

# Facilitating Access to Finance for Household Investment in Sanitation in Bangladesh

August 2016

## Summary Overview

**Location:** Bangladesh, South Asia

**Approach to Blended Finance:** The provision of an output-based aid (OBA) subsidy to microfinance institutions (MFIs) in Bangladesh is used to help MFIs develop sanitation products and extend their reach to poorer households.

Microfinance (the provision of financial services to low-income people) is emerging as a viable avenue to facilitate increased access to finance for households to water and sanitation products, and for small-scale water service providers' business development. OBA is a form of results-based financing where subsidies are paid to service providers based on verification of pre-agreed water and sanitation project targets defined during project design, thereby offering a strong incentive for the delivery of results. Combining an OBA subsidy with a microfinance loan helps reduce households' cash constraints by spreading repayment over time, and makes investment in improved sanitation more affordable overall.

## Context

Bangladesh has made progress in improving sanitation nationwide, with an open defecation rate reduced to one percent of the population. However, as of 2015 only 61 percent of Bangladeshis relied on improved sanitation facilities according to JMP statistics.

In Bangladesh, households primarily invest their own financial resources in latrine purchase and installation. Many have the ability (and often willingness) to invest in building improved sanitation facilities but they are often cash-constrained. The upfront costs of a toilet or piped



water connection can be prohibitive. Businesses operating in the rural sanitation sector are very small, which inhibits their ability to develop better-suited latrine models and to access credit. These businesses are unable to offer poor households the option of paying in installments and of spreading purchase costs over time. Microfinance institutions (MFIs) are well positioned to help on this front, as they provide financial services across their client networks, and can tailor loans to meet local needs.

Over the last few years, the World Bank has been working in partnership with the Government of Bangladesh to support its sanitation initiatives and encourage private sector involvement in rural sanitation. A pilot sanitation marketing initiative to leverage private sector resources and help households adopt improved sanitation was implemented in Bangladesh in 2009, and was scaled up in 2011 after successful results.

## Financial Structure and Approach to Blended Finance

In 2016, the World Bank approved funding to an output-based aid (OBA) program which channels OBA subsidies to two leading MFIs, the Association for Social Advancement (ASA, the second largest microcredit lending institution worldwide) and the Palli Karma-Sahayak Foundation (PKSF, the Government of Bangladesh's wholesale microfinance facility).

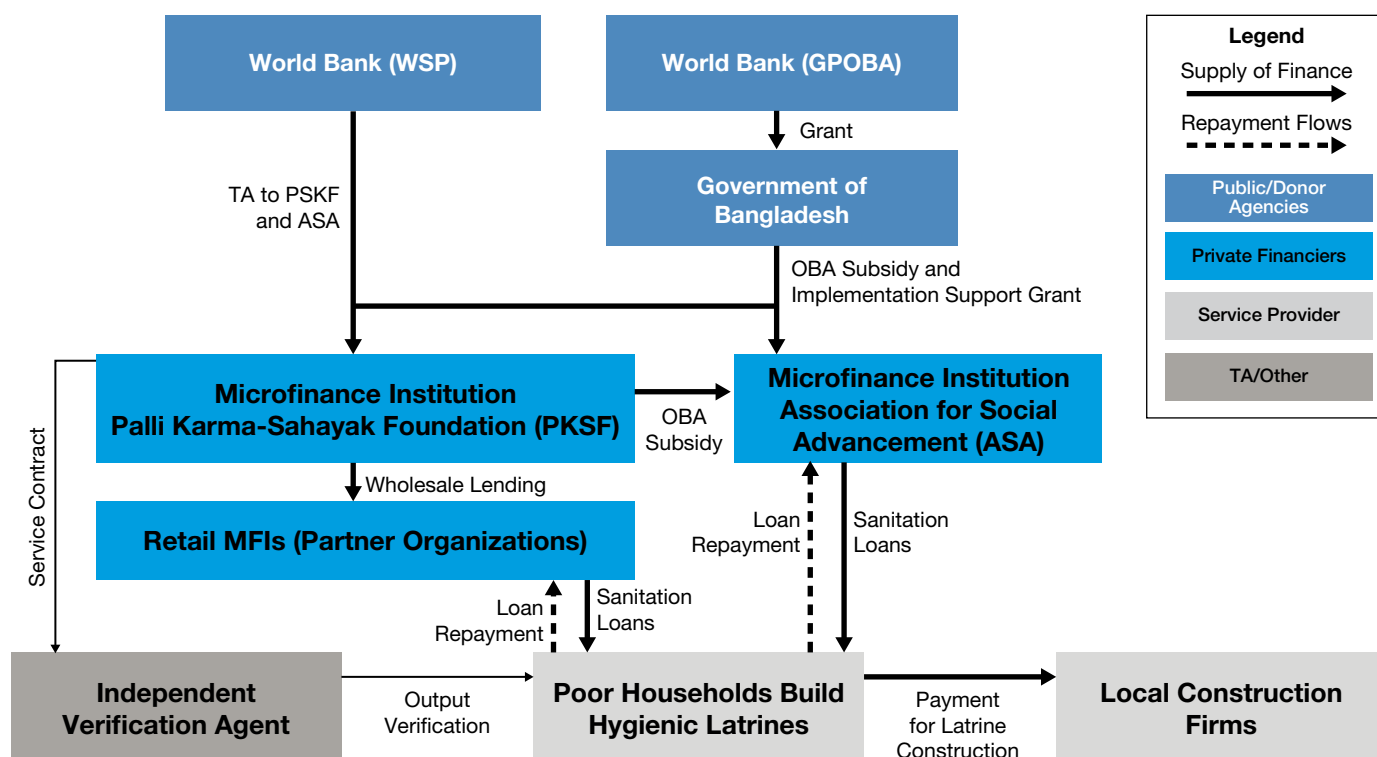
The World Bank is facilitating the provision of loan products to the two MFIs through a US\$3 million OBA subsidy to target poor households. Blending of concessional and commercial financing occurs as the grant is provided directly to the MFIs, ASA, and PKSF, both of which use their own funds to provide pre-financing to households. PKSF provides wholesale loan financing to retail MFIs (partner organizations) to finance household sanitation loans and ASA provides sanitation loans directly to households. Households use the loans to pay trained and pre-certified local construction firms for hygienic

latrine construction. The cost of the latrines built under the program range between US\$45 and US\$220, but the subsidy only applies to loans up to US\$128, as a way to ensure that comparatively richer households do not divert the subsidy to finance more expensive installations.

Figure 1 shows the financial structure for the OBA program.

The OBA subsidy will amount to US\$5-16 per household, and will be paid upon independent verification that the agreed outputs have been achieved. The subsidy will effectively reduce households' weekly repayment by 11 percent. Loans can be paid off in weekly installments over a period of 55 weeks, allowing households to more easily spread the cost of purchasing materials over time. The partial subsidy both enhances the attractiveness of borrowing by increasing access and affordability of higher-quality options for poor households, and reduces lending risk for the MFI.

**FIGURE 1** Facilitating Access to Finance for Household Investment in Sanitation, Bangladesh: Financial Structure



Complementary technical assistance will be provided through the Water and Sanitation Program of the World Bank under the GPOBA project. WSP implemented an earlier technical assistance program in Bangladesh to help poor households in rural areas access affordable, high-quality sanitation facilities from small firms. The new program will maintain features of the original, and will support demand creation and market promotion through awareness raising activities. It will ensure follow-up support to trained entrepreneurs to guarantee quality construction, and help MFIs reach the poorest households. Such technical assistance is likely to be critical to scale-up the approach and for sustainability.

## Results

The OBA project is expected to start implementation in late 2016, so there are no concrete results to date. The selected MFIs are in the process of developing specialized loan products for low-income rural households to help them finance the purchase of sanitation systems, and to extend loans to microbusinesses trained on hygienic latrine construction and sale.

The intervention aims to expand product availability by targeting the traditional constraints that limit access to finance for households. Projections indicate that approximately US\$22 million in household contributions will be leveraged.

## Lessons Learned

**Providing OBA subsidies to microfinance institutions is one way of facilitating the expansion of sanitation microfinance by increasing the size of the client base that can afford to borrow.** The resulting increase in sector investment allows sanitation entrepreneurs to increase their earnings, thereby enhancing sustainability, and in turn, expanding their offerings and services.

**The leveraging of grants helps cash-constrained households.** Many households are willing and able to invest in improved sanitation solutions, but they are not able to mobilize sufficient funding to invest, and need assistance to be able to spread the costs of such an investment over time. The blending of OBA with MFI loans targets reducing this affordability constraint

through: (1) lowering the latrine cost; and (2) spreading repayment out in weekly installments over the course of a year, making it more manageable.

**Well-designed subsidies can be catalytic for the development of rural sanitation markets.** The strategic use of subsidies, for example for sanitation marketing or to expand the reach of sanitation microfinance, can help create a demonstration effect for sanitation lending at scale via other MFIs.

## References

- Ikeda, J. and H. Arney. 2015. *Financing Water and Sanitation for the Poor: The role of Microfinance institutions in addressing the water and sanitation gap*. Water and Sanitation Program: Learning Note. World Bank: Washington, DC.
- Ikeda, J. and R. Ahmed. 2015. *Building Markets for Rural Sanitation: Lessons Learned in Bangladesh*. Water and Sanitation Program. World Bank: Washington, DC.
- WEF OECD. 2015. *Blended Finance Vol. 1: A Primer for Development Finance and Philanthropic Funders*. Geneva: World Economic Forum.
- World Bank. 2016. Bangladesh OBA Sanitation Microfinance Program (Project Paper). Washington, DC: World Bank Group.

This case study is part of a series prepared by the World Bank's Water Global Practice to highlight existing blended finance experiences in the water sector.

Blended finance refers to “the strategic use of development finance and philanthropic funds to mobilize private capital flows to emerging and frontier markets,” as per the OECD definition (WEF OECD, 2015). Concessional funds can be used in a catalytic manner to open up new opportunities for commercial financing, by providing technical assistance to borrowers and lenders to help them become more familiar with each other, help structure transactions, provide credit enhancement mechanisms, etc.

Private capital flows can help with meeting immediate financing needs for investment in the water sector but ultimately need to be repaid. Repayable financing from private sources to the water sector can come in various forms, including as commercial bank loans, bonds or equity. To obtain such financing, water-sector actors need to be able to repay the borrowed amounts and the associated funding costs, which means that they need to be deemed “creditworthy” by providers of finance.

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# Facilitated Access to Finance for Domestic Private Water Operators in Cambodia

August 2016

## Summary Overview

**Location:** Cambodia, Southeast Asia

**Approach to Blended Finance:** A combination of non-sovereign concessional lending, guarantees, grants, and technical assistance has been used to leverage local commercial finance and equity investments so as to accelerate access to piped water supply. A concessional line of credit was provided by AFD (*Agence Française de Développement*) to the Foreign Trade Bank (FTB), a Cambodian commercial bank, to enable them to extend more attractive loans to small- and medium-sized water service providers, mostly active in small towns and rural areas. Output-based investments grants have been used in a complementary way as incentives for private water operators to connect poor households.

## Context

Access to piped water supply is lower in Cambodia than in the majority of Southeast Asian countries and was estimated at 21 percent in 2015. Only 7 percent of rural households have access to piped water services on premise, while 75 percent of urban households enjoy such service (JMP 2015). Public utilities serve the capital and eleven other urban areas. In rural spaces and small towns, private water operators (which are either licensed or unlicensed) have invested in water systems. Driven by demand for improved services, steady economic growth, and relative water abundance, the private sector in Cambodia has the potential to be an important force for increasing access to piped water supply. The Government of Cambodia and development partners such as the World Bank, the SEDIF (the water service provider in the Paris area) and the Agence Française de Développement (AFD) have been supporting the



development of these dynamic small-scale operators since the early 2000s through a variety of financing and technical assistance approaches.

Limited access to finance is a key factor preventing these private operators from expanding and improving services. Domestic commercial banks are not used to lending to water sector actors, whereas water operators' capacity to develop sound business plans and build assets to a high standard is sub-optimal. Some local and regional banks have been providing loans to private water operators. However, collateral requirements are usually over 200 percent of the loan amount, and only land, buildings, and cash deposits can be accepted as collateral. Tenors are short (up to 5 five years) with no grace period, which means that only a few large water operators can access financing under such conditions.

