

FINANCING WATER AND SANITATION SERVICES

USAID Water and Development

TECHNICAL SERIES

INTRODUCTION

Governments have set ambitious targets for universal access to safely manage water and sanitation services by 2030, requiring an unprecedented mobilization of funding to meet this goal. The purpose of this technical brief is to provide guidance on factors to consider in USAID's water and sanitation programs that aim to increase the effectiveness of current funding and mobilize additional public and private funds to expand and improve water and sanitation services globally.

KEY TAKEAWAYS

- **Maximizing value from existing public funding and mobilizing additional funds from domestic public resources and user fees** needs to be prioritized by policymakers, planners, and development practitioners.
- While bridging the financing gap requires expanded utilization of private finance, successfully leveraging this finance requires **creditworthy water and sanitation service providers and a strong governance system**.
- **Addressing policy, legal, and regulatory framework bottlenecks** and other enabling environment issues, including governance, are fundamental to unlocking investment. This includes strengthening monitoring and accountability systems.
- **Private finance currently plays a small but important role in the sector**. It is therefore vital that development partners work in coordination to target creditworthy service providers operating in favorable enabling environments, where it makes the most sense to attract private finance.
- Development practitioners must consider country governance capacity and service provider creditworthiness in order to assess the potential to **access different types of financing and plan for long-term reform**.

THE FINANCING CHALLENGE

The World Bank estimates that \$114 billion of capital investment per year is needed to meet universal access to safely managed water, sanitation, and hygiene (WASH) services by 2030.¹ This represents about three times the current estimated global investment and comprises only the capital costs of new infrastructure, not the associated costs of ongoing operations and maintenance. Thus, additional funding must be mobilized effectively to reach and maintain universal access. Yet, spending money on WASH is a sound investment – every dollar invested brings a four-fold return in terms of social and economic benefits and can have a catalytic impact on other sectors.²

Finance is inextricably linked to governance. Poor governance increases risks for financial institutions, which limits the ability of service providers to access finance. Public funds are a significant source of investment for the water and sanitation sector; yet planning for future funding is often not systematic. Without a unified plan for financing the sector, water and sanitation are perceived as higher-risk sectors by sources of private capital.³ Lenders are apprehensive to enter a sector with limited planning, unsure regulation, limited transparency, and unclear accountability. Policy reforms, regulatory structures, and institutional frameworks are therefore crucial for mobilizing repayable finance. In many cases these reforms are made in an iterative fashion, alongside pursuing financing opportunities, which may incentivize improved transparency or other reforms.

Weak corporate governance at the water utility level also creates an unacceptable level of risk that causes private sources of capital to shy away from WASH investments. Other USAID technical briefs cover [Water Sector Governance](#) and [Urban Water Services](#) in more detail and are complementary to this brief. Both challenges in the larger enabling environment and at the utility level must be addressed so the WASH sector can better allocate and spend scarce public resources and attract non-traditional financing as part of the massive investment needed to achieve universal WASH access.⁴

KEY CONCEPTS AND TERMS

COSTS

The costs of delivering services must include both the initial costs of infrastructure and ongoing costs, which are sometimes overlooked or underestimated. These costs can be classified under the following categories:⁵

- **Capital Expenditure (CapEx):** The capital invested in constructing fixed assets, largely infrastructure.
- **Operations and Minor Maintenance Expenditure (OpEx):** The recurrent (regular, ongoing) costs for operating water and sanitation systems.

¹ Hutton and Varughese (2016). [The Costs of Meeting the 2030 Sustainable Development Goal Targets on Drinking Water, Sanitation, and Hygiene](#). World Bank, Washington, DC.

² Hutton (2012). [Global costs and benefits of drinking-water supply and sanitation interventions to reach the MDG target and universal coverage](#). World Health Organization, Geneva.

³ Pories, L., Fonseca, C., and Delmon, V. (2019). [Mobilising Finance for WASH: Getting the Foundations Right](#). *Water* 11(11), 2425.

⁴ For more details on the importance of governance at different levels in mobilizing private finance in the sector, see USAID (2020). [Expanding Finance for Water Service Providers in Kenya: WASH-FIN Country Brief](#).

⁵ In this technical brief, these costs are simplified to capex and opex. For a more comprehensive list of costs, refer to: Fonseca, C. et al. (2011). [Briefing Note 1a Life-cycle costs approach](#). IRC International Water and Sanitation Centre, p. 7-9.

TABLE 1: ILLUSTRATIVE EXAMPLES OF COSTS

CapEx	OpEx
<ul style="list-style-type: none"> Fixed assets such as concrete structures, pumps, and pipes, including major repairs or replacement infrastructure Procurement of meters, computers, software, and other equipment needed for system operations Costs of one-off work with stakeholders prior to construction, including the costs of capacity-building⁶ 	<ul style="list-style-type: none"> Salaries of operators, regulators, and other staff Fuel, chemicals, materials, and purchases of bulk water Continued training, monitoring, planning, and policy-making

SOURCES OF FUNDING

To meet the costs of providing WASH services, there are three sources of funding:⁷

- User fees (“tariffs”):** Fees paid by households, businesses, and public institutions to service providers, as well as household investment in self-supply solutions,
- Taxes (government):** Funds originating from domestic taxes that are channeled to the sector by central, regional, and local governments;
- Foreign assistance (external grants):** Funds from international donors and charitable foundations.

