

# Roundtable on Financing Water

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**5<sup>th</sup> meeting, 26-27 November 2019, ADB HQ Manila**

**Session 7. Practical examples to increase financing flows for water-related investments in Asia**

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**BACKGROUND PAPER**

## Rationale

In 2015, it was estimated that 2.1 billion people worldwide lacked safely managed drinking water. In Asia and the Pacific, there are still about 260 million people relying on unimproved water sources, using drinking water from an unprotected dug well or unprotected spring<sup>1</sup>. The development and management of water resources, infrastructure and services in the region have mostly been insufficient, significantly lagging behind the rate of population growth. Not only are resources constrained, but so are the governance and organization of the institutions responsible for them. Many suffer from outdated technical, managerial and tariff models<sup>2</sup>. Asia's infrastructure requirements in water were estimated at USD 800 billion from 2016 to 2030<sup>3</sup>. This amount cannot be covered by public funding only and will require mobilization of funds held by private investors since government spending remains under pressure and other sources of traditional funding are limited.

## Context

The Asian Development Bank (ADB) has developed an integrated approach to improve water supply and sanitation services in cities, including various components related to source protection, integrated water resources and drought management, water transmission and distribution, wastewater management and water reuse. The ADB is also supporting private sector engagement and public private partnerships development (PPPs) in cities by enabling policies and institutional and regulatory frameworks to ensure their efficiency in delivering water and wastewater for all, including in slums. An important part of ADB's strategy is to improve the performance of utilities through private sector participation bringing energy cost reduction, rationalized tariffs, staff capacity building, improved efficiency in billing and cost recovery, and enhanced management of losses and assets. These considerations are duly taken into account also in the Strategic Directions for ADB Water 2020-2030, currently under development.

Likewise, the Asian Infrastructure Investment Bank (AIIB) has recently drafted its Water Sector Strategy<sup>4</sup>. Improving access to water supply and sanitation services while enabling the institutional framework and policy environment is one of the three investment categories. Promoting sustainable infrastructure and mobilizing private capital are key principles. Bilateral donors are also responding to bridge infrastructure financing gaps. For instance, USAID has highlighted financing, along with governance and institutions, as one of the four strategic objectives of the US Global Water Strategy. By 2021, USAID aims to mobilize at least \$120 million of private sector financing to the water and sanitation sector worldwide.

## Aim

A diversity of approaches to help developing countries implement integrated approaches to achieve SDG n. 6.2 already exists. However, these are usually developed by different stakeholders at different stages of the water cycle and not necessarily interlinked. It is

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<sup>1</sup> Source : The World Health Organization, 2015

<sup>2</sup> Unlocking access to water, CTCN 2019, ADB

<sup>3</sup> ADB. 2017. Meeting Asia's infrastructure Needs. Manila

<sup>4</sup> AIIB, Draft Water Strategy (September 2019) <https://www.aiib.org/en/policies-strategies/operational-policies/public-consultation-draft-water-sector-strategy/.content/download/draft-water-strategy-Sep-2019.pdf>

particularly key to combine increased financing flow from public authorities to finance infrastructures with domestic, international private investment, and blended finance schemes. In addition, supporting viable and creditworthy water and sanitation providers is paramount. Developing services and utilities creditworthiness helps increase the flow of private capital into the sector through diverse mechanisms, including commercial debt, blended finance structures, Public Private Partnerships, and others. This paper will present a range of financing schemes in Asia and the Pacific that have been successful in mobilizing additional finance for water and sanitation infrastructure investments. In particular, the analysis will shed some light on three aspects: (1) The ADB experience in Public-Private Partnerships to develop efficient water and wastewater systems on a large scale; (2) Increasing financial flows to unlock commercial finance for water and wastewater with examples from Asia; (3) Community-based initiatives targeting directly creditworthy water service providers and small scale organizations through water credits. The different mechanisms explored in the paper can stimulate further discussion on how to better integrate all different components more holistically with the use of governance and regulation measures.

### **Public-Private Partnerships to develop efficient water and wastewater systems: The Experience from ADB**

Since 2014, the ADB has developed an expertise to develop Public-Private Partnerships (PPPs). These are contractual arrangements where a government partners with the private sector to deliver infrastructure services. They are one of the many ways governments can procure infrastructure and will never replace public sector financing entirely. Nevertheless, a competitive PPP arrangement can mobilize additional sources of funding and financing for infrastructure. To be successful, PPPs must be grounded on strong public policy considerations, based on acceptable commercial principles, effective risk sharing, and a bankable contract structure that offers value for money over the life of the project.<sup>5</sup>

In practical terms, there is an obvious contradiction to be solved. On the one hand, while many experienced private companies in the water and wastewater business would be willing to invest in Asian cities, attracting private capital into infrastructure is challenging. This is primarily due to the lack of well-prepared bankable projects which decreases business opportunities on the market. On the other and, users impacted by deteriorated water services often pay a high price to get water on the informal market although they would be willing to pay to institutionalized water services providers for improved water services. As a result, the demand does not meet the supply because companies decide not to invest their money in projects that are not commercially viable, and the poor at the bottom of the chain end up paying the highest price. Designing infrastructure packages structured as public-private partnerships (PPPs) can help solve the dilemma.

