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SUSTAINABLE WATER AND SANITATION IN AFRICA (SUWASA)

FINAL REPORT

SEPTEMBER 30, 2009–SEPTEMBER 29, 2015



NOVEMBER 2015

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Implemented by:

Tetra Tech ARD

159 Bank Street, Suite 300

Burlington, VT 05401 USA

Tel: (802) 495-0282

Fax: (802) 658-4247

Website: www.usaid-suwasa.org

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DISCLAIMER

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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ACRONYMS AND ABBREVIATIONS

AfDB	African Development Bank
AfWA	African Water Association
AoD	Aid-on-Delivery Program (KfW)
BMGF	Bill and Melinda Gates Foundation
BSWSC	Bauchi State Water and Sewerage Corporation
CRA	<i>Conselho de Regulacao do Abastecimento de Agua</i> (Water Regulatory Council), Mozambique
DBO	Design-Build-Operate
DCA	Development Credit Authority
DMM	Delegated Management Model
DNA	National Directorate of Water (Mozambique)
EBSWC	Ebonyi State Water Corporation (Nigeria)
EWASCO	Embu Water and Sanitation Company
GIS	Geographic Information System
GIZ	<i>Deutsche Gesellschaft für Internationale Zusammenarbeit</i> (Germany)
FPA	<i>Fornecedores Privados de Agua</i> (Private Water Providers, Mozambique)
FSM	Fecal Sludge Management
GoM	Governemnt of Mozambique
GoU	Government of Uganda
GoS	Government of Senegal
HTWSSSE	Hawassa Town Water Supply and Sanitation Services Enterprise
IQC	Indefinite Quantity Contract
IWA	International Water Association
KES	Kenyan Shilling
KfW	German Development Bank
KIWASCO	Kisumu Water & Sewerage Company, Ltd.
LGA	Local Government Area
LWSC	Liberia Water and Sewage Company
M&E	Monitoring and Evaluation
MAWASCO	Mathira Water and Sanitation Company
MCC	Millennium Challenge Corporation
MDG	Millennium Development Goal
MEWASS	Meru Water and Sewerage Services
MFI	Microfinance Institution

MO	Master Operator
MoU	Memorandum of Understanding
MUSWASCO	Murang'a South Water and Sanitation Company
MUWASCO	Murang'a Water and Sanitation
MWRRD	Ministry of Water Resources and Rural Development (Nigeria)
NAWASSCO	Nakuru Water and Sanitation Services Company
NWASCO	Government of Zambia's Water Services Regulator
NWSC	National Water and Sewerage Corporation (Uganda)
NYEWASCO	Nyeri Water and Sewerage Company
O&M	Operations and Maintenance
OBA	Ouput-Based Aid
ONAS	National Sanitation Agency of Senegal
PHWC	Port Harcourt Water Corporation (Nigeria)
PIP	Performance Improvement Plan
PMP	Performance Monitoring Plan
PPIAF	Public-Private Infrastructure Advisory Facility (World Bank)
RBA	Results-Based Aid
RCT	Reform Champions Team
RSSTOWA	Rivers State Small Town Water Supply and Sanitation Agency (Nigeria)
RSWSRC	Rivers State Water Services Regulatory Commission (Nigeria)
SIP	Small Investment Program
SNNPR	Southern Nations, Nationalities and Peoples
SSA	Sub-Saharan Africa
SSUWC	South Sudan Urban Water Corporation
SUWASA	Sustainable Water and Sanitation in Africa
THIWASCO	Thika Water and Sewerage Company
USAID	United States Agency for International Development
USD	US Dollar
UWASRA	Uganda Water and Sewerage Authority
UWC	Urban Water Corporation (South Sudan)
WASH	Water, Sanitation, and Hygiene
WOP	Water Operators Partnership
WRDF	Water Resources Development Fund
WSP	Water Service Providers (Kenya)
WSTF	Water Services Trust Fund (Kenya)

EXECUTIVE SUMMARY

The Sustainable Water and Sanitation in Africa (SUWASA) program was a six-year, \$41.4 million United States Agency for International Development (USAID) initiative to improve water and sanitation service delivery in nine sub-Saharan African (SSA) countries (Ethiopia, Kenya, Liberia, Mozambique, Nigeria, Senegal, South Sudan, Uganda, and Zambia [Figure 1]). SUWASA developed and successfully implemented reform work plans for 17 urban water and sanitation activities in the nine SSA countries, contributing to improved sector efficiency and better service delivery to customers. SUWASA effectively shared and promoted project learning and best practices for improving and expanding water and sanitation services in the region.

FIGURE 1. SUWASA ACTIVITIES MAP



The goal of SUWASA was to improve and expand the delivery of water and sanitation services in urban and peri-urban areas through the application of market-based principles to achieve long-term financial viability. SUWASA provided technical assistance for the design and implementation of effective reform models at the sector level, including for policy, legislative, regulatory, financial and institutional reforms; and at the water utility level to support corporate governance, operations, ability to access finance, stakeholder communication, services to the poor, etc. SUWASA's work on urban sanitation focused on establishing citywide approaches for fecal sludge management (FSM) and investment planning. Technical assistance was supplemented with limited financial support for infrastructure

improvements and commodity procurements to support the success of reform initiatives.

SUWASA was designed against the background of a subcontinent struggling to meet the Millennium Development Goal (MDG) of halving the proportion of people living without sustainable access to safe drinking water and basic sanitation by 2015. SSA continues to experience the highest rates of urban growth in the world, with most of that growth occurring in slums with limited access to basic water and sanitation services. A burgeoning population, limited financing, and institutional capacity at the national and local levels—combined with conflicts throughout the region—are stressing already-weak systems.

The knowledge gained from SUWASA's reform activities has been a valuable contribution to advancing sector understanding on how targeted reforms can enhance delivery of sustainable urban water and sanitation services in challenging country contexts. Knowledge management and sharing of program learning through highly accessible formats was a key component of SUWASA.

CORE PRINCIPLES OF SUWASA FOR SUSTAINABLE URBAN WATER SERVICES

The SUWASA program was implemented based on the following core principles of sustainable urban water services:

- **Customer-centered service**, with recognition of the poor as valued customers;
- **Autonomy** of management, finance, and operations from undue political influence;
- **Accountability** throughout the service delivery “value chain;”
- **Incentives for better performance** by the service providers; and
- **Cost-reflective pricing** with due regard for consumers’ ability to pay.