In general, more resources are needed from all of these sources to meet the funding requirements of the sector. Figure 1 summarizes these different types of expenses and sources of funding. As the figure shows, even after increasing tax revenue and reducing costs, there may be a gap between the available revenues and the costs of services, which is where different sources of repayable finance are needed. **Repayable finance** refers to sources of financing that require repayment, such as bonds, commercial loans, concessional loans, or equity. It should be used to finance capital expenditures or replace infrastructure and not used to fill the gap in operating costs. Repayable finance is not considered as a separate source of funding because it depends upon revenue generation from tariffs or government tax revenue to service the debt.

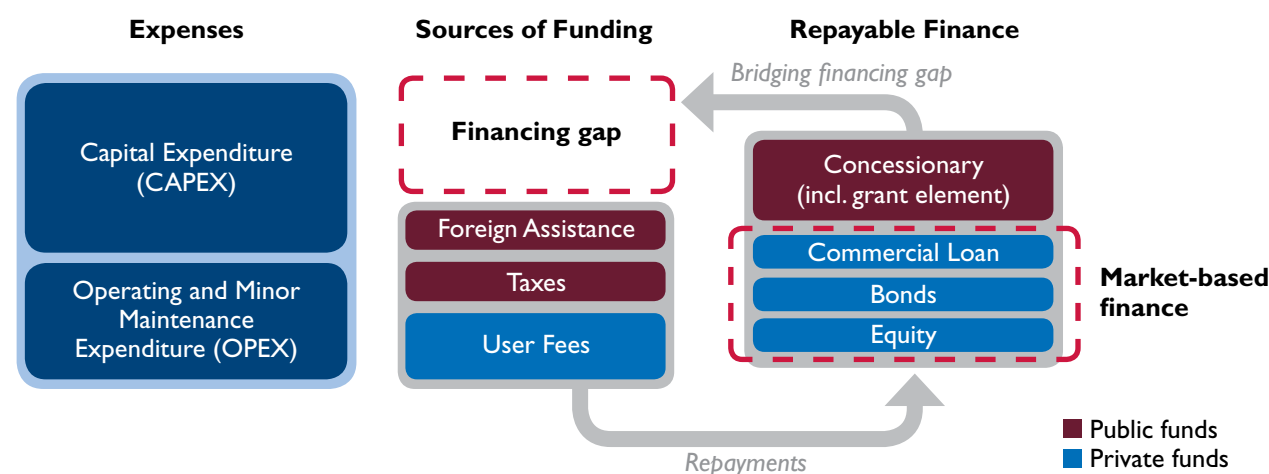


FIGURE 1: BRIDGING THE FINANCING GAP WITH REPAYABLE FINANCE

Source: Adapted from OECD (2010). *Innovative Finance Mechanisms for the Water Sector*, OECD Studies on Water, OECD Publishing, Paris.

⁶ Fonseca, C. et al. (2011). [Briefing Note 1a. Life-cycle costs approach](#). IRC International Water and Sanitation Centre.

⁷ World Health Organization, UN-Water, Trémolet, S. and Rama, M. (2012). [Tracking national financial flows into sanitation, hygiene and drinking-water: working paper](#). World Health Organization, Geneva.

TYPES OF REPAYABLE FINANCE

Bond: A debt instrument bought by investors; when buying a bond, an investor lends money to the borrowing entity (which can be a government, municipality, or corporate entity) for a defined period of time at a variable or fixed interest rate.

Commercial loan: A loan extended by commercial banks or development agencies at market rates.

Concessional finance: A loan provided on terms that are more favorable than those offered on the market. This may include a lower interest rate, a longer repayment period, or a grace period.

Equity: Ownership in a company or project, which allows for participation in the profitability of the investment.

Because of the variability in capacity and different contexts, interventions are needed across all these sources of finance to fill in the finance gap and achieve universal, sustainable WASH services. The following section describes methods to maximize value from existing public funding and mobilize additional funds from domestic public resources and user payments. The section on page 6 then discusses how to mobilize *new* sources of repayable finance, particularly commercial finance to expand services for underserved communities and customers.

INCREASING NON-REPAYABLE SOURCES OF FUNDING

A large part of addressing the sector finance gap will be met through maximizing and, where possible, augmenting non-repayable sources of funding, taxes, and user fees. The following section outlines key opportunities to increase the effectiveness of existing non-repayable finance and potentially mobilize more.

MAXIMIZING THE VALUE OF EXISTING FUNDING

Marshalling “more” non-repayable resources requires making existing funds more efficiently allocated, better targeted, and more effectively spent.