## Financial Structure and Approach to Blended Finance

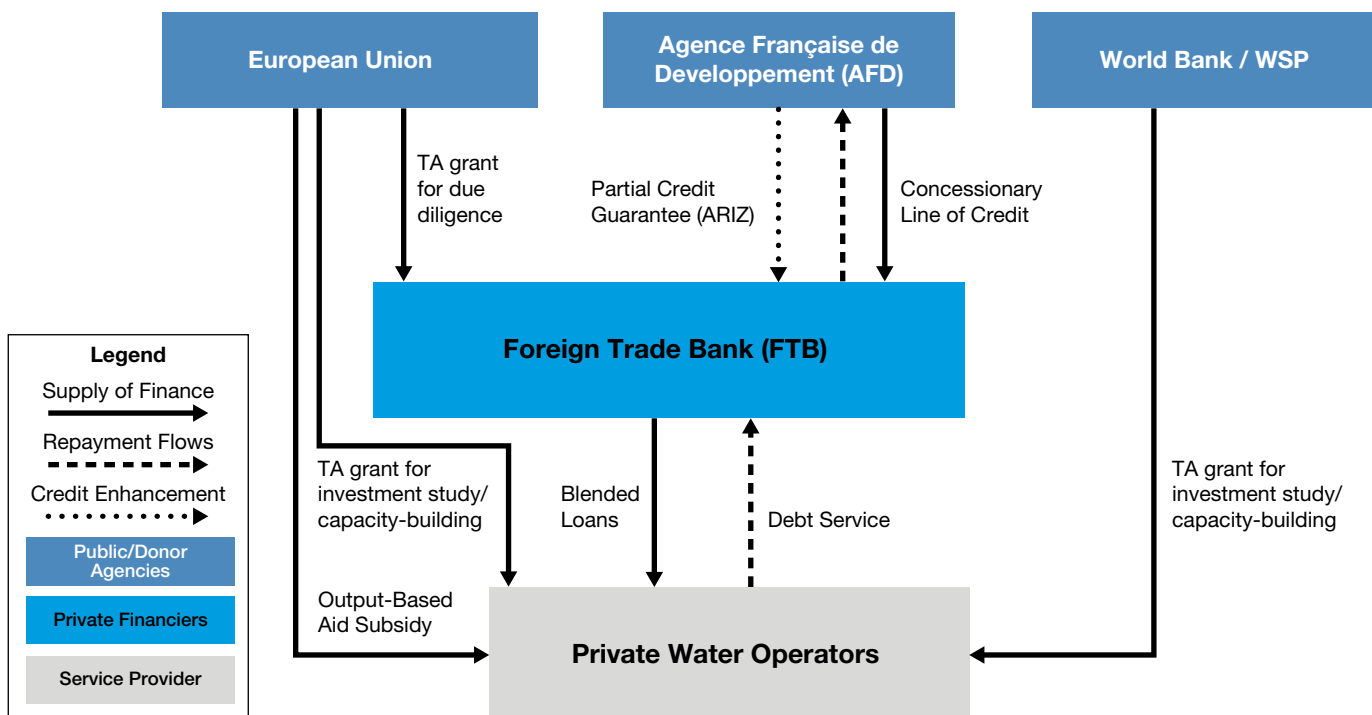
In 2014, the AFD initiated the “Access-to-Finance-Project” to facilitate access to financing for small private water and electricity companies in rural and peri-urban areas. As part of the project, the AFD signed a concessional loan agreement with the Foreign Trade Bank (FTB), a local bank that expressed interest in diversifying its lending portfolio in the energy and water sectors. Additionally, in order to address related challenges, a combination of instruments was deployed with the objective to: i) institutionalize the water supply loan products and develop the capacity of FTB to assess such investment proposals; ii) support water operators in the development of sound business plans and investment studies and; iii) incentivize water operators to improve service quality and connect the poor.

Three financial tools (a concessional line of credit, grant funding and a guarantee package), totaling approximately US\$24.2 million, are being used simultaneously in the project to support small private operators. The way in which these funding sources are combined is shown in Figure 1.

The multi-sectoral (water and electricity) non-sovereign concessional credit line of US\$15 million was setup with FTB. To ensure that at least some of this financing would go to the water sector, the FTB agreed to reserve at least one-third of the overall credit line for water sector operators. However, as a result of demand, mid-way through implementation, this allocation was shifted to two-thirds of the credit line going to water operators, resulting in US\$10 million being allocated to the water sector. The FTB can use the line of credit to extend loans to small and medium-sized water or energy operators. The concessional element is transferred by FTB to the loans it provides to the operators, leading to interest rates in the order of 6–8 percent per annum. The term is four to ten years, with an optional grace period of 12 months. The average water project investment cost is around US\$270,000, the water tariff is on average US\$0.58/m<sup>3</sup> and the average connection fee is US\$64, with discounted fees for the poor.

A US\$5 million risk guarantee (for a US\$10 million portfolio) was provided by AFD’s risk sharing mechanism (ARIZ) to share risk between FTB and AFD on the water credit facility. The guarantee provides for a reduction of the

**FIGURE 1** Facilitated Access to Finance for Domestic Private Water Operators, Cambodia: Financial Structure





collateral requirement from 200 percent to 100 percent of loan value, allowing operators to borrow higher amounts.

Finally, both the World Bank Water and Sanitation Program and the European Union (EU) provide grant funds. WSP has provided grant funding to support the development of business plans and investment studies for a minimum of 20 water operators applying for FTB loans. WSP technical assistance expanded to the overall regulatory environment, resulting in more transparent licensing and tariff regimes. The EU grant is managed through AFD and is used to provide technical assistance and output-based subsidies to help participating operators extend services to poor households. Technical assistance is provided by a range of service providers including GRET, Innovative Services, Engineering and Advisory (ISEA), SeeSaw, Enclude and Emerging Markets Consulting (EMC). The technical assistance includes: i) assistance to FTB to carry out due diligence for the loan applications; ii) assistance to an additional 15 water operators for business plans and investment studies and; iii) assistance to manage the disbursement of the loan and investment grants, and to ensure the quality of design and construction.

The EU provided a total of US\$0.8 million for output-based subsidies to operators for connecting poor households. Connection fees for the poor are capped at US\$30, but may be discounted further at the discretion of the operator depending on their marketing plan. The subsidy covers the difference between poor households' ability to pay and the actual cost of connecting them, which ranges between US\$50–70. Subsidies are paid to the operators once poor households have a functioning metered connection. In addition, the grant helps operators develop and implement a marketing strategy, including better water quality management measures, and provides a partial subsidy to water quality equipment.

## Results

As of July 2016, a total of 32 projects that meet the eligibility criteria to receive funding had been identified, representing a total requested loan of US\$8.7 million. Five investment projects have been successfully completed. By the end of 2017, it is expected that almost 45,000 households will benefit from water service improvements, and more than 18,000 will receive new connections to a

pipled water system (45 percent of which are expected to be for poor households).

An important result of the project has been the change in the way FTB is assessing collateral requirements to not only include land or buildings, but also to include part of the appraised value of water infrastructure assets, and part of the value of future cash flows. These are new practices that have not yet been adopted by other local commercial banks.

## Lessons Learned

**Introducing new lending practices/loan products requires a combination of different instruments and close support to local banks.** Although various activities were organized to stimulate interest in the water sector at the level of other local and regional banks, this did not yet lead to significant changes in observed lending practices, with respect to tenors or collateral requirements. When different lending terms are required to match water sector needs, such as in Cambodia, technical assistance, a partial risk guarantee and a source of concessional credit proved necessary to initiate such changes, combined with the strong interest of a specific commercial lender. The concessional nature of the credit offered through FTB, with an attractive interest rate to operators proved essential to motivate operators to comply with other conditions set by the project.

**Optimizing technical assistance to operators requires close alignment with local bank practices, consistent communication, and enforcement of technical standards.** The attrition rate of operators—those who joined and later dropped out—has been gradually reduced since the project started. This was achieved through upfront involvement of FTB in the pre-financing stage and intensive communication on the eligibility criteria and conditions, such as the requirement for operators to finance consultants for detailed design and construction supervision. This not only protects the bank from the risk of sub-standard investments and consequent problems in operations, but also helps strengthen operators over time.

## References

- GRET. 2016. Steering committee of the Access to Finance Program for SWEs and REEs: AFD/EU.
- Sy, J., R. Warner, & J. Jamieson. 2014. "Tapping the Markets: Opportunities for Domestic Investments in Water and Sanitation for the Poor." *Directions in Development—Private Sector Development*. Washington, DC: World Bank.
- WEF OECD. 2015. *Blended Finance Vol. 1: A Primer for Development Finance and Philanthropic Funders*. Geneva: World Economic Forum.
- WHO and UNICEF. 2015. *Progress on Sanitation and Drinking Water—2015 update and MDG assessment*. Geneva: WHO and UNICEF—Joint Monitoring Program.
- World Bank. 2016. "Strengthening Sustainable Water Supply Services through Domestic Private Sector Providers in Cambodia" (Synthesis Report). Washington, DC: World Bank.

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# Institutional Blending via Second-Tier Lender FINDETER in Colombia

August 2016

## Summary Overview

**Location:** Colombia, Latin America

**Approach to Blended Finance:** FINDETER, a partly government-owned second-tier lender, was established in 1989 in Colombia. It provides discounted loans to domestic commercial banks that lend to local entities to finance infrastructure projects. FINDETER was initially set up with equity provided by the Government of Colombia and loans from the World Bank and the Inter-American Development Bank. Thanks to its good credit rating, it can borrow at better rates than commercial banks and provide them with lending capital, while commercial banks retain 100 percent of the credit risk of municipal borrowers. A voluntary intercept provision plays a critical role in credit enhancement, increasing security and investor confidence for both FINDETER and the first-tier lender.

## Context

Following decentralization in Colombia during the 1980s, many municipalities faced challenges accessing finance for development projects, having had little or no previous experience borrowing long-term debt. Likewise, commercial lenders were not used to lend to municipal governments.

FINDETER (*Financiera de Desarrollo Territorial*) was created to facilitate decentralization for local governments, and address the long-term financing constraints for infrastructure projects. As a specialized financial intermediary, it channels transfers from the central government to local governments through its loans to first-tier financial institutions, primarily commercial banks. Costs are lowered through the rediscounting of loans that commercial banks make to local borrowers. In addition to lending activities, technical assistance is extended to



service providers accessing FINDETER finance, typically in the form of project preparation support. FINDETER's second-tier lender status makes it an unconventional type of municipal development fund.

The Inter-American Development Bank and the World Bank provided financing to FINDETER at the outset. The Government of Colombia served as a guarantor for the multilateral loans. Today, FINDETER's funding comes primarily from the issuance of certificates of term deposits (a savings certificate with a fixed maturity issued by a bank), but it continues to have access to long-term funding from multilateral institutions. Revenues from existing loans finance a large share of FINDETER activities. The Government of Colombia owns approximately 92 percent of FINDETER's shares, with the remaining shares owned by local governments. The Fund's AAA local credit rating from DUFF & Phelps has helped it access less expensive financing.

## Financial Structure and Approach to Blended Finance

The way in which FINDETER operates is as follows: a local government body applies for a loan through a commercial bank; FINDETER appraises the local government's proposal in parallel with the commercial bank, and upon approval (if accepted) the loan package is granted. The first-tier lender provides a loan to the sub-national government, and FINDETER then lends the amount to the first-tier lender at a discounted rate.

Figure 1 shows the discounting process for FINDETER. The commercial bank is responsible for repaying the rediscounted loan to FINDETER, independently from repayment by the local borrower. This means that the commercial bank takes on 100 percent of the credit risk.

