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Creditworthy Municipalities Invest in Water and Sanitation to Meet Growing Demand in South Africa

USAID's Water, Sanitation and Hygiene Finance (WASH-FIN) Program Country Brief Series

INTRODUCTION. To reach universal access to sanitation by 2030, national and municipal governments, development partners, local financial institutions, and other stakeholders must work together to close the financing gap between the current government budget and the total investment needed, and support urban water and sanitation service providers to access capital for sustainable, climate-resilient, and critical infrastructure. This financing complements funding from traditional sources such as transfers, taxes, and tariffs (user fees), and supports USAID's efforts to promote the water and sanitation sector's journey to self-reliance. USAID's Water, Sanitation and Hygiene Finance (WASH-FIN) Southern Africa program, which started in July 2017, is a multi-year activity intended to reduce financing gaps to support universal access to water and sanitation services through sustainable and creditworthy business models, increased public funding, and expanded market finance for infrastructure investment. This brief provides a summary of the technical assistance support, key progress and results, and lessons learned for increasing access to finance for water and sanitation for municipalities in South Africa.

Key Takeaways

- Creating an enabling environment for financing is a necessary prerequisite to focusing on preparation of specific financing transactions for investment in water and sanitation projects;
- Customer service reform can increase revenue collection leading to additional own funds for investment and improved customer trust;
- Public sector contract management capacity is vital throughout PPP implementation, not only during preparation and tendering phases;
- National-scale credit assessments and ratings help domestic investors differentiate the relative creditworthiness of municipalities and utilities;
- Social impact funds are increasingly an option to help fund investment in fecal sludge management and non-sewered sanitation; and
- External support for reform should align with enabling conditions and be responsive to stakeholders under a long-term commitment.

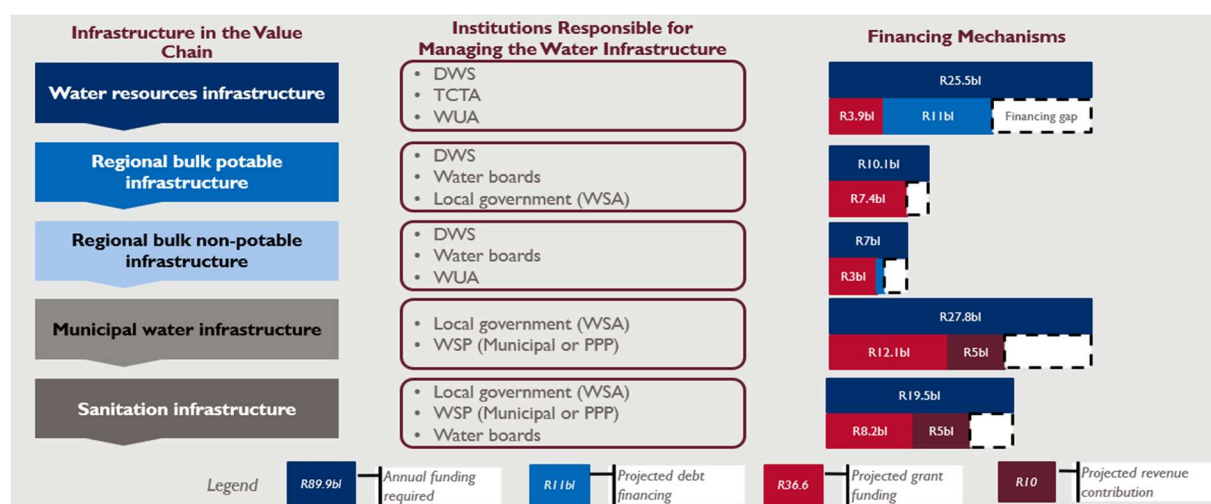
CONTEXT. The Constitution of the Republic of South Africa affords everyone the right to water. The Water Resources Act No. 36 of 1998 entrusts the National Government with water resource management to ensure the sustainable use of water through the protection of the quality of water resources for the benefit of all water users. The Water Services Act 108 of 1997 provides the legal framework for entities managing water services, including the Department of Water and Sanitation (DWS), the Trans-Caledon Tunnel Authority (TCTA), Water Boards, Catchment Management Agencies (CMAs), Water Users Associations, and Local Governments. With regards to the latter, the Constitution delegates responsibility for provision of basic services, including water and sanitation, to the local government authorities that are known as municipalities in South Africa. Under the Water Services Act, most municipalities act as the Water Services Authority (WSA) and may also be the Water Services Provider (WSP).

Table 1: Key Water Institutions: Roles and Financial Frameworks		
Institution	Core Responsibility	How Funded
DWS	National, regional, and local water resource management.	Funded through the national fiscus through the annual budget.
Local governments	Provision of potable water and sanitation infrastructure and services, including local bulk water infrastructure, and (in some circumstances) regional bulk infrastructure and water local resources infrastructure.	Receive grant finance from the national fiscus for operating and capital finance purposes. Raise capital through their own reserves; from tariff charges from water users; and, in the case of stronger municipalities, via debt financing.
Catchment Management Agencies	Planning and management of water resources and associated catchments, including the regulation of water use and protection of environmental assets.	Funded from water user charges and the fiscus, but without debt raising authority; can enter into partnerships.
Water Boards	Provision of regional bulk water infrastructure as well as some water resources infrastructure, with very limited role with regard to water distribution and sanitation.	Funded from water user charges to a large extent but rely to a limited extent on capital grants in the case of “social” infrastructure.
Water User Associations	Development and management of their own distribution systems and, in some cases of smaller systems, their own water resources infrastructure. In some instances, operation and maintenance of government water schemes owned by the Department of Water Affairs (DWA).	Have some capacity to raise revenues on their own account (particularly the larger ones), which are repaid through levies charged to users.
TCTA	Development and financing of national and regional infrastructure.	Raises capital on the capital markets and receives government guarantees to mobilize private sector finance on a project-by-project basis.
Individual water users	Provision of their own water.	Required to fund water infrastructure when the government does not provide infrastructure services.

Table 1 above provides an overview of the institutions involved in water sector financing in South Africa, along with the legislative frameworks that regulate their ability to finance. Those organizations subject to the Public Financial Management Act (PFMA) are classified according to schedules in the PFMA, which determine their respective borrowing authority.

Over three million people, approximately five percent of the total population of 60 million, do not have access to a basic water supply, and 14 million people, approximately 24 percent of the total population, do not have access to safe sanitation. Furthermore, 56 percent of wastewater treatment and 44 percent of water treatment plants are rated as being in a poor or critical condition.¹ To address these shortcomings, the South Africa National Water and Sanitation Master Plan (NWSMP) prepared by the DWS seeks to ensure sustainable water security for the country. The NWSMP estimates that there is a capital investment funding gap of approximately \$20 billion, a little more than a third of the \$55 billion required over the next ten years to meet the national objectives of universal access to water and sanitation.² Figure 1 below shows the institutions that are primarily responsible for providing investments in water and sanitation across the value chain and their current projected funding and financing sources.

Figure 1: Institutional Management of Infrastructure in the Value Chain and Financing Mechanisms



As shown in Figure 1, a significant funding gap exists for municipal water infrastructure. The municipalities receive funding for these services from three sources: 1) transfers from central government in the form of grants; 2) own revenue from property taxes; and 3) tariffs for services (e.g. water, electricity, solid waste collection). Tariffs produce approximately 80 percent of all funding in the water and sanitation sector; however, most municipalities fail to cover operating costs, so little of this money is available for capital investments. The remaining operating costs and capital investments are covered by government grants.

DEVELOPMENT CHALLENGE. The South African government budget had been under significant strain due to years of stagnant economic growth, falling from three percent GDP growth in 2010 to

¹ DWS. 2018. National Water and Sanitation Masterplan. Pretoria: Department of Water and Sanitation.
² *Ibid*

nearly zero in 2019.³ The COVID-19 pandemic has further impacted the economy, with GDP expected to decline by over seven percent in 2020.⁴ Meanwhile, Moody's and Standard & Poor's downgraded South Africa's sovereign credit rating in early 2020. As a result of the fiscal crunch, the national government is expected to reduce transfers to municipalities, including those that provide basic services like water and sanitation. Meanwhile, municipal water and sanitation costs such as wages, bulk water, and electricity are expected to grow faster than inflation.^{5,6,7}

Thus, there is a significant funding gap remaining for the water and sanitation sector, which applies pressure to look at opportunities for local borrowing. Some South African municipalities, especially the larger metropolitan municipalities, have a history of borrowing and can take advantage of a well-developed domestic finance sector. However, borrowing is limited. New borrowings supported only 14 percent of capital expenditure (CAPEX) in 2019, compared to 24 percent a decade earlier. The recent sovereign ratings downgrades reduce the ability of municipalities to obtain debt capital while making interest rates higher, even for most creditworthy entities. Furthermore, the municipal water sector is characterized by poor project planning and implementation, financial mismanagement, and weak governance—all of which result in municipalities with low creditworthiness and affect the ability of municipalities to attract private sector investment into the water sector.

In response to the fiscal constraints described, the South African national government has urged municipalities to work more efficiently, reduce non-core expenditures, and increase funding from their own resources and borrowing.⁸ The WASH-FIN program sought to assist municipalities with the latter objective. Given the history of municipal borrowing and well-developed financial market in South Africa, demonstrative transactions were viewed as potential catalysts that could also offer important lessons learned for secondary cities that have not tapped the market to the extent of major metros.

At the same time, it was recognized that a strong enabling environment that stresses efficiency is a critical foundation for successful implementation of innovative financing mechanisms and attracting private sector investment. WASH-FIN was designed as a modular program that allowed for scaling based on availability of funding and demand. It evolved to respond to the challenges addressed above through provision of technical assistance to help national government, local government, and private sector service providers to assess all available forms of funding, including improving own sources, accessing grants, and leveraging repayable finance in order to achieve the national objectives of universal access to water and sanitation.

I. Engaging with Stakeholders to Introduce Innovative Financing Mechanisms and Create an Enabling Environment for Investment

The program's original engagement in South Africa focused on support for innovative financing mechanisms through large transactions. However, the short life of the technical assistance activity, mixed with the reality of long timelines for transactions and common enabling environment challenges, did not lend themselves to fulfillment of the initial goal. Instead, the activity focused on engagement with

³ World Bank. 2020. Data Bank. Accessed August 31, 2020. <https://data.worldbank.org/country/south-africa>.

⁴ *Ibid.*

⁵ National Treasury. 2020. Budget Review 2020.

⁶ Eskom. 2020. Tariff and Charges. Accessed August 31, 2020. https://www.eskom.co.za/CustomerCare/TariffsAndCharges/Pages/Tariffs_And_Charges.aspx.

⁷ PMG. 2020. Water Boards tariff increases; with Deputy Ministers. Accessed August 31, 2020. <https://pmg.org.za/committee-meeting/30364/>.

⁸ National Treasury. 2017. Policy Framework for Municipal Borrowing.

a range of stakeholders in the sector on promoting the role of finance in improving water and sanitation service delivery, awareness of alternative and innovative financing mechanisms, opportunities to leverage finance to increase investment in the sector, and the institutional conditions necessary to access financing.

The National Treasury requested support to study global best practice and innovations in financing mechanisms for the water and sanitation sector, and how these can be incorporated in the South African context. A Study Reference Group was established consisting of representatives from various departments at National Treasury and the DWS as well as USAID Southern Africa Regional Mission, with the WASH-FIN program serving as Secretariat of the Reference Group.

The program subcontracted a local consulting firm to assist in preparation of the study, which was designed around three stages: (1) development of a baseline report that included case studies of international and domestic innovative financing mechanisms for water and sanitation investments and a summary of the South Africa water sector funding situation; (2) a gap analysis seeking to identify where proven financing mechanisms (as identified in the baseline) could be applied to address specific funding constraints in the South African context while considering regulatory, institutional, and technical constraints; and (3) the final report with mechanism options (or a “toolbox”) that could be deployed in the sector to promote investment with reflection on the institutions and enabling environment.

In addition to the work with National Treasury, a series of three Water Resilient Cities learning events were held in collaboration with the South African Local Governments Association (SALGA), South African Cities Network (SACN), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), and the World Bank Water Resources Group 2030. The learning events focused on building water resilience in South African cities and were attended by a broad cross-section of stakeholders, including municipal leaders and city planners, water specialists in the public and private sectors, civil society organizations, and regional and international experts.

2. Private Sector Participation

In 1999, Nelspruit Municipality, which subsequently became part of the City of Mbombela, entered into a 30-year concession-type Public-Private Partnership (PPP) agreement with the Greater Nelspruit Utility Company, subsequently renamed Silulumanzi, for providing water and sanitation services to the City. The concession has been operating for over 20 years, subject to five yearly Supplementary Agreements.

In part due to a lack of management capacity in the City, the Concessionaire failed to invest sufficient capital to improve water services in the peri-urban areas over the past decade. Furthermore, the two previous Supplementary Agreements had considerably shifted the balance of risk from the private sector—where it belongs under a PPP—to the City. To address these weaknesses in the operation of the Concession, the WASH-FIN program provided technical advisory support and capacity building for the City during the negotiations for the most recent Supplementary Agreement.

The negotiations resulted in a commitment to a five-fold increase in capital investment in water and sanitation from approximately R 20 million (\$1.2 million) per annum to R 100 million (\$6 million) per annum shared equally between the public and private entities. The additional investment is targeted at improving water and sanitation services in the peri-urban areas, which currently suffer from intermittent water supply, high levels of non-revenue water losses, and lack of adequate sanitation.

The capacity of the City to manage the Concession was also improved through training and other technical support. Improved contract management by the public sector will be essential to achieving the objectives of the renegotiated Concession.

3. Improving Municipal Creditworthiness and Improving Liquidity in Municipal Lending Market

A significant barrier for investment in South African cities is lack of creditworthiness, especially among secondary cities. The South African Integrated Urban Development Framework (IUDF) notes that many of these secondary cities are “uncompetitive, have weak leadership and strategic planning, and struggle to attract human capital.”⁹ The WASH-FIN program designed activities that included promotion of municipal creditworthiness and knowledge sharing workshops on the credit rating process, credit assessments and ratings, and provided assistance to municipalities to improve creditworthiness.

The program provided support to the Department of Cooperative Government and Traditional Affairs (COGTA) in helping targeted secondary cities address issues such as creditworthiness and long-term capital investment planning. In collaboration with a local credit rating agency, Global Credit Ratings (GCR), the program presented a series of workshops on COGTA’s behalf on creditworthiness for the cities, focused on the role of repayable finance in municipal budgets and the importance of credit ratings.

Credit assessments of 20 municipalities were conducted to support development of a municipal infrastructure finance fund focused on secondary cities and smaller metropolitan areas. The fund, valued at \$28 million, is managed by the Infrastructure Finance Corporation Limited (INCA) and has been initially financed by Agence Française de Développement (AFD) as an anchor lender with a first-loss facility provided by the (Switzerland) State Secretariat for Economic Affairs (SECO). Of these 20 municipalities, 16 were found to be “investment grade” based on a nationally weighted scale; however, the assessments noted potential risks in many of the municipalities, including irregular expenditures and poor fiscal discipline. The assessments were relied on by AFD and SECO as part of their due diligence for the fund. The assessments also helped INCA structure the fund and target specific cities for investment.

4. Promoting Alternative Financing for Fecal Sludge Management (FSM) Technology

Many South African municipalities are trying to improve sanitation services for residents not connected to networked sewer systems, the majority of whom rely on improved pit latrine toilets. In built up areas, regular pit emptying is required and is provided as a service by the municipality; however, the latrine sludge is not suitable for treatment in conventional wastewater treatment plants. Instead, the sludge is typically disposed of by applying it to non-food agricultural lands as a soil additive; however, this approach is problematic because the sludge has a high water content (over 70 percent) resulting in high transportation costs and high levels of biological pathogens resulting in human health risks.

To address these challenges, USAID support was provided to PSSH LaDePa, a small South African company that manufactures the Latrine Disposal and Pasteurization (LaDePa) fecal sludge management (FSM) treatment technology. The LaDePa FSM technology uses thermal treatment to dewater and pasteurize the latrine sludge prior to disposal, resulting in a dry material that can be safely handled and

⁹ DBSA. 2018. Intermediate Cities as Destinations for Investment. Infrastructure Dialogues. Accessed August 31, 2020. <http://www.infrastructuredialogue.co.za/>.

disposed of. The technology has been successfully piloted in eThekweni Municipality for several years and the Municipality would now like to expand operation by purchasing additional units.

Significant investment has gone into the development of the LaDePa technology; however, supplementary funding will be required to manufacture the additional units necessary to scale the technology. Specifically, PSSH LaDePa needs to secure external financing to fund the manufacturing costs, which will be repaid by the Municipality upon delivery of the units. As a result of the perceived risk of new technology and poor creditworthiness of South African municipalities, PSSH LaDePa has been unable to secure financing from domestic commercial banks and needed support from alternative sources.

The WASH-FIN program facilitated an introduction to Wellers Impact, which is managing the Water Unite Impact Investment Vehicle (WUIIV), a social impact fund promoting investment in water, sanitation, and plastics recycling, especially in developing countries. The WASH-FIN program and Open Capital Advisers (OCA) helped PSSH to apply for approximately \$250,000 in financing from the WUIIV. Specific support included preparation of the initial application, business plan, financial model, and a data room to support the due diligence process. WUIIV has approved the application for financing, subject to receipt of a purchase order for the units from eThekweni Municipality. Unfortunately, the Municipality currently lacks funding from its capital budget for the purchase, which has delayed the transaction. The Municipality is looking for alternative sources of funding and plans to issue a purchase order by the end of the year.

The program is also collaborating with PSSH and the Water Research Commission (WRC) of South Africa to create a potential sustainable funding model for LaDePa based on a circular economy approach to FSM. It is envisioned that LaDePa has the potential to be taken to scale and deployed nationwide and Wellers has indicated an interest in pursuing a larger transaction to support PSSH LaDePa's expansion.

LESSONS LEARNED

The activities described above have led to a better understanding of the challenges of and opportunities for increasing investment in the water and sanitation sector in South Africa. Key lessons learned are presented below.

I. Creating an Enabling Environment for Financing Is a Necessary Prerequisite to Focusing on Preparation of Specific Financing Transactions for Investment in Water and Sanitation Projects

The study on innovative financing mechanisms highlighted a number of barriers to leveraging private sector financing in the South African water sector. Many of the barriers to financing have technical, engineering, or operational dimensions related to the challenging hydrological and spatial characteristics of South Africa; however, these are exacerbated by a range of underlying challenges in the policy, legal, regulatory, institutional, and socio-political context and history of the country. Financing mechanisms are unlikely to resolve the financing shortfall for water sector infrastructure, if the significant non-financial impediments are not addressed first. Many water service providers require interventions to first improve business operations and creditworthiness, before they will be able to move beyond grant funding to private sector finance. Due to the complex and inter-connected nature of the barriers, the responses or opportunities to overcome them are multi-dimensional and require a coherent suite of interventions.

Bringing parties together to finance projects or institutions requires significant investment in water providers' systems for project preparation, financial structuring, and project implementation. In particular, significant institutional strengthening is required to create the conditions for the capital markets to be willing to finance a sector that is typically poorly understood by financial institutions and significantly underserved. This will ensure the water entities are ready and the financiers are informed about the risks and opportunities for infrastructure investment.

2. Customer Service Reform Can Increase Revenue Collection Leading to Additional Own Funds for Investment and Improved Customer Trust

Operational inefficiencies related to billing, metering, collections, and debt management can result in significant financial losses and, therefore, customer service efficiency improvement efforts can reap quick gains for utilities. Reform efforts to address these inefficiencies can increase revenues, enable improved service delivery, and better position service providers for investment in larger long-term capital expenditure programs. Improvements will also reduce the risk of customers paying for inefficiencies through their water bills.

The Cape Town Customer Service Turnaround Project demonstrates that a well-resourced and integrated approach to customer service reform can reap multiple benefits for water and sanitation service providers, including increased revenues and improved customer trust. A well-functioning customer service system can improve water security and ensure the resilience of the water services provider during times of water stress.

3. Public Sector Contract Management Capacity Is Vital Throughout PPP Implementation, Not Only During Preparation and Tendering Phases

In providing technical assistance to the City of Mbombela on the existing PPP for water supply, a lack of adequate contract management by the public partner was identified as an obstacle to achieving the objectives. The City of Mbombela was well supported during the preparation and tendering phases of the PPP in 1999.¹⁰ However, following the conclusion of the technical advisory support, the quality of the City's management of the PPP dwindled and the effectiveness of their concession management gradually deteriorated.¹¹ Two independent reviews of the Concession in 2010 and 2020 found that the City's Concession Monitoring Unit lacked the necessary operational and financial skills to properly monitor and manage the concessionaire, and was not systematically overseeing the concessionaire's progress in meeting its service delivery requirements.^{12,13}

A consequence of the failure to adequately manage the Concession contract has been a shifting of the balance of risk from the private partner to the public agency, with a resulting deterioration in the Value-for-Money proposition of the original contract. This has resulted in insufficient capital investment leading

¹⁰ The USAID-funded Municipal Infrastructure Investment Unit (MIIU) was one of the providers of transaction assistance for the preparation of the PPP.

¹¹ There were other challenges that impacted the PPP, including the introduction of South Africa's "free basic water" policy guaranteeing a minimum supply of water to the poor, which impacts the financial model of the Concession. In addition, the incomplete transfer of responsibility for all infrastructure from the public side to the Concessionaire resulted in the public partner retaining a significant level of service delivery risk.

¹² Bender, Paul and Stewart Gibson. 2010. Case Study for the 10 years of the Mbombela (Nelspruit) Water and Sanitation Concession, South Africa. World Bank.

¹³ PDG. 2020. Mbombela Water Services Concession: 20-year review, City of Mbombela.

to a decline in service levels such that a lower proportion of the City's residents receive a reliable 24/7 water supply than before the Concession began.

The City's current efforts to address these challenges suggests there are potential opportunities for interventions in other mature PPPs that can realize substantial improvements in water and sanitation service.

4. National-Scale Credit Assessments and Ratings Help Domestic Investors Differentiate the Relative Creditworthiness of Municipalities and Utilities

A significant barrier for investment in South African, in particular, the 39 "secondary cities" or mid-sized municipalities, is poor creditworthiness. While the IUDF notes that many of these secondary municipalities are uncompetitive, Moody's Investor Services reported that several have sufficient own sources of revenue and moderate debt levels, such that they should be able to raise finance for capital expenditure. Differentiating between these municipalities is key for increasing investor confidence and encouraging investment in the creditworthy municipalities.

National-scale credit assessments and ratings are used in certain capital markets, like South Africa, where the international rating scale provides inadequate differentiation among subnational ratings due to the low sovereign ratings accorded in those markets. National scale ratings are designed to give an indication of the relative credit risk only within a specific country and are not comparable across different countries but they can be a useful risk management tool for domestic lenders seeking to understand varying levels of risk across municipalities, utilities, or other subnational entities. INCA relied on national-scale municipal credit assessments to help structure their Municipal Debt Fund and target specific cities for investment. The assessments were also used by AFD and SECO as part of their due diligence for investment in the fund. Without national-scale credit ratings, potential investors seeking to invest in sub-national entities in South Africa would be unable to differentiate between varying levels of creditworthiness for their investment decisions. As a result, investment levels would likely be reduced due to the uncertainty.

5. Social Impact Funds Are Increasingly an Option to Help Fund Investment in Fecal Sludge Management and Non-Sewered Sanitation

In contrast to domestic financial institutions that are risk averse and lack sector expertise, social impact investment funds may help address the non-sewered sanitation financing gap driven by their double bottom line. These funds are particularly attracted to FSM investments, as emerging pro-poor technologies with clear environmental and circular economy benefits, in contrast to traditional approaches that consider sludge as a waste output rather than a valued input.

One such fund, the WUIIV has committed approximately \$250,000 in financing to cover the costs of the fabrication and delivery of the LaDePa FSM treatment technology to eThekweni Municipality, after earlier attempts to secure loans from commercial banks were unsuccessful. The WUIIV, capitalized by a mix of funding from institutional investors and corporate donors, was able to tolerate a higher risk and offered more competitive terms (lower interest rates, longer time horizons) than the commercial banking sector in return for strong performance on a double bottom line basis, namely considering a blend of financial returns and social impact.

6. External Support for Reform Should Align with Enabling Conditions and Be Responsive to Stakeholders Under a Long-Term Commitment

A 2016 World Bank study found that the start of successful reforms of water service providers in Africa relied on three mutually reinforcing conditions: (1) a catalytic event or space for reform; (2) a skilled technical leader motivated to improve service; and (3) a relatively stable political leader who supported and protected the reform.¹⁴

In the City of Cape Town, the conditions for reform were shaped by the drought crisis and the appointment of a new Director of Water and Sanitation to champion action with political support from the Mayoral Executive Committee.

At the request of the City to USAID, an experienced municipal finance expert was embedded in the Water and Sanitation Department and closely engaged with the Director for a two-year period. This allowed for complete integration into the Department operations, which contributed to informed leadership and technical support, and an acceleration of reforms in the Department's customer service systems and capital budget management.

In the City of Mbombela, the 20th anniversary of the water services Concession included a contractual mandate to renegotiate the terms of the agreement, which provided the space to seek reforms. The City's new Municipal Manager publicly expressed that negotiating a better deal from the Concession was his number one priority and he was backed by the Executive Mayor.

As in the City of Cape Town, long-term and hands-on technical support was provided to the City of Mbombela's reform efforts. The WASH-FIN program's Country Team Leader was appointed by the City and the Concessionaire to facilitate the negotiations between the parties over a two-year period and a local lawyer was recruited to provide legal advisory services for the contract amendments. By providing a long-term commitment of support aligned with enabling conditions for reform, the WASH-FIN program was able to help the City negotiate a substantial increase in investment in water and sanitation services.

The lessons shared above demonstrate a range of opportunities to creatively increase investment in the water and sanitation sector where facilitating traditional financing transactions may not be possible. In doing so, technical assistance can result in measurable and sustainable improvements in water and sanitation service provision.

ABOUT THE WASH-FIN PROGRAM. USAID's WASH-FIN program works in collaboration with national governments, development partners, financial institutions, service providers, and local stakeholders in eight countries. The program's Country Briefs summarize the development challenges, activity design, and results to date for each country of operation. The briefs focus on the lessons learned and their applicability in each country as well as for USAID and the broader water and sanitation sector.

¹⁴ Heymans et al. 2016. Providing Water to Poor People in African Cities Effectively: Lessons from Utility Reforms. World Bank.