

# How to Accelerate the Funding and Financing of Transboundary Water Cooperation and Basin Development?

## Opportunities and Challenges





**UNECE**

UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE

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**UNITED NATIONS**

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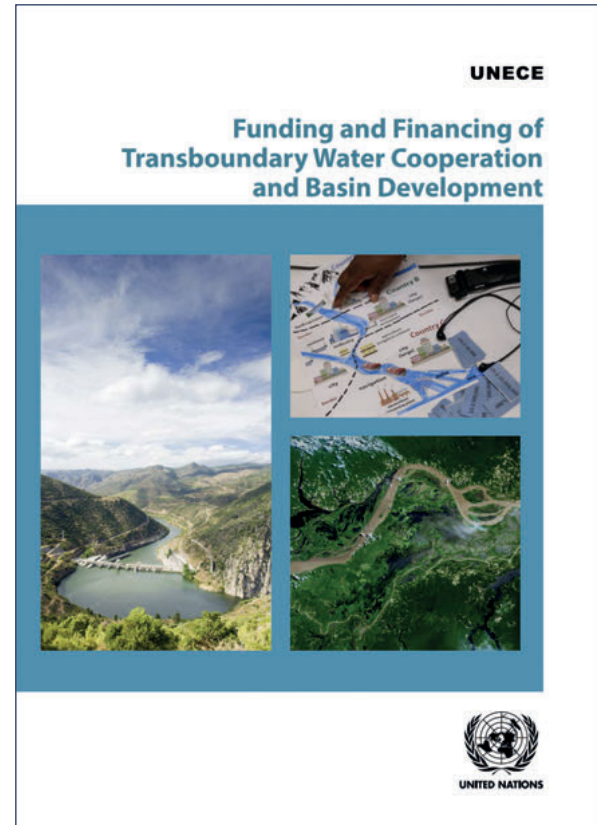
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This Brief is based on the publication *[Funding and financing transboundary water cooperation and basin development](#)* (UNECE 2021), which was prepared within the framework of the [Water Convention](#) under the leadership of Switzerland and the Netherlands, and in cooperation with many partners including the African Development Bank (AfDB), the Asian Development Bank (ADB), the European Investment Bank (EIB), the Global Environment Facility (GEF), the Inter-American Development Bank (IDB), the Organisation for Economic Co-operation and Development (OECD) and the World Bank. For more details and concrete case studies from basins across the world, we invite readers to refer to the full publication. References to examples, which are further developed in the publication, are available throughout the Brief.



*Aerial view of the confluence of two rivers - river of Baker and the river of Neff, Patagonia, Chile*

An aerial photograph of a turquoise river flowing through a brown, mountainous landscape. The river is the central focus, winding through a deep valley. The surrounding terrain is rugged and arid, with steep slopes and rocky outcrops. In the background, more mountains rise under a clear sky. The overall scene is one of a high-altitude, mountainous region.

# 1 Why mobilizing financial resources for transboundary water cooperation and basin development is important?

## Transboundary basins cover more than **45%** of the world's surface

and inhabit nearly half of the world's population that depend on the resources provided by rivers, lakes and aquifers. While it is generally acknowledged that transboundary basins require coordinated management and sustainable development, the lack of sufficient and reliably available financial resources often puts this at risk.

In fact, the different elements and stages of sustainable and cooperative management of transboundary water resources, require funding. As such, a lack of financial resources, inadequate funding and/or an absence of financial mechanisms can impede this from occurring even if all riparian states are committed to cooperation and development.

According to the **second reporting exercise on Sustainable Development Goals (SDG) indicator 6.5.2 (UNECE/UNESCO/UN-Water, 2021)**, which was undertaken in 2020–2021 and measures the proportion of transboundary basin area operating with an arrangement for water cooperation, out of 129 countries reporting on SDG indicator 6.5.2, 76 indicated “resources constraints” as one of the main challenges faced in cooperating on transboundary waters. Moreover, the lack of financial resources has been identified by a number of countries as one of the main challenges they face to implement arrangements.



**SDG INDICATOR 6.5.2**  
TRANSBOUNDARY WATER COOPERATION

### Challenges to the financing and funding of transboundary water cooperation and basin development are manifold

**The benefits of transboundary cooperation are not always known.**

*This limited consideration of the benefits of cooperation and the associated general lack of cooperation between riparian countries in many of the world's basins, can deprive the funding of transboundary basin cooperation and the development of its political and institutional basis.*

**Transboundary water cooperation and basin development activities and projects are often perceived as particularly risky in a transboundary setting.**

*Financial risks related with economic developments, political stability can often be seen as higher in basins shared by several countries. This challenge is particularly true for potential financing provided by external financiers such as multilateral development bank, private companies.*

**Countries face financial capacity constraints, especially in recent and future pandemic times.**

*Scarce public funds are not allocated in priority to transboundary water cooperation but rather in national water related projects such as large infrastructure projects.*

In order to best address these challenges, one of the first steps countries and joint bodies<sup>1</sup> worldwide should do is to clearly identify what are the benefits of existing transboundary water cooperation and of enhancing it in their respective basins and how these benefits contribute to their sustainable development.

<sup>1</sup> Any bilateral or multilateral commission or other appropriate institutional arrangements for cooperation between riparian countries.





*Fishing in Salween river, crossing China, Myanmar and Thailand*

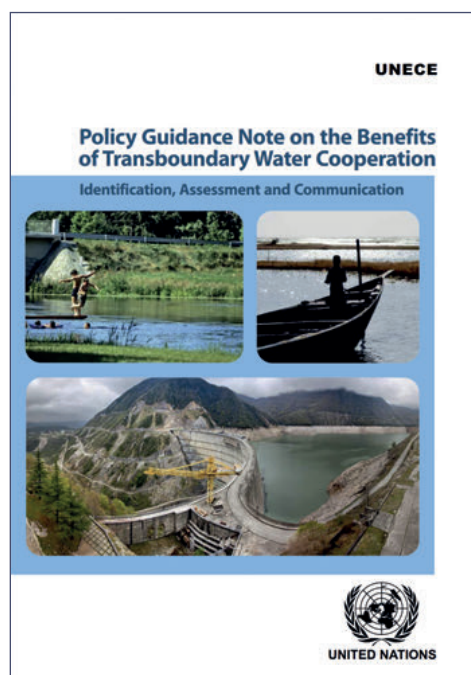
### Typology of potential transboundary water cooperation and management benefits

ORIGINS OF BENEFITS	BENEFITS FOR ECONOMIC ACTIVITIES	BENEFITS BEYOND ECONOMIC ACTIVITIES
<b>Improved water management</b>	<p><b>Economic benefits</b></p> <p>Expanded activity and productivity in economic sectors (aquaculture, irrigated agriculture, mining, energy generation, industrial production, nature-based tourism)</p> <p>Reduced cost of carrying out productive activities</p> <p>Reduced economic impacts of water-related hazards (floods, droughts)</p> <p>Increased value of property</p>	<p><b>Social and environmental benefits</b></p> <p>Health impacts from improved water quality and reduced risk of water-related disasters</p> <p>Employment and reduced poverty impacts of the economic benefits</p> <p>Improved access to services (such as electricity and water supply)</p> <p>Improved satisfaction due to preservation of cultural resources or access to recreational opportunities</p> <p>Increased ecological integrity and reduced habitat degradation and biodiversity loss</p> <p>Strengthened scientific knowledge on water status</p>
<b>Enhanced trust</b>	<p><b>Regional economic cooperation benefits</b></p> <p>Development of regional markets for goods, services and labour</p> <p>Increase in cross-border investments</p> <p>Development of transnational infrastructure networks</p>	<p><b>Peace and security benefits</b></p> <p>Strengthening of international law</p> <p>Increased geopolitical stability and strengthened diplomatic relations</p> <p>New opportunities from increased trust (joint initiatives and investments)</p> <p>Reduced risk and avoided cost of conflict and savings from reduced military spending</p> <p>Creation of a shared basin identity</p>