A crucial component of the financial structure is the establishment by the borrowing local government of an account into which intergovernmental payments flow. The first-tier lender (commercial bank) has the right to intercept revenues if loan payments are not made, and

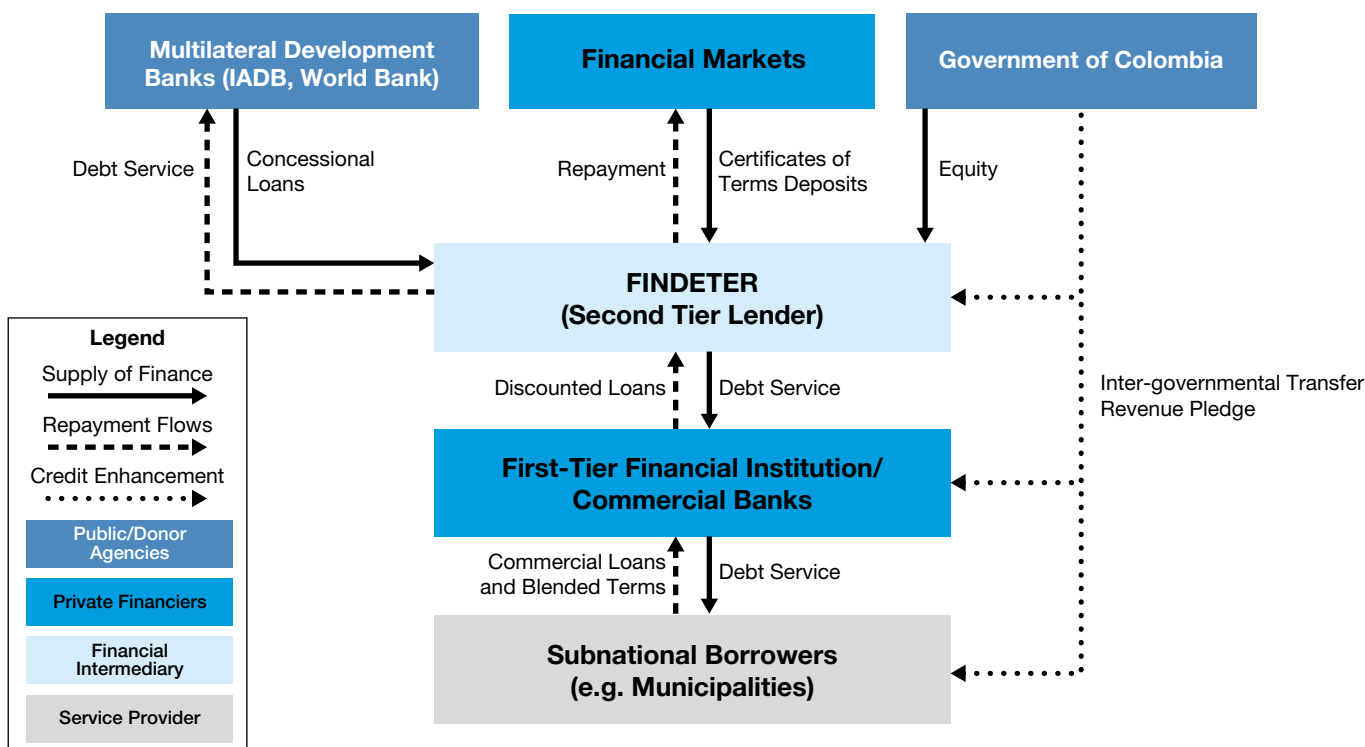
in turn, to endorse these revenues to FINDETER. The pledging of municipal revenues is significant because, if a participating bank becomes insolvent, FINDETER can still collect its payment directly from the bank's local borrowers. The intercept provision has helped maintain a low percentage of non-performing loans.

FINDETER offers maturities of up to 15 years, which is notable, as loans to local governments without the involvement of FINDETER would normally not exceed five years. The strong credit rating and intercept provision help FINDETER lend for longer tenors at better rates.

## Results

FINDETER has established itself as a viable financing institution, setting an example of the potential that second-tier lenders have to support the development of local credit markets. Today, water and sanitation investments represent one of the largest sectors of the FINDETER loan portfolio, with the sector receiving an estimated 28 percent of disbursements in 2014.

**FIGURE 1** Institutional Blending via Second-Tier Lender FINDETER, Colombia: Financial Structure



At inception, FINDETER's project review period was long, taking an average of up to 18 months for completion, thereby limiting the attractiveness of this financial structure for municipal governments. In the mid-2000s, a streamlined process was introduced, allowing for an increase in lending activity. FINDETER now provides guidelines to the tier-one banks, so as to confirm standards were met on loan applications. Immediate rediscounting takes place upon confirmation.

FINDETER's success with the refinancing of municipal loans has helped commercial banks gradually become familiar with lending to sub-national governments and convince them to lend directly to municipalities with their own resources. The successful blending of concessionary and commercial financing at the national-level has fueled municipal government participation in local credit markets, thereby contributing to long-term market development.

## Lessons Learned

**Second-tier lenders can play an important role in municipal credit market development.** FINDETER has embraced a number of roles to respond to market requirements, including by rediscounting loans, but also by providing technical assistance on project design to local governments. This has been critical for small- and medium-size municipalities that do not have sufficient support or prior experience with borrowing. The fact that the credit risk is fully borne by the first-tier lenders allows for greater flexibility and expanded investment potential for FINDETER.

**Voluntary revenue intercepts helped lower risk.** The intercept provides an extra level of confidence for investors (both first-tier lenders and FINDETER) by reducing the risk of non-repayment. The provision is a powerful form of security, and has helped promote access to commercial finance.

## References

- Alvarado, O and V. Gouarne. 1994. "FINDETER: Financing Municipal Investment in Colombia" in Infrastructure Notes, Urban No. FM-7. Washington, DC: The World Bank.
- FINDETER. Management Report 2014. Accessed July 10, 2016 from [http://www.findeter.gov.co/english/publicaciones/annual\\_report\\_pub](http://www.findeter.gov.co/english/publicaciones/annual_report_pub)
- FINDETER. About Us. Accessed July 10, 2016, from [http://www.findeter.gov.co/english/publicaciones/about\\_us\\_1\\_pub](http://www.findeter.gov.co/english/publicaciones/about_us_1_pub)
- Fitch Ratings. 2014. Financiera de Desarrollo Territorial S.A. (Full Rating Report). New York, New York: Fitch Ratings.
- Kehew, Robert, Tomoko Matsukawa, and John Petersen. 2005. "Local Financing For Sub-Sovereign Infrastructure In Developing Countries: Case Studies of Innovative Domestic Credit Enhancement Entities and Techniques." Discussion Paper No. 1, Infrastructure, Economic and Finance department. Washington, DC: The World Bank.
- Peterson, George E. 1996. "Using Municipal Development Funds to Build Municipal Credit Markets." Washington, DC: World Bank.
- Trémolet, S. 2010. *Innovative Financing Mechanisms for the Water Sector*. Paris: OECD.
- WEF OECD. 2015. *Blended Finance Vol. 1: A Primer for Development Finance and Philanthropic Funders*. Geneva: World Economic Forum.

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# Pooled Municipal Bond Issuance in Tamil Nadu (India)

**August 2016**

## Summary Overview

**Location:** Tamil Nadu, India, South Asia

**Approach to Blended Finance:** The Water and Sanitation Pooled Fund (WSPF) in Tamil Nadu issued a pooled bond to facilitate access to long-term domestic capital markets for small and medium Urban Local Bodies (ULBs) to finance water and sanitation services.

This enabled a grouping of 13 ULBs to overcome high transaction costs and mobilize funds through a single bond issuance. Debt was repaid from project cash flows and from general ULB revenues. A multi-layered credit enhancement package was designed in order to extend the maturity of the bond and increase investor confidence. The different credit enhancement mechanisms included a debt service reserve fund capitalized by the state government, creation of individual ULB escrow accounts, a local debt service reserve fund, a State revenue intercept mechanism, and a partial credit guarantee from USAID.

## Context

In the 1990s and early 2000s, reforms in India helped create opportunities for financing capital infrastructure for water and sanitation. Reform efforts included facilitation of private sector investment and increased autonomy awarded to municipal governments, known as Urban Local Bodies (ULBs), in India. In parallel, growth in the local debt markets meant that local debt became an attractive tool for reducing the financing gap in the sector, particularly for ULBs.

In 1996, the State of Tamil Nadu, the World Bank, and USAID set up the Tamil Nadu Urban Development Fund (TNUDF). The Fund was established as a public-private



partnership for the purpose of attracting private domestic financing for different types of infrastructure investment. However, the TNUDF primarily serviced large ULBs with dependable revenues. Many of the small and medium sized municipalities tended to be excluded from accessing financing via the TNUDF. Bond issuance fees, legal costs, and an inability to get a credit rating prevented small and intermediate local governments from accessing capital markets. In addition, sanitation and water were among the most neglected areas of public infrastructure provision.

To address these shortcomings, the State Government of Tamil Nadu (GoTN) created a pooled entity the Water and Sanitation Pooled Fund (WSPF). The WSPF functions as a special purpose vehicle to specifically help small urban local bodies finance their water and sanitation services by raising capital market resources on a pooled basis.

## Financial Structure and Approach to Blended Finance

An early WSPF pooled bond issuance took place in 2002, to facilitate access to domestic capital markets for 13 small and medium ULBs. The selected local bodies were mixed in terms of financial strength, but all had in common that they were unable to issue a municipal bond on their own. The bonds were issued by WSPF, and the proceeds were then lent back to the 13 local governments as sub-loans to finance their infrastructure projects.

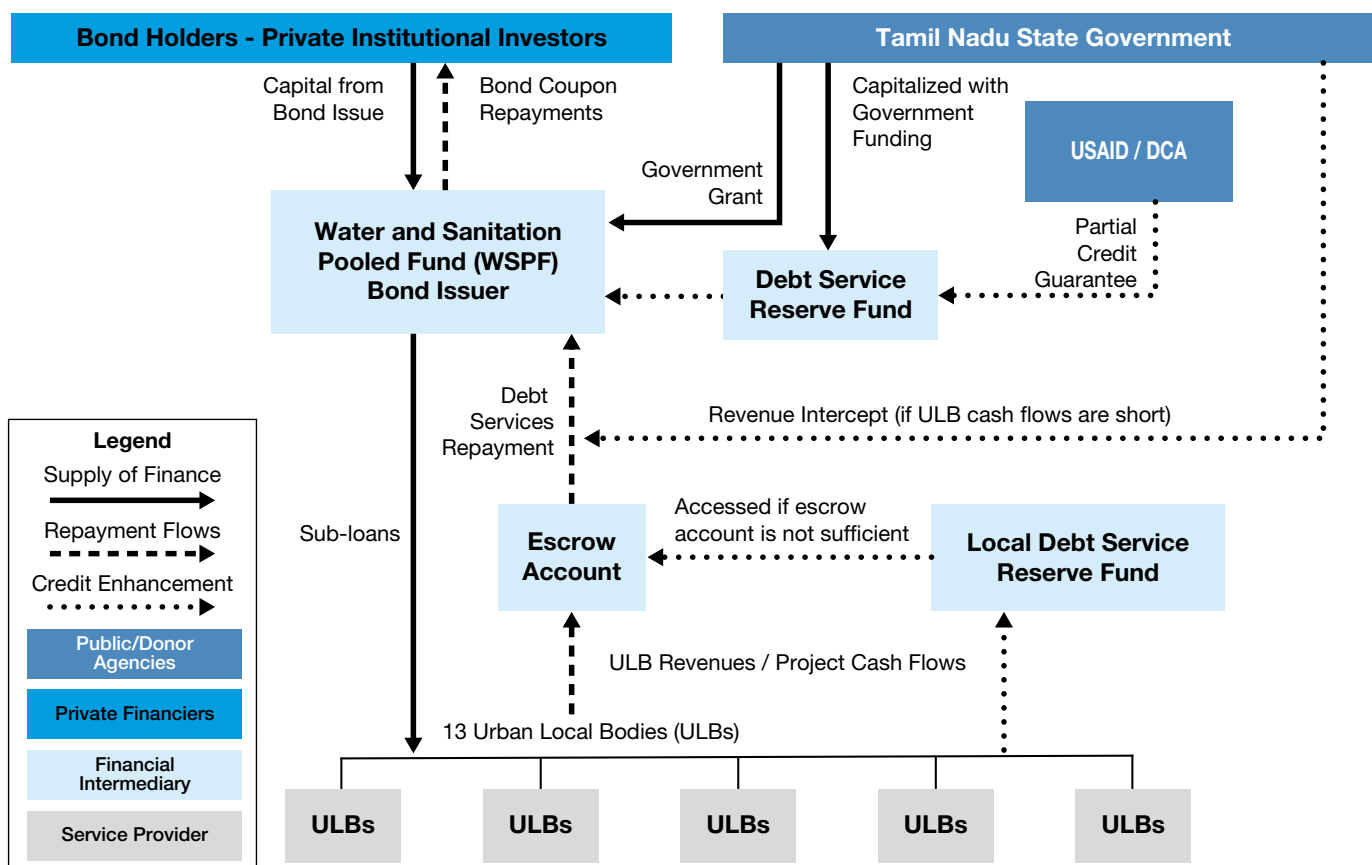
The pooled bond issuance for the 13 municipalities and town panchayats took the form of a structured debt obligation for Rs. 304.1 (US\$6.2 million). The bond was AA rated, and had a coupon of 9.2 percent per annum and a maturity of 15 years, with put and call options after ten years. These options acted as a safeguard for investors by offering them the opportunity to take their money

out prior to the end of the bond lifespan. The ULBs paid back their WSPF debt obligations from project and municipal revenues, including water tariffs and from interest earned on the money deposited from connection fees.