SUWASA designed and implemented activities focused the following five themes:

1. **Sector reforms:** promoting autonomy and accountability of service providers through policy, legal, and institutional reforms;
2. **Regulatory reforms:** promoting definition of clear regulatory frameworks, appropriate tariff setting mechanisms, performance monitoring, and benchmarking;
3. **Commercial financing:** developing investment finance strategies and facilitating commercial finance based on sound project design and financial analysis that incorporates effective risk-mitigation measures;
4. **Utility reforms:** developing and implementing performance improvement plans to increase the utilities’ operations and financial sustainability; and
5. **Sanitation reforms:** promoting citywide approaches to FSM, institutional strengthening, and investment planning.

SUMMARY OF SUWASA RESULTS AND ACHIEVEMENTS

Over the six years and 17 projects, SUWASA made significant contributions to sector learning that have advanced water and sanitation provision. These achievements and contributions are a mix of qualitative and quantitative results that collectively form an impressive advancement of the urban water and sanitation reform agenda in the region. These results and achievements are summarized in Table 1.

TABLE 1. SUWASA RESULTS AND ACHIEVEMENTS

REGIONAL

- Supported 17 reform activities in nine SSA countries (Ethiopia, Kenya, Liberia, Mozambique, Nigeria, Senegal, Uganda, South Sudan, and Zambia), exceeding the program’s implementation goal of 12 activities in at least five countries.
 - Partnered with multilateral and bilateral institutions to leverage resources and amplify results, including with the German International Technical Cooperation Agency (GIZ) in designing the regulatory framework for Uganda, with the World Bank in Nigeria on building the capacity of water utilities, and with the Millennium Challenge Corporation (MCC) in Zambia establishing tariff revision methodologies. Also partnered and worked closely with numerous other key regional sector institutions including the World Bank Water and Sanitation Program, African Development Bank (AfDB), Public-Private Infrastructure Advisory Facility (PPIAF), African Water Association (AfWA), International Water Association (IWA), UN-Habitat, Global Water Operator’s Partnership Alliance, Water Operators Partnerships (WOP)-Africa, and Bill and Melinda Gates Foundation (BMGF).
 - Leveraged US \$68.7 million from multilateral, bilateral, and private sector sources to further the work of SUWASA.
 - Though fundamentally a sector reform project, SUWASA assistance resulted in 64,937 people gaining new access to an improved drinking water source and 117,336 people receiving improved service quality from an improved drinking water source, funded through contributions from the Small Investment Program (SIP) and through commercial financing arrangements.
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- Hosted the SUWASA Knowledge Forum in May 2015 to share and disseminate SUWASA knowledge, lessons learned, and experiences on promoting urban water sector reform, resulting in a vibrant exchange of ideas among more than 120 sector practitioners and stakeholders from 22 countries, representing government, utilities, regulators, and civil society.
 - Developed the SUWASA Pathways to clearly communicate water and sanitation utility reform paths to a wide audience of sector stakeholders. The SUWASA Pathways are available online at <http://usaid-SUWASA.org/pathways>.
 - Disseminated SUWASA technical reports, project updates, and sector news and documents via a resource-rich website and reached approximately 2,200 regional practitioners and stakeholders through a regular SUWASA e-newsletter.
 - Participated in; contributed to; and often helped organize, facilitate, and lead regional water and sanitation workshops and conferences, including the Global Water Summit, AfWA, World Water Week, and many others.
 - Organized and supported implementation of peer-to-peer learning through exchanges, study tours, and transboundary twinning partnerships among eight SSA utilities.
 - Increased profile, respect, and visibility of USAID within the urban water and sanitation sector in SSA.
 - Contributed directly to achieve USAID mission-specific objectives in Nigeria, South Sudan, Kenya, Liberia, and Mozambique through implementation of mission buy-in funding, totaling \$17.3 million.
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KENYA: COMMERCIAL UTILITY FINANCING

- Worked closely with eight water service providers (WSPs) to develop bankable investment proposals for financing projects valued at approximately \$4.6 million, of which \$3.4 million resulted in commercial bank loans.
 - Based on the commercial financing received by WSPs, 38,231 people gained first-time access to an improved drinking water source, and 62,418 people received improved service quality from existing improved drinking water sources.
 - Piloted commercial financing model to support house connections for low-income residents in Kisumu resulting in 1,557 households receiving a connection via loans; and successfully piloted the pre-paid meter model of water service provision for low-income areas of Nakuru.
 - Partnered with the Government of Kenya's Water and Sanitation Trust Fund (WSTF) to facilitate and accelerate commercial financing approaches for water infrastructure based on the use of Results-Based Aid (RBA) and Aid on Delivery.
 - Worked with three commercial banks (Family Bank, K-Rep Bank, and KCB) to develop tailored products for lending to WSPs for development of water supply infrastructure.
 - Developed communications products and guidelines for both utilities and commercial banks related to commercial financing opportunities for the urban water sector.
 - Developed a gender mainstreaming strategy for water utilities that can serve as a model for utilities in other countries in SSA.
-

NIGERIA: EBONYI STATE WATER SECTOR REFORMS

- Facilitated adoption of corporate governance ethics, code of conduct, and best practices by the state government, starting with the establishment of the first-ever Board of Directors for the Ebonyi State Water Corporation (EBSWC).
 - Introduced commercial approaches to water service provision based on cost recovery tariffs and focused on improving customer care, establishing a customer care unit.
 - Designed and supported the establishment of a regulatory unit, a critical first step for promoting institutional accountability.
 - Upgraded and computerized the EBSWC billing and accounting systems.
 - Conducted comprehensive customer enumeration survey, in combination with a geographic information system (GIS) mapping effort to produce the first detailed distribution system map for the EBSWC.
 - Conducted a water tariff assessment and analyzed the financial health of the utility.
 - Prepared a Performance Improvement Plan (PIP) as part of a WOP established with Lusaka Water and Sewerage Company (LWSC).
-

NIGERIA: BAUCHI STATE URBAN WATER SECTOR REFORMS

- Designed and supported implementation of institutional reforms for urban water services resulting in the transformation of the Bauchi State Water Board into the Bauchi State Water and Sewerage Corporation (BSWSC), with the supportive legislative framework for an autonomous, accountable, and viable service provider.
- Leveraged \$65 million in infrastructure investment support from the World Bank for the reform effort.
- Developed an investment plan to guide future infrastructure investment needs in the urban water sector.
- Designed and supported the establishment of the regulatory unit within the Ministry of Water Resources and Rural Development (MWRRD).
- Strengthened the state's capacity for conducting water quality monitoring, including provision of basic laboratory testing equipment.
- Conducted a comprehensive enumeration survey that identified more than 40,000 customers and supported implementation of a new computerized billing and collection system to provide improved financial management and customer service.
- Organized a WOP with the Swaziland Water Services Corporation to encourage peer-to-peer learning and develop a PIP.
- Developed a strategic plan to put the BSWSC on a path to financial sustainability, complemented by a revised tariff policy and structure to support the plan while minimizing impact on the poor.