More efficient allocation

Sector finance strategies, frameworks, and plans help to prioritize investments and funding sources, and determine how funds can be maximized to meet national objectives. Without a plan, sector targets will be difficult to meet, while competition in and among sectors for scarce government resources will make achievement of targets near impossible.⁸ Efficiently allocating scarce resources also means deciding what water and sanitation projects can be funded by which sources of funding, particularly segmenting the market to determine which priorities can be funded by repayable finance (whether concessional or commercial) and which should be funded by public resources.

Partners should work with host country government counterparts to **develop robust sector financing frameworks or plans** to support realistic sector strategies. Technical assistance to service providers can improve project selection through feasibility studies and project concept review so that scarce resources can go further.⁹

⁸ Pories, L., Fonseca, C., and Delmon, V. (2019). *Mobilising Finance for WASH: Getting the Foundations Right*. Water 11(11), 2425.

⁹ For more information on Project Preparation Facilities, see USAID (2018). *Financing Facility Landscape Assessment Report WASH-FIN Working Paper No. 1*.

THE WATER FINANCE GLIDE PATH IN THE PHILIPPINES: THE NEW UNIFIED RESOURCE ALLOCATION FRAMEWORK

The Government of the Philippines is advancing the Unified Resource Allocation Framework (URAF) for Water Supply and Sanitation, a financing policy aimed at increasing investments to enable the country to reach its target of universal coverage for water supply and sanitation services by 2030. To achieve universal coverage, the Philippines will need \$1.8 billion annually from 2019 to 2030—an amount 22 times more than historical investments of about \$80 million per year. The URAF takes a holistic approach by enabling the allocation of public grants and subsidies to underserved areas and providing technical assistance to increase utility governance, operations, and capacity. The URAF's key strategy is to segment the market, steer utilities to the most appropriate financing source, and allocate scarce public grants to the most in need while leveraging private-sector resources.

Building on past successes and support from the Japan International Cooperation Agency and the World Bank, USAID worked with national government institutions to develop an implementation plan and a roadmap to guide capacity and institutional development needs. Through the Water, Sanitation, and Hygiene Finance (WASH-FIN) activity, USAID has helped to develop operational guidelines and a standard financial model to appraise projects and determine the appropriate level of subsidy and/or financing.

Source: USAID (2021). *A Financing Framework for Water Supply and Sanitation in the Philippines: WASH-FIN Country Brief*

Better targeted subsidies

Governments around the world spend significant funds subsidizing the water and sanitation sectors—around \$320 billion a year, excluding China and India. These subsidies help keep the prices of services below market rates. However, these subsidies are generally targeted towards networked services and so benefit wealthier households with existing water or sewerage connections. On average, 56 percent of subsidies in the WASH sector are directed to the wealthiest 20 percent of the population, while only 6 percent go to the poorest 20 percent.¹⁰

USAID and other development partners should help governments and service providers design subsidies that meet the needs of the poorest who are least able to pay market prices for services. Options include: 1) promoting access subsidies that help extend services to under- or unserved areas by reducing upfront costs and/or by spreading out costs over time, such as through no- or low-interest loans; or 2) identifying valid and feasible proxy indicators correlated with income.¹¹ Where appropriate, CapEx subsidies should be designed to attract and leverage additional long-term sources of capital.

More efficient spending

Executing even the limited allocated budgets for the WASH sector can be a challenge for some governments. For example, in 2017 in Mozambique, budget execution was only 49 percent.¹² Budget execution is often the responsibility of sub-national authorities that lack the necessary capacity and financial management systems, and who may be dealing with inconsistent financial flows from the national level. Fund mobilization may be a matter of improving capacity for expenditures to better spend what has been allocated, rather than attempting to increase budget allocations for WASH.

For the most part, tax-based budgets as well as those supported by external sources/foreign assistance are largely decoupled from service provider performance.¹³ Tax revenue is neither withheld or reduced based on

¹⁰ Andres, L. et al. (2019). *Doing More with Less: Smarter Subsidies for Water Supply and Sanitation*. World Bank, Washington, DC.

¹¹ Davis, J. (2020). *Effective Targeting of Water Supply Subsidies*. Research Review, 1, Stanford University.

¹² UNICEF (2018). *Mozambique Budget Brief: WASH Sector*.

¹³ Sanitation and Water for All (2020). *Water and Sanitation: How to Make Public Investment Work: A Handbook for Finance Ministers*. New York.

poor performance or enhancements, respectively, and is more often linked to populations served or politics. Additionally, inefficient public spending in the sector is rampant. In Tanzania, while the water budget quadrupled between 2002 and 2014, access to basic water services had stagnated at just over 50 percent of the population as of 2015.¹⁴ In order to maximize the value of existing funding from taxes and external sources/foreign assistance, the government could shift a portion of budget allocations to **output-based or results-based financing**, for example, to maintain assets, increase cost-effectiveness, and improve the operational performance of service providers. USAID/Cambodia’s rural sanitation [development impact bond](#) is one such example of results-based aid.