WSPF bonds were unsecured, but a multi-layered credit enhancement mechanism was put in place, which was instrumental to the fund's success. Figure 1 shows the blended financial structure with credit enhancements.

The state government of Tamil Nadu capitalized a debt service reserve fund (DSRF) with an amount close to 1.5 times the annual principal and interest payments. Approximately US\$1.42 million was assigned to the fund, and helped generate investor confidence through the assurance that the fund could pay creditors if the municipal borrowers were unable to meet scheduled repayments.

**FIGURE 1** Pooled Municipal Bond Issuance in Tamil Nadu, India: Financial Structure





A second level of enhancement was created by legally requiring the 13 participating local governments to establish an escrow account and make deposits into it so that their annual debt service obligations to WSPF was paid in early. Municipal revenues from property tax and other tax collections, as well as project revenues, were the source for funds deposited into this account. A third level of enhancement was added with a local debt service reserve fund, which received contributions amounting to 5 percent of the principal amount borrowed by each ULB. That account could be tapped in the event that revenues in the debt service escrow were not sufficient. A fourth layer of enhancement included the ability of the WSPF to intercept State revenue transfer payments.

Finally, a partial credit guarantee was provided by USAID on the WSPF's debt service reserve fund. The guarantee would help re-supply 50 percent of the principal amount of a default paid for by the debt service reserve fund (DSRF). In that case USAID, would be reimbursed for its guarantee payment by the GoTN, while all other funds used from the DSRF would be reimbursed by deducting moneys from the defaulting ULB's individual State revenue transfer payments.

## Results

The WSPF helped spread credit risks and pool the ULBs' resources to meet funding requirements for market access, thereby achieving economies of scale in the process. The proceeds from the pooled bond issuance were disbursed to ULBs in 2003, and the majority went to refinance outstanding loans at lower interest rates for previously completed water and sanitation projects. The WSPF issuance for this initial bond set a model for future pooled bond use. It was well structured from a credit perspective and achieved a very high AA rating, which enabled it to be sold.

In Tamil Nadu and Karnataka state, similarly structured bonds have since been issued. In Karnataka, a special purpose entity, the Karnataka Water and Sanitation Pooled Fund Trust (KWSPF), was established in 2003. The KWSPF was intended to facilitate market access for eight local governments. In 2005, it succeeded in issuing a 15-year bond to support the Greater Bangalore

Water Supply and Sewerage Project. As was the case for WSPF, a USAID partial credit guarantee for 50 percent of the principal was an important feature of the transaction.

## Lessons Learned

**The Tamil Nadu pooled fund demonstrated that grouped financing vehicles can play a critical role in attracting repayable finance to small- and medium-sized water and sanitation service providers.**

However, development of the structural components for setting up such entities is time and resource intensive, which has undoubtedly contributed to the fact that few other such funds have been set up so far.

**A supportive environment for municipal finance facilitated the use of effective credit enhancements in the transaction, which lowered the risk for commercial financiers.** Participating ULBs were legally required to establish an escrow account and there was a State revenue intercept mechanism.

**Credit enhancement mechanisms require explanation, when they are new to a market.** The first pooled transaction suffered from insufficient and inadequate marketing. Investors did not fully understand the transaction and the guarantees provided, as the financing mechanism was new to the market. Once properly explained, the bond sold well. Likewise, the revenue intercept mechanism was used once for one of the local borrowers because of a repayment problem. This proved that such a mechanism could work, but it took a long time for WSPF staff to implement, since it was the first time that such a mechanism was used, and it involved multiple governmental agency approvals.

**Sustainable issuance is important for longevity of a pooled financing initiative.** After the first issue, the WSPF did not issue another bond again for several years. Its CEO was hired by a development bank and the senior staff were heavily recruited to banks and rating agencies, depleting its expertise and momentum. This lack of sustainable issuances created a lack of liquidity for the WSPF bonds, and risked making them more expensive.

## References

- USAID. 2009. "Financial Sector Series #1: Enabling sub-sovereign bond issuances: Primer and Diagnostic Checklist." Washington, DC: USAID. [http://pdf.usaid.gov/pdf\\_docs/Pnadu683.pdf](http://pdf.usaid.gov/pdf_docs/Pnadu683.pdf)
- Fitch Ratings. 2003. Water and Sanitation Fund (WSPF). India Public Finance Credit Analysis. New York, New York: Fitch Ratings.
- Kehew, R., T. Matsukawa, & J. Petersen. 2005. "Local Financing for Sub-Sovereign Infrastructure in Developing Countries: Case Studies of Innovative Domestic Credit Enhancement Entities and Techniques." Discussion Paper No. 1 Infrastructure, Economics and Finance Department. Washington, DC: World Bank.
- Trémolet, S. 2010. *Innovative Financing Mechanisms for the Water Sector*. OECD: Paris.
- USAID. 2003. "Pooled Finance Model for Water and Sanitation Projects: the Tamil Nadu." FIRE(D) Project Note, No. 31. Washington, DC: USAID. [http://pdf.usaid.gov/pdf\\_docs/PNACT334.pdf](http://pdf.usaid.gov/pdf_docs/PNACT334.pdf)
- WEF OECD. 2015. *Blended Finance Vol. 1: A Primer for Development Finance and Philanthropic Funders*. Geneva: World Economic Forum.

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Private capital flows can help with meeting immediate financing needs for investment in the water sector but ultimately need to be repaid. Repayable financing from private sources to the water sector can come in various forms, including as commercial bank loans, bonds or equity. To obtain such financing, water-sector actors need to be able to repay the borrowed amounts and the associated funding costs, which means that they need to be deemed "creditworthy" by providers of finance.

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# Blended Financing for the Expansion of the As-Samra Wastewater Treatment Plant in Jordan

**August 2016**

## Summary Overview

**Location:** Amman and Zarqa, Jordan, Middle East and North Africa

**Approach to Blended Finance:** A blended financial package was put in place to finance the expansion of the As-Samra Wastewater Treatment Plant. The project was undertaken by the Samra Wastewater Treatment Plant Company Limited (SPC), a private operator that was recruited through a Build-Operate-Transfer (BOT) contract to finance, upgrade, and operate the treatment plant.

The private operator was required to mobilize private financing, which it did through an equity contribution and a syndicated limited recourse loan provided by domestic banks in local currency. The overall financial package also included public funds provided as viability gap funding (VGF), including contributions from the Government of Jordan and a grant from the Millennium Challenge Corporation (MCC). Public funding was critical to help structure the deal and to convince private financiers to step in and provide what was, at the time, the longest maturity ever achieved for a Jordanian dinar-denominated limited recourse loan.

## Context

Jordan is one of the most water-scarce countries in the world. Available water resource levels have fallen with an annual per capita quantity of water approximated at 155 m<sup>3</sup> as of 2013, far below the 500 m<sup>3</sup> threshold of absolute water scarcity. While water demand outstrips supply, it is estimated that two-thirds of available water resources are used for agriculture. Scarce water resources combined with high population growth have



caused extensive stress on water infrastructure, requiring rehabilitation and extension work. Water scarcity is considered the most important natural constraint to growth and development in the country.

The As-Samra Wastewater Treatment Plant was initially designed in 2003 to treat wastewater for the 2.3 million inhabitants of Amman, while supplying quality irrigation water to the surrounding region. Construction of the plant was completed in 2008. However, the country's rapid population growth and a large influx of refugees led to the approach of the plant's capacity limits (both in terms of the volume of wastewater received and solids processing) sooner than anticipated. For this reason, the Government of Jordan, through the leadership of the Ministry of Water and Irrigation (MWI), prioritized the expansion of the treatment plant in order to meet the needs of the population in two of Jordan's most populous cities, Amman and Zarqa.

## Financial Structure and Approach to Blended Finance

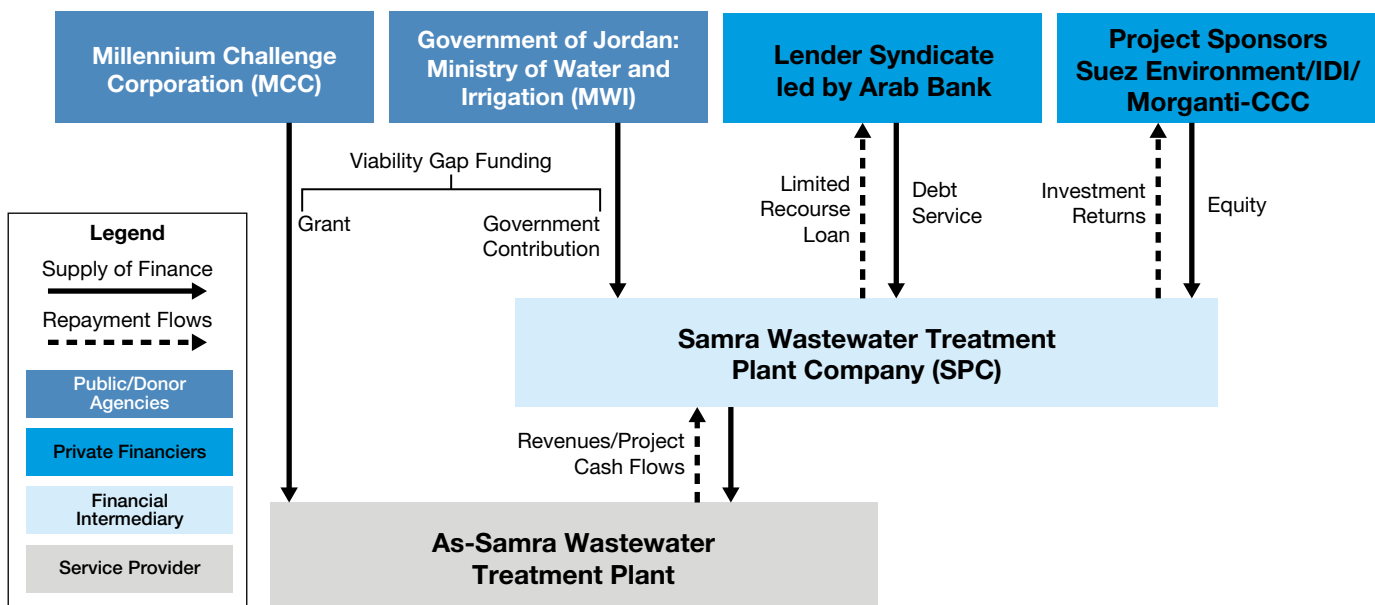
The Millennium Challenge Corporation (MCC) committed to assist the MWI with the expansion project by providing transaction advisors and viability gap funding (VGF). This proved crucial to securing private financing for expansion of the wastewater treatment plant through a build-operate-transfer (BOT) contract, a form of public-private partnership. The BOT contract was signed in 2012 between the MWI and Samra Wastewater Treatment Plant Company Limited (SPC), a private company whose investors include Morganti, Infilco Degrémont, and Suez Environment. Responsibilities for financing, project design, construction, operation, and maintenance were awarded to the SPC for a 25-year period. Construction on the expansion began soon after financial closure, and the project became operational in October 2015. The plant expansion was a key part of a water re-use program that also improved the allocation of water resources by enabling the use of high-quality treated wastewater from As-Samra in agriculture, thereby freeing up freshwater for higher value use in municipalities.

