



# Challenges & Opportunities: Benefit Sharing Mechanisms in Dam Projects on Shared Rivers

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Benefit Sharing in Dam Projects on  
International Rivers  
Opportunities for Development Cooperation

## Outline

- A recap: Optimizing infrastructure from a basin perspective: the rationale for benefit sharing
- Examples of benefit sharing
- A development partner perspective: moving ahead with benefits sharing: what do we need to do?



## **Unilateral action by any one country concerning infrastructure development in international basins is often:**

- ineffective
  - Flood management
- inefficient
  - hydropower development in a flat downstream country
- or politically impossible
  - developments on boundary stretches,
  - closed basins => no available water rights
  - negative external effects => conflicts with international water law principle of “no harm”



## **Optimising infrastructure investments from a basin perspective therefore often requires a regional or cooperative approach:**

- Water use in one part of the basin creates external negative effects in other parts.
  - If these externalities are not ‘internalized’, the overall benefits are reduced and the outcome is suboptimal.
- Optimal use of scarce financial resources by following most efficient (most value for money) basin development pathway
  - develop most suited sites first
  - utilize comparative advantages



## The ,benefit sharing‘ approach

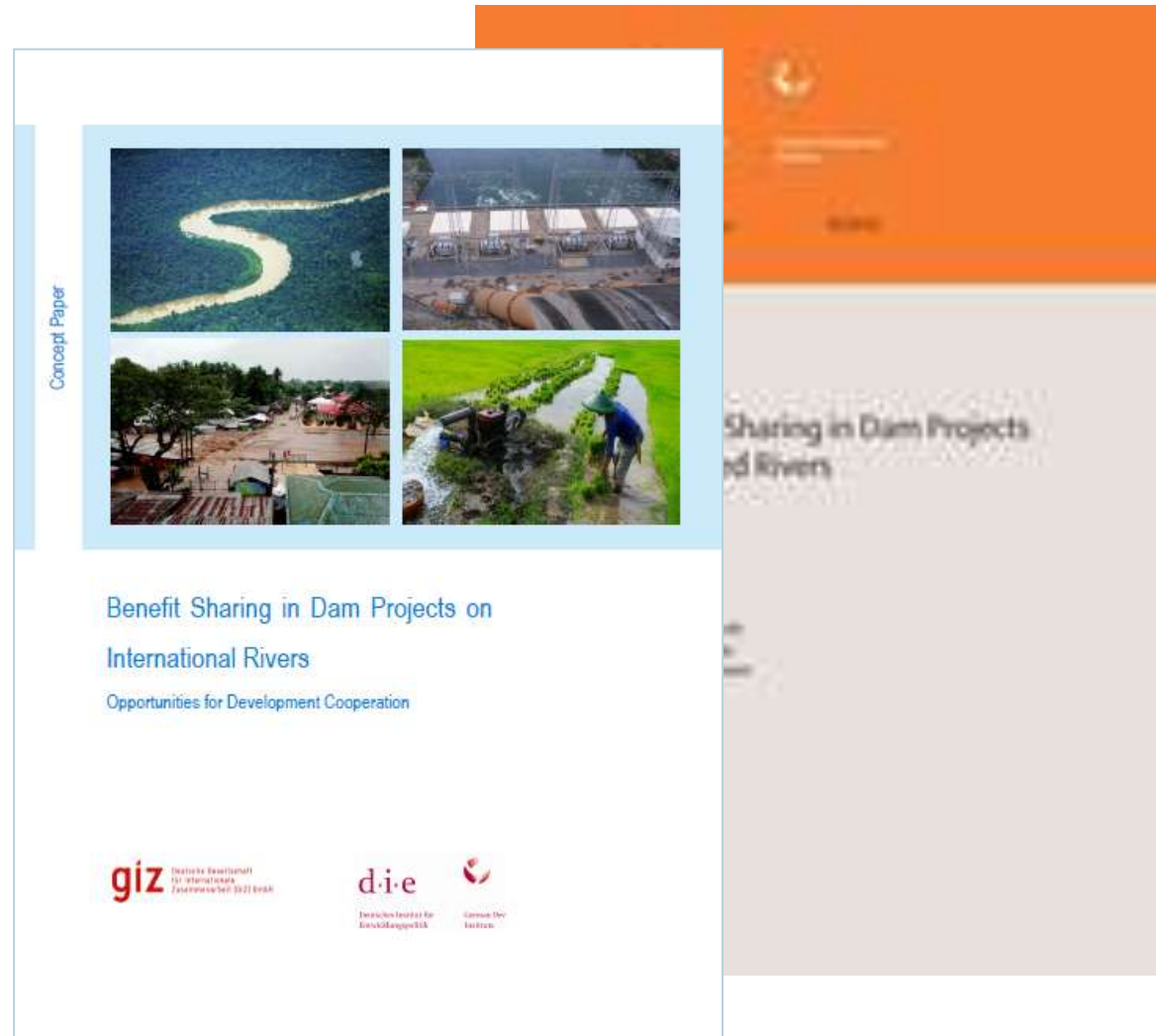
- Cooperation in managing transboundary water resources can be difficult, not least because property rights are often unclear and contested.
- Benefit sharing‘ has been proposed as one approach to bypass the zero-sum outcomes associated with dividing water .
- This approach focuses on optimizing aggregate benefits from basin development taking a basin perspective
- Mechanisms for redistributing the costs and benefits of such a cooperative approach (compensation and benefit sharing mechanisms) are required for a cooperation to be fair for all riparians.
- Outcome of benefit sharing: all cooperating riparians are made better off compared to no or only unilateral action.