NIGERIA: RIVERS STATE URBAN WATER SECTOR REFORMS

- Supported establishment of the Rivers State Water Services Regulatory Commission (RSWSRC) to regulate water services across the state, and the Rivers State Small Towns Water and Sanitation Agency (RSSTOWA) authorized in the state's new water sector reform law to establish regulatory oversight for service provision and clear management of structures for town water supply systems within the state.
- Partnered with the World Bank and AfDB to design training and technical assistance interventions to build critical institutional capacity to implement urban water infrastructure projects financed by these institutions.
- Supported the Port Harcourt Water Company (PHWC) restart water services in the state capital through a pilot activity in one area of the city (Eagle Island), including initiating use of computerized billing and accounting systems, and development of internal controls and organizational restructuring (e.g., staff recruitment, compensation systems, and establishment of a customer service unit).
- Supported a WOP with Nairobi Water Company to promote peer learning for commercial operations and performance improvement.

UGANDA: SUPPORT FOR ESTABLISHMENT OF AN AUTONOMOUS WATER REGULATORY AGENCY

- Designed the institutional framework for a new autonomous Uganda Water and Sewerage Regulatory Authority (UWASRA), a high priority of the Government of Uganda (GoU).
- Developed a roadmap for the establishment of the UWASRA, including stakeholder adoption of the proposed regulatory framework, a complete institutional framework and business plan, and draft legislation for the establishment of the regulatory agency.
- Developed a strong partnership with GIZ on the regulatory work, to complement and support GIZ's ongoing support to GoU in the establishment of UWASRA.
- Produced a comprehensive analysis on lessons learned from the challenges and key issues of private financing for water infrastructure in small towns based on the Design-Build-Operate/Output-Based Aid (DBO/OBA) approach.

SOUTH SUDAN: URBAN WATER AND SANITATION SECTOR-WIDE REFORM

- Supported the establishment and commissioning of the Board of Directors for the South Sudan Urban Water Corporation (SSUWC).
 - Developed the initial SSUWC Corporate Plan including corporate vision, mission, and overall strategies for the national water corporation.
 - Supported continued technical assistance to SSUWC via a WOP with the Uganda National Water
-

and Sewerage Corporation (NWSC) focusing on capacity building for the utilities in Wau and Maridi.

- Jump-started water services in Wau and Maridi following months of no services prior to SUWASA engagement.
- Through small infrastructure investments in Wau and Maridi, provided new access to an improved water source for 4,083 people and improved services for the existing customer base of 20,998.
- Using the Juba billing system as a model, developed new billing systems and rolled them out to the utilities in Wau and Maridi.
- Supported establishment of water management committees in Wau and Maridi to encourage stakeholder collaboration and engagement in formal and informal oversight structures.
- Developed and launched the Juba Sanitation Reform and Investment Plan in collaboration with the Sanitation Working Group, which clarified complex institutional relationships and vision setting for the nascent urban sanitation sector.
- Prepared a series of technical reports and studies detailing the status of the previously neglected issues related to urban sanitation in Juba, including a reform and investment plan for urban sanitation, analysis of fecal sludge haulers, and transportation and storage management in Juba; institutional mapping; and public toilets and management and technical issues at Juba's central wastewater treatment facility.

MOZAMBIQUE: LICENSING AND REGULATORY FRAMEWORK FOR PRIVATE WATER OPERATORS

- Developed a licensing and regulatory framework for the hundreds of unregulated private water providers (FPAs) operating in the Maputo metropolitan area; following numerous failed attempts to regulate FPAs, the framework was approved by the Government of Mozambique (GoM) via a Ministerial Decree in October 2015 that SUWASA helped draft.
- Completed the first comprehensive georeferenced inventory of existing FPAs, identifying 816 private water systems owned by over 500 local entrepreneurs with 191,000 house connections, showing that FPAs manage about half of the water connections in Maputo and Matola.
- Built consensus among stakeholders including government, regulators, civil society, and FPAs on the need to formalize and regulate FPA operations.
- Developed a communications strategy to support implementation of the new licensing and regulatory framework.

SENEGAL: IMPROVED FECAL SLUDGE MANAGEMENT SERVICES AND OVERSIGHT

- Conducted and developed a citywide analysis of FSM for the Municipality of Tambacounda, including current onsite storage, emptying, transportation, and disposal practices.
- Developed a citywide FSM plan for the municipality, including institutional and policy options to address issues identified in SUWASA's analysis; plan included infrastructure investments needed by private haulers in safe mechanical desludging and by the Government of Senegal (GoS) in a central FSM treatment and disposal facility to replace the unregulated dump sites.
- Rolled out a communications campaign on the importance of safe mechanical desludging practices for the Tambacounda municipality.
- Through the SIP, supported the GoS's national sanitation agency (ONAS) to implement a computerized call center for real-time tracking and deployment of private sector desludging trucks in the Dakar metropolitan area, complementing ONAS' ongoing implementation of a state-of-the-art FSM system under a grant from the BMGF.

ETHIOPIA: SUPPORT TO HAWASSA TOWN WATER SUPPLY AND SANITATION SERVICES ENTERPRISE

- Developed a new tariff policy and structure that assisted the Hawassa Town Water Supply and Sanitation Services Enterprise (HTWSSSE) to establish a fair and equitable tariff, leading to the utility achieving cost recovery for its operations.
 - In collaboration with Kenya's WSTF, developed a framework for the management of water kiosks in Hawassa; 14 kiosks were constructed through the SIP, providing 12,000 residents access to an improved water supply and significantly reducing cost to consumers.
 - Upgraded billing and accounting systems to reflect best practice and established a foundation for the
-

development of a strategic business and investment plan for HTWSSSE.