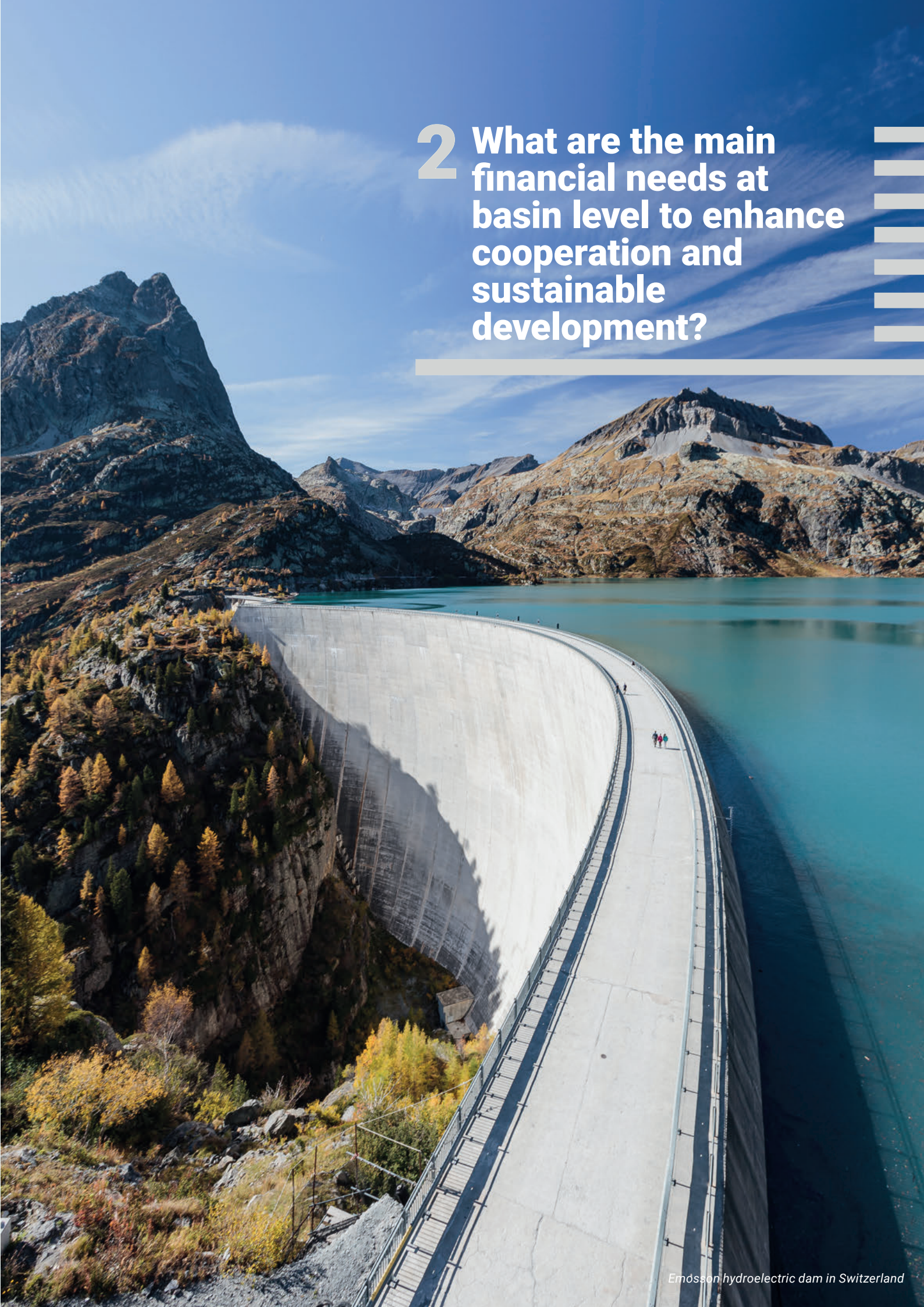
Several basins around the world have already looked closely at what would be the benefits of enhancing transboundary water cooperation to enable dialogue and highlight the potential to generate a broad range of significant benefits for riparian countries.

**The Policy Guidance Note on identifying, assessing and communicating the benefits of transboundary water cooperation** developed under the Water Convention is one of the tool countries can use to do such exercise.

It was applied in the Cubango-Okavango River Basin, the Sio-Malaba-Malakisi River Basin and the Drina River Basin where benefits assessments were carried out.












## 2 What are the main financial needs at basin level to enhance cooperation and sustainable development?



Financial needs related with transboundary water cooperation, management and development can be differentiated between:

- The **core costs** – also called regular budget, or corporate services budget, which are incurred through the mere existence and operation of an institutionalized cooperation mechanism.
- The **programme costs** – also called project costs, activity costs or investment costs, which are related to the development and implementation of basin management and development activities.

Core costs are relatively similar across joint bodies, yet the amount spent on these can vary considerably and is largely determined by the size of the River Basin Organization (RBO) or Commission’s secretariat; itself determined by the organization’s mandate and functions. Similarly, the greater the implementation mandate of a RBO, the higher its programme costs. Both cost dimensions also change significantly over time.

CORE COSTS	PROGRAMME COSTS
 <p>Costs of meetings of the RBO’s governing bodies, such as ministerial meetings, technical meetings (including preparation, documentation, etc.).</p>	 <p>River basin monitoring (water quantity, water quality, ecological health, fisheries, socioeconomic factors, etc.), the required equipment, information technology (IT) systems, river basin management software, etc.</p>
 <p>Staff costs of the secretariat: both permanent and temporary staff as well as consultants who are not part of specific river basin management and development projects.</p>	 <p>Preparation of strategic plans and related documents (on shared visions, basin management plans, etc.) and processes (stakeholder consultations, etc.).</p>
 <p>Costs of buildings, offices, office equipment, cars and other items required for the physical functioning of the RBO (mainly its secretariat).</p>	 <p>Implementation of strategic plans and the specific activities defined in them (including monitoring their implementation).</p>
 <p>Costs of communication and information dissemination (to member states as well as basin stakeholders).</p>	 <p>Development and implementation of infrastructure projects, especially in the context of basin management and investment plans.</p>
	 <p>Management and maintenance of infrastructure projects (if owned and managed by the joint body or any other international entity of the basin states).</p>

Generally, one can characterize joint bodies along a continuum that spans from institutions with very limited coordination functions to institutions that have strong implementation competences: coordination-oriented RBOs provide a platform for member states to consult and coordinate water resources management activities, but the activities themselves are implemented by the member states (e.g. International Commission for the Protection of the Danube River (ICPDR); the Orange-Senqu River Basin Commission (ORASECOM)); implementation-oriented RBOs do not only provide a platform for coordination, but also have the responsibility to develop and implement projects for river basin (e.g. Senegal River Basin Development Organization (OMVS); Organization for the Development of the Gambia River (OMVG)).