# Case studies of existing benefit sharing mechanisms

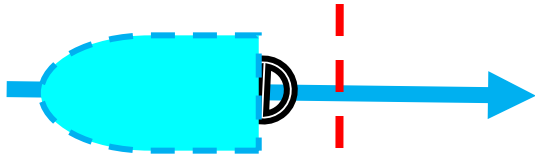
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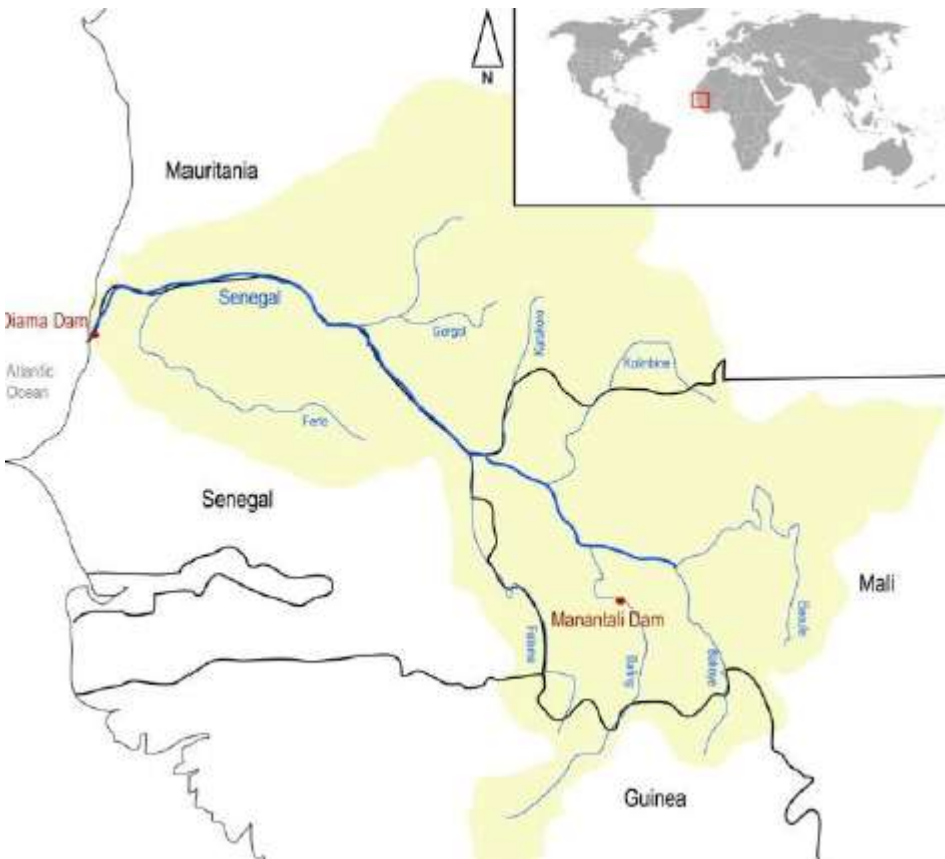
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(1): Dam on river in upstream state with externalities into downstream state

