management and development of water resources in a transboundary basin may allow for optimization of resource use and increase overall benefits. For instance, water might be used more efficiently for food production in certain parts of the basin than in others, or coordinated dam operation across a basin can increase overall efficiency in hydropower generation. Moreover, one country's resource use for a certain purpose can create benefits for other riparians. One example for such win-win constellations would be that the construction of dams for hydropower production can simultaneously result in improved potential for downstream flood management, improved downstream navigation, greater downstream hydropower potential due to more stable flows etc. Similarly, watershed management projects upstream can provide downstream benefits in the form of flood control, reduced siltation, and even higher water availability. Sharing the benefits and costs resulting from the use of a basin's resources can provide incentives to cooperate rather than to act unilaterally.

Table 1: Types of benefits from cooperation on transboundary rivers (adapted from Sadoff & Grey 2002)

Type of benefit	Examples of problems & issues	Examples of benefits from cooperation
“environmental” : Benefits “to the river”	Poor water quality, degraded watersheds, wetlands & biodiversity	Improved water quality, improved river flow, soil & watershed conservation, protection of biodiversity, afforestation
“direct economic” : Benefits “from the river”	Increasing demand for water; sub-optimal water resources management (WRM)	Better WRM for hydropower and irrigation, flood management & drought mitigation, navigation, fisheries, recreation
“political” ; reducing costs “because of the river”	Political tensions & conflicts	Improved political relations and regional stability, increased food & energy security
“indirect economic” ; Benefits “beyond the river”	Lack of regional infrastructure; under-developed trade & regional services	Better integration of infrastructure, markets & trade

Mechanisms for benefit-sharing

The benefits that result from coordinated river basin management are often not equally distributed among riparian states. They usually depend on their respective position (upstream or downstream) in the basin, their former water use (and water allocations), economic context, etc. In order to provide incentives for cooperation, it is thus necessary to agree on how benefits (and costs) are shared among riparians. There are different approaches to sharing costs and benefits:

- a) through direct compensation in form of financial flows or joint ownership of water infrastructure, or in non-monetary terms such as the transfer of water rights or transfer of electricity produced from hydropower dams; or
- b) through linking several opportunities for cooperation, such as water management projects to offset different cost-benefit balances.

Linking different issues and opportunities for cooperation can facilitate benefit-sharing negotiations and increase overall resource efficiency. For example, benefits from hydropower production and flood management could be shared in a “basket of benefits”. Opportunities for win-win solutions expand as riparians look beyond benefits directly resulting from the various uses of the basin’s water resources and include related sectors, for example options for mutual investment and trade in agriculture (e.g. preferential investment options and water efficiency measures in irrigation) and arrangements for grid connections and power-trading, or benefits with regard to transportation, security, etc.

Such baskets of benefits can take different forms. Issues, such as which projects, types of benefits and water uses to include – as well as sharing mechanisms and organizational structures – need to be negotiated among the riparians concerned. While most of the existing experience with benefit-sharing in transboundary basins focuses on projects with clear and limited scope, there are also approaches that look at a larger number of projects with counterbalancing costs and benefits. Scenarios of open baskets of benefits are taken as a basis for negotiations, e.g. in the Transboundary Waters Opportunity (TWO) analysis (Phillips et al. 2008).

Whereas the scope of the approach is almost unlimited, experience has shown that it is the process of negotiating benefit-sharing agreements rather than the technical solutions identified that is of utmost importance for success (Klaphake 2005). Current scholarly discussion about the potential of benefit-sharing and basket of benefits approaches in promoting transboundary water cooperation

clearly show that the prerequisite for successful implementation is trust among all participants. Because building trust is a slow and often non-linear process, negotiating benefit-sharing agreements takes a lot of time. Achieving agreement on benefit-sharing packages in the Lesotho Highlands project and the Senegal basin (see Box 1 below), for instance, each took about 30 years.