The diverse blend of financing that was accessed to fund the US\$223 million project is what makes this a unique case. MCC provided a US\$93 million grant for the

expansion of the As-Samra Wastewater Treatment Plant, while the Government of Jordan contributed an additional US\$20 million. Donor and public funding, which can be referred to as “viability gap funding”, was critical for leveraging an additional US\$110 million in private financing, including US\$102 million from private debt and US\$8 million in equity mobilized by the SPC.

Commercial debt was secured through a standard project finance limited recourse loan, from a syndicate of Jordanian local banks and financial institutions arranged by the Arab Bank. The limited recourse loan tenor is for 13 years, with an option to extend up to 20. At the time, this was the longest maturity that had ever been obtained for a Jordanian dinar-denominated limited recourse loan. Additional security was ensured through a cash waterfall account structure, and the agreement included step-in rights for the banks. The denomination of the loan in local currency provided the clients with protection against foreign exchange risk. The interest rate during the three-year construction period for the treatment plant expansion was fixed (7.25 percent during year one; 7.75 percent during year two; and 8.25 percent during the final year). Following the commissioning of the plant, the loan evolved to a floating rate linked to the average prime lending rate of four local banks.

**FIGURE 1** Viability Gap Financing for the As-Samra Wastewater Treatment Plant Expansion, Jordan: Financial Structure



Payments from the MWI are guaranteed through a reserve account, the replenishment of which is in turn backed by a guarantee from the Ministry of Finance. Figure 1 illustrates the financial structure for the expansion project.

A critical component in the financial structure is the existence of an efficient securitization of cash flows from the original plant (constructed between 2003-2008) to support the equity element of the financing (from project sponsors) invested in the expansion project. This meant the sponsors were able to invest internal cash flow from the original project as equity. The resulting debt-to-equity ratio is 80:20, including investments from the original plant. While the grant funding from MCC increased the investment appeal to private investors, the financial structure was designed to ensure that the grant would not subsidize the private sector participants, and instead be directed to benefit consumers connected to the system. The SPC project sponsors' investment returns are thus based on their portion of the capital investment.

## Results

The As-Samra Wastewater Treatment expansion project became operational in October 2015. In line with its original design, the expansion increased the average daily capacity of As-Samra to treat wastewater from 267,000 to 365,000 m<sup>3</sup> per day (over a one-third increase). While additional outcomes are still being assessed, it is clear that the expansion improved water resource management in Jordan. The proportion of blended wastewater used for irrigation has grown from 61 percent to 83 percent four years later, freeing up additional freshwater for domestic use for an estimated 2,020,000 people.

The MCC grant, coupled with the Government of Jordan's contribution, helped reduce the capital costs while enabling a project with important economic and environmental benefits to become financially viable. Without the blended finance approach, the private financiers would likely not have provided the debt component of the package, and the market-based equity costs would have rendered the project unaffordable to the Government of Jordan. This blended financing experience offers a model that holds potential for future infrastructure projects in Jordan and other emerging markets.

## Lessons Learned

**Viability gap funding can play a critical role.** The MCC grant brought down the capital costs of the project and allowed it to be financially viable, while meeting the needs of all project participants. This proved critical for the mobilization of commercial finance.

**Donor requirements led to nontraditional project finance agreements.** Typical project finance is limited to debt and equity, but in this case, the blending of grant financing brought certain donor funding requirements to the project, and resulted in more complex negotiations compared with a normal project finance transaction. Among other requirements, it was necessary to adhere to MCC's and Jordan's strict standards for treatment, storage, management, and disposal of sludge to ensure environmental sustainability. Ultimately, the project's innovative approach to blending financial sources made it a success, and at financial close all stakeholders were extremely satisfied.

## References

- Falkenmark, M. 1989. "The massive water scarcity threatening Africa – why isn't it being addressed?" *Ambio*, 18(2): 112–118.
- Keenan, R. and M. Norman. 2012. "As-Samra Sets Expansion Template." *Project Finance International*, Issue 491, October 17, 2012.
- MCC. 2012. "MCC Completes First Major Build-Operate-Transfer Project Financing In Jordan." Millennium Challenge Corporation. <https://assets.mcc.gov/press/action-2012-002-1136-01-first-major-build-operate-transfer-project.pdf>
- MCC. 2016. "Recharging the River and Growing Incomes in Jordan," Millennium Challenge Corporation. Accessed June 13, 2016. <https://www.mcc.gov/resources/story/story-kin-apr-2015-recharging-the-river-and-growing-incomes-in-jordan>.
- WEF OECD. 2015. *Blended Finance Vol. 1: A Primer for Development Finance and Philanthropic Funders*. Geneva: World Economic Forum.

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# Scaling Up Blended Financing for Water and Sanitation in Kenya

August 2016

## Summary Overview

**Location:** Kenya, Sub-Saharan Africa

**Approach to Blended Finance:** Over the last decade, Kenya has experimented with different ways of using blended finance to leverage commercial financing from domestic banks. Many such efforts have focused on using Output-Based Aid (OBA) subsidies to bridge the financing gap that water service providers face when serving poor customers. Such programs were first developed for community-based water schemes, in which the OBA subsidies were awarded based on results to reduce loan repayments. These have been scaled up for utilities at the national level through the Kenya OBA fund. Nairobi Water Supply Company has established similar arrangements to expand water and sewerage services in poor areas. These initiatives have been supported over time through considerable efforts to improve sector transparency through the preparation of water utilities' credit ratings funded by donors and later through a utility creditworthiness index led by the water service regulator.

## Context

The Kenya Vision 2030 national development plan, in line with the water Sustainable Development Goal (SDG 6), seeks universal access to safe water and sanitation for all by 2030. The annual costs of investment and rehabilitation for water supply is estimated at US\$303 million. However, it is estimated that existing sources of financing can only provide approximately US\$193 million per year, underscoring the deep financing gap. Domestic commercial lending to water utilities has the potential to help bridge this gap, although experience in this area is still limited in Kenya.



The Kenya Water Act of 2002 introduced important reforms in the sector, separating responsibilities for asset ownership and operation, creating autonomous utilities and an independent sector regulator, ring-fencing revenues within the sector, and establishing a framework for utilities and other county-owned Water Service Providers (WSPs) to move toward cost-reflective tariffs. At present, communities operate many small piped-water systems in rural and peri-urban areas. WSPs serve approximately 51 percent of the population in their service areas and 23 percent of the total population. These utilities lack familiarity with commercial banks' lending practices and are not familiar with the steps that are required in order to become creditworthy. They typically are limited by their inability to provide sufficient collateral to secure loans, and lack adequate self-financing.

High commercial interest rates pose an additional barrier. Local banks perceive the sector as financially weak, and

have been hesitant to lend without assurance through risk mitigation support. Concessional finance and credit enhancements can help to strategically lower borrowing costs, and facilitate the development of commercial finance options for the sector.

## Approaches to Blended Finance and Results

Over the last ten years, Kenya has experimented with various approaches to using blended finance in order to help mobilize commercial finance. Efforts have so far been focused on using output-based subsidies (i.e. performance-based incentives paid to service providers to enhance access to infrastructure services for the poor) and on increasing transparency in the sector through the development of creditworthiness indices. These initiatives are paving the way for more comprehensive and currently ongoing approaches to mobilize commercial financing into the water sector. The following presents some of these initiatives and results observed on the ground.

### Output-Based Aid (OBA) and Maji ni Maisha

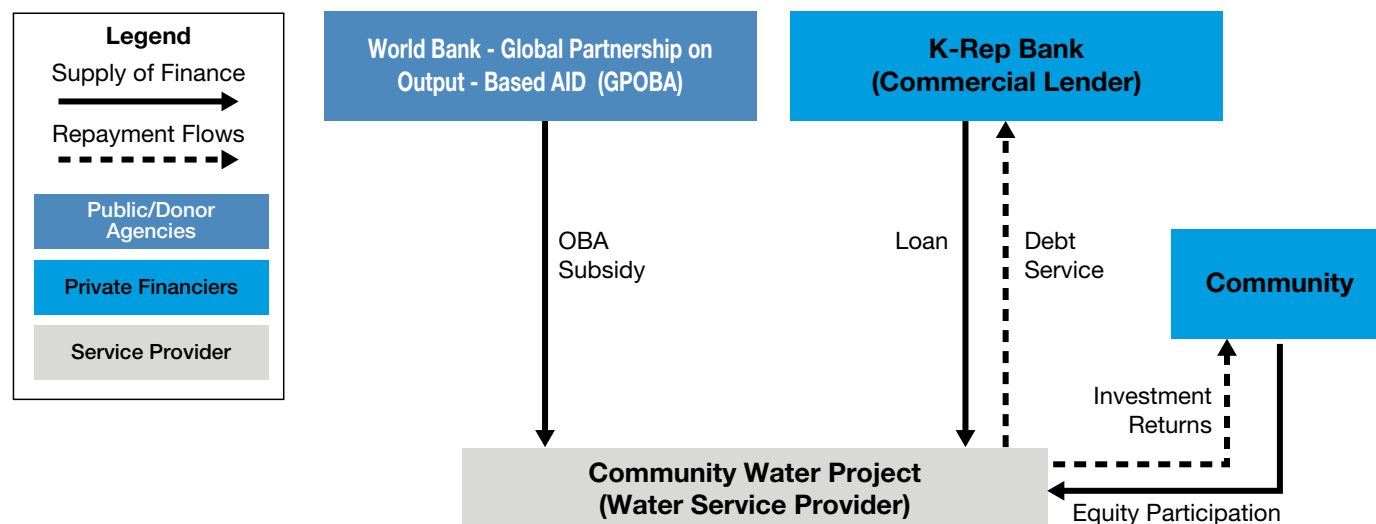
One of the first attempts at using blended finance to mobilize commercial financing in the country is the Maji ni Maisha program. The World Bank launched the pilot loan program in 2007 with K-Rep Bank, a Kenyan commercial bank specializing in microfinance lending. The objective

was to incentivize rural and peri-urban communities to access loan financing so as to rehabilitate and expand small-piped water systems. The program identified projects requiring up to US\$200,000 for investment to cover O&M costs, which had the potential to repay their loans.

Qualifying communities contributed 20 percent of project costs in pre-financing and K-Rep Bank financed 80 percent through a medium- to long-term loan. Once an independent review confirmed that the community project had met its pre-agreed targets, the output-based grant (OBA) of up to 40 percent of total eligible project costs was transferred to the community, reducing the debt service costs and enabling the supply of water at affordable rates. The subsidy was used to refinance the loan, and communities repaid the remaining amount over five years through operating revenues from water sales. To mitigate the risk of implementation failure, K-Rep Bank purchased a partial credit guarantee from USAID's Development Credit Authority for 50 percent of K-Rep's exposure. Figure 1 shows the financial structure for the Maji ni Maisha program.

The program was later scaled up with support from the European Union. By 2012, some 35 communities had borrowed US\$3.4 million from K-Rep Bank, raised US\$1.2 million of equity, and accessed OBA grants of US\$2.8 million. This enabled provision of access to 190,000 people.

**FIGURE 1** Scaling Up Blended Financing for Water and Sanitation in Kenya: Maji ni Maisha Financial Structure



### Output-Based Aid (OBA) and the Nairobi City Water and Sewerage Company (NCWSC)

Another initiative is under implementation by Nairobi City Water and Sewerage Company (NCWSC) to leverage an OBA grant to attract commercial financing in order to connect 16,000 households to the water and sewerage networks. NCWSC is negotiating a commercial loan to finance the project: an OBA grant is expected to reimburse NCWSC for up to 70 percent of the costs of the sewerage connections and compound toilets, and up to 40 percent of water connection costs, upon verification that the agreed outputs have been met. It is expected that the loan will be provided in local currency for a tenor of ten years. The loan will likely not require a guarantee, thanks to the strong balance sheet maintained by NCWSC.

### The Kenya OBA Fund

At national scale, the Kenya OBA Fund is supporting the Water Services Trust Fund of Kenya to run a results-based financing program that provides grants to WSPs that access commercial loans from domestic lenders for investment projects. The loans are intended to back investments that deliver household water and sewerage connections, public water kiosks, and public toilets, while targeting the grant qualification to low income areas. The OBA grant will be used to buy down 60 percent of the subproject cost financed by domestic lenders. The program is supported by the World Bank through the Kenya Output-Based Aid (OBA) Fund for low-income areas and by KfW, through the Aid on Delivery (AOD) program.