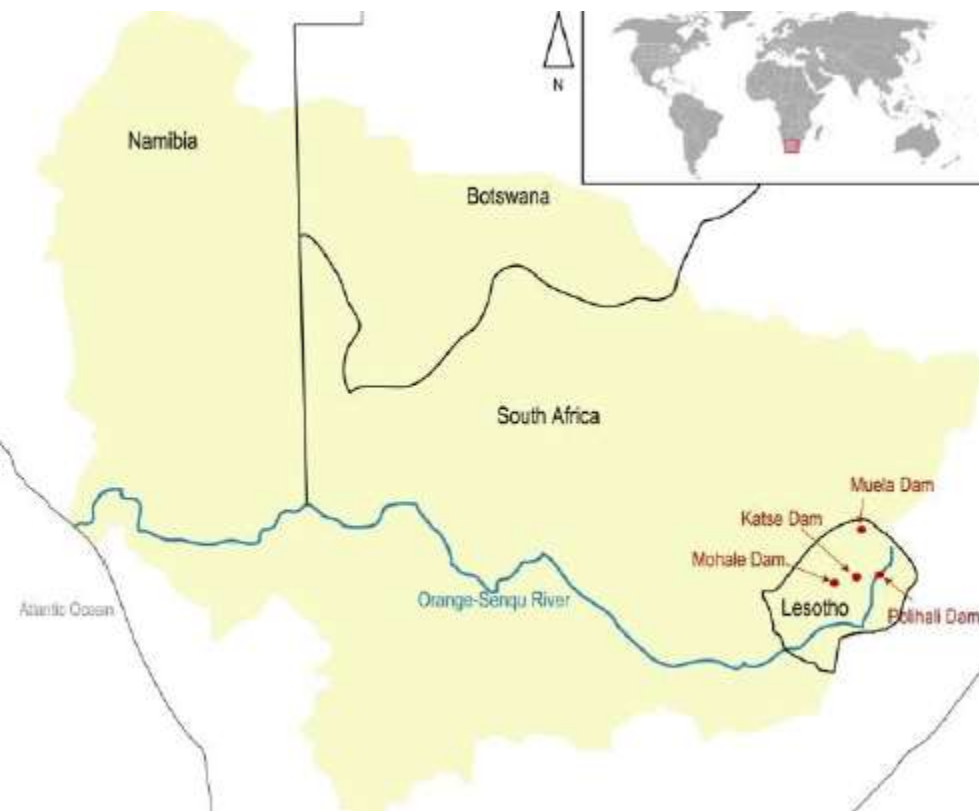




## Manantali and Dama Dams on Senegal River

- Incentives: none of the riparians can finance a dam on its own, upstream location of dam increases aggregate net benefits (Senegal + Mauritania lack adequate dam sites for hydropower)
- Benefit-sharing mechanism: Sharing of cost of jointly owned infrastructure in proportion to expected irrigation, navigation and hydropower benefits