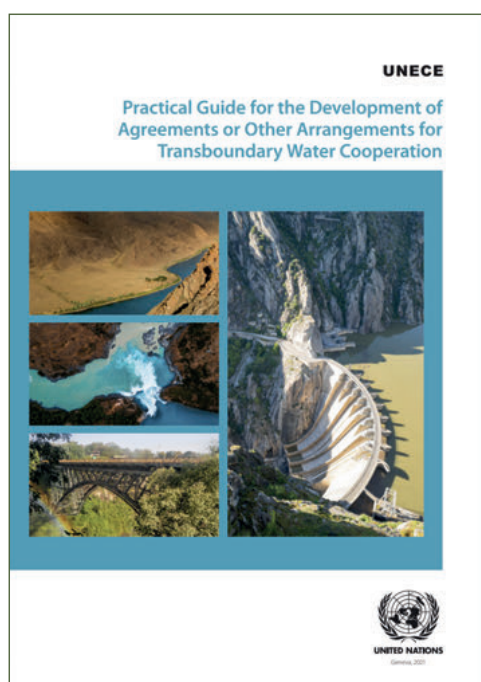
Valeira Barrage, Douro Valley, Portugal

There are also transboundary basins where states meet regularly on a bilateral basis, often in one or other of the states and at its facilities where data and information are exchanged bilaterally, with projects decided jointly but implemented through the national agencies in each country (e.g. The Finnish – Russian Commission on the Utilization of Frontier Waters (CUFW), the International Boundary and Water Commission (IBWC) between the United States and Mexico). Joint bodies can move along this continuum during their lifespan, depending on decisions of the member states, tending towards a heavier co-ordination role or towards more active implementation at different times. Related core and program costs evolve accordingly.


The development of river basin management plans and investment plans can be an interesting joint initiative to properly identify and list in a basin wide document these financial needs and the financial options to meet them. Developing and strengthening international basin treaties and arrangements and joint organizations at basin level can provide the legal and institutional framework needed to make this joint work happen in a collaborative and participative manner. Effective agreements and strong RBOs are also enabling factors to attract and mobilize the financial resources needed for transboundary water cooperation and management. On this matter, including financial arrangements between contracting parties in the legal framework can contribute to secure the financial resources needed at basin level.



View of the Elbe river



The [practical guide for the development of agreements or other arrangements for transboundary water cooperation](#), developed under the Water Convention, provides countries and other stakeholders key elements to be considered when developing arrangement for their transboundary waters. This tool also explores where and how to consider the issue of financing for institutional structure and for joint activities in the transboundary agreements. Examples of how financing provisions are framed in agreements can be found in the Zambezi agreement or in the Dniester treaty.



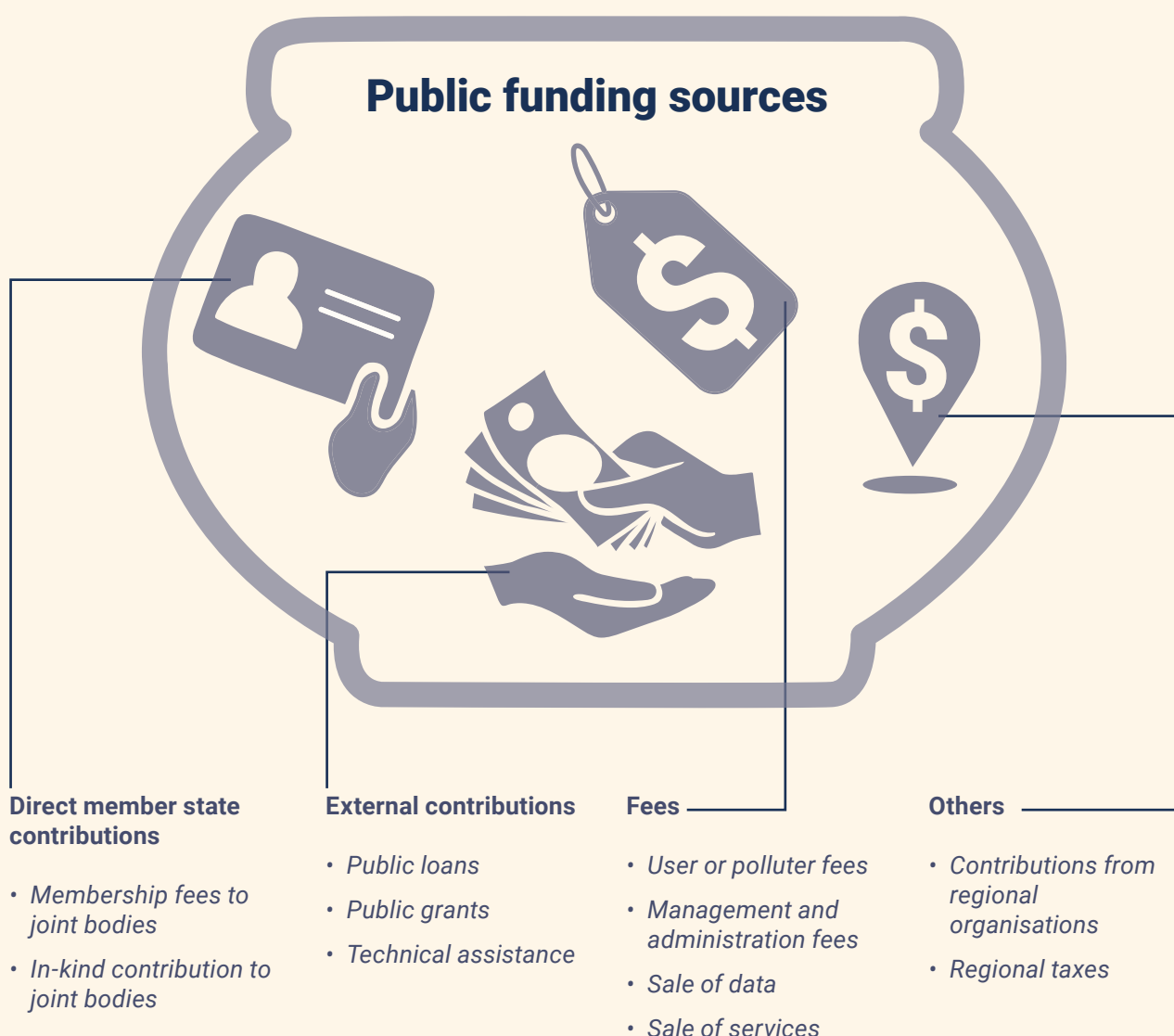
**3** What are the main financing and funding sources which can be mobilized for transboundary water cooperation and basin development?

When it comes to financing, it is important to differentiate the concept of **financing** which refers to funds made available to pay for costs that require repayment in the future and **funding** which refers to funds made available to pay operating costs without a repayment obligation such as grants.

In this regard, financing helps bridge the time gap between upfront investment and future repayment, whereas funding, for example in the form of government grants or user fees (tolls, tariffs), is what ultimately pays for projects and activities. These funding and financing sources include both public and private capital at both the domestic and the international level.

## Public funding and financing

Public funds are critical for transboundary river basin management and development, in large part due to the “public good” nature of water resources and related services. At the same time, the mobilization of public funds has been and still is a challenge. Different sources of public funds exist from joint body member states to external sources.







## Direct member states contribution

The central sources of funding for river basin management, for both core and project costs, are the direct cash contributions from member states. The financial means for member contributions typically comes from the respective country's national budget, sourced from various taxes and through other means constituting state income. These contributions directly compete with many other national budgetary priorities. It is therefore important that national budgeting processes and the budgeting processes of joint bodies are aligned. Another form of member state contributions are in-kind contributions.

### Cost sharing mechanisms

There are a variety of approaches to cost-sharing between member states of a joint body but two of them are often used by joint bodies:

- **Equal-cost sharing mechanism:** each member state of a RBO contributes the same share to the budget (e.g. ORASECOM; Lake Tanganyika Authority (LTA), the International Sava River Basin Commission (ISRBC)).

- **Key-based cost-sharing mechanism:** based on a number of different parameters including the share of member countries in the overall basin territory and the GDP of the countries concerned (e.g. the Congo River Basin with the International Commission for the Congo-Oubangui-Sangha Basin (CICOS), the Scheldt River Basin and the International Scheldt Commission (ISC), the Mekong River Commission (MRC), the Niger River Basin and NBA, or the Volta River Basin with the Volta Basin).