The recent cases of severe water shortage in Asian cities, such as Chennai and Manila in 2019, reminded that water resources are generally depleting while water demand is constantly increasing. As water resources and distribution capacities are not easily expandable, access to improved water and sanitation remains difficult for many urban dwellers. Water security in cities rely on three components<sup>6</sup> that can be developed with private sector expertise: (i) Sufficient water resources and treatment, (ii) Reliable water transmission and distribution systems, and (iii) Adequate wastewater management.

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<sup>5</sup> How PPP Advisory Services can Narrow Asia's Infrastructure Gap, Yoji Morishita is Head of the Office of Public & Private Partnership at Asian Development Bank.

<sup>6</sup> ADB.2019. Asian Development Outlook. Manila

## **1. Water Resources Management and Treatment**

Cities typically use water from three main sources: surface water, underground water, and desalinated water. Cities using surface water face more and more competition from irrigation for agriculture. A recent study (2014)<sup>7</sup> on 70 cities worldwide relying on surface water forecasts that by 2040, 45% of them would become vulnerable to competition between agricultural and urban demand. Concerning underground water, its usage and exploitation should respect aquifer capacity, and it is often overused for domestic use, but also for irrigation. Its over extraction can cause cities to sink. Finally, desalination plants are needed when no other sources are available.

## **2. Water Transmission and Distribution**

Water transmission and distribution hinges crucially on the capacity to satisfy a growing authorized urban demand, while competing with an unauthorized demand coming from physical and commercial water losses, so-called “Non-revenue Water” (NRW). NRW is due to leakages and frauds stemming from low quality infrastructure and inadequate management of the water service. These issues are aggravated by low water tariffs, lack governance and regulation for managing water systems. While NRW levels in advanced economies are generally between 10 and 20%, they are around 50% on average in Asian developing states, and can reach up to 75% in highly deteriorated systems.

## **3. Wastewater Management**

Wastewater management is often not developed in Asian cities. Wastewater treatment plants are usually more complicated to operate than water treatment plants, involving more complex chemicals and biological processes. Furthermore, building wastewater networks to collect wastewater is highly costly and difficult to execute in developing cities with high population density. Tariff setting and cost-recovery mechanisms are among key limiting factors.

In response to these challenges, PPP schemes target to combine safe, affordable and sustainable water supply and wastewater management with a private sector mindset: introducing new managerial practices, new technology and sustainable planning approaches at the best tariff possible for customers following a competitive process. Water concessions in the Philippines are worth being studied as the case of the large Manila Water concession, and the more recent one of New Clark City. The last one is incorporating technological innovations while promoting sustainable development with the use of green infrastructure. An integrated approach was implemented with the development of a masterplan integrating drinking water, storm water and wastewater. ADB Office of Private and Public Partnerships has supported the preparation of PPPs including smart water and waste water management that was awarded in December 2018, proposing an affordable tariff scheme in comparison to others cities.

It is important to highlight that the development of holistic strategies is key to attract finance in the water sector. To build sustainable and attractive models, support to countries should target the whole water cycle. Technical approaches should focus on relevant priorities and ensure that infrastructures are designed, built, operated and maintained in an efficient and

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<sup>7</sup> Global analysis of urban water supply vulnerability, Environmental Research Letter, 2014

sustainable way. In summary, water resources management, water distribution, wastewater treatment and management should be addressed in parallel with a source-to-tap perspective.

### **Increasing financial flows in the water and wastewater sector: Experiences from the Philippines and Japan.**

Blended finance can play a critical role in mobilizing commercial finance and strengthening the financing systems on which water-related investments rely. The OECD defines blended finance as the strategic use of development finance to mobilize additional finance towards sustainable development in developing countries (OECD, 2018)<sup>8</sup>. Blended finance can add value by shifting funds to sustainable development in countries and sectors that have significant investment needs. It can also act as a market building instrument to provide a bridge from reliance on grant and other donor financing towards more self-sustaining financing approaches.

In addition, tax calculation measures and cross subsidies can increase financing of large centralized and decentralized wastewater infrastructure both at national and local level. Two examples, the first from a developing country perspective and the second from an advanced economy standpoint, explain how these mechanisms can work in practice.

