

Closing the Gap of Water Financing

Policy Brief

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1. INTRODUCTION

Water development underpins various human development issues, ranging from food security, people's livelihoods, and industrial growth to environmental sustainability worldwide. In response to rapidly increasing water demand, catalyzed by technical, scientific, and economic progress due to increasing population and economic activity, groundwater withdrawal accelerated during the twentieth century in most countries across the globe, reaching unprecedented levels at the beginning of the current century. UNESCO estimated that the total global groundwater withdrawal in 2017 was 959 km³, and was distributed unevenly throughout the world (UNESCO, 2022).

According to the 2022 Sustainable Development Goals (SDGs) Report, more than 733 million people lived in countries with high and critical levels of water stress in 2019 and at least three billion people relied on water whose quality is unknown due to a lack of monitoring (UN, 2022). The same report also suggests that the current pace of progress needs to be increased by four times to meet the drinking water, sanitation, and hygiene targets by 2030. Without concrete actions and progress, 1.6 billion people will lack safely managed water, 2.8 billion people will lack safely managed sanitation, and 1.9 billion people will lack basic hand hygiene facilities by 2030 (ibid.). In addition, without action, five billion people will be living in areas with poor access to water by 2050, with women and children disproportionately affected (Alliance for Water Stewardship, 2021).

Besides the humanitarian and livelihood threat, unmitigated water risks might also translate into material financial risks.

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Over the past twenty years, the number of deaths caused by floods and droughts alone has exceeded 166,000, with economic losses of almost USD 700 billion (EM-DAT, 2019). Furthermore, the global economic losses related to water insecurity include USD 260 billion per year from inadequate water supply and sanitation along with an additional USD 94 billion annually from the water insecurity of existing irrigators (Sadoff et al., 2015). On the business side, according to the 2020 CDP survey of over 2,900 corporates, the value of water-related detrimental business impacts is around USD 16.7 billion and, in the future, could increase up to USD 336.3 billion (OECD, 2022). The survey indicates that the main drivers of detrimental water-related business impact were physical events (78%), such as flood and drought, followed by regulatory impacts (15%), including changes in the regulation of discharge quality and volume, increased water prices, and tighter standards on water efficiency (ibid.).

2. THE WATER FINANCING GAP

At the center of the global challenge is the financing for water and sanitation projects, especially in emerging markets. Although

investment in water services and water resources improve the well-being of people and the resilience of ecosystems and economies, a substantial investment gap persists. One estimate suggests that the global financing needed to achieve SDG 6 (clean water and sanitation), is up to USD 1 trillion or around 1.21% of the global gross product (Strong et al., 2020). Moreover, the present value of additional investment needed to achieve universal and equitable access to safe and affordable drinking water for all by 2030 is around USD 1.7 trillion (Hutton and Varughese, 2016), which is around three times larger than the current investment level. Similarly, the IFC estimates that the total capital investment required to meet SDG for water sanitation amounted to USD 114 billion annually until 2030, while the current financing flow is around USD 18 billion annually or less than one-sixth of the total financing needs (IFC, 2022). Furthermore, the capital cost for basic and safely managed services for water resources vary widely across world regions. Proportional to its economic size, the capital investment needed to provide basic and safely managed services for water in developed countries “only” costs around 0.12% of GDP, while the world average is 0.39%; the cost in Southeastern Asia reached up to 0.45%, and in Sub-Saharan Africa it is substantially higher at 2.01% of its GDP (Hutton and Varughese, 2016).

3. THE CHALLENGES FOR SCALING UP WATER FINANCING

Although a solid social and economic case exists for water-related investments, financing flows are currently not commensurate with investment needs. Currently, the sources of funding and financing

include tariffs, public budgets, official development aid (ODA), and commercial finance, with each source having its own problems in scaling up. Several factors serve as barriers to enhancing the flow of investment toward water projects.

First, water valuation is complex. Water services and water resources are characterized as semi-public goods. Thus, water-related investment generates a mix of public and private benefits in the form of valued goods and services as well as reduced water-related risks. The mix of public and private benefits results in prevalent undervaluing of the resource and benefit from the investment by both sectors, and this could hinder investment opportunities. For instance, investing in water supply, sanitation, and wastewater treatment will produce public benefits in the form of improved public health and ecosystem financing, and private benefits in the form of good health, better income and livelihoods, improved education outcomes, and financial returns on industrial or agricultural production that depends on water use. The mix of public and private benefits resulting from water-related investment is difficult to monetize and undermines potential revenue flows, thus creating undervaluation problems (OECD, 2017).