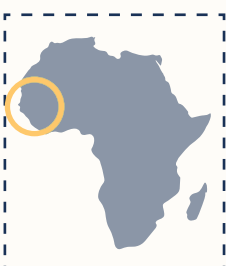
## Loans

Loans can potentially help transboundary basins bridge the gap between investing needs now and repayment later. Besides the inherent repayment obligation associated with loans, they typically accrue interest as well. In developing countries, International Financial Institutions (IFIs) can often offer long-term loans at below market/ concessional rates to public borrowers and have, moreover, a key role to play

**Loans are a type of debt instrument under which the loan issuer/borrower (e.g. a country, municipality, public organization, company) owes the holders/lender (e.g. banks) a debt and (depending on the terms of the loan) is obliged to pay them interest and to repay the principal at a later date, termed the maturity date.**

in contributing to the development of and the adherence to international water law norms in basins they support. In practice, many RBOs face challenges in securing loans for one of two reasons: i) they lack the legal status that would allow them to take on loans; or ii) they lack a revenue stream that can be used to repay the loan. Some RBOs have received loans directly for joint infrastructure project (e.g. OMVS). However, it is more likely that national governments, rather than the RBO, will apply for concessional loans to be used for large

transboundary infrastructure projects. As these loans are entered into by national governments, and typically backed by general taxation revenues, lenders usually assume little to no commercial risk for potential failure of the infrastructure project (e.g. Sava river basin, Kagera river).



### Examples of transboundary basins where loans have been mobilized for activities and projects:

#### Senegal River Basin

From twelve bilateral and multilateral organizations including national government contributors, World Bank; the African Development Bank, credit agencies from Germany and Switzerland for dams' development



### Sava River Basin

From the World Bank through the Sava and Drina Rivers Corridors Integrated Development Program (SDIP)

→ More information can be found on [p.29-30 of Funding and Financing of Transboundary Water Cooperation and Basin Development](#)



### Grants:

RBOs may also have access to grant funds through a variety of sources to complement riparian funding, especially at times and in cases where riparian financial resources are limited or where specific one-off activities need to be undertaken, particularly those with a focus on supporting good practices of international water law and water resources management. These can come from multilateral institutions such as the World Bank, Global Environment Facility (GEF), regional development banks, United Nations, or bilateral institutions such as Agence Française de Développement (AFD). Unlike loans, grants do not require repayment. This makes grants ideal for public agencies who do not have a dedicated revenue stream that can be leveraged to repay debt, cannot take on debt, or whose member countries cannot meet its budgetary needs. Grants often have a specific sector focus and/or specific conditions. Beyond qualifying for the grant, the RBO must prepare a grant application and often compete against many others to receive the funds. Often, grants are blended with other kinds of funding or financing; some grants are conditional on there being other sources to cover the remainder of the budget, such as contributions from member countries.

**Grants are a source of funding, often provided by bilateral donors, multilateral organizations, trust funds and non-profits. Grants do not have a repayment obligation.**

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### The Global Environment Facility

The GEF is a multilateral environmental fund that provides grants and blended finance to tackle our planet's most pressing environmental issues including the sound management of freshwater basins and aquifers. Through its International Waters focal area, the GEF seeks to create a common understanding on competing water needs on the one hand and the gains from cooperation for each country on the other. Since its inception in 1991, the Global Environment

Facility has financed transboundary water cooperation across shared fresh and marine water systems. Focusing on transboundary freshwater, the GEF, together with its implementing and executing partners, has financed projects related to 47 rivers, 13 aquifers, and 15 lakes. In the years to come, interventions will prioritize preventative actions in transboundary basins facing multiple stressors and hence potential for conflict on national and regional levels.

### Examples of transboundary basins where grants have been mobilized for activities and projects:



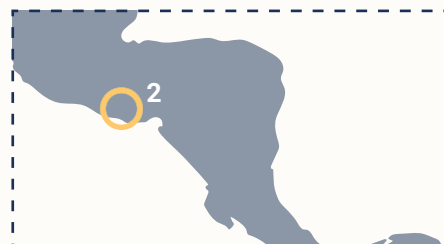
#### 1. Lake Tanganyika

Through GEF-UNDP grants

#### 2. Upper Lempa River basin

Through the Inter-American Development Bank

→ More information can be found on [p.31 of Funding and Financing of Transboundary Water Cooperation and Basin Development](#)





## Technical assistance

Technical Assistance (TA) typically refers to advisory services and capacity development activities for actors in the water sector, such as ministries, subordinate government agencies, basin organizations, among others. The focus of TA is on capacity development, enabling actors in a basin to perform certain tasks, activities and functions in the management and development of transboundary water resources.

*Technical assistance is targeted support provided to an organization with a development need or problem. It is considered non-financial assistance and can range from information-sharing and expertise to capacity-building*

### Examples of transboundary basins where technical assistance has been used for activities and projects:

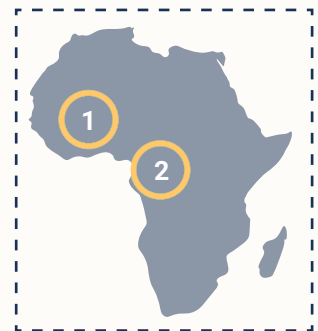
#### 1. The Niger Basin

Via the German Development Cooperation Agency (GIZ)

#### 2. The Congo-Oubangui-Sangha Basin

Via GIZ

→ More information can be found on [p.32 of Funding and Financing of Transboundary Water Cooperation and Basin Development](#)



## Management / administration and project fees

RBOs may be able to leverage their role in transboundary water projects to finance their own operation with management and administration fees and/or project management fees. These funding sources are dependent on the mandate of the specific RBO; those which are governed by a mandate limited to coordination cannot leverage project management fees and may be constrained to harness management and administration fees. Both management and administration fees and project management fees are challenged in terms of mandate constraints as well as the dependency on fees to outweigh costs. Management and administration fees are different from project management fees because they are not limited to infrastructure. They are charged on “soft”, externally funded non-infrastructure projects or activities whose implementation the RBO’s staff are directly involved in. A fee is charged for each payment made or expenditure incurred which is eligible for development partner funding. An RBO may be mandated to perform a variety of activities, for which it can be compensated via a project management fee that may include initial scoping, negotiating and arranging finance for an infrastructure project; managing feasibility studies; supervising procurement and construction; and even involvement in operations and maintenance.



## Sale of data and services

In recent years, the sale of services has increasingly been perceived as a potential new funding source for transboundary river basin management and development. Various joint bodies, national governments and donor agencies have suggested to sell the regional data collected and processed to other interested parties in order to generate additional income to cover some (typically the core) costs of the joint body (e.g. MRC). Some joint bodies have also tried to sell services in the form of training sessions or courses or even set up specific training institutes for which they charge education or participation fees or are planning to do so (e.g. CICOS).



## Climate funds

Since the development of the global climate change regime, and in particular Article 4 of the United Nations Framework Convention on Climate Change (UNFCCC), which commits developed countries to financially support both mitigation and adaptation in developing countries, a new source of international financing for climate and environmental purposes has been developed: international climate funds. Climate funds is a special category of grants that could potentially fund certain activities related to climate change adaptation and mitigation carried out by joint bodies, although there are few examples to date of RBOs successfully applying for such funds. Funding from the Green Climate Fund and the Adaptation Fund have been mobilized to support climate change adaptation activities at basin level.

### Adaptation Fund

The Adaptation Fund (AF) aims to support developing countries in coping with the effects of climate change and can be accessed by any country that has established a dedicated and accredited national implementing entity. It has been increasingly active in recent years in supporting projects at the regional level or with a regional focus, involving joint bodies and other regional organizations. The AF is explicitly open for regional and transboundary projects: neighbouring countries that share similar adaptation challenges can jointly apply if their national implementing agencies partner together and if they can prove the added value of a regional approach. Since 2015, the AF supported several transboundary adaptation projects focusing on shared water resources.