Third parties, such as funding agencies, can play an important role in promoting shared baskets of benefits. They can initiate the quest for shared benefits (e.g. by providing seed funding), act as mediators to reconcile diverging interests, serve as external experts to assess potential costs and benefits, provide know-how on technical and administrative issues, and facilitate trust-building by leveraging their expertise to vouch for the credibility of assessments and valuations.

1.3. The challenges ahead

The analysis above entails a number of challenges for the international community that the High-Level Panel could discuss in its efforts to draft a set of proposals on how to prevent and cope with water-related transboundary conflicts and facilitate the role of water in building peace and cooperation.

Assessing potential benefits to be shared requires mutual agreement on underlying data. In shared river basins, however, data is often contested among riparians. Moreover, the various water uses are valued differently by different users and perceptions often overshadow facts. How benefits are valued by riparian countries largely depends on national development priorities. Approaches have to be developed for dealing with data contestation, diverging perceptions, and balancing national priorities. Third parties might have an important role to play in developing approaches as well as facilitating processes.

Even if assessments reveal potential win-win solutions, agreeing on benefit-sharing mechanisms entails political risks, especially in cases where the status quo favours one or a limited number of riparian states. Drafting benefit-sharing mechanisms therefore needs to be combined with hydro-diplomacy efforts and ensure perceived fairness of benefit-sharing agreements.

Political risks may also result from local implications of international benefit-sharing agreements. While transboundary agreements may support win-win solutions at the scale of riparian states, they may still entail uneven distribution of benefits and costs at the local level, e.g. between irrigation upstream of a dam and fisheries downstream. Benefit-sharing agreements need to be politically communicable to national constituencies. Domestic politics is thus an important factor to consider in efforts to promote benefit-sharing in basins. Initiatives to foster a basket of benefit vision should thus consider how benefits and related costs of cooperation can be packaged in national communications. There is need for guidance on how to involve local interests in transboundary negotiations.

Uncertainties with regard to the expected size of benefits and the question whether benefits will actually materialise in the future hamper benefit-sharing negotiations. Strategies need to be developed not only to reduce the level of uncertainty but also to deal with a certain level of uncertainty that will remain. Such strategies could include providing financial as well as political guarantees.

Box 1 Benefit-sharing in the Senegal River basin

Against the backdrop of the Sahel Drought, three of the Senegal River's riparian countries, namely Senegal, Mauritania and Mali created the Organisation pour la mise en valeur du Fleuve Sénégal (OMVS) in 1972 (Guinea did not participate because of political reasons at the time but joined OMVS in 2006). This process was based on a mutually perceived need for basin-wide cooperation in order to create food security and sustained economic development, including access to cost-efficient electricity. At its first meeting in 1972, the Council of Ministers decided to realize, among others two dams: an upstream dam at Manantali for flow regulation, hydropower generation and double-crop irrigation, and a delta dam at Diama to fight salt intrusion and for irrigation purposes.

The two dams were completed in the 1980s. Conventions agreed among the Member states laid down that: the dams and other infrastructure are co-owned by OMVS member states; the co-owners guarantee repayment of loans extended to the OMVS; and investment costs and operating expenses are allocated to the co-owners according to their use of the benefits generated from the dams; In order to define the sharing of costs, a so called "clé de répartition" was therefore developed at the time by Utah State University and adopted by the member states.

Benefit and cost allocation (clé de répartition)	Mauritania	Mali	Senegal
Irrigation potential, based on the joint operation of Diama and Manantali	31%	11%	58%
Energy generated from Manantali	15%	52%	33%
Navigation potential generated from Manantali	12%	82%	6%
Total cost allocation by country	22.6%	35.3%	42.1%

In the case of the Senegal River, expected mutual benefits clearly served as a motivator for transboundary cooperation. Countries came together to form a river basin organisation that would be able to create food security and sustained economic development, including access to cost-efficient electricity. Based on this joint vision, the OMVS member states managed to agree on a cost sharing agreement that was perceived as fair.