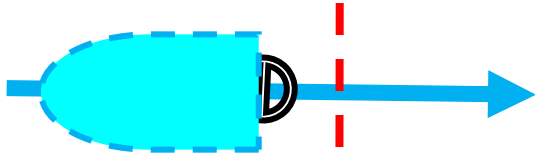


## Lesotho Highlands Water Project on Orange-Senqu River

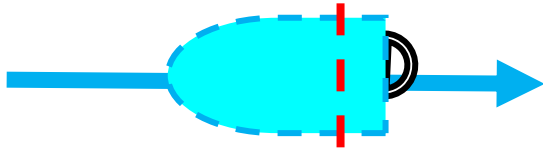
- Incentives: downstream state seeks to save costs for water transfer by building a dam upstream
- Benefit-sharing mechanism: downstream pays investment and operating costs and external costs of storage and transfer of water from Highlands; Upstream receives in-kind hydropower benefits; net savings from cooperation compared to uni-lateral water transfer option are shared (royalties)



(1): Dam on river in upstream state with externalities into downstream state

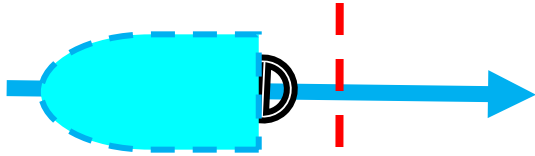


(2): Dam on river in downstream state with externalities into upstream state

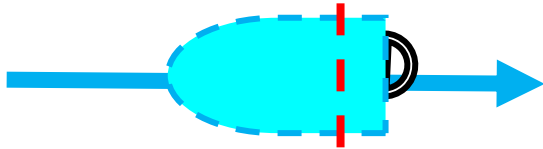




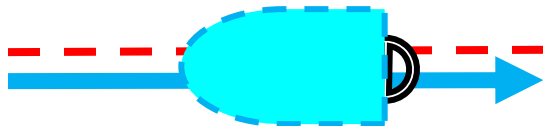
(1): Dam on river in upstream state with externalities into downstream state



(2): Dam on river in downstream state with externalities into upstream state



(3): Dam on the state border





## Kariba Dam on the Zambezi River



- Incentives: development along border with symmetrical benefits and externalities
- Benefit-sharing mechanism: joint investment, benefit allocation according to investment shares

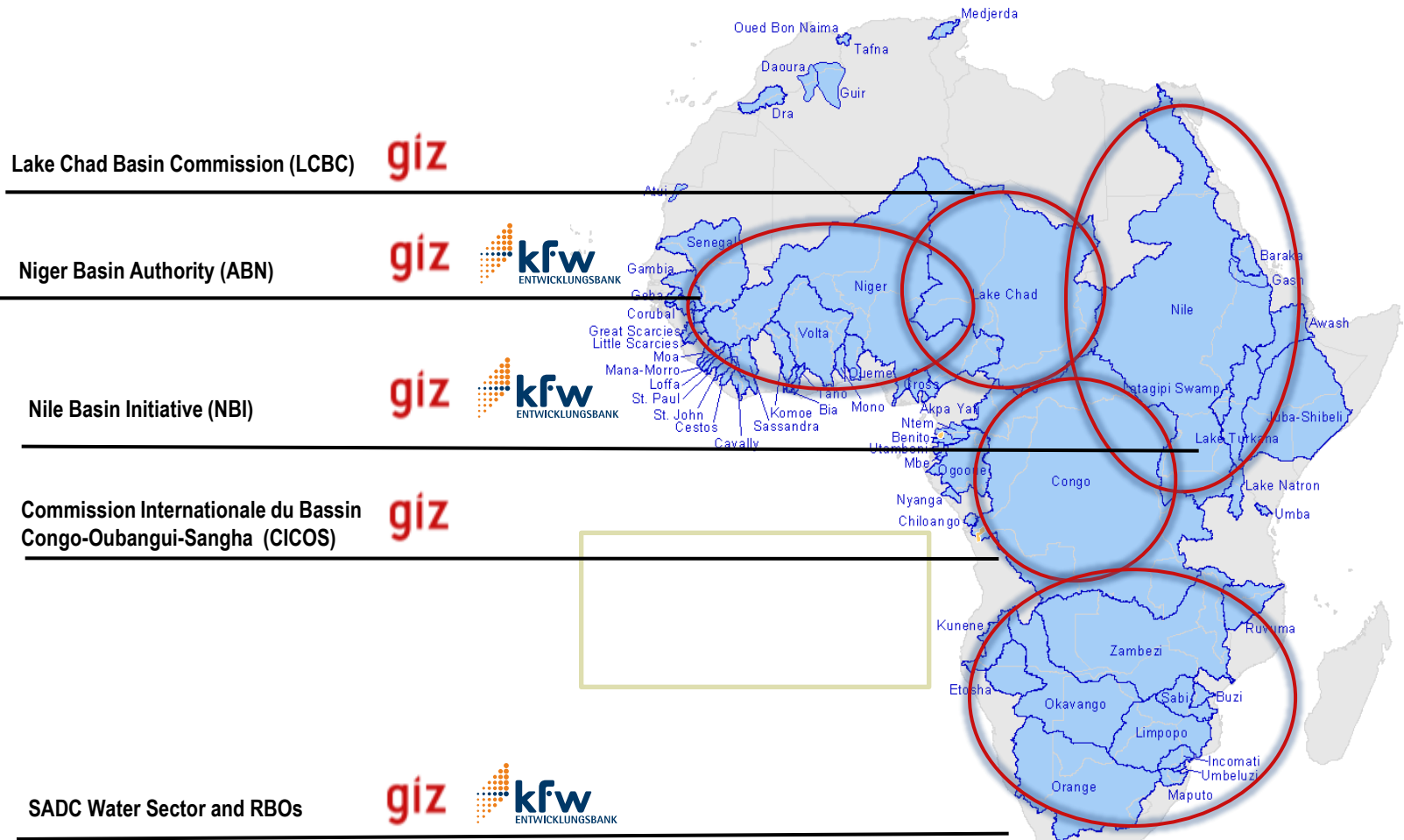


## First conclusions

- Fostering cooperation is a matter of altering perceptions such that the benefits of cooperation are seen to outweigh those of unilateral action.
- The difficulty lies not in the conceptualization of the benefit-sharing idea, but in the realization of suitable arrangements
- There are several existing cooperative arrangements and experiences to learn from

However – open questions:

- Are we aware of all the arrangements in place at different scales – from smaller cross border projects to major dams?
- Do we have accessible information on the details of the implemented mechanisms for mutual learning and developing best practices?





### German Development Cooperation approach:

- BMZ supports the establishment of benefit sharing arrangements as part of its support to fostering cooperation in transboundary river basins
- BMZ has identified the existence of *benefit-sharing* arrangements as one of the criteria for the prioritization of its support to regional water infrastructure investment projects

### Conclusions at recent ICA Water Platform meeting in Frankfurt:

- Despite the efforts we are still facing a lack of truly regional investment project proposals.
- There are still relatively few proposals with benefit sharing arrangements / joint infrastructure investments.
- Why? Lacking trust and confidence between neighboring countries? Remaining strong preference for national solutions? Difficulties of developing benefit sharing arrangements?



Working together to foster benefit sharing on three levels / stages ...

- Creating a common understanding (Frameworks, Guidelines)
- Scoping and developing benefit sharing scenarios (DSS, WRM Plans)
- Developing benefit sharing mechanisms for specific investment projects



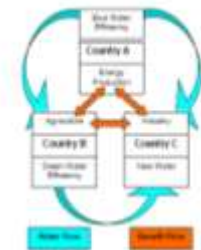
Southern  
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SADC CONCEPT PAPER ON BENEFIT SHARING  
AND TRANSBOUNDARY  
WATER MANAGEMENT AND  
DEVELOPMENT



NILE BASIN  
TRANSBOUNDARY BENEFIT SHARING  
FRAMEWORK

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**Thank you!**

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