The Lake Victoria, the Volta River and the Drin River basins benefited from the AF to adapt to existing climate change challenges. In its study on [Transboundary Approaches to Climate Adaptation: Lessons Learned from the Adaptation Fund's Regional Projects and Programmes](#) (April 2022), the AF highlighted that transboundary approach adds value in tackling climate impacts that transcend national borders, especially in relation to water basin management, by making adaptation more effective and efficient.

### Examples of transboundary basins where climate funds have been mobilized for activities and projects:

#### 1. The Niger Basin

Via NBA through the Green Climate Fund

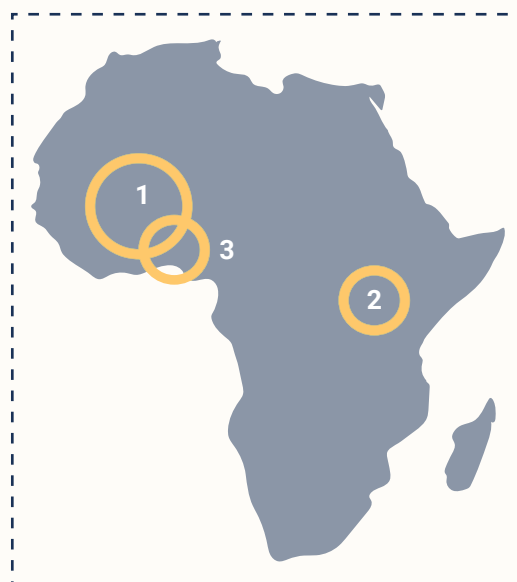
#### 2. The Lake Victoria Basin

Via the Lake Victoria Basin Commission (LVBC) through the Adaptation Fund

#### 3. The Volta River Basin

Via the Volta River Basin (VBA) through the Adaptation Fund

→ More information can be found on [p.33 - 35 of Funding and Financing of Transboundary Water Cooperation and Basin Development](#)



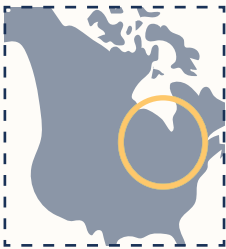
## Private funding and financing

In addition to public funding and financing, there is potential to leverage **private capital** in transboundary water cooperation and basin development, which is often limited to infrastructure projects. Although private capital comes largely in the form of debt or equity financing, there is a limited number of examples of private funding in the form of donations and grants.



### Private funding

Private philanthropies and donations to RBOs and basin member states without any repayment obligation or return expectation are rare. Examples mostly arise in the face of disasters when private citizens indirectly donate to RBOs to support recovery efforts from floods or similar events.



### Example of a RBO receiving private funding

The **Great Lakes Commission** whose transboundary project work is directly billable to various foundations including the Charles Stewart Mott Foundation, the Joyce Foundation, and the Erb Family Foundation.

→ More information can be found on [p.36 of Funding and Financing of Transboundary Water Cooperation and Basin Development](#)



### Private financing

Private financing in the form of **debt** and **equity** refers to investments made by private entities in public sector projects. These investments are expected to not only be repaid, but also generate positive returns. Depending on the type of private finance used, these returns could be in the form of interest on debt or dividends on equity. The actors can be commercial banks, private companies, entrepreneurs or investment funds, among others.

**Debt** refers to loans or bonds, which need to be repaid over time. To compensate lenders, they receive interest on the outstanding debt balance. In addition, they may receive certain financing fees.

**Equity** refers to the value of a company or project net of its outstanding debt. As such, it reflects the value for its owners. It also refers to the investment made by equity investors to develop or acquire the project. To compensate equity investors, they are entitled to receive dividends, which are distributions of a company's or project's earnings.



Boat in a harbor in the Mekong Delta, Can Thio, Vietnam

## Types of private financing instruments available for transboundary water infrastructure projects

Examples of potential investors / providers:

### Bank loans:

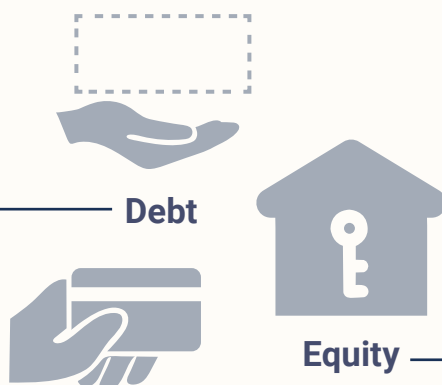
- Domestic / international commercial banks
- International financial institutions with private sector mandate

### Bonds

- Retail bond investors
- Investment funds

### Private placements

- Pension funds
- Insurance companies



Examples of potential investors / providers:

- Domestic / international entrepreneurs / corporates including construction companies and utilities
- Infrastructure development funds
- International financial institutions with private sector mandate and ability to invest equity

Examples of potential investors / providers:

- International financial institutions
- Export credit agencies

Private financing comes with a myriad of risks and challenges. For this reason, it is not heavily utilized for transboundary water cooperation and basin development with issues that include the need to repay the investment principal and to generate a positive risk-adjusted return, as reflected in the interest rate (for debt) and internal rate of return (for equity). This requires a reliable and sufficiently large revenue stream, which may not always be available. Other issues are related with the complex environment found in transboundary basins or the (perceived) risk of political instability, which either increases the cost of private capital or makes private capital unavailable altogether.

These considerations constrain the availability of private capital for water management. Notwithstanding these challenges, private capital has been leveraged to develop transboundary water management infrastructure projects, typically through a public-private partnership (PPP) approach for revenue generating assets, even though a similar structure can be used for non-revenue generating assets.

### Public-private partnerships (PPPs)

PPPs are a financing form aimed at harvesting benefits by combining public and private engagement and the added values each side can bring to the table. PPPs refer to a long-term agreement over a project between a public and private entity to provide a public asset. The private entity is often responsible for the design, construction, operations, maintenance and financing of the asset. To raise private debt (from domestic commercial banks, international commercial banks and

international financial institutions with private sector mandates) and equity (from domestic and international entrepreneurs and/or companies, infrastructure development funds, and international financial institutions with both a private sector mandate), a non-recourse or limited recourse project finance structure is employed. Under this structure, debt and equity are repaid from the cash flow generated by the project.

Water infrastructure PPPs have the potential to create substantial value for public agencies by leveraging the creativity of the private sector and the discipline that private financiers can bring. A well-organized procurement that encourages healthy competitive pressure is also essential to deliver that value. In many PPPs, private debt and equity are used to finance the required capital investment. Debt and equity each have their own risk and return profile, with debt being compensated through interest payments and equity through dividends to shareholders<sup>2</sup>.