Still, the multiple goals (irrigation, hydropower and navigation) of the dam projects could not be achieved due to financial constraints, implementation deficits, and bad planning, clearly demonstrating the uncertainties related to benefit sharing agreements. Moreover, environmental and social effects at the local level were not sufficiently taken into account in the project planning, which resulted in different controversies. Meanwhile, mitigation measures to address environmental and social impacts have been implemented with considerable success.

(Source: adapted from Kramer et al. 2012)

1.4. Further readings

Mekong River Commission Initiative on Sustainable Hydropower (2012): Knowledge base on benefit sharing. available from: <http://www.mrcmekong.org/assets/Publications/Manuals-and-Toolkits/knowledge-base-benefit-sharing-vol1-of-5-Jan-2012.pdf>

This report reviews the concepts and principals of benefit sharing as well as the main categories, types and mechanisms for hydropower and other natural resource extraction sectors. It highlights national experience in Mekong Countries as well as examples from different regions of the world.

Hensengerth, Oliver, Ines Dombrowsky, and Waltina Scheumann (2012): Benefit-Sharing in Dam Projects on Shared Rivers. Discussion Paper 6/2012. Bonn: Deutsches Institut für Entwicklungspolitik (DIE). available from: <http://www.die-gdi.de/discussion-paper/article/benefit-sharing-in-dam-projects-on-shared-rivers/>

This study analyses specific mechanisms for benefit-sharing applied to the specific case of dams on international rivers and asks both what incentives can be offered to encourage benefit-sharing and what benefit-sharing mechanisms can be identified. The authors present a conceptual framework for benefit-sharing in dam projects, apply it to various case studies and analyse factors that influence benefit-sharing.

United Nations Economic Commission for Europe, UNECE, 2015: Draft policy guidance note on identifying, assessing and communicating the benefits of transboundary water cooperation. ECE/MP.WAT/WG.1/2015/4, available from: http://www.unece.org/fileadmin/DAM/env/documents/2015/WAT/06Jun_24-25_IWRM_Geneva/ECE_MP.WAT_WG.1_2015_4_Benefits_policy_guidance_ENG.pdf

This guidance note proves an introduction to the benefits of transboundary water cooperation and how to carry out a benefit assessment exercise. It suggests how to approach identification, assessment and communication of benefits, as well as how the assessment of benefits can be integrated into transboundary water cooperation policy processes

Phillips, David et al. 2008: The TWO Analysis: Introducing a Methodology for the Transboundary Waters Opportunity Analysis. Report Nr. 23. Stockholm: SIWI. available from: <http://www.gwp.org/Global/ToolBox/References/The%20TWO%20Analysis.%20Introducing%20a%20Methodology%20for%20the%20Transboundary%20Waters%20Opportunity%20Analysis%20%28SIWI,%202008%29.pdf>

This report presents a conceptual framework that can be used by stakeholders concerned by the development and management of shared freshwater resources. The objective is to promote the sustainable and equitable use of transboundary water resources, and to clarify trade-offs relating to development. The report outlines a concept for analysing potential benefits in a transboundary river basin to optimise economic growth, political stability and regional integration.

1.5. Bibliography

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Klaphake, Axel 2005: Kooperation an internationalen Flüssen aus ökonomischer Perspektive. Discussion Paper 6/2005. Bonn: Deutsches Institut für Entwicklungspolitik.

Phillips, David; Allan, Anthony; Claassen, Marius; Granit, Jakob; Jägerskog, Anders; Kistin, Elizabeth; Patrick, Marianne; Turton, Anthony 2008: The TWO Analysis: Introducing a Methodology for the Transboundary Waters Opportunity Analysis. Report Nr. 23. Stockholm: SIWI.

Sadoff, Claudia and Grey, David 2002: Beyond the river: the benefits of cooperation on international rivers. *Water Policy*, 4, 389–403