MOBILIZING ADDITIONAL DOMESTIC RESOURCES

Beyond making non-repayable resources more effective, increasing government budget allocations to water and sanitation is also key to meeting the Sustainable Development Goals. Most countries invest less than 0.5 percent of GDP in the sector, well short of the Sanitation and Water for All target of 5 percent of the national budget.¹⁵

Tracking and advocating for increased public investments

Better sector financial tracking can be one avenue to secure additional resources for the sector—one cannot advocate for more without understanding the baseline. Tools aiming to compile and consolidate national budget allocations and/or spending in the sector, including the World Health Organization’s [Tracking Financing to WASH, or TrackFin](#), the World Bank’s [Public Expenditure Reviews \(PERs\) in Water and Sanitation](#), and the United Nations Children’s Fund’s [WASH Budget Briefs](#), enable this type of tracking, but have only been applied in a few countries and have not been incorporated as regular practice by any national governments.

Development partners should help facilitate efforts to regularize and systematize sector budgeting and tracking. This would have the ancillary benefit of serving as an advocacy tool to finance ministries, as they are ultimately responsible for providing budget allocations to the sector. It is also important to work closely with line ministries and other development partners to take a coordinated approach to this advocacy. In some cases, financial tracking may point to the need for an overall sector financing strategy, as described in Section 4.1.

Increasing tax revenues for the water sector

Governments can consider allocating more tax revenues to water and sanitation activities. In Mali, for example, the Government decided to double the share of the national budget allocated to the sector, from 1.23 percent in 2017 to 2.62 percent in 2018, following an analysis using the TrackFin methodology that showed the funding deficit in the sector. Alternatively, governments can introduce new taxes, earmarked for the water sector.

Earmarked taxes direct specific tax revenues to a particular expenditure purpose. For example, in India an earmarked tax of 0.5 percent on all taxable services, separate from the existing service tax, was put into place in November 2015 to raise funds for the Swachh Bharat Mission, the national campaign to eliminate open defecation. Between 2015 and 2018, the tax raised \$2.87 billion.

Less direct, but critically important for WASH finance, are the opportunities present to help countries sustainably increase general revenues. For most countries, it is only by increasing the size of the overall “pie” that governments can increase public investments in WASH. In the Philippines, for instance, USAID support of tax policy and administration improvements has helped the government raise tax collections by 2.3 percent of its GDP—equivalent to \$6.2 billion in additional revenue per year. These kinds of improvements, while not WASH-specific, can yield revenues of the magnitude needed for sector advocates to argue successfully for major new allocations for WASH priorities.

¹⁴ World Bank Group (2017). [3 Ways of Thinking and Working Differently to Ensure Water and Sanitation for All](#). Water Supply, Sanitation, and Hygiene (WASH) Poverty Diagnostic Initiative. World Bank, Washington, DC.

¹⁵ Sanitation and Water for All (2020). [Water and Sanitation: How to Make Public Investment Work: A Handbook for Finance Ministers](#). New York.

Reforming user fees

Typically, the sector seeks to balance two key objectives when it comes to user fees: 1) cost recovery (i.e., user fees that reflect the actual costs of service) and 2) user affordability. Most countries have a policy for tariffs to cover the full costs of operations and maintenance, but they are rarely enforced.¹⁶ This is complicated by the fact that most tariffs are so low that the revenue generated often does not cover the costs of operation and maintenance even at 100 percent collection efficiency. While cost recovery is lower in rural areas, more costs could be recovered in urban areas, enabling subsidies from (scarce) public funds to be redirected to rural areas.¹⁷

Development partners can help service providers address cost recovery and affordability concerns through **well-designed user fees for professional, quality, and reliable services**. While there is strong pressure for politicians to keep user fees low, evidence suggests that customers—even the poor—are willing to pay for quality services.¹⁸ In fact, the poor often pay more for water than the rich in many countries. Experience has shown that by first increasing service quality, service providers often face less resistance to implementing cost-reflective user fees.

BRIDGING THE FINANCING GAP: APPROACHES TO MOBILIZING REPAYABLE FINANCE

Water and sanitation services are intrinsically capital intensive (meaning they require a significant up-front investment), but can generate reliable revenues over long timeframes. Given the high upfront investments required, repayable finance can help close the remaining financing gap needed for critical infrastructure. An important secondary benefit of repayable finance is the rigor, business discipline, and overall creditworthiness required to access this type of finance and the associated benefit of business planning, financial forecasting, and efficiently maximizing the types of investments made

EXPANDING HOUSEHOLD FINANCE

There is often misunderstanding by the banking sector that users are unable or unwilling to pay for water and sanitation services, or that such ‘unproductive assets’ (investments which do not generate income) cannot be financed. However, analyses indicate that the poor often pay more than wealthier populations to meet their basic needs¹⁹ and WASH sector micro-loan products have demonstrated 99 percent repayment rate.²⁰ Microfinance has been shown to accelerate access for lower-income households that lack savings to invest in up-front costs, but must be paired with subsidies to reach the poorest.