**Example of transboundary basin considering a PPP structure for a water infrastructure project:**



The **Orange-Senqu River Basin** (via **ORASECOM**) with the Lesotho-Botswana Water Transfer Scheme (L-BWTS): a transboundary water project which will increase water supply in Southern Africa and in Botswana by conveying water from the Makhaleng River in Lesotho

→ More information can be found on [p.38 of \*Funding and Financing of Transboundary Water Cooperation and Basin Development\*](#)



**Innovative financing initiatives**

**Impact investments** are investments made with the intention to generate a positive, measurable social and environmental impact alongside a financial return. In the context of impact investing, a number of **specialty bonds** have emerged, including green bonds and social impact bonds. These bonds are types of private placements where the proceeds are used for pre-specified types of projects with high environmental or social impact potential. For green bonds, these projects are climate and/or environmentally

based. For social impact bonds, these projects support net positive social outcomes. It serves to cover upfront costs for socially relevant service interventions. They allow social investors to take on the risks associated with innovative or experimental service delivery methods. Despite the fact that the universe for green bonds and for social impact bond investors is growing, competition from other environmental or social initiatives may make it challenging for RBOs to take advantage of them. Furthermore, the (conditional) repayment obligation of bonds means that the RBO still needs a revenue stream to service the debt, similar to more traditional forms of debt. A new concept that has been generating interest among water sector practitioners is the Blue Peace Financing<sup>3</sup>, an initiative promoted by the Swiss Agency for Development and Cooperation (SDC) and the United Nations Capital Development Fund

**Bonds** are a type of debt instrument, under which the bond issuer/borrower (e.g. a country, municipality, public organization, company) owes the bondholders/lenders (e.g. individuals, institutional investors) a debt and (depending on the terms of the bond) is obliged to pay them interest (the coupon) and to repay the principal at a later date, termed the maturity date. Interest is usually payable at fixed intervals. Bonds can often, but not always, be traded publicly, making them a liquid investment instrument. A key difference between a bond and a loan is that loans are negotiated directly between the lender (often a bank) and the borrower.

(UNCDF) which envisages the development of a multisectoral and transboundary master plan comprised of investment plans that cover infrastructure needs as well as data, monitoring and other soft assets and the use of Blue Peace Bonds (blending public and private instruments) issued by transboundary water organizations or municipalities and repaid using the cash flows of the underlying projects .

2 More info on the use of debt and equity within PPPs in p.40-42 of the publication “Funding and financing transboundary water cooperation and basin development” (UNECE, 2021)

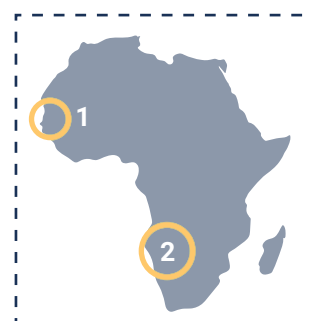
3 For more information on the Blue Peace Financing initiative, please check the following webpage: <https://www.uncdf.org/mif/blue-peace-financing-initiative>

Another innovative approach to leveraging financial resources is the establishment of endowment funds. These funds are established by foundations or similar actors, with financial resources provided through donations from which withdrawals can be made over a longer period of time for specific (typically not-for-profit) purposes.

**Examples of innovative financing initiatives:**

1. The **Blue Peace Bond** in the Gambia basin
2. The **Cubango-Okavango Endowment Fund** in the Cubango-Okavango River Basin

→ More information can be found on [p.43-44 of Funding and Financing of Transboundary Water Cooperation and Basin Development](#)



**Blended financing**

By combining public funding and financing with specific instruments, commercial financiers can overcome risks that they cannot easily absorb. In addition, the blended finance approach can mobilize private debt and equity financing that may otherwise not have been available. An additional rationale for blending public and private capital is that both come with their distinct advantages and disadvantages, which can potentially be overcome – at least partially – when combined. More specifically, private financing tends to be expensive as it compensates investors for the risks they take on, whereas public financing lacks that same level of risk transfer and is often substantially cheaper than private financing as repayment is typically not linked to the project itself. The overall cost of capital under this approach will be lower compared to a financing solution that only uses private capital. Given the large capital needs for most transboundary water infrastructure PPP projects, many projects do in fact combine public and private financing, although the term “blended” finance may not have always been used.

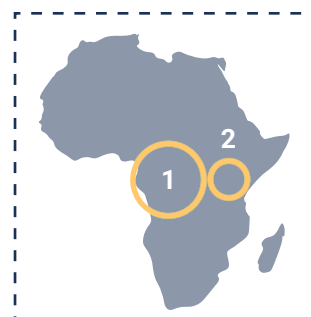
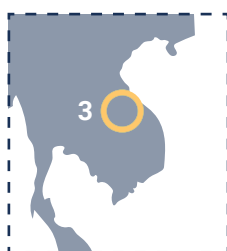
→ Strategic use of development finance for the mobilization of additional finance towards sustainable development in developing countries.

→ Key instruments that can help mitigate certain risks for private financiers, and thus mobilize commercial debt and equity, include guarantees and insurance products, currency hedges, first loss capital, viability gap funding and technical assistance.

**Examples of blended finance mechanisms, harnessing public and private funding and financing through PPPs, used in transboundary basins to finance water related activities and/or infrastructure projects:**

1. The **Congo Basin Blue Fund** (under development)
2. The **Bujagali Hydropower Project** on the Nile river in Uganda
3. The **Nam Theun 2 Hydropower Project** in Lao PDR

→ More information can be found on [p.46-48 of Funding and Financing of Transboundary Water Cooperation and Basin Development](#)







Aldeadavila dam in Arribes del Duero natural Park in Spain near the border with Portugal

## Opportunities and challenges of these various funding and financing sources

PUBLIC SOURCES		Opportunities	
	<b>Direct Member State Contribution</b>	<ul style="list-style-type: none"> <li>→ Reflects the “public good” function of water management</li> <li>→ Demonstrates member states’ commitment to institutionalized cooperation and multisectoral joint basin development</li> <li>→ Ensures financial self-sustainability and independence from external funds</li> <li>→ Can have numerous benefits for riparian states committing to cooperation, incl. peace, regional cooperation and integration, etc.</li> </ul>	
	<b>Sale of Data and Services</b>	<ul style="list-style-type: none"> <li>→ New approach to funding that monetizes joint bodies’ products</li> <li>→ Can help popularize the work of RBOs, providing an opportunity for greater recognition among the broader public</li> </ul>	
	<b>Management and Administration Fees</b>	<ul style="list-style-type: none"> <li>→ A potentially effective way to get donors/partners to cover some of the RBO’s operating costs</li> <li>→ Adds a layer of accountability to donors/partners</li> </ul>	
	<b>Project Management Fees</b>	<ul style="list-style-type: none"> <li>→ Can give RBOs greater visibility when involved in the preparation of potentially large infrastructure projects</li> <li>→ Adds a layer of accountability to owners/financiers</li> <li>→ Provides substantial learning opportunities for staff</li> </ul>	
	<b>Public Loans</b>	<ul style="list-style-type: none"> <li>→ Often offer below market interest rates</li> <li>→ Repayment likely not tied to financed activity but instead backed by national tax revenues</li> </ul>	
	<b>Public Grants</b>	<ul style="list-style-type: none"> <li>→ “Free money,” no repayment requirement</li> </ul>	
	<b>Technical Assistance</b>	<ul style="list-style-type: none"> <li>→ Can help kick-start cooperation with both technical and financial capacity</li> <li>→ Leverage external expertise and lessons learnt elsewhere</li> </ul>	
	<b>Climate Funds</b>	<ul style="list-style-type: none"> <li>→ Innovative funding source with potentially high amounts available</li> </ul>	