### Improving Transparency for Investment Via a Creditworthiness Index

Demonstrating creditworthiness is an important way to attract commercial finance, so as to inform lenders and help them overcome their lack of familiarity with the sector. To that end, the Water Services Regulatory Board (WASREB) worked with the World Bank to develop a mechanism to assess utility creditworthiness in Kenya. The result was the production of 43 utility shadow credit ratings, to help inform investors' decisions and their perception of the risk of investing in Kenyan water utilities. The ratings also provided utilities with a diagnostic tool to help them identify problem areas. Based on these early efforts, WASREB is in the process of developing a creditworthiness index to assess the credit risk of WSPs on an annual basis, with a view to improve transparency and attract commercial financing into the sector.

## Lessons Learned

**A conducive operating environment and legal framework proved important to attract bank lending in Kenya.** The 2002 Water Act shaped the environment, and opened up opportunities to access finance. In particular, the Act established providers as autonomous entities, ring-fenced revenues within the sector (directing income from water sales to O&M and capital expenses), and created the role of an independent regulator.

**Sector reforms and fostering the interest of commercial banks go hand in hand.** Both types of activities require time and call for developing a sufficient pipeline of bankable projects. In Kenya, despite sustained efforts over the last 10 or 15 years, no “quick win” solution has emerged at scale as of yet.

**Credit enhancement instruments can mitigate lender risk, and improve financial viability.** This in turn can enhance security of a transaction and incentivize lenders to kick-start the flow of commercial finance. In Kenya, the use of partial credit guarantees and OBA grants were essential in accessing commercial investments.

**Technical assistance is key for assessing the financial viability and feasibility of investment projects, improving the bankability of utilities, and supervising project implementation, reassuring lenders of their investment choices.** Technical assistance has been instrumental in overcoming capacity and knowledge constraints during the nascent phase of commercial finance developments for the water and sanitation sector in Kenya.

**Commercial debt can bring governance benefits to WSPs.** This can take the form of added oversight from lenders, and help providers improve capital expenditure planning, operating efficiency, and financial management.

**Sufficient revenue generation, backed by a broad customer base willing to pay for water services, is critically important.** Ultimately, projects that can attract commercial financing should generate their own revenue, such as investments in network expansion, metering or improving energy efficiency.

## References

- Advani, Rajesh. 2016. "Scaling Up Blended Financing of Water and Sanitation Investments in Kenya." *Knowledge For Development*. World Bank Group: Washington, DC.
- Bender, K. 2015. *Governments Don't Have to Go It Alone: Leveraging public funds to attract commercial finance for improved water services*. Water and Sanitation Program Research Brief. World Bank.
- K-Rep Bank. n.d. Maji ni Maisha - *Financing Investment in Water*. Water and Sanitation Program (WSP). World Bank.
- Mehta, M. and K. Virjee. 2007. Microfinance for Rural Piped Water Services in Kenya: Using an Output-based Aid Approach for Leveraging and Increasing Sustainability. Water and Sanitation Program (WSP). World Bank Group: Washington, DC.
- WEF OECD. 2015. *Blended Finance Vol. 1: A Primer for Development Finance and Philanthropic Funders*. Geneva: World Economic Forum.
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# Municipal Bond Issue by the Municipality of Tlalnepantla de Baz (Mexico)

**August 2016**

## Summary Overview

**Location:** Tlalnepantla de Baz, Mexico

**Approach to Blended Finance:** To support a local water conservation project, the Municipality of Tlalnepantla de Baz (Mexico) and its Municipal Water Company (OPDM) issued unsecured revenue bonds on the local capital market through a specially created Trust. The bond, issued in local currency was bought by domestic institutional investors.

Strong and reliable revenue sources from the investment, combined with several credit enhancement mechanisms, allowed for expanding the borrowing capacity of the municipality and its water utility by reducing interest rates and extending the tenor. Credit enhancement mechanisms included a partial credit guarantee provided by IFC, and a letter of credit provided by a local bank.

## Context

During the 1990s and early 2000s, institutional and regulatory reforms in Mexico's financial markets facilitated the growth of a sub-national securitization market. The Government of Mexico provided increased autonomy to municipalities and started to explore better options to finance investments by state and local governments. The development of the sub-national bond market was further supported by the reform of the pension fund system, which brought new investors looking for long-term investment opportunities. Between 2001 and 2003, the Mexican market registered over ten bond issues launched by municipalities or state administrations that had no prior experience with doing so.



## Financial Structure and Approach to Blended Finance

In 2003, the Municipality of Tlalnepantla de Baz and its Municipal Water Company (OPDM) issued a bond through a Mexican trust. This was the first municipal bond in Mexico to finance infrastructure investments by using the project's revenues instead of depending directly on federal transfers. The bond was intended to support capital expenditure for water conservation projects undertaken by the municipally owned water utility. There was a pressing need for longer-term financing to better match the life of the water utility's assets, and to expand its financing options for infrastructure. As the municipality, home to approximately 800,000 people, is located in one of the most industrialized areas of Mexico, specific works included the construction and operation of a wastewater treatment plant, so as to reuse residential and industrial

wastewater, and an assessment and rehabilitation of the water distribution network to reduce losses. All these works were for activities that could eventually generate savings or revenues to reimburse associated costs.

The revenue bond was issued in local currency for the equivalent of approximately US\$9.1 million, with a tenor of 10 years (extendable by one year). Normal tenors in Mexico at that time were three to six years; such lengthening in tenor was achieved through transparently assigning OPDM's revenues to service the debt, combined with credit enhancement mechanisms.

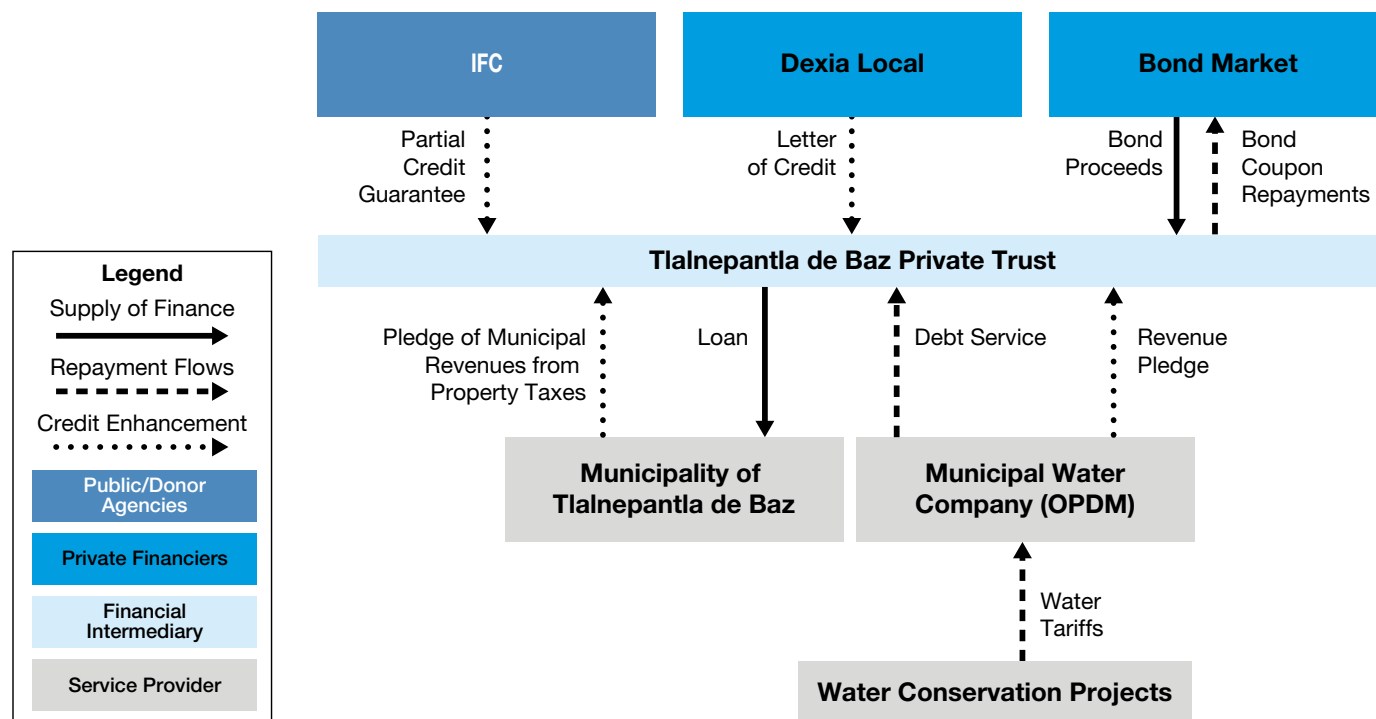
The International Finance Corporation (IFC) and Dexia Crédit Local (a development bank subsidiary of the Dexia Group—a large financial group in Europe), acted as co-guarantors. In Mexico, subnational governments could not borrow from non-Mexican based financial institutions, and this included guaranteeing bonds sold directly by municipalities. The issue was resolved with the establishment of a trust to conduct the bond sale, while the proceeds were on-lent to OPDM, with the Municipality as joint obligors to finance the water conservation project. A trust is a type of special purpose vehicle (SPV) that

usually has minimal management responsibility and is frequently used for financial transactions. The selection of a trust as the conduit offered many advantages, including fiscal discipline for the Municipality and OPDM.

The external credit enhancements provided by IFC and Dexia were administered in Mexican Pesos for close to the amount of the borrowed capital, and were to be issued on behalf of the bondholders in the case that funding was insufficient. The enhancements took the form of a letter of credit issued by Dexia Crédit Local, and a partial credit guarantee from IFC to cover part of Dexia's exposure under the letter.

While the bond issue was chiefly backed by the OPDM revenue pledge, additional reinforcement was provided through a second municipal revenue pledge in the event that the water revenues proved insufficient. The additional revenue pledge came from municipal tax revenues from the parent municipality. This double-barreled pledge of revenues has been regularly used for municipal bond issues in the U.S. market, and guarantees an additional level of security to the trust. Figure 1 shows the financial structure for the water conservation project.

**FIGURE 1** Municipal Bond Issue by the Municipality of Tlalnepantla de Baz, Mexico: Financial Structure





## Results

This was the first municipal bond issue in Mexico designed to finance infrastructure investments and supported through the local entities' own revenue sources, without using direct federal transfers. The bond issue obtained a AAA rating (by Standard and Poor's and Moody's Mexico), which was higher than the municipality's AA rating, thanks to the partial guarantee. It was fully subscribed by eight domestic financial institutional investors. The rating allowed the Municipality and OPDM to access financing at lower costs and over a longer term without a sovereign guarantee or backing of intergovernmental transfers. The bond was issued in local currency, and this reduced the foreign exchange risk as the utility's revenues are also denominated in local currency.

## Lessons Learned

**Legal and regulatory frameworks dictate subnational governments' capacity to engage in innovative financing.** In Mexico, reforms during the 2000s gave local government greater financial autonomy by allowing them to issue debt based on their own financial practices, and independent of the national government. The reforms were a large factor in the emergence of a domestic municipal credit market.

**Revenue streams from the investment assigned in a transparent manner proved to be an effective way to repay debt.** In the case of Tlalnepantla, OPDM's revenue stream was clearly set aside, and the municipal tax revenue pledge provided an additional guarantee. Furthermore, credit enhancements helped strengthen the deal.

**Mexico's domestic capital markets benefited from the bond issue.** It allowed diversification of longer-term investment opportunities. Banks have shown increased willingness to provide funding for longer maturities to better match the life span of infrastructure investments required by municipalities for water projects.

**This financial structure is a successful model; however, it may only work for larger and financially healthy municipal governments.** It may not be economically feasible for smaller municipalities looking to issue a bond on their own.