A few interventions to expand household finance include: 1) Reduced or interest-free connection loans to finance the initial connection to a water system. The risk is that customers connecting through these campaigns may default after a few months or that lenders will not promote them due to reduced profit;²¹ **2) Pooled community resources**, including village savings and loan associations (VSLAs), are an alternative, interest-free option to overcome financing challenges, particularly in rural areas; and **3) Micro-loans** can be issued to finance a toilet, septic system, or piped water connection. Although these financing sources can accelerate access for many households, this has been shown to leave behind the poorest of the poor, who may be unable to repay these loans.

¹⁶ Sanitation and Water for All (2020). [Water and Sanitation: How to Make Public Investment Work: A Handbook for Finance Ministers](#). New York.

¹⁷ For more information on how the sector can potentially target performance-based subsidies in rural areas, see Convergence© (2021). [Working Group on Blended Finance for Water Infrastructure Maintenance and Fecal Sludge Management – Outcome Document](#). Toronto.

¹⁸ Sy, Jemima, et al. (2014). [Tapping the Markets: Opportunities for Domestic Investments in Water and Sanitation for the Poor](#). World Bank.

¹⁹ UNESCO World Water Assessment Programme (2019). [World Water Development Report 2019: Leaving No One Behind](#). UNESCO, Paris.

²⁰ Microsave and Water.org (2018). [WaterCredit Toolkits](#).

²¹ USAID (2020). [What Does it Take to Sustain WASH Outcomes? Lessons from Six Ex-Post Evaluations](#).

EFFECTIVELY UTILIZING CONCESSIONAL FINANCE

The water and sanitation sectors in developing countries have long relied on concessional finance sources, typically offered by development finance institutions such as the World Bank and regional/national development banks, with lower interest rates and long repayment periods or other more preferential terms than what the market could otherwise offer. Concessional finance plays an important role for governments to finance projects, especially when the risks to commercial lenders are too high.

USAID and other development partners can support effective utilization of these loans by improving the technical, financial, and management performance of service providers. In Sub-Saharan Africa alone, only half of water utilities typically cover operations and maintenance costs.²² Activities can also help to improve sector monitoring and regulations, including benchmarking of providers to ensure that concessional finance results in performance improvements. By strategically using concessional finance for projects that will enable more efficient operations and improve management, borrowers can eventually graduate from needing concessional finance to accessing commercial finance.

National development banks or special purpose financing facilities, such as a revolving fund, can leverage limited public funding for WASH infrastructure investment and expand concessional financing options. The repayment of loans into the fund results in a systematically growing investment pool. USAID has supported the development of WASH-focused financing facilities and revolving funds in India and the Philippines.²³

CLIMATE FINANCE FOR RESILIENT, LOW EMISSIONS WATER AND SANITATION SERVICES

Climate finance supports climate change adaptation and mitigation measures and comes from a variety of sources—the most talked-about being foreign assistance and public concessional finance, which drives a whole negotiating track at the United Nations Climate Change Conference of the Parties. Currently, water and sanitation receive around \$11 billion of adaptation-related finance, or around 30 percent of total adaptation finance, while the sector receives around \$3 billion in mitigation-related finance.²⁴ China, India, Indonesia, Pakistan, and Vietnam together received nearly 30 percent of public international climate finance to the sector as loans for large infrastructure for water resources management and WASH.²⁵

MOBILIZING DOMESTIC PRIVATE FINANCE AND UTILIZING CREDIT ENHANCEMENTS

Although international financing is quite common for low- and middle-income countries seeking to improve water and sanitation services, there are many advantages to securing local debt financing. While international financing may be at concessionary rates, it is typically repaid in international currency (such as U.S. dollars). Therefore if, over the course of the loan, the U.S. dollar increases in value relative to local currency, this loan becomes more and more expensive for the borrower. Loans secured from local financial institutions, bonds, and other financing facilities using local currency do not encounter these foreign exchange risks and have the added benefit of contributing to the availability of diverse financial services locally. There are efforts to attract pension funds to invest in the sector and there is some potential to unlock this type of financing in the future.

Assessing and improving service provider creditworthiness

In order to mobilize domestic private finance, it is important to ensure that there are creditworthy providers. Assessing creditworthiness of water and sanitation providers can help improve transparency and reduce

²² van den Berg and Danilenko (2017). *Performance of Water Utilities in Africa*. World Bank, Washington, DC.

²³ For more information on financing facilities, see: USAID (2018) *WASH-FIN Financing Facility Landscape Assessment Report*.

²⁴ Mason, N. et al. (2020). *Just add water: a landscape analysis of climate finance for water*. Overseas Development Institute, London.

²⁵ Ibid.

risks to borrowing. Results of such assessments can also inform areas of technical assistance to support these service providers in accessing local private capital, which could involve improving financial management systems, management capacity, or operational performance. To enhance creditworthiness, USAID has helped fund credit ratings to assist investment-grade utilities to access finance from domestic markets. For instance, in Uganda, USAID's WASH-FIN project supported a Credit Rating for the National Water and Sanitation Company (NWSC), which resulted in an investment grade credit score. With this credit rating and additional technical support from the World Bank, NWSC secured a \$15 million loan, equivalent to UGX 50 billion, from a local commercial bank to finance the utility's capital investment priorities for infrastructure expansion and improvements. Beyond credit ratings, **data platforms** that provide information on operational performance of service providers, as well as summarize past and existing deals in the sector, can help improve transparency and knowledge, helping to attract private lenders.