The undervaluation problem is reflected in the pricing which is often very low and insufficient to cover operation and maintenance costs. In addition, it is challenging to translate the benefits of investments that contribute to water security into potential revenue flows, particularly for avoided costs or cross-sectoral benefits (OECD, 2018). For instance, in the case of water supply and sanitation services, utilities often fail to collect enough revenue through

tariffs to cover operational and capital expenditures (Alaerts, 2019). Furthermore, over half of the countries surveyed by the UN-Water Global Analysis and Assessment of Sanitation and Drinking Water stated that water tariffs are at a level that allows the recovery of only 80% of operating and maintenance costs (UN-Water, 2019). Therefore, it is crucial to have a well-designed allocation regime for the management of water resources to avoid the issue of overexploitation. The sector of water and

»Enhancing financing flows toward water-related investment requires urgent attention, action, and collaboration.«

sanitation provision requires strong public regulation, as water resources management links closely between upstream and downstream utilization, and the regulation is expected to mitigate spillovers, though it may lack effectiveness as it also depends on a working tariffs scheme. The wide range of tariffs schemes might not produce the “right” valuation; thus, strong public regulations are also necessary to minimize market distortion.

Second, scale and context matter. Considering the nature of local service delivery and resource management, water-related investments are often fragmented

and relatively small in scale. Water and sanitation services are sourced and provided locally. This scale tends to be small compared to the size of deals sought by financial providers, in which investors prefer transactions ranging between USD 20 million to 1 billion and thus avoid small and context-specific investment classes (Alaerts, 2019; OECD, 2018). Besides the small-scale issue, water projects typically

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consist of several different characteristics throughout all stages. Each of these stages is often very specific. “Water-related investments” refer to a broad range of distinct investments in a largely heterogeneous landscape. For example, “water infrastructure” is a broad term that encompasses a wide range of activities – from the river basin or catchment scale to the household tap, traversing projects as diverse as water supply and sanitation, flood protection, irrigation and reservoirs (Money, 2017). Water projects with a wide range of scale and purposes entail different levels of capital intensity and repayment periods, commercial and legal risks, and varied rates of economic, financial, and social returns (ibid.). The combination of the small scale and specific context of

water projects raises transaction costs and makes emerging innovative financing models difficult to scale up (OECD, 2018).

Third, water infrastructure is typically attributed to the high capital intensity and long-term projects with high sunk costs. These characteristics require a high initial outlay followed by a long payback period (of about 20 to 30 years) (OECD, 2018; Cardascia, 2019). However, this project profile does not match a commercial bank that principally finances projects with short-term horizons (Cardascia, 2019). Long-term financing with affordable terms is of limited availability. The risks also evolve throughout the phase of the project cycle, i.e., they are lowered when a project matures and/or due to appropriate blending with public support instruments. Therefore, the suitable types of financiers and financial instruments will be different across project cycles, creating a problem of attracting the right investors and instruments for a particular phase of the project (Gietema, 2022).

Fourth, there is a lack of appropriate analytical tools and data to assess complex water-related investments and to track their records (OECD, 2018). The attractiveness of an investment is reflected in its risk-return profile, and investors rely heavily on its ability to assess investment and operation risks. Investors tend to channel their funds away from projects without credible data and analytical tools, due to high uncertainties and monitoring costs. Lack of regulatory requirements for water risks disclosure and reporting by financial institutions significantly contributes to this issue (Cardascia, 2019). Also, credit rating agencies are lacking in this area, creating limited information about the creditwor-

thiness and performance of projects and borrowers for water-related projects.

The previous points discussed the issue of the availability of funds to invest in and support water-related projects (supply side). However, the demand side, namely, the ability to deliver these projects, is no less important. The fifth challenge stems from the fact that water-related project preparations tend to be suboptimal. Project developers often have limited technical, financial, and institutional capacity to prepare bankable proposals. Water infrastructure projects often suffer from poor preparation of project pre-feasibility and design, and weak pipeline identification structuring and implementation (Cardascia, 2019). Experiences in various projects in developing countries show that projects are socially beneficial but unbankable. As a result, the private sector will only participate, and donor institutions will only assist, if the project or investment is viable.

4. THE ROLE OF MULTILATERAL INSTITUTIONS IN ENHANCING WATER FINANCING

Enhancing financing flows toward water-related investment requires urgent attention, action, and collaboration across stakeholders. Considering the various limitations faced by countries that struggle to fill the financing gap, especially developing countries, it is clear that multilateral institutions could play a substantial role in closing the gap. Despite the fact that countries have adapted based on what may work given their institutions, numerous challenges to filling the water-related investment gap persist. These range from limited fiscal capacity, suboptimal institutional capacity, relatively poor project

preparations, and lack of enabling environment, to political and social risks.