## References

- IFC. 2003. Summary of Project Information: Tlalnepantla Municipal Water Conservation. Washington, DC: International Finance Corporation.
- Leigland, J. 2004. "Municipal Future-Flow Bonds in Mexico: Lessons for Emerging Economies". *Journal of Structured Finance*. Vol. 10, No. 2: pp. 24-35.
- Trémolet, S. 2010. *Innovative Financing Mechanisms for the Water Sector*. Paris: OECD.
- USAID. 2005. Case Studies of Bankable Water and Sewerage Utilities. Volume II Compendium of Case Studies. Washington, DC: USAID. [http://pdf.usaid.gov/pdf\\_docs/Pnade148.pdf](http://pdf.usaid.gov/pdf_docs/Pnade148.pdf)
- USAID. 2009. Financial Sector Series #1: Enabling sub-sovereign bond issuances: Primer and Diagnostic Checklist. Washington, DC: USAID. [http://pdf.usaid.gov/pdf\\_docs/Pnadu683.pdf](http://pdf.usaid.gov/pdf_docs/Pnadu683.pdf)
- WEF OECD. 2015. *Blended Finance Vol. 1: A Primer for Development Finance and Philanthropic Funders*. Geneva: World Economic Forum.

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Private capital flows can help with meeting immediate financing needs for investment in the water sector but ultimately need to be repaid. Repayable financing from private sources to the water sector can come in various forms, including as commercial bank loans, bonds or equity. To obtain such financing, water-sector actors need to be able to repay the borrowed amounts and the associated funding costs, which means that they need to be deemed “creditworthy” by providers of finance.

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# Water Revolving Fund in the Philippines

August 2016

## Summary Overview

**Location:** Philippines, Southeast Asia

**Approach to Blended Finance:** The Philippine Water Revolving Fund (PWRF) was set up in 2008 to provide loans to water service providers—local government units (LGUs) and water districts (WDs)—to finance local water and wastewater projects. Loan repayments made into the fund are revolved to finance other projects.

The PWRF blends Official Development Assistance (ODA) and domestic public funds with commercial financing to lower borrowing rates, and to market water and sanitation projects to private finance institutions (PFIs). Concessional seed financing from the Japan Bank for International Cooperation (JBIC), was provided to the PWRF at the start of the program. The financing is backed by a standby credit line (to protect against liquidity risk) and a co-guarantor credit guarantee.

## Context

In the Philippines, financing for the water and sanitation sector traditionally came from a combination of international development funds, domestic public funds, and revenues from bill collection. In the 1990s, such funds proved insufficient to cover infrastructure investment costs, which generated increased attention for mobilizing private sector financing. Legal and regulatory reforms were initiated to make way for mobilizing domestic finance. In 2004, Executive Order 279 modified the financing policies for local water service providers. This led to the establishment of a system to categorize water service providers, including local government units (LGUs) and water districts (WDs) according to their levels of creditworthiness: those qualifying as creditworthy were expected to shift away from government financing and mobilize market-based financing sources. However, lending from private banks to water utilities was virtually nonexistent at that time, as local commercial banks



were not familiar with utilities and saw them as weak and inefficient.

To address those challenges, the United States Agency for International Development (USAID) and Japan Bank for International Cooperation (JBIC) worked in partnership with the Government of the Philippines to create the Philippine Water Revolving Fund (PWRF) and help mobilize additional domestic commercial financing for water utilities through blending with ODA funding. The PWRF was set up in 2008 as a co-financing facility with the purpose of facilitating private institutional financing to support municipal water and wastewater projects. The PWRF program is multifaceted in its approach to address obstacles that prevent the flow of commercial finance into the water sector, and involved support in three key areas: innovative financing, operational strengthening, and regulatory reforms.

Innovative financing includes the establishment of a revolving fund mechanism, the Philippine Water Revolving Fund (PWRF) as well as two complementary

financial market-enabling components: (1) a credit rating system to help inform investors; and (2) a water project appraisal training program to build the capacity of lenders with little prior experience of investing in the water sector. For the operational strengthening component, the objective was to help utilities improve internal operations and creditworthiness, thereby allowing them to develop bankable projects. Finally, regulatory reform efforts helped improve the enabling environment for commercial finance lending to water utilities.

## Financial Structure and Approach to Blended Finance

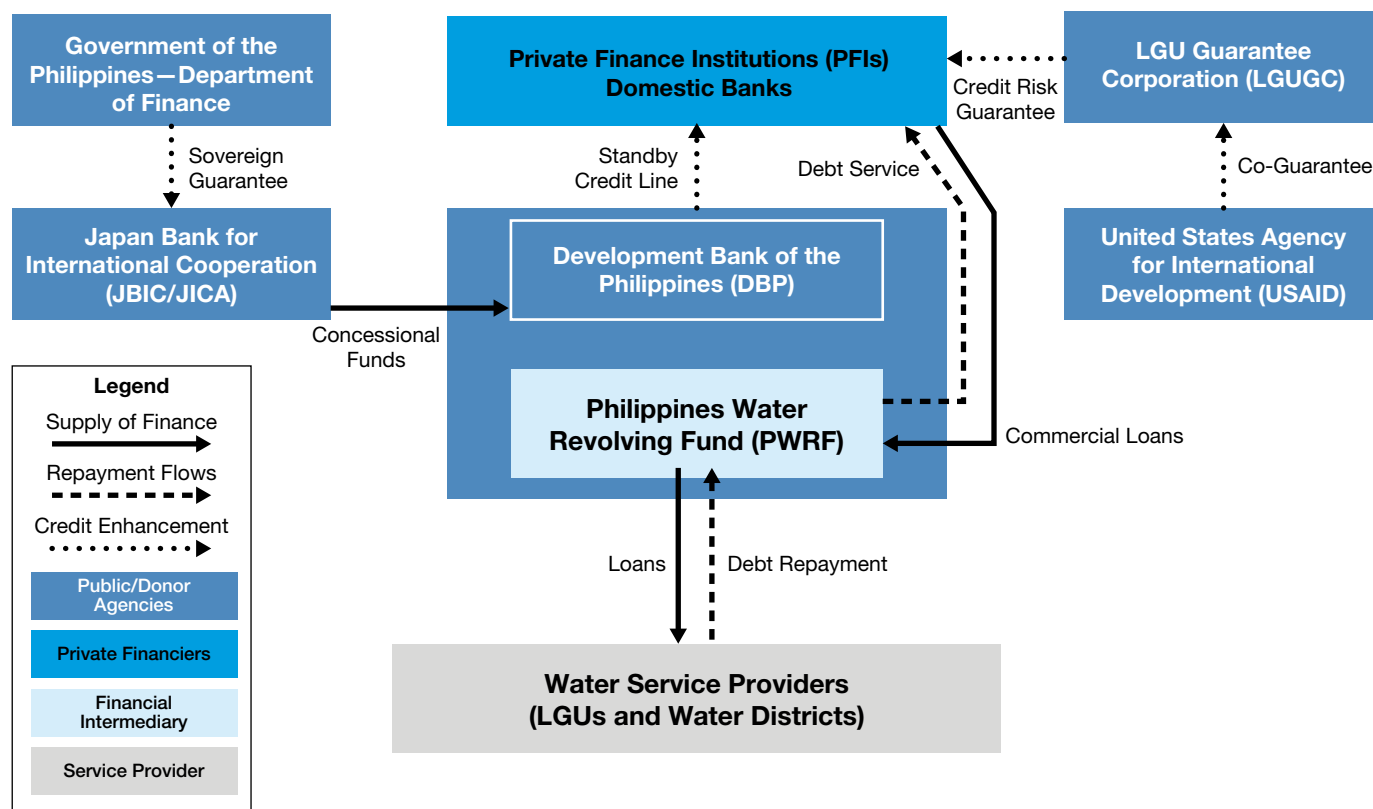
The PWRF on-lends concessional funding sourced originally from JBIC through the Development Bank of the Philippines (DBP), blending it with funds from domestic private commercial banks to be lent out in support of water projects. The average financing ratio has been about 50–75 percent from a DBP/JBIC loan, and 25–50 percent from private lenders. The loans offer favorable

concessional terms, specifically an effective interest rate that is slightly lower than the prevailing market rate and longer maturities. This helps address two key barriers for the mobilization of private finance: short tenors and high costs of borrowing.

Typically, utilities require a 15-20 year repayment term, in order to amortize up-front investments in capital infrastructure and ensure affordable water services to households. In the Philippines, bank loans could not be obtained for periods longer than seven to ten years. This obstacle was removed through a PWRF mechanism that used public funds, from the Development Bank of the Philippines/Municipal Development Finance Office (MDFO), to provide a standby credit line to cover the liquidity risk of private finance institutions, and refinance the private bank loans, if required. In this way the liquidity enhancement allowed the PWRF to extend longer loans.

Two guarantee types have been utilized by PWRF to boost investor confidence. The original JBIC loan provided to DBP was backed by a sovereign guarantee from the Government of the Philippines. At the same

**FIGURE 1** Philippine Water Revolving Fund (PWRF), Philippines: Financial Structure



time, PWRF maintains a credit risk guarantee option from the LGU Guarantee Corporation (LGUGC). Formed in 1998, the LGUGC is a private third-party guarantor that helps LGUs access financing by offering guarantees on LGU loans and bonds for all types of infrastructure projects. The guarantee reduces the risk of an LGU default through the use of the LGUGC ability to intercept the tax revenues from the central government to the LGU. The LGU guarantee functions so as to replace hard collateral with the assignment of revenues, an option that offers protection in the case of default because the revenue sources can be accessed to pay lenders. The LGUGC is itself backed by a guarantee from the USAID Development Credit Authority for up to 50 percent of the LGUGC's exposure.

## Results

In 2010, the Puerto Princesa City Water District received one of the first loans from PWRF. The loan was used to finance the rehabilitation and expansion of the city's water system. The loan was co-financed by the state-owned Development Bank of the Philippines (DBP) and the Bank of the Philippine Islands (BPI), the third largest commercial bank in the Philippines. The co-financing agreement was for a PhP 562 million (US\$13 million) loan. DBP contributed 75 percent, which was on-lent from the JBIC loan contribution. BPI used its own funds, which constituted 25 percent of the total loan. Eighty-five percent of the BPI loan was guaranteed by LGUGC and USAID. The Puerto Princesa City Water District provided equity in the amount of 10 percent of total project cost. The tenor on the DBP loan was 15 years, while the tenor on the BPI loan was 10 years with an extendable five-year option. Both loans came with a two-year grace period. The Water District effectively received a 15-year tenor for the full loan amount because of the DBP undertaking to provide liquidity cover (through the standby credit line) if BPI would not extend the loan.

From inception through 2014 the PWRF successfully channelled more than US\$234 million in loans for water and sanitation projects to finance 21 water and sanitation

projects, of which approximately 60 percent came from private banks. An estimated six million people have benefited from the new or improved access to piped water.

To date there have been no defaults on loan repayment. Domestic banks have started lending to water districts on their own, and this is credited to the confidence building and impetus of using a blended finance approach implemented through the revolving fund.

## Lessons Learned

**Blending through the revolving fund has resulted in lower borrowing costs for water service providers and longer tenors.** Longer tenors are achieved through use of standby credit lines. To extend loans that reflected the lifetime of utility assets, PWRF included a liquidity risk protection mechanism that allowed private finance institutions the option to extract their loan early, by ensuring refinancing through the standby credit line from the DBP. This enabled the utilities to access financing without having to substantially increase tariffs.

**The different credit enhancements offered with PWRF lowered investment risk.** The blending design of the PWRF, facilitated by the different credit enhancements, offers a mechanism whereby local private financial institutions can invest in the sector with low risk, transforming the way banks assess and finance water projects. However, such instruments vary according to availability in country (LGUGC type entities do not exist in other countries) and from donors like USAID/DCA.

**The multi-layered approach of PWRF to mobilize commercial finance is important to bear in mind.** Blended finance was accomplished through the revolving fund mechanism, but additional technical support and regulatory changes helped improve the enabling environment and access to commercial finance. Technical assistance to both investors and utilities helped them assess risk and improve their performance respectively.