Unlocking commercial loans and bonds

In many developing countries, both large public and small and medium-sized water and sanitation service providers have been able to access loans from local commercial banks or raise funds through capital markets, though this is still not common practice. Key barriers from the service provider perspective include low creditworthiness, high collateral requirements, and uncertainty of debt repayment due to high interest rates, which can be over 20 percent in local currency in many countries in Sub-Saharan Africa. Another barrier, on the supply side of finance, is the lack of familiarity with the WASH sector among financial institutions and other private financiers. Developing and refining business plans and financial and business models for service providers and engaging with different financial institutions to enhance their understanding of opportunities for investment in the water and sanitation sectors are crucial areas of support that USAID and other development partners can provide.²⁶

FINANCING THE SANITATION SERVICE CHAIN WITH LOCAL COMMERCIAL LOANS IN SENEGAL

Senegal is one of the few African countries that has been successful in extending services by embracing private sector participation in the water and sanitation sectors. Since the 1990s, Senegal has had a sector policy and institutional framework that allows for the private sector to engage in the sector, from operating and managing services to financing. USAID's WASH-FIN supported one large private sanitation service provider, Vicas, to refine its business plan to meet banking requirements. This resulted in its receipt of a \$1 million financial package from Banque de Dakar. As a result of continuous engagement with a potential pool of financiers, 15 Senegalese banks and three multinational banks or investment funds have openly expressed interest in the urban sanitation sector. In addition to the \$1 million in financing that Vicas received, new transactions exceeding \$6 million are currently under negotiation with other institutions. It is worth noting the importance of a favorable business environment in Senegal, where the government has encouraged private sector participation in the delivery of sanitation services.

Source: USAID (2020). *Scaling Up Finance to Expand Urban Sanitation Access in Senegal: WASH-FIN Country Brief*.

²⁶ A framework used by USAID in its [Mobilizing Finance for Development](#) and other sector-specific finance training courses is the Five Points Framework, which looks at challenges and opportunities for finance seekers (service providers), finance providers, enabling environment, financial infrastructure (credit bureaus, securities exchanges), and facilitators and disruptors (fintech, matchmaking organizations, etc.).

In high-income countries with healthy capital markets, bond financing is a very common mechanism for the water and sanitation sectors. Bonds may be longer in tenor than commercial loans in some markets, but typically carry higher transaction costs, which can be barriers to entry for all but the largest borrowers.

FIRE-D PILOTED POOLED BOND ISSUANCE IN INDIA

Over 17 years of programming, (1994–2011) USAID’s Financial Institutions Reform and Expansion–Debt and Infrastructure (FIRE-D) activity partnered with India’s central, state, and municipal governments to provide technical assistance to 16 Indian states to expand sustainable water and sanitation access to the poor while improving the ability of city and state governments to mobilize resources and increase their revenues. FIRE-D pioneered municipal credit ratings and supported the subsequent issue of municipal bonds to finance water and sanitation projects. Pooling a group of 13 Urban Local Bodies (ULBs) in Tamil Nadu helped decrease transaction costs for small and medium sized ULBs. This transaction involved multi-layered credit enhancements designed to increase investor confidence and extend the maturity of the bond, including a debt service reserve fund capitalized by the state government, a local debt service reserve fund, and a partial credit guarantee from USAID.

Due to abundant public funds for WASH, which became available towards the end of the project, FIRE-D’s original vision of mobilizing commercial finance did not materialize broadly in India. More recently, however, there have been several bond issuances resulting in about \$100 million for water and sanitation in three cities (Pune, Visakhapatnam, and Surat). Market reforms and a capital grant program have supported the renewed interest in municipal bonds.

Sources: USAID (2018). *India Financial Institutions Reform and Expansion-Debt and Infrastructure (FIRE-D Ex-Post Evaluation)*; World Bank (2016). *Pooled Municipal Bond Issuance in Tamil Nadu (India), Case Studies in Blended Finance For Water and Sanitation*, Washington, DC.

Explore credit enhancements

Credit enhancements are measures that improve borrowers’ access to debt and enhance creditworthiness by providing reassurances of timely repayment, such as additional collateral, insurance, or a third-party guarantee. A common tool used to help reduce default risk are credit guarantees, which are designed to give commercial lenders greater comfort in lending to the WASH sector, extend loan tenors, and reduce collateral requirements. Since 1999, there have been over 20 water sector guarantees leveraging over \$200 million in private capital provided by USAID’s Development Credit Authority, now part of the U.S. Development Finance Corporation (DFC) established in 2020.²⁷ It is important to note, however, that there has historically been a low utilization rate of guarantees in the water and sanitation sectors due to the lack of a pipeline of bankable, creditworthy projects. Other types of credit enhancements to leverage repayable finance include reserve funds, which provide a pool of funds to partially repay investors in case of default.