**The challenge confronting the water sector in the Philippines**, as in many developing economies, lies in meeting the staggering financing and capital investment required to increase access to safe water and sanitation. The objective of the Philippines Water Revolving Fund (PWRF) Program was simple: to increase the pool of financing available to the water sector by leveraging limited public funds with ODA and private sector financing, thereby expanding access to clean water in the Philippines. While designing an innovative financial mechanism was a key component, the program had the objective to mobilize private finance as a lever of change to improve the governance and efficiency of the entire water sector. Working across the water utility financing marketplace, the program targeted technical support in three key areas: “Innovative Financing”, “Operational Strengthening”, and “Regulatory Clarity” - to mitigate credit risk, operational risk, and political risk, respectively. These risks are the three major reasons keeping private financial institutions (PFIs) out of the water sector.

The PWRF program worked to address these three areas simultaneously to gain support from various stakeholders. PWRF interventions primed the market at specific entry points with the vital “Strategic Alliance Building” element tying the work together. Building on this policy shift, USAID and JICA worked in partnership with the Department of Finance (DoF) to design a revolving fund for water supply and sanitation projects that leverages ODA and public funds with commercial bank loans. The revolving fund itself provided a facility to entice PFIs to enter the water sector by reducing credit risk. But to fully catalyze its use, the PWRF program supported complementary activities focused on increasing potential creditors’ understanding of water utility business models. The core PWRF financing interventions were the water revolving fund mechanism; the credit rating system and training on water project appraisal. Three main lessons learnt can be highlighted: (i) Coordination among a limited number of creditworthy water service providers is key; (ii) A comprehensive approach with a wide range of capacity development activities for PFIs and water service providers is required; (iii) Donor coordination and complementary

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<sup>8</sup> OECD (2018), Making Blended Finance Work for the Sustainable Development Goals, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264288768-en>.

partnerships between donors is necessary not only to scale up results but also to inform water sector policy reforms.

**Through the combination of 3Ts ('Taxes', 'Tariffs' and "Transfers'), Japan was able to systematically mobilize private financial resources for wastewater management.** Beneficiary contributions and charges (Tariffs), as well as subsidies sourced from public revenues ('Taxes') by central or local governments and borrowings (i.e. municipal bonds) are used to finance centralized and decentralized wastewater management. Taxes in the form of subsidies cover the cost of operations such as stormwater removal, advanced wastewater and sludge treatment. A certain percentage of the redemption cost of the bonds issued by local governments is included when calculating the local allocation tax as a compensation to others areas less populated. This is done by taking into account several factors including population, city area and other indicators with necessary adjustments reflecting local conditions. By doing so, Japan's local allocation tax corresponds to a 'Transfer' of financial resources from affluent municipalities such as the Tokyo Municipal Government to less affluent ones. Municipal bonds are ultimately taken on by the financial market.

### **Financing Community-based Organizations and Small Service Providers through Water Credits: Lessons Learnt form the Civil Society**

Providing water and sanitation for low-income households has often been considered the domain of the public sector for many reasons, including the prevailing assumption that the households in question are either unwilling or unable to pay for this access themselves. While there will always remain a group of people who depend upon government assistance for meeting these needs, they have different capacity to pay, and many within that category are ready and willing to pay for their solution if they had access to the right kind of financial tools. Believing in this premise, Water.org developed its flagship model, WaterCredit, in South Asia back in 2004.

"WaterCredit" is a market-driven approach developed by the non-profit organization Water.org to address universal access to water and sanitation. Water.org carefully select financial institutions, typically those that are already serving low-income populations, and support them to establish dedicated loan products for water and sanitation. Since these types of loans are less familiar to the lending institutions, there is generally some initial reluctance to the idea. To reduce these heightened feelings of risk, Water.org provides a small grant that covers technical assistance and research and development. The financial institutions then offer dedicated water or sanitation loans to low-income clients using funds they have sourced themselves (not from Water.org). Households are responsible for constructing the water or sanitation assets and repaying the loans as agreed.

Since that time, the model has been implemented across 13 countries (five of which are in Asia). As of the end of September, their global network of 129 financial partners has disbursed 5.7 million loans, totaling \$2.1 billion. Repayment rates hover around 99 percent. The grant money invested in these partners was \$32 million, which provides an impressive return.

## Questions for discussion

What do these practical examples from Asia and the Pacific suggest as next steps to further scale up financing on water-related investments and bring changes? Particularly, which conditions seem to encourage or critical to overcome hurdles?

What are some outcomes of the partnerships between financial institutions and local utilities to raise funds to help serve the poor effectively in the region? Can we distinguish patterns, thresholds or specific conditions for engaging the poor effectively and equitably?

How can private water service providers be expanded in large cities, but also to serve smaller communities effectively and improve performance and financial sustainability in the long-term? Are there specific minimal conditions to be met and how can countries and municipalities support this specially regarding risks and profit sharing?