Due to limited fiscal space and inflexible discretionary spending, and the shallow domestic financial market, external funding is important to support the sustainable agenda (Songwe, Stern, and Bhattacharya, 2022), including financing water projects. This external financing can come from multilateral institutions, philanthropy, or the private sector. If investing in climate change is commercially viable, the private sector will likely participate. However, because some projects are not fully commercially viable, the government or multilateral institutions must de-risk them.

»Multilateral institutions can take various strategic measures to improve existing initiatives to enhance financing flows.«

One approach is to expand the use of concessional financing, including grants and blended finance. By pooling funds from various actors, such as Multilateral Development Banks (MDBs) and International Financial Institutions (IFIs), blended finance has the multiplier potential to crowd-in more significant funding due to the reduction in investment risks (Li et.

al., 2022). This can be achieved by creating innovative blended financing structures to make the risk-return profile for water-related projects more attractive to private investors. For instance, MDBs and IFIs could agree to be the first to endure losses in water financing and thereby increase the expected risk-adjusted return for private investors (ibid.). In addition, promotion of the “WaterEquity” model to commercial banks, regional development banks, rural banks, and credit unions at a lower-than-market rate of return will be beneficial to ensure that loans are still affordable for MSMEs and low-income families while ensuring profits for financial institutions (LPEM FEB UI & Water.org, 2022).

Further, MDBs and IFIs need to coordinate with the government at the national and sub-national levels as well as with relevant stakeholders in the context of surveillance, capacity development, risk assessment, and sustainable diagnostic tools. This has been demonstrated by the initiative of the Resilience and Sustainability Trust Fund by the IMF, with USD 50 billion in pledges to scale up the resilience aspect of low- and middle-income countries to long-term shocks (World Economic Forum, 2023). Such initiatives need to be scaled up and will be suitable to finance water projects due to their potential to improve society’s resilience.

An enabling environment is also critical for attracting private investments. In the proposal to reform the sovereign credit rating assessment, water projects can be included as high-quality assets, which can help to reduce the cost of funds. World Bank (2021) proposed reforming the sovereign credit rating to be adjusted by its

biodiversity and to include environmentally friendly assets as safe assets. This can provide incentives for banks to hold assets on their balance sheets and extend more credit toward water-related investments, thus lowering the cost of capital. Multilateral institutions could contribute by pushing forward the agenda of such reforms. Another critical element for creating an enabling environment is the issue of transparency. When it comes to transboundary issues in particular, transparency and public consultation is one of the key aspects contributing towards creating an enabling environment for community participation, especially enhancing the participation of women. Transparency and public consultation could be extended to the coordination of identifying and monitoring impacts (ERIA, 2020).

Moreover, growing interest in sustainable finance serves as an opportunity to enhance the financing flows toward water projects. Developing sustainable taxonomies will reduce uncertainties by providing clear metrics and definitions of sustainable projects. Currently, globally agreed or harmonized definitions of “green economic activities” are often unsuitable and not ready for use by various countries (Siregar and Wihardja, 2023). For example, in 2014, the International Capital Market Association (ICMA, a consortium of global investment banks) came up with principles for green bonds which lack a detailed definition of “green.” In Indonesia, the Financial Service Authority (*Otoritas Jasa Keuangan*) enacted a regulation in 2017 for issuing green bonds that lists 11 business activities which are eligible for funding through green bonds, adopting the principles formulated by the ICMA. However, the reg-

ulation does not provide a more detailed taxonomy for a green economy in terms of definition, criteria and coverage of specific economic activities or sub-sectors, and therefore the classification of green bonds remains vague (Siregar and Prabowosunu, 2022). MDBs and IFIs could step in by developing a global green taxonomy that can be adopted and implemented more easily by various countries.

5. CONCLUDING REMARKS

To summarize, water stress has become one of the standout challenges of our time and affects all world regions. If we do not act, five billion people will have poor access to water by 2050, and this will disproportionately affect women and children. However, water provision and quality have been among the most overlooked challenges in many developing countries. The barriers to closing the water financing gap stem from structural issues, the nature of the projects, the lack of proper and adequate data, and project preparations. Multilateral institutions can take various strategic measures to improve existing initiatives to enhance financing flows toward water development interventions. However, this requires strong action, commitment, and collaboration.