PROMOTE PUBLIC-PRIVATE PARTNERSHIPS

A public private partnership (PPP) is “a long-term contract between a private party and a government entity, for providing a public asset or service, in which the private party bears significant risk and management responsibility and remuneration is linked to performance.”²⁸ Under PPP arrangements, project functions such as design, construction, financing, operations, and maintenance are transferred to the private sector. Policy and regulation remain the government’s responsibility, providing accountability and oversight of operations. Though

²⁷ Internal U.S. DFC Database. For examples of DCA guarantees, see the USAID-supported projects in the [Philippines](#) and [Kenya](#).

²⁸ World Bank (2017). [PPP Reference Guide Version 3](#). International Bank for Reconstruction and Development, Washington, DC.

PPPs have not dramatically increased finance in the water sector; they have led to positive results in terms of improving cost recovery through user fees, and the management discipline of water and sanitation providers in cities from Manila to Dakar.²⁹ Moreover, in the last decade, PPPs have been increasingly used in secondary cities and towns in the form of management, lease, and affermage contracts (See the Box below). These kinds of contracts have been helpful in raising revenues from user payments. PPPs help to increase availability of finance by enabling providers to better collect user payments, instill financial discipline, and better recover operations and maintenance costs.

EXPANDING ACCESS TO PIPED WATER SERVICES IN MOZAMBIQUE'S SECONDARY CITIES AND TOWNS THROUGH PPPS – FROM LEASE TO CONCESSION CONTRACTS

In Mozambique, the Government has prioritized private sector participation in the water sector for over a decade. There are 50 piped water systems in secondary cities and towns managed by the private sector under five-year PPP (lease) contracts. In many towns with water systems managed by a local private operator, access to piped water through yard taps or kiosks has increased from 10 percent to over 40 percent. While this is great progress, much needs to be done in the remaining cities/towns as well as in the ones under lease contracts. USAID has been providing technical assistance and advisory services to the Government of Mozambique and the private sector in improving this current PPP model as well as piloting concessional contracts for water production and distribution in several towns. If successful, this approach could leverage over \$50 million dollars in private investments in the next several years. This could go a long way in improving access to safe water in these towns from 10 percent of the population to over 50 percent.

PPPs can be structured in a variety of ways including as concessions for the overall design, financing, and management of an existing water or sanitation network, as a lease for operations without responsibility for new investment, or as shorter term management contracts for running a utility.³⁰ They have also been successful in leveraging technical skills and efficiency from the private sector for small town and other decentralized water services,³¹ securing bulk water, reducing non-revenue water, and providing fecal sludge management services. But any of these PPPs require **effective regulation, qualified private sector operators, and effective government capacity** to oversee the private sector operator. USAID and other development partners can work to **build these important prerequisites and support the structuring of PPP agreements**, and add value by ensuring that transaction processes are guided by **sound governance principles**.

²⁹ Marin, P. (2009). *Public-Private Partnerships for Urban Water Utilities: A Review of Experiences in Developing Countries*. Trends and Policy Options; no. 8. World Bank, Washington, DC.

³⁰ For more information on PPPs, see the World Bank (2020). *Water & Sanitation PPP Toolkits*. Washington, DC.

³¹ Delmon, V. (2014). *Toolkit: Structuring Private-Sector Participation (PSP) Contracts for Small Scale Water Projects*. World Bank, Washington, DC.

MEASUREMENT AND LEARNING

Mobilizing finance for the WASH sector is a complex process that will look different based on context, making flexibility, learning, and adaptation critical to success. For monitoring progress, it is important to select a mix of standard and custom indicators that measure how the activity is working and ensure the program is learning from its experience. Indicators should go beyond tracking dollars mobilized and work to measure progress towards this.

MEASURING SUCCESS FOR WASH SECTOR FINANCING

USAID has standard indicators for water and sanitation service delivery that track improvements in finance and institutional capacity:

- HL.8.4-1: Value of new funding mobilized to the water and sanitation sectors as a result of USG assistance
- HL.8.3-3: Number of water and sanitation sectors institutions strengthened to manage water resources or improve water supply and sanitation services as a result of USG assistance

Custom indicators are also a critical component of monitoring for the likelihood that these services will be sustainable in the long run. Illustrative examples of these are:

- Percent change in operating cost ratio
- Percent change in budget allocation
- Percent change in budget execution by local government authorities

See [USAID's Water and Development Indicator Handbook](#) for more information.

Sector learning on effective implementation approaches to generate WASH finance is still nascent, and many evidence gaps exist. USAID has identified the following key sector learning questions on finance in the [Water for the World Implementation Research Agenda](#) that, if filled, would help further refine efforts to put the aforementioned approaches into practice:

- What are the enabling and constraining factors to structuring funds that blend public, donor, and private financing to reduce risk and enable increased finance for service providers?
- What fundamental characteristics, conditions, approaches, and incentive structures are critical for water and sanitation service providers to effectively access commercial finance?
- What are effective approaches to institutionalize financial tracking tools to improve a government's ability to budget, monitor, and track WASH financing?