	Challenges	Use	More information in the full publication
	<ul style="list-style-type: none"> <li>→ Needs strong legal, institutional and procedural linkages between basin level cooperation, national planning, and management and budgeting</li> <li>→ Can create budget competition against other national priorities</li> <li>→ Can be unreliable year to year depending on national budgets</li> <li>→ Cost-sharing decision-making can be arduous and fraught with conflict</li> </ul>	<ul style="list-style-type: none"> <li>→ Core costs</li> <li>→ Project, programme and activity costs</li> </ul>	<a href="#">p.18–24</a>
	<ul style="list-style-type: none"> <li>→ Not expected to generate significant funding</li> <li>→ May distract from work of the joint body on key water management issues to more revenue-generating activities</li> </ul>	<ul style="list-style-type: none"> <li>→ Immaterial</li> </ul>	<a href="#">p.27</a>
	<ul style="list-style-type: none"> <li>→ Depends on the RBO's mandate (management and administration fees not applicable to coordination-oriented RBOs)</li> <li>→ Depends on willingness of donor/partner policies to pay, which may decline over time</li> <li>→ Associated fee may not cover full staff costs</li> <li>→ May redirect staff hours away from the main aims of the RBO/ key water management issues</li> </ul>	<ul style="list-style-type: none"> <li>→ Project, programme and activity costs</li> </ul>	<a href="#">p.28</a>
	<ul style="list-style-type: none"> <li>→ Depends on the RBO's mandate (project management fees only applicable to RBOs with an infrastructure implementation mandate)</li> <li>→ Associated fee may not cover full staff/other costs</li> <li>→ Staff must have necessary (and potentially highly specialized) skill sets</li> </ul>	<ul style="list-style-type: none"> <li>→ Infrastructure development</li> </ul>	<a href="#">p.29</a>
	<ul style="list-style-type: none"> <li>→ Eligibility for loans depends on RBO's legal status</li> <li>→ Repayment obligation plus accumulated interest</li> <li>→ Currency fluctuations if loan is in hard currency</li> <li>→ Can come with extensive conditionality</li> </ul>	<ul style="list-style-type: none"> <li>→ Project, programme and activity costs</li> <li>→ Infrastructure development</li> </ul>	<a href="#">p.29</a>
	<ul style="list-style-type: none"> <li>→ Dependent on the RBO's mandate (only applicable to RBOs with a project implementation mandate)</li> <li>→ May come with "strings attached"</li> <li>→ May not align with RBO's strategic plans</li> <li>→ Project specific and typically cannot be applied to day-to-day operations</li> </ul>	<ul style="list-style-type: none"> <li>→ Project, programme and activity costs</li> <li>→ Infrastructure development</li> </ul>	<a href="#">p.30–32</a>
	<ul style="list-style-type: none"> <li>→ Can potentially affect ownership of basin cooperation and management</li> <li>→ Can create dependencies on external resources (technical, financial, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>→ Core costs</li> <li>→ Project, programme and activity costs</li> </ul>	<a href="#">p.32</a>
	<ul style="list-style-type: none"> <li>→ Long and tedious application procedures that sometimes surpass the capacity of joint bodies</li> <li>→ Legal arrangements and requirements are not always clear</li> <li>→ Can only be used for specifically climate-related activities and not for other basin management and development measures</li> </ul>	<ul style="list-style-type: none"> <li>→ Climate-related project, programme and activity costs</li> <li>→ Climate-related Infrastructure development</li> </ul>	<a href="#">p.33</a>

PRIVATE SOURCES		Opportunities	
	<b>Private Grants and Donations</b>	<ul style="list-style-type: none"> <li>→ “Free money,” no repayment requirement</li> </ul>	
	<b>Private Equity</b>	<ul style="list-style-type: none"> <li>→ Through the PPP structure, equity investors are fully incentivized to help a project succeed</li> <li>→ More material risk transfer to private sector than under traditional (non-PPP) project structure</li> </ul>	
	<b>Private Debt (loans, bonds)</b>	<ul style="list-style-type: none"> <li>→ Through the PPP structure, lenders are fully incentivized to help a project succeed</li> <li>→ More material risk transfer to private sector than under traditional (non-PPP) project structure</li> <li>→ Private lenders add additional layer of due diligence and market discipline</li> <li>→ Using private debt reduces cost of capital compared to an equity-only financing solution</li> </ul>	
	<b>Innovative Financing</b>	<ul style="list-style-type: none"> <li>→ Tap into private financing sources with potentially lower return expectations as investors seek modest return in combination with social/environmental impact</li> <li>→ Potentially give access to debt financing solutions for RBOs that currently cannot borrow</li> </ul>	
	<b>Blended Financing</b>	<ul style="list-style-type: none"> <li>→ Leverage grants to reduce project cost</li> <li>→ Leverage public debt to reduce overall cost of capital</li> <li>→ Leverage private debt and equity, in combination with grants and public debt, to create a relatively low-cost financing structure that mimics the comprehensive risk transfer of a well-structured PPP</li> </ul>	

	Challenges	Use	More information in the full publication
	<ul style="list-style-type: none"> <li>→ May come with “strings attached”</li> <li>→ May not align with RBO’s strategic plans</li> <li>→ Project specific and typically cannot be applied to day-to-day operations</li> <li>→ Rare as philanthropy tends to prioritize contributions to NGOs with hands-on project implementation over government-led transboundary water cooperation</li> </ul>	<ul style="list-style-type: none"> <li>→ Project, programme and activity costs</li> </ul>	<a href="#">p.36</a>
	<ul style="list-style-type: none"> <li>→ Part of PPP project structure, which is expensive and resource-intensive to procure and set up</li> <li>→ Equity investors to earn a positive risk-adjusted return so project must generate sufficient revenue</li> <li>→ Equity is more expensive compared to public and private debt as equity investors are taking more risk</li> </ul>	<ul style="list-style-type: none"> <li>→ Transboundary water infrastructure development</li> </ul>	<a href="#">p.37–41</a>
	<ul style="list-style-type: none"> <li>→ Part of PPP project structure, which is expensive and resource-intensive to procure and set up</li> <li>→ Lenders expect to be fully repaid (including interest) so project must generate sufficient revenue</li> <li>→ Private debt is more expensive compared to public debt as lenders in a PPP are taking more risk</li> </ul>	<ul style="list-style-type: none"> <li>→ Transboundary water infrastructure development</li> </ul>	<a href="#">p.37–41</a>
	<ul style="list-style-type: none"> <li>→ Largely untested for transboundary water cooperation</li> <li>→ Financiers expect to make a social/environmental impact-adjusted fair return so project must still generate sufficient revenue</li> </ul>	<ul style="list-style-type: none"> <li>→ Project, programme and activity costs</li> <li>→ Transboundary water infrastructure development</li> </ul>	<a href="#">p.42</a>
	<ul style="list-style-type: none"> <li>→ Complex to put together blended financing solution, requiring substantial resources</li> </ul>	<ul style="list-style-type: none"> <li>→ Transboundary water infrastructure development</li> </ul>	<a href="#">p.45–47</a>



*Majestic mountain lake with lupins*

## Takeaway messages



**Highlighting the benefits of transboundary water cooperation and basin development and building a strong legal and institutional framework are the crucial steps for states and joint bodies with shared basins to mobilize financial resources.**

- Transboundary water resources management and cooperation **provide benefits in the form of win-win solutions that the unilateral use of shared water resources cannot achieve on its own, which is also the reason why transboundary water resources management and cooperation is included in the SDGs.** Inability to access needed funding and financing for transboundary water resources management and cooperation in many basins therefore implies that the potential benefits of transboundary basin cooperation and development are not fully realized.
- **Different types of financial resources are needed for different stages of the cooperation and basin development process.**
- **International basin treaties and arrangements, joint bodies and specifically RBOs provide the legal and institutional framework for transboundary water resources management and cooperation and are crucial for creating an enabling environment to raise funding or financing.** These legal and institutional frameworks are unique and reflect the vision of their member states. They serve as the basis for generating and sharing the benefits of cooperation over time, across riparian states, and between users. Financial arrangements between contracting parties should be included in the legal framework.
- River basin management plans and investment plans are also an **important instrument for communicating the benefits of cooperation to member states and to help attract additional financial resources.** Implementing these plans typically requires substantial efforts and investment, although certain activities and investments may also be carried out at the national level.