REFERENCES

- Alaerts, G. J. (2019). Financing for water—water for financing: A global review of policy and practice. *Sustainability*, 11(3), 821.
- Alliance for Water Stewardship (2021). The AWS Standard: A common language for the global water stewardship community. *Sustainable Industrial Water Use: Perspectives, Incentives, and Tools*, eds. Cheryl Davis & Eric Rosenblum, IWA Publishing, 313.
- Cardascia, S. (2019). Session 4. Financing Water Infrastructure and Landscape Approaches in Asia and the Pacific, OECD, https://www.oecd.org/water/Session4.Financing_Water_Infrastructure_and_Landscape_Approaches_in_Asia_and_the_Pacific%20.pdf
- EM-DAT. (ed.). (2019). The Emergency Events Database, <http://www.emdat.be>.
- ERIA. (2020). Sustainable Water Resource Development Scenarios and Water Diplomacy in the Lower Mekong Basin: Policy Implications. ERIA Discussion Paper Series No. 339
- Gietema, H. (2022). Financial structuring: key tool for water sector investments. In *Financing Investment in Water Security*, eds. Xavier Leffaive, Kathleen Dominique, Guy J. Alaerts, Elsevier, pp. 55-79.
- Hutton, G., & Varughese, M. (2016). The costs of meeting the 2030 sustainable development goal targets on drinking water, sanitation, and hygiene. World Bank, Washington, DC.
- IFC. (2022). Water Innovative Finance: Blended Finance for Water Sector.
- Li, B., Fabio N., & Prasad A. (2022). How Blended Finance Can Support Climate Transition in Emerging and Developing Economies. IMF Blog.
- LPEM FEB UI & Water.org. (2022). Water Supply and Sanitation Microfinance Market Assessment in Regions Outside Java.
- Money. (2017). Project, Investors, Risks and Returns, Background paper for the 2nd meeting of the Roundtable on Financing Water.
- OECD. (2022). Financing a Water Secure Future, OECD Studies on Water, OECD Publishing, Paris, <https://doi.org/10.1787/a2ecb261-en>.
- OECD. (2019). Making Blended Finance Work for Water and Sanitation: Unlocking Commercial Finance for SDG 6, OECD Studies on Water, OECD Publishing, Paris, <https://doi.org/10.1787/5efc8950-en>.
- OECD. (2018). Financing Water: Investing in sustainable growth, OECD Environment Policy Paper No.11 <http://www.oecd.org/water/Policy-Paper-Financing-Water-Investing-in-Sustainable-Growth.pdf>.
- OECD. (2017). Groundwater Allocation: Managing Growing Pressures on Quantity and Quality, OECD Studies on Water, OECD Publishing, Paris. <http://dx.doi.org/10.1787/9789264281554-en>.
- Sadoff, C. W., Hall, J. W., Grey, D., Aerts, J. C. J. H., Ait-Kadi, M., Brown, C., & Wiberg, D. (2015). Securing Water, Sustaining Growth. Report of the GWP/OECD Task Force on Water Security and Sustainable Growth.
- Siregar, R.Y., & Prabowosunu, A. (2022). Energy Transition and Financial Sector in Indonesia. IFG Progress Economic Bulletin. Issue 4. https://ifgprogress.id/wp-content/uploads/2022/01/Econ.-Bulletin-Issue-4-Green-Economy_24-Jan-2022-F.pdf
- Siregar, R.Y., & Wihardja, M.M. (2023). Financing the Green Economy: Options for Indonesia. https://www.iseas.edu.sg/wp-content/uploads/2023/03/ISEAS_Perspective_2023_19.pdf
- Songwe, V, N. Stern and A. Bhattacharya. (2022). Finance for Climate Action: Scaling Up Investment for Climate and Development. <https://www.lse.ac.uk/granthaminstitute/publication/finance-for-climate-action-scaling-up-investment-for-climate-and-development/>
- Strong, C., Kuzma, S., Vionnet, S., & Reig, P. (2020). Achieving abundance: understanding the cost of a sustainable water future. World Resources Institute: Washington, DC, USA.
- UN. (2022). Sustainable development report 2022. Cambridge University Press.
- UNESCO. (2022). Groundwater: Making the invisible visible. The United Nations World Water Development Report.
- UN-Water. (2019). Glaas 2019: National systems to support drinking-water, sanitation and hygiene – Global status report 2019. UN-Water. <https://apps.who.int/iris/bitstream/handle/10665/326444/9789241516297-eng.pdf>

World Bank. (2021). The Economic Case for Nature: A Global Earth-Economy Model to Assess Development Policy Pathways. <https://openknowledge.worldbank.org/entities/publication/fcc11682-c752-51c4-a59f-0ab5cd40dc6f>

World Economic Forum. (2023). <https://www.weforum.org/agenda/2023/01/imf-resilience-and-sustainability-fund>