CONCLUSION

Many projects assume that working on finance means working to mobilize repayable, commercial finance. However, there are many options, and many steps required before commercial finance becomes a viable option. A first step in addressing finance in the WASH sector is to thoroughly understand the local context. There is a spectrum of finance, with more nascent service providers with limited creditworthiness and lower governance capacity on one end, and well-established providers with higher creditworthiness operating in strong governance systems on the other. The former tend to rely heavily on foreign aid from donors and public resources, while the latter are able to access commercial loans and bonds, as shown in Figure 2.

Most of the countries where USAID works primarily use the types of financing in the first two quadrants on the left—government transfers and grants and concessionary finance (including loans with grant elements). While the objective is not necessarily to finance services with municipal or corporate bonds, it is important to move towards higher creditworthiness and governance capacity, where it becomes possible to explore other sources of financing, including commercial bank loans and bonds.

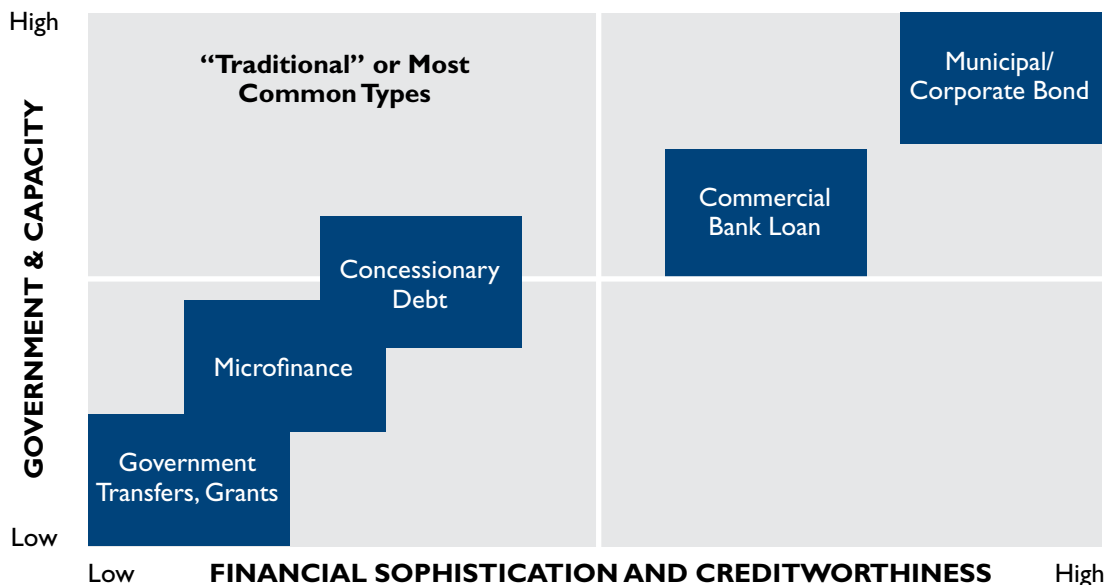


FIGURE 2: SPECTRUM OF FINANCING IN THE WASH SECTOR

Before setting a target for a particular type of finance, development practitioners must **determine where a country or service provider is on this spectrum in order to help plot a plan for long-term reform and assess their potential to access different types of financing**. There are a variety of tools and approaches available to assess service provider creditworthiness and governance capacity including Political Economy Analysis and utility benchmarking, which are discussed in the [Governance Technical Brief](#) and the [Urban Water Technical Brief](#). Initial assessments should also look at Public Financial Management capacities, and domestic resource mobilization beyond the WASH sector and understand the impact of concurrent reforms. Other development partner repayable finance or grant investments in the sector must be assessed to coordinate and avoid crowding out. It is important that USAID and development partners support the host governments in segmenting the market, so that certain projects can be identified to be more 'bankable' and thus incentivized to access repayable domestic finance instead of concessional finance or public funding (See page 4 for the Box on the Philippines URAF).

Once the fundamentals of national budgeting, effective expenditure of public resources, and cost recovery from user fees are addressed, development partners can work to stimulate the market for repayable finance. Because sector governance and finance are interconnected, projects might also need to provide technical assistance to government institutions in order to support reforms within an enabling environment to expand the amount of repayable finance that is provided to WASH providers.

SELECTED RESOURCES

1. Goksu, A. et al. (2019). [Reform and Finance for the Urban Water Supply and Sanitation Sector](#). World Bank, Washington, DC.
2. Pories, L., Fonseca, C., and Delmon, V. (2019). [Mobilising Finance for WASH: Getting the Foundations Right](#). *Water* 11(11), 2425.
3. Goksu, A. et al. (2017). [Easing the Transition to Commercial Finance for Sustainable Water and Sanitation](#). World Bank, Washington, DC.
4. Sanitation and Water for All (2020). *Water and Sanitation: How to Make Public Investment Work: A Handbook for Finance Ministers*. New York.
5. Additional resources will be available on the [USAID WASH-FIN microsite](#).