## References

- DAI. Loan from Philippine Fund Means Clean Water for Tens of Thousands. Development Alternatives Inc. (DAI). Accessed July 10, 2016. <http://dai.com/news-publications/news/loan-philippine-fund-means-clean-water-tens-thousands>
- DAI. Water Revolving Fund Support Program (PWRP). Development Alternatives Incorporated (DAI). Accessed June 15, 2016. <http://dai.com/our-work/projects/philippines%E2%80%94water-revolving-fund-support-program-pwrf>
- Kehew, Robert, Tomoko Matsukawa, and John Petersen. 2005. "Local Financing For Sub-Sovereign Infrastructure In Developing Countries: Case Studies of Innovative Domestic Credit Enhancement Entities and Techniques." Discussion Paper No. 1, Infrastructure, Economic and Finance department. Washington, DC: The World Bank.
- Paul, J. 2011. *Making Water Reform Happen: The experience of the Philippine Water Revolving Fund*. OECD Global Forum on Environment. Paris: OECD.
- Porciuncula, Alma. 2014. "Innovative Fund Enables Philippine Water utilities to Invest, and Deliver Safe Water to New Customers." DAI Newsletter. Bethesda, Maryland: Development Alternatives Incorporated (DAI). <http://dai-global-developments.com/articles/innovative-fund-enables-philippine-water-utilities-to-invest/>
- Trémolet, S. 2010. *Innovative Financing Mechanisms for the Water Sector*. Paris: OECD.
- USAID. "Innovative Funding Removes Barriers to Water and Sanitation in the Philippines." Accessed July 28, 2016. [www.usaid.gov/global-water/march-2011/innovative-funding](http://www.usaid.gov/global-water/march-2011/innovative-funding).
- USAID. 2011. *The Philippine Water Revolving Fund Support Program (Final Report)*. Washington, DC: USAID.
- WEF OECD. 2015. *Blended Finance Vol. 1: A Primer for Development Finance and Philanthropic Funders*. Geneva: World Economic Forum.

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# Municipal Project Finance in the Municipality of Rustenburg (South Africa)

**August 2016**

## Summary Overview

**Location:** Rustenburg, South Africa

**Approach to Blended Finance:** To address vital wastewater infrastructure needs, the Municipality of Rustenburg created the Rustenburg Water Services Trust (RWST) to finance and upgrade infrastructure. The Trust secured revenues from municipal bulk water sales and an off-take agreement with two local mines. This revenue security, and the ring-fencing of the RWST as a special purpose vehicle (SPV), enabled commercial finance to be accessed in the form of a bank loan.

The establishment of a Trust, with revenues ring-fenced from the municipality and strong operating arrangements, provided comfort to the lenders and helped to soften lending terms. Revenues provided by the two mines for the purchase of effluent created a strong revenue stream for the Trust, and helped secure a commercial loan from ABSA bank. The public sector (including the Department of Water Affairs and Rustenburg Municipality) played a key role to help structure a transaction that addressed critical water resource needs for the municipal area.

## Context

In the Municipality of Rustenburg, South Africa, water supply has been constrained for a long time. The Rustenburg economy is heavily dependent on the mining industry, which accounts for roughly half of all formal employment in the municipality. The expansion of mining operations has spurred population growth in the region, which in turn increased water demand for domestic and industrial uses, and has put pressure on existing wastewater treatment facilities.



Under South African legislation, Rustenburg Municipality has been designated as the Water Services Authority, which means that it is responsible for ensuring access to water services in the municipal area. It receives water from two main suppliers, Rand Water and Magalies Water. By early 2000, stress on water supply in the municipality was intensified by the fact that the Rustenburg Wastewater Treatment Plant had reached full capacity and was releasing sub-standard effluent into the Hex River. This caused heightened pollution levels in the downstream Bospoort Dam, and led to system shut downs. Infrastructure upgrades were necessary, including refurbishment and expansion of the wastewater treatment plant, restoration and modifications of the water treatment plant, and repair of the pipeline infrastructure to improve the reliability of water service provision.

Rustenburg Municipality faced constraints in terms of institutional and financial capacity, which limited its ability to finance and upgrade infrastructure. For example,

its poor credit rating made it unable to raise finance. In an effort to address both water resource management constraints and improve infrastructure, the Municipality turned toward the private sector for a potential solution. At the same time, the mining sector offered to support the Municipality in its efforts to identify a way to address the urgent water and sewage treatment needs.

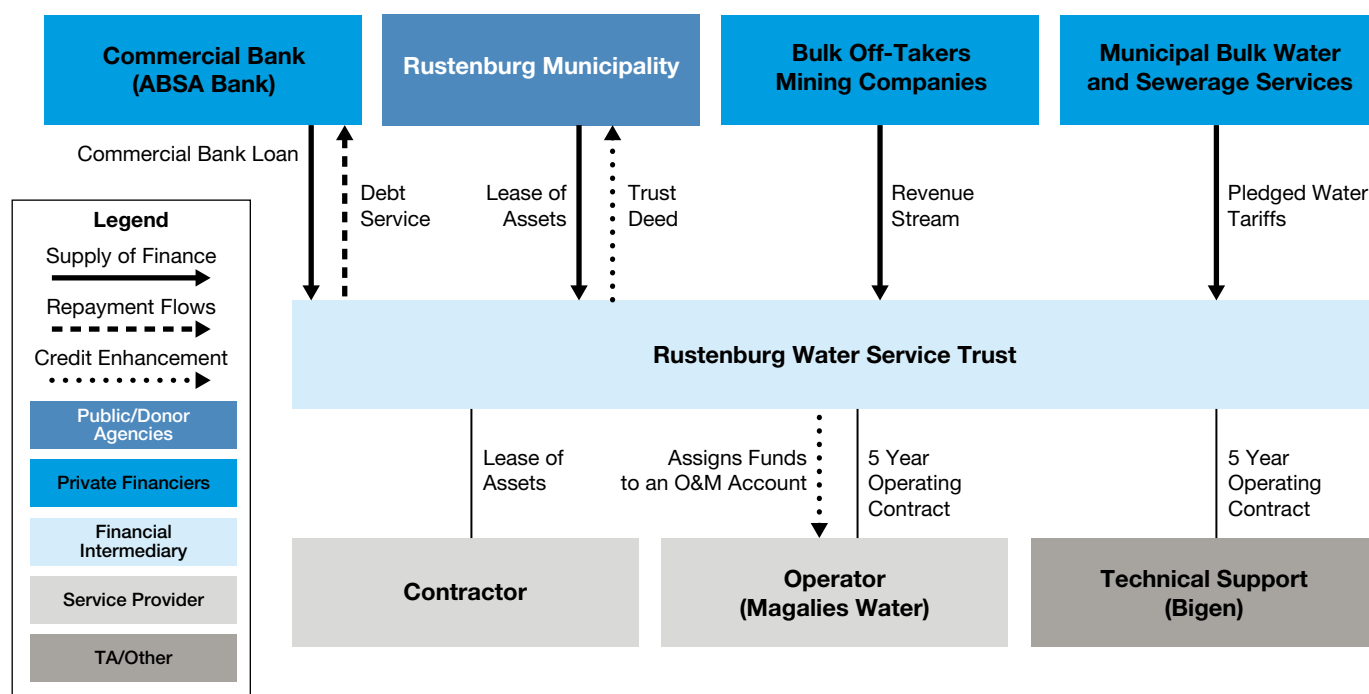
The result was the selection of a consortium consisting of Magalies Water (public partner), ABSA bank (financier) and Rustenburg Consulting (led by Bigen Africa), all of which joined forces, and in collaboration with the Municipality formed a special purpose vehicle (SPV), the Rustenburg Water Services Trust (RWST). The RWST signed a 25-year concession contract to finance, upgrade, and operate water infrastructure. The initiative was supported by two major platinum mines (Anglo Plat and Impala Plat), which agreed to purchase the non-potable treated wastewater produced. Financial close for the deal was achieved in December 2003, and construction began one month later.

## Financial Structure and Approach to Blended Finance

In 2003, the RWST was established as a financially independent municipal entity under the Municipal Services Act, and the infrastructure project was effectively ring-fenced under the Trust to protect assets. A Board of Trustees was setup for RWST, with four representatives from the Municipality, and three from the consortium (Magalies Water, ABSA bank and Bigen Africa). The Municipality is the majority stakeholder and sole beneficiary of the Trust. The structuring of the project ensured that the municipality maintains full control over the Trust, in accordance with South African legal requirements. However, the Trust's constitution regulates the transfer of funds between the Trust and the Municipality, thereby reducing the risk of municipal interference.

The RWST obtained a limited recourse loan from ABSA to finance the water and wastewater infrastructure upgrades and expansion. The loan was for R280 million (equivalent to US\$37 million at historical exchange rates), with a 20-year term. The key to securing commercial

**FIGURE 1** Municipal Project Finance in Rustenburg, South Africa: Financial Structure



finance from ABSA bank was the long-term off-take agreement between the RWST and the two local mines. The sale of treated effluent to the mines constitutes 50 percent of the SPV's revenue, and created a reliable revenue stream, important for investor confidence. The remaining 50 percent of RWST revenues come from the Municipality, which pays RWST for the supply of bulk water and provision of sewerage services from the collection of water and sewerage tariffs at the household level. The pricing for bulk water was benchmarked against that of a large well-known bulk water operator, Rand Water, to guarantee that the price of water being produced in the project was not higher. Revenue from these income streams help service the debt, and pay for maintenance and operations by the water service operator. The overall financial structure is shown in Figure 1.

A strong governance structure, with a ring-fenced Trust, and experienced trustees has ensured sustainable operations and management. During the transaction design stage, the importance of having a strong operator in place was highlighted. Institutional and technical capacity at the SPV level provided comfort to the commercial lenders. The presence of engineering specialists as trustees, and the procurement of an experienced Operator to manage the facility added to ABSA bank's confidence in the investment. A contractual provision for automatic review and re-bidding of the Operator after a specified period of time was also included in the overall structure, to ensure that strong performance would be maintained over time. Furthermore, the risk of operations and maintenance reserves being drawn on significantly for municipal activities outside of specific project purposes has been limited.

## Results

The innovative use of private, commercial, and public financing provided the basis for much needed investment and upgrading of water and wastewater infrastructure in the Municipality, and allowed the Rustenburg mines to shift from using imported freshwater to using locally treated wastewater. The infrastructure has been successfully operated since, and all debt commitments and obligations have been met. A financially sustainable bulk water and sewerage system was established with cash reserves of US\$12 million after seven years of operation.

## Lessons Learned

**The Rustenburg case proves that relatively small and financially weak municipalities can raise significant funding through well-structured projects with strong revenue streams from private sources.** The revenues received from the mines as part of the off-take agreement helped with the establishment of a creditworthy body (the RWST), and involved mixing revenues from two private sources—the mines and households (through tariff collection)—to secure commercial finance. Public funds were used mainly to help structure the transaction. The Trust was allowed to ring-fence the project, provide O&M capacity, and ensure continued legal compliance. The public sector, through the Municipality of Rustenburg and the Department of Water Affairs, played an essential role in initiating and driving this transaction forward through close.

**Granting SPV authority to a public sector entity helped mitigate concerns related to the hand-over of public resources to the private sector.**

Rustenburg Municipality was named the beneficiary of the RWST (this followed a requirement in the South African Municipal Systems Act), thereby avoiding political issues typically encountered over public-private partnerships.

**Benchmarking bulk water tariff pricing allowed overcoming of political challenges.** The Trust was responsible for providing bulk water and sewerage services to the Municipality, which was then in charge of distribution and bill collection. Potential issues over setting bulk water tariffs were overcome by benchmarking the tariffs against those charged by another large government parastatal.

**There is high potential for replication in areas where industry has a stake in improving outcomes.**

Private sector companies can provide reliable revenue streams and can pledge such revenues in exchange for increased security of supply. A prerequisite for reproducing this model would be to identify private companies that have a high demand for water and steady revenue streams.

## References

- 2030 Water Resources Group/IFC. 2013. "Innovative Financing Arrangements and Wastewater Re-use: Rustenburg, South Africa." *Managing Water Use in Scarce Environment: A Catalogue of Case Studies*. Washington, DC: International Finance Corporation
- Bigen Africa. 2011. Case Study: Rustenburg Water. Private Sector Participation in Water and Sanitation Services Workshop, October 20, 2011.
- Marx, Corrie, Mias van der Walt, and Leon Fouche. 2008. "The Rustenburg Water Story: Innovative water balance re-engineering." Bigen Africa Services (Pty) Ltd, The Innovation Hub. Pretoria: Water Institute of SA (WISA). [http://www.ewisa.co.za/literature/files/2008\\_023.pdf](http://www.ewisa.co.za/literature/files/2008_023.pdf)
- WEF OECD. 2015. *Blended Finance Vol. 1: A Primer for Development Finance and Philanthropic Funders*. Geneva: World Economic Forum.

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