- Supported HTWSSSE with performance improvement activities focused on internal operations, including human resource management, asset management, and proposals for performance agreements.
-

LIBERIA: SUPPORT FOR ECONOMIC REGULATION FOR URBAN WATER SECTOR

- Assisted the Liberia Water and Sewer Corporation (LWSC) to develop a tariff-setting methodology based on accurate accounting of the actual cost of water services in small towns.
 - Piloted the methodology in two towns and provided extensive hands-on training to LWSC staff in using the methodology.
 - Through the SIP, complemented USAID/Liberia Municipal Water Project investments to restore piped water service in Robertsport with the construction of a pipeline and three water kiosks, providing 1,648 people with access to an improved drinking water source.
-

ZAMBIA: SUPPORT TO NATIONAL WATER SUPPLY SANITATION COUNCIL

- Developed a cost-of-services model that allowed the Government of Zambia's water services regulator (NWASCO) to improve its tariff proposal review process and streamline its approval process to ensure tariff revisions do not pass cost inefficiencies to customers.
 - Through a series of highly interactive workshops with the country's commercial water utilities, developed a common understanding between the regulator and regulated utilities of the updated tariff revision process and a practical strategy for implementation.
 - Supported NWASCO finalize Guidelines on Tariff Setting and Cost-of-Services Model Handbook.
 - Updated NWASCO's corporate governance guidelines for utilities to better reflect current international corporate norms governing the roles and relationships among boards, shareholders, and utility management.
-

SUMMARY OF SUWASA PERFORMANCE INDICATORS

Table 2 summarizes SUWASA's performance for the six indicators in the program's Performance Monitoring Plan (PMP). It is important to note that SUWASA was not designed to provide substantial new access to water and sanitation facilities or to support major new investments in infrastructure in the sector. Rather, SUWASA was design to support, demonstrate, and promote new ways of operating in the sector that would improve sector efficiency and build a path to sustainably enable water services providers themselves to deliver better service their customers. Program results are further discussed in Section 5.

SUWASA met or exceeded targets for all six PMP indicators. SUWASA had planned a target of 64,480 for the number of people gaining access to an improved drinking water source and achieved 64,937. This number is likely to increase as utilities are still implementing project activities. In addition, SUWASA had planned a target of 54,200 for the number of people receiving improved service quality from existing improved drinking water sources, but achieved 117,336. Just as with the previous indicator, this number is likely increase since utilities are still implementing project activities.

SUWASA tracked one outcome indicator: *Percentage of operations and maintenance costs (not full cost recovery) for water supply and sanitation services covered through customers' charges* whose overall target was 15% over the baseline for each service provider assisted. At the end of the program, HTWSSSE, Ethiopia, had achieved 185% of operations and maintenance cost recovery; Bauchi, Nigeria, 20.11%; Wau, South Sudan, 112% (excluding salaries and chemicals); and Maridi, South Sudan, 105% (excluding salaries and chemicals).

The three output indicators, *Amount of new financing accessed by water and sanitation service providers*, *Number of good practices identified, promoted and adopted*, and *Number of new policies, laws, agreements, regulations, or investment agreements (public or private) implemented that promote access to improved water supply and sanitation (USAID F-indicator)* also achieved impressive results. The

planned target for the amount of financing accessed by water and sanitation service providers was \$420,000 but \$68,652,021 was achieved. The planned target for number of good practices identified, promoted, and adopted was 15 but the program achieved 27. The program had also planned for 14 new policies, laws, agreements, regulations, or investment agreements, but achieved 32.

TABLE 2. SUWASA PROGRAM PERFORMANCE INDICATOR TARGETS

Performance Indicator	Level	Targets Baseline Value (2010)	Planned Targets	Actuals September 2015
1. Number of people gaining access to an improved drinking water source (USAID F-indicator)	Goal	0	64,480	64,937
2. Number of people receiving improved service quality from existing improved drinking water sources (USAID F-indicator)	Goal	0	54,200	117,336
3. Percentage of operations and maintenance costs for water supply and sanitation services covered through customers charges	Outcome	-	15% increase over baseline	185% (HTWSSSE)^ 20.11% (Bauchi) 112% (Maridi)* 105% (Wau)*
4. Amount of new financing accessed by water and sanitation service providers	Output	-	\$420,000	\$68,652,021
5. Number of good practices identified, promoted and adopted	Output	-	15	27
6. Number of new policies, laws, agreements, regulations or investment agreements (public or private) implemented that promote access to improved water supply and sanitation	Output	-	14	32

*Excluding staff salaries and chemicals provided by SSUWC

^percent increased revenue collection, O&M baseline was not established

SUSTAINABILITY OF SUWASA INTERVENTIONS

There are positive signs from several of the countries in which SUWASA worked to indicate that program interventions have taken hold and will continue to deliver results, including the following:

- In South Sudan, the Corporate Plan for the SSUWC is already being used as the basis for annual planning and budget requests from the Ministry of Finance. In Juba, the sanitation governance council has commenced activities while at the same time, the German Development Bank (KfW) has indicated willingness to finance completion of the Roton lagoon and the World Bank has indicated willingness to explore opportunities to support implementation of other elements of the Sanitation Reform and Investment Plan prepared with SUWASA assistance.
- In Kenya, commercial financing is likely to continue with a number of utilities already in discussion with domestic banks on possible lending transactions. Kenya's WSTF has offered to continue providing technical assistance to utilities to enable them to prepare bankable projects to present to commercial financial institutions.

- SUWASA assistance to the Government of Mozambique to establish a licensing and regulatory regime for the private water operators in urban areas of the country have borne fruit with the October 2015 GoM approval of the new framework via a ministerial decree.
- In Uganda, SUWASA supported the establishment of the autonomous Uganda Water and Sewerage Regulatory Authority. GIZ is continuing to work closely with the government to ensure UWASRA receives the support needed to carry out its mandate.