## Takeaway messages



**Despite some challenges, domestic budgetary resources from riparian states is and should be the primary financial source to support joint bodies and basin activities.**

- **Member states are typically the main contributor to joint bodies' budgets, especially, but not solely, for core costs.** Besides their contributions to RBO budgets, member states often mobilize financial resources outside the joint body/basin framework for activities implemented at the national level which also contribute to transboundary water management and cooperation.
- **Joint bodies often struggle to get funding from member states for programme costs, core costs as well as transboundary projects as they compete with many other national priorities for budget allocations, challenging their ability to realize the full potential benefits of cooperation.** Core costs and activity costs can weigh heavily on member state budgets in some regions of the world, even though their total contribution is typically small compared to overall government expenditure. **Stronger engagement with national and local development planning and budgeting processes is needed to ensure that sufficient budgetary resources are allocated to joint bodies.**
- Joint bodies should better communicate the benefit of their work to their member states and all relevant actors within them. To the extent possible, **RBOs should attempt to quantify benefits derived from their work or use qualitative assessments to help individual ministries of finance and other ministries in charge of planning to better understand the societal impact of transboundary cooperation**, thereby strengthening the case for larger budget allocations.
- The cost sharing of a joint body among riparian states (equal cost sharing versus key-based cost sharing) must be carefully balanced between the principle of sovereign equality on the one hand and their potentially unequal economic capacities on the other. **Budgets and cost-sharing mechanisms can change as challenges in the basin or a state's financial capacities evolve over time.**
- **As principal funders of transboundary cooperation, riparian states should define and express their expectations with regard to a joint body's work and activities, reviewing and monitoring their activities regularly.** Since the RBO's budget comes largely from member state contributions, and therefore ultimately from individual taxpayers, member states should ensure that these resources are spent efficiently and effectively while meeting their collective needs.



## Takeaway messages



### Other public financing and funding resources offer opportunities for diversifying financial sources for riparian states and joint bodies

- While the international community often plays a key role in launching and supporting transboundary initiatives, strong local buy-in and ownership is essential for longevity and sustainability. **Strong commitments by countries expressed through domestic funding of transboundary cooperation can facilitate access to international funds or support, which often comes in the form of grants, loans and technical assistance.** Without member state funding, projects are likely to be unsustainable once external support dries up. Strategies for achieving financial self-sustainability are therefore an important element of long-term planning.
- All funding and financing mechanisms come with strings attached in one form or another e.g. grants may come with certain conditions or requirements. As such, **RBOs and member states must be wise in allocating efforts to search for funding opportunities that closely align with the RBO's overall mandate and plans.**
- Different funding and financing sources are required at different stages of river basin management and development as well as during the different stages of individual projects. **Early project development will require financial means other than those for infrastructure construction or later operations and maintenance.**
- **Additional public funding and financing mechanisms do exist to complement and complete member states contributions**, with some showing more promise than others. Among these mechanisms we have:



Regional tax



Sale of data/services



Loans



Technical Assistance



Grants



Climate Funds

## Takeaway messages



### Private funding and financing offer potential opportunities to cover transboundary basin infrastructures development costs

- **There are very few examples of private funding without the expectation of repayment being used for transboundary water resources management.** Although some examples of philanthropic funding of joint bodies activities do exist, these are exceedingly rare and have not been found outside of North America.
- **Private financing also has a role to play but is typically limited to revenue generating activities or projects.** As private capital seeks a return on investment, deploying private capital tends to be limited to infrastructure projects with robust revenue generating potential, as is the case, for example, with hydropower projects. Even though private capital can also be employed for nonrevenue generating projects, this would require another revenue stream to repay private financiers. In environments with strong governance and high capacity, this revenue stream could come from the government. However, this is less common in emerging markets. The return requirement on private capital limits its applicability to ongoing operations of joint bodies, which typically do not generate revenues.
- **Public-private partnerships (PPPs) have been instrumental in leveraging private capital for transboundary water infrastructure projects.** The public agency typically retains formal ownership of the project throughout its life but regains operational responsibilities once the asset is handed back at the end of the project term, typically free of charge. **A well-structured PPP can help mobilize private capital in the form of debt and equity while also transferring the substantial risk from the government to the private party.**
- **Transboundary water infrastructure projects are endowed with risks given the complexity of a multi-actor environment, but there are risk mitigation instruments to overcome them.** Credit guarantees, political risk insurance, and other instruments can be used to overcome some of these issues, helping mobilize private capital for transboundary water infrastructure projects. **Cooperative arrangements, whereby several basin states share the cost and risks through joint management and development, may be another way to help mitigate risks.**
- **Blended finance refers to the use of public funding and financing in conjunction with private financing.** If structured intelligently, governments can use public funding/grants as well as lower the cost of public financing to cover part of a project's capital costs while still ensuring material risk transfer through the use of private financing for the remainder of the project cost. **Many PPPs around the world have effectively employed the concept of blended finance, even though it may not have always been called that.**
- **Innovative financial instruments are being developed and tested, which could potentially lead to new solutions to finance transboundary water cooperation and development.** Recent financial innovations include green bonds and social impact bonds. Both types of instruments have a repayment expectation, meaning that they are more appropriate for revenue generating projects. In addition, increasing competition from other environmental or social initiatives may make it challenging for RBOs to take advantage of the growing market interest in these innovative financial products.

# 6 Conclusions and way forward

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*Bridge over the Zambezi river*

While many financial sources can be envisaged when it comes to the funding and financing of transboundary water cooperation and development – both from national and international level and from public and private sectors – securing domestic budgetary resources from riparian countries should always stay the main source of funding and financing, which can be, if needed, completed by other financial sources.

At all levels, funding and financing for water cooperation must be increased and better coordinated to realize the benefits across multiple Sustainable Development Goals. The financial and non-financial benefits of investing in water cooperation should be demonstrated through more robust analysis, awareness-raising, capacity-development and exchange of experiences.

There is also a need to improve the enabling environment for funding and financing through better coordination, accounting, legal and regulatory frameworks, transparency, anti-corruption and accountability measures, and broader revenue-generating mechanisms. At the transboundary level, the establishment and strengthening of arrangements and joint bodies, including relevant

long-term financial mechanisms, as well as strengthening the capacity of such bodies to execute processes for joint project identification and preparation, are critical steps to addressing any perceived risks and providing a sustainable enabling environment for water cooperation.

To ensure this, experience sharing between countries and shared basins is needed along with proper capacity building on how to best mobilize domestic sources and complement them with other public and private funding and financing sources.

In this regard, international organizations such as the United Nations and International Financial Institutions should further collaborate to enable this dialogue and allow experience sharing at global level on funding and financing opportunities, challenges and lessons learned across shared basins.

The platform of the [Water Convention](#) (served by UNECE), among others, should continue to be used to discuss how to accelerate financing transboundary water cooperation and basin development by providing capacity-building and experience exchange opportunities at global level.



*Aerial view to wild nature of Delta Okavango in Botswana*

# How to accelerate the funding and financing of transboundary water cooperation and basin development? Opportunities and Challenges

More than 60 per cent of the world's freshwater flow is shared between two or more riparian states. The sustainable and cooperative management of these transboundary water resources is crucial for access to water, sustainable development as well as regional stability and peace.

However, many countries and basins struggle to identify and mobilize the needed funding for transboundary water cooperation processes and basin development projects. Financial capacity constraints faced by countries and limited understanding of the benefits of cooperation often hinder the mobilization of financial resources for transboundary water cooperation and basin development.

This Brief provides an overview of the main issues related with the funding and financing of transboundary water cooperation and basin development. It features an overview of the existing financial needs for the establishment and operation of joint bodies and for the elaboration and implementation of basin management and development projects; explores the sources of funding and financing available to support transboundary water cooperation and activities related to the management and development of shared basins and analyses the key opportunities and challenges related to each of them.

This Brief aims to point out the main issues to be considered by policy and decision-makers from the water management and financing communities to accelerate the channeling of financial resources to transboundary water cooperation and basin development.

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