SUMMARY OF SUWASA LESSONS LEARNED

- **Sector reforms.** Water and sanitation utilities are often imbedded within the political systems of national, regional, or local governments and are not held fully accountable for the quality of service provided. Further, services are often subject to political pressures, where utilities do not have sufficient autonomy and authority to manage their operations on a sound commercial footing. In this case, a deep understanding of the local constraints is required, and creativity and flexibility can create opportunities when dealing with the bureaucratic and protracted processes of advocating and mobilizing stakeholders for policy, legal, and institutional reforms that promote autonomy and accountability.
- **Regulatory reforms.** Regulatory reforms tend to get mired in bureaucratic legislative processes which are slow and difficult to advance. SUWASA's experience indicates that regulatory reform activities require much longer gestation periods than other types of project interventions, and are subject to political processes that do not lend themselves to interventions with relatively rigid and short timeframes.
- **Commercial financing.** Based on SUWASA experience in Kenya and the broader region, it is clear that new ways are needed to bridge the sector's financing gap, along with reforming sector governance and improving financial viability of utilities. There are emerging opportunities for utilities to tap domestic financial markets for sector investments and to complement dwindling public resources for the sector. Access to commercial financing can be a powerful incentive for water utilities to reform and improve performance, particularly with the focus on improved governance and improved internal generation of resources. Commercial financing represents an exciting opportunity for water service providers to expand services to new clients, improve service delivery, and increase their financial performance.
- **Utility reforms.** Successful utility reforms must be driven by commercial approaches to improving performance and financial viability. Without financial viability, providers are not able to service either existing or new populations, and consequently governments are forced to provide operating subsidies. Experience has shown that investments without reform have not yielded sustainable service improvements while reform without investments is unlikely to be sustained; hence the need to develop partnerships with key technical and financial partners to properly coordinate reform and investment plans that are able to reinforce both sustainable infrastructure expansion and reform efforts. Achieving financial viability often takes several years and requires a multifaceted strategy. However, focusing on PIPs and upgrading business systems (including billing, accounting, and customer information systems) in line with overall corporate planning has shown to be a highly effective utility reform approach. With such an approach, targets for cost recovery that are realistic and consider the poor's ability to pay can lead to financial viability, as well as improved water service access for the poor.
- **Sanitation reforms.** Unclear institutional structures hinder progress on urban sanitation in the region and often result in completely unregulated private sector sanitation services. The limited progress made in delivering sanitation services in Juba and Tambacounda speaks to both the fact

that urban sanitation reform lags far behind water supply and to the organizational complexity of dealing with urban sanitation. In both cities, complex institutional arrangements have resulted in sanitation having no clear institutional home. In Juba, for instance, expediency led to handing over the wastewater treatment lagoon to Juba County, which has neither the jurisdiction nor technical capacity to manage the facilities. At the same time, Juba City Council has the legal mandate but limited capacity, while SSUWC, which has the required technical competence is not in any way involved with urban sanitation. A similar situation was evidenced in Tambacounda where ONAS is responsible but has no presence on the ground, while the Municipality of Tambacounda is willing to get involved but has no capacity. At the same time, it is also evident that the private sector plays a significant role in both cities, especially in FSM. However, this role is neither properly recognized nor regulated. Addressing institutional challenges for urban sanitation is a clear area that needs further attention and engagement in many locations in the region.

SUMMARY OF IMPLEMENTATION LESSONS

The SUWASA program was USAID's first significant urban water and sanitation reform effort in Africa on a regional basis. SUWASA was successful in a great part by employing and working through African experts with a rich understanding of the challenges and culture of the continent. This ensured not only identification of relevant solutions but was also welcomed and embraced by the recipient governments, thus facilitating access and implementation. It must be noted, however, that the African team was well complemented by international expertise from outside the region who brought a wealth of international experience and best practices to bear.

SUWASA was highly successful in working with other donors and development partners in promoting best practices and sector learning within the region. This was done through active participation in regional conferences, workshops, and technical forums. SUWASA learning was effectively brought together and disseminated by its regional office in Nairobi, which provided leadership, technical backstopping, and oversight for the 17 activities in nine countries in the region. The SUWASA regional office led the knowledge management effort and ensured that lessons learned in one country were shared with other SUWASA projects, development partners, and sector stakeholders via the SUWASA e-newsletter, the SUWASA website, and through presentations and workshops at regional events.

The SUWASA team actively engaged with USAID country missions across the region and successfully increased USAID's profile and made tangible contributions to the urban water and sanitation sector in Africa. SUWASA's efforts have established a solid foundation for continued implementation of the USAID Water and Development Strategy (2013-2018) within the urban sector in Africa.

1.0 BACKGROUND AND OBJECTIVES

The Sustainable Water and Sanitation in Africa (SUWASA) program, a task order under the Integrated Water and Coastal Resources Management Indefinite Quantity Contract II (Water II IQC), was a six-year regional initiative of the United States Agency for International Development (USAID) launched on September 30, 2009.

The program's ultimate goal was to improve and expand the delivery of water and sanitation services in urban and peri-urban settings to bring countries closer to achieving their Millennium Development Goals (MDGs), while emphasizing a response to the particular needs of the urban poor. The program worked to achieve long-term financial sustainability through the application of market-based principles in a collaborative approach with governments and service providers. Technical assistance was provided to design effective models of reform at sector and water utility levels, facilitate commercial financing approaches for water utilities, promote creation of an enabling environment for effective water utility performance (i.e., cost recovery approaches, economic regulation of urban water services) and establish long-term financial viability, to benefit all citizens.

SUWASA was designed to support at least 12 reform initiatives by September 2015 in at least five countries (SUWASA actually completed 17 reform initiatives in nine countries). This was to be achieved by building partnerships among utilities and private water providers, governments, donors, communities and businesses to demonstrate and promote best practices for water and sanitation service reform and governance. In addition to providing technical assistance, SUWASA support included capacity building and a limited degree of financial support for infrastructure improvements and commodity procurements, as needed to help assure initiative success.

SUWASA was managed by the Office of Water within the Bureau for Economic Growth, Education and Environment (E3), with technical direction and substantial involvement from the Africa Bureau, Office of Sustainable Development (AFR/SD). USAID contracted Tetra Tech, a US-based company, to implement SUWASA.

This final report summarizes the technical approach, initiative activities, accomplishments, lessons learned, and promotion of best practices in response to the Scope of Work outlined in the USAID Contract No. EPP-I-04-00019-00, for the period of September 30, 2009–September 29, 2015.

1.1 URBAN WATER AND SANITATION CHALLENGES IN SUB-SAHARAN AFRICA ADDRESSED BY SUWASA

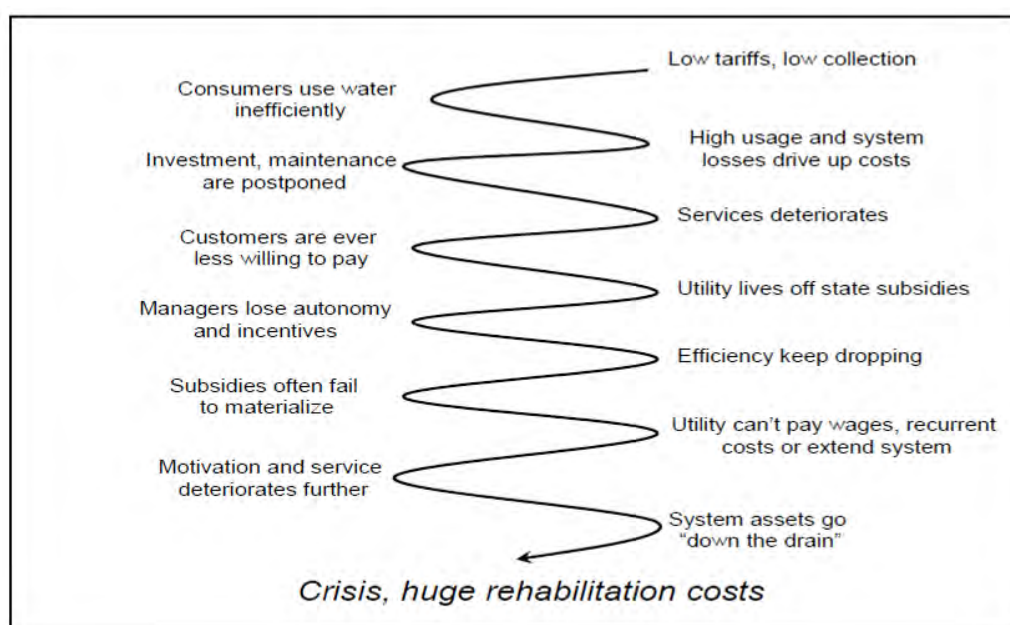
By 2025, more than half of the population in Africa will be living in urban areas, increasing from 550 million people today to about 700 million. If current trends prevail, the majority of the urban population will be poor (and young) and most will live in unplanned or informal settlements with insufficient access to safe water and adequate sanitation services.

Urbanization in Africa has largely been translated into rising slum establishments, increasing poverty, and inequality. However, there are large variations in the patterns of urbanization across African regions. North Africa has a higher proportion of urban population (47.8%) relative to sub-Saharan Africa (SSA) (32.8%). The relatively fewer slums in North African countries is mainly attributed to

better urban development strategies, including investment in infrastructure and in upgrading urban settlements. In contrast, SSA has the lowest proportion of urban population, but the highest proportion of slum dwellers (65%). Most SSA cities are characterized by insufficient basic infrastructure, particularly in low-income areas. Only 20% of SSA's population has access to electricity; 84% of the continent's urban dwellers have access to potable water, while 54% have access to sanitation.¹ More broadly, 60% of African citizens live in places where water supplies and sanitation are inadequate.

Urban water utilities in Africa continue to struggle to keep pace with growing demand. As populations grow, water scarcity increases and investment resources remain limited. According to the 2014 JMP report, between 1990 and 2012 little progress was made in SSA in increasing the number of people with access to piped water services. As efficiency of utility services decline (Figure 2), urban populations, especially the poor, are left with no alternative but to use expensive sources of water of questionable quality. The impacts are felt in terms of health and economic development and fall most heavily on women and children. According to World Health Organization, 88% of diarrheal disease is attributed to unsafe drinking water, inadequate sanitation and poor hygiene and kills over 3,000 children each day.²

FIGURE 2. THE VICIOUS SPIRAL OF PERFORMANCE DECLINE OF UTILITIES



Source: Water and Sanitation Program/PPIAF, *New Designs for Water and Sanitation Transactions: Making Private Sector Participation Work for the Poor*, 2002.

1.1.1 THE CHALLENGE OF IMPROVING OVERALL SECTOR POLICY, INSTITUTIONAL, AND LEGAL FRAMEWORK

The first challenge of low efficiency of urban water service provision is lack of clear and coherent policy. In some countries, draft policy may exist, or if it is adopted or approved, it remains to be implemented. In many cases, government policy may not easily promote cost recovery of urban water services, provide for autonomy of the service providers, and may lack a clear legislative framework.

In about 80% of SSA countries (i.e., 38 countries), urban water services are provided by state-owned corporations, often with unclear responsibilities and operating under outdated sector laws. In the

¹ African Development Bank Group. *Development Aid and Access to Water and Sanitation in Sub-Saharan Africa*. A. Salami, M. Stampini, and A. Kamara (eds.), Tunisia: 2012.

² http://www.who.int/water_sanitation_health/publications/factsfigures04/en/

remaining 20%, services are provided by either a private company or a department or unit within the municipalities. In many countries there are duplication of roles and responsibilities among the different government institutions.

Key success factors include comprehensive sector reform, political will, and strong leadership. Most SSA countries have undertaken steps to reform their urban water service institutions and policies. A number of countries have recently designed reforms aimed at realigning roles and responsibilities based on some key sector principles including:

1. Separation of service provision from water resources management;
2. Separation of policymaking, regulatory functions, and service provision;
3. Decentralization of service provision; and
4. Creating the conditions for financial viability through promotion of commercialization of urban water services through corporatization.

Urban water sector reform, then, must be linked to an understanding of the legal, regulatory, and institutional context within which it operates. In many countries, public enterprise reform improved the enabling environment to tackle restructuring of water utilities, but did not effectively catalyze the reform of water utilities for two main reasons: first, in most countries urban water sector reform could only be effectively undertaken as part of larger institutional, policy, and legal reform efforts; and second, there was often a lack of political will and leadership at both the ministry and utility levels. Political will and leadership have been the two critical ingredients present in all successful reform efforts that have broken utilities away from the vicious cycle of low performance, weak finance, and degrading assets.

The push for reform coming from governments and their development partners, whose successive projects involving investment in treatment plants, distribution networks, and technical assistance had limited impact on the quality and reach of water services. Urban water sector reforms should consider the entire water sector including the legislation that provides for establishment of various institutions and a clear regulatory framework. Many state-owned utilities tend to be weak and unresponsive institutions that lack autonomy and accountability. This makes them vulnerable to political interference and they rarely have the incentives or the means to provide adequate or financially viable services to their existing customer base, let alone for the expansion to those not connected.

These institutions have been weak as a result of many factors including lack of a clear policy, legal, and regulatory framework for urban water services delivery. There is therefore need to move on and implement change in the way the services are being managed. Design of institutional arrangements is at the heart of any urban water sector reform. Water sector reforms implemented over the last 20 years in more than 37 countries in Africa resulted in governments revisiting the roles of different institutional arrangements for urban water services provision.

1.1.2 THE CHALLENGE OF IMPROVING REGULATION, GOVERNANCE, AND ACCOUNTABILITY

Another challenge within the institutional framework for urban services delivery is an insufficient or even absence of an effective water services regulatory framework. Sound economic regulation should be based on establishing tariffs that reflect the true cost of service delivery, incentivizing and supporting utilities in their quest to achieve cost recovery and hence work toward commercial viability. Tariffs, which are a critical factor, remain dwarfed in many countries without a clear regulatory framework, and benchmarking of service providers does not exist. Utilities should be regulated to ensure effective and efficient delivery of water and sanitation services to customers. While the mode of the institutional arrangements for the regulatory framework may be a debatable issue, there is substantial value added by defining a clear regulatory framework. There is also a critical importance of a robust performance monitoring system which may effectively be undertaken by an autonomous regulator or a technically competent public body (i.e., an asset holding company).

Urban water and sanitation services in numerous countries across Africa are imbedded within the political systems of national, regional, or local governments and water service providers are not held fully accountable for the quality of service provided; services are often subjected to political pressures and utilities do not have sufficient autonomy and authority to manage their operations on a sound commercial footing. Unless accountability is addressed as a core element of the organizational development of water utilities, the broader objectives of reform will not likely be achieved. Most reform programs formally comprise measures to establish or strengthen accountability vis-à-vis an oversight agency, an asset holding public company, a ministry, or an autonomous regulator.

Public sector reforms have proven difficult to establish and sustain effective accountability through either regulation or performance contracts. While it has been possible in the best cases to strengthen performance monitoring, it has been more difficult to ensure that the signals derived from such monitoring are used to formulate corrective actions and continuous improvements. Compliance with performance contracts has been weak, and in many instances governments did not fulfill obligations to pay their water bills, access funding for agreed investments, or approve tariff revisions.

1.1.3 THE CHALLENGE OF UTILITY REFORMS

Urban water services in many African cities, with few exceptions, continue to be characterized by poor performance with intermittent supplies, inefficient operations, lagging maintenance, and depleted finance. In many cities, coverage as a proportion of households having access to safe water has in fact declined since the launch of the MDGs in 2000.

Most utility reform programs, targeted at achieving financial sustainability and improved service, need to be undertaken within the confines of the public sector. While the overall picture is mixed, there are several examples of well-performing African utilities that have achieved and sustained a high level of performance, steadily strengthened their financial sustainability, and pioneered innovations in customer services. These utilities have become institutions that learn, value their human resources, and are challenging themselves to grow and find better solutions. They include privately managed utilities, such as SDE in Senegal and SODECI in Côte d'Ivoire, as well as some that are state owned, such as ONEA in Burkina Faso and the National Water and Sewerage Corporation (NWSC) in Uganda. In each of these cases, what made the difference was reform with a focus on reaching financial viability combined with investments in rehabilitation, upgrading, and capacity expansion. The good practices and policies emerging from their experience are a valuable guide to other reforming utilities—including performance management, financial, human resource management and technical operations.

Domestic Private Sector Participation. Private water and sanitation service providers play an important role in filling service gaps created by either lack of network or due to intermittent supply from the utility. The local private sector in this case includes water tanker operators, private kiosk operators, household resellers, door-to-door vendors, operators of small boreholes and private piped networks; and for sanitation, exhauster or septic tank emptier sludge haulers. Many provide good quality services under competitive conditions, but tend to have higher prices for providing the service and usually remain unregulated in terms of price as well as quality of the service. The local private sector remains largely informal without clear and formal government recognition of their addition to the service delivery chain. In cases where the sources of water are mainly boreholes, the risk of groundwater depletion and pollution are quite high.

1.1.4 THE CHALLENGE OF FINANCIAL SUSTAINABILITY

RECOVERING OPERATION AND MAINTENANCE COSTS

Recovering the costs of providing services, at least operations and maintenance (O&M) costs, is a critical milestone toward financial viability of water utilities around the globe. However, any utilities in SSA are

unable to progress toward cost recovery due to a plethora of factors, including low tariffs, low billing and collection ratios and poor financial management practices. These lead to compromising the objectives of achieving financial sustainability of urban water services. Without this financial viability, providers are not able to adequately provide the service either to existing or new customers and governments are forced to provide operating subsidies or seek funding support from external donors. In many cases, SSA governments contribute to the operating shortfalls by neglecting to pay the water bills of their water consumption. Dependence on public subsidies makes water services vulnerable to political interference and changes in political priorities.

On the other hand, understanding the actual cost of providing service is a critical piece of information for utilities, governments, and the public. By having that information, appropriate decisions can be taken on tariff levels, the targeting of subsidies, and prioritization of investments. Tariff reforms therefore have to link to the cost of providing the service. Building political support for tariff reform is challenging as rate increases would affect existing connected customers in places where utilities are perceived as inefficient and poorly managed. Thus, it has been common to implement a new tariff structure through gradual steps combined with efficiency enhancements and cost reduction programs. However, in many SSA countries, tariff decisions are made within politicized government departments and ministries, with little transparency.

The potential for short-term financial viability (covering O&M) has to be ascertained at the planning stage of reforms while considering tariff adjustment, payment for public water consumption, debt restructuring and most importantly controlling costs and improving the efficiency of technical and commercial operations including increasing the customer base.

Financial sustainability in the medium and long term requires investment to rehabilitate, improve, and expand capacity to broaden the customer base. Experience has shown that investments without reform have not yielded service improvements while reform without investments is unlikely to be sustained. Hence the need to develop partnerships with key technical and financial partners to properly coordinate reform and investment plans that are able to reinforce both sustainable infrastructure expansion and reform efforts.

Achieving financial viability often takes several years and requires a multifaceted strategy including improvements in financial management, better operational performance, redesign of tariff structures and connection charges, campaigns to increase connections for expanded services, and automation of billing systems based on reliable customer databases. With such an approach, targets for cost recovery that are realistic and consider the poor's ability to pay, can lead to financial viability, as well as improved access for the poor.³

CAPITAL COSTS: BLENDING PUBLIC AND COMMERCIAL FINANCING FOR INFRASTRUCTURE INVESTMENT

As the world moves toward the Sustainable Development Goals and a target of universal coverage, urban utilities will face increased challenges in financing investments in water infrastructure. This, in turn, triggers new thinking about how to access all available sources of finance including local commercial banks or financial institutions. The drive toward financial sustainability requires that utilities develop lending relationships with local banks and private lenders. However, the urban water sector has not made much progress in accessing financing at scale from local commercial banks. Some of the reasons are linked to lender perception of the risks involved: (i) the political risks linked to the institutional linkages with the local government administrations and the social nature of the water service; and (ii) local banks are not familiar with the economics of water services and unwilling to engage in balance sheet lending. Other reasons include the fact that many utilities are far from showing a financial operating ratio that

³ Triche, Thelma. Guidance Notes on Improving Water Supply and Sanitation Services for the Poor Global Version, 2008.

qualify them for straight balance sheet lending. Furthermore, the relatively high interest rates in the region, typically over 15% in Kenya for example, remains a barrier to local financing for larger-scale infrastructure investments that commonly need longer maturity timeframes for loan repayments.

1.1.5 URBAN SANITATION: A CHALLENGE FOR AFRICAN CITIES

Access to improved sanitation in many African cities continues to be low with approximately 200 million people in urban areas in Africa estimated to have been without access in 2012. Currently, an estimated 80% of households in most major African urban centers rely on on-site sanitation, primarily pit latrines, the majority of which are unimproved, used by multiple families and rarely emptied. In densely populated informal settlements there is insufficient space set aside for latrines. Poor sanitation is a growing public health problem with diarrhea and other sanitation-related illnesses are among the top five causes of morbidity and mortality especially among under-five children.

Urban sanitation service continues to be a challenge as it suffers from lack of a clear policy framework, weak institutional and organizational structures, and insufficient financing for both O&M and infrastructure. The role of utilities in the delivery of sanitation services varies from country to country. Where there is a defined role for water utilities, it is typically limited to managing traditional sewer networks serving central business districts and some high income areas which currently cover only about 10-15% of households and businesses. Most sewer networks are old and in need of rehabilitation.

For non-sewered network areas, urban sanitation systems involve many actors at different stages of the urban sanitation service chain (capture and storage, emptying and transport, and treatment and disposal). Adequate capture and storage of fecal sludge is difficult due to reliance on households most of whom do not understand or have limited means to construct latrines suitable for mechanical desludging or toilets, while at the same time, the challenge of poor hygiene behaviors, particularly hand washing at critical times, still remains a problem. Fecal sludge removal, which is of particular relevance for households relying on latrines in dense unplanned settlements, is complicated by poor construction standards, lack of space for access to latrines, high emptying costs, and reliance on unregulated informal service providers. Fecal sludge treatment and disposal remains one of the biggest challenges, with wastewater treatment facilities generally very poorly maintained while reuse of fecal sludge is practiced only in a few places and in those cases, frequently in an unhygienic and environmentally questionable manner.

The rapid growth and densification of urban areas call for a citywide system approach to urban sanitation with a broader approach dealing with every step of the service chain—running from the latrines, to safe sludge removal and transport, to disposal at established fecal sludge treatment stations. Furthermore urban sanitation planning and operation requires effective coordination with water supply, drainage, solid waste management, and road infrastructure. Presently however, there are few examples of cities that have taken on this citywide approach.

1.2 OVERALL SUWASA OBJECTIVES AND PRINCIPLES

The SUWASA mission was to foster the transformation of water and sanitation delivery services in Africa to achieve long-term financial sustainability through the application of market-based principles. SUWASA was designed to spread effective models of reform at the water utility and sector levels, and to facilitate innovative financing approaches for African water providers.

The program built partnerships with utilities and local private service providers, governments, donors, communities, and businesses to demonstrate and promote best practices both for water service reform and governance, as well as innovative financing strategies. SUWASA put special consideration on improving and expanding the delivery of water and sanitation services in urban and peri-urban settings, with a focus on meeting the needs of the poor. Working through local partners and networks, the program supported countries committed to reform initiatives with technical assistance and capacity building, supplemented

with limited financial support for infrastructure as required. Table 3 presents the core principles that underpinned the selection, design, and implementation of SUWASA reform interventions.

TABLE 3. CORE PRINCIPLES PROMOTED BY SUWASA

Core Principles Promoted by SUWASA	
Customer-centric service, recognizing the poor and disadvantaged as valued customers	A key to long-term sustainability of water and sanitation services for the poor and disadvantaged is to design reforms that integrate them into the permanent customer base of service providers, with the needs of women explicitly considered in reform design.
Cost-reflective pricing, with due regard for consumers' ability to pay	In general, achieving financial sustainability requires that water and sanitation services be provided with pricing structures that reflect, at a minimum, O&M costs. At the same time, it is important to include provisions to protect the poor and to channel reasonable subsidies to customer groups that really need them, or at least minimize allocation of subsidies to groups that do not need them.
Incentives	Reforms that provide incentive structures to encourage water and sanitation providers to improve their performance on a continuing basis have a greater likelihood of sustainability. These include incentives provided externally to the service providers from regulatory bodies, and internally to their employees through innovative personnel policies.
Accountability	Water and sanitation service providers should be held accountable to their customers, operating under transparent and enforceable performance standards, with public reporting on their progress in meeting applicable standards (e.g., through regulations, contract or lease provisions, interagency performance agreements, etc.).
Autonomy	Water and sanitation services have a greater likelihood of financial sustainability if they are delivered by service providers (e.g., utilities; community-based organizations; small service providers, etc.) that have sufficient autonomy to make management and budgeting decisions based on customer demands and operational needs, without undue political interference from central, local, or regional governmental bodies.

1.3 IMPLEMENTATION APPROACH

SUWASA provided technical assistance for the design and implementation of effective reform models at the sector level (policy, legislative, regulatory, and institutional) and local service levels. SUWASA also facilitated access to commercial financing for water providers and focused on the advancement of financially viable approaches to improve the accountability and autonomy in the sector for the benefit of all citizens, especially the poor. SUWASA's work on urban sanitation concentrated on establishing citywide approaches for fecal sludge management (FSM) and investment planning. Technical assistance was supplemented with limited financial support under SUWASA's Small Investment Program (SIP) for infrastructure improvements and commodity procurements to demonstrate reform initiatives and help assure success.

The knowledge gained from SUWASA's reform work programs have made valuable contributions to advancing sector understanding on how targeted reforms can enhance delivery of sustainable urban water and sanitation services in challenging country contexts. Knowledge management and sharing of program learning was a key component of the initiative's overall objective. SUWASA's strategy for advancing knowledge was to share program results and tools in highly accessible formats to support the

dissemination of lessons learned from SUWASA-supported reforms and to encourage replication of successful reforms.

SUWASA designed and implemented programs in nine SSA countries that demonstrated innovative reforms around one or more of the following five themes: sector reforms, regulatory reforms, commercial financing, utility reforms, and sanitation reforms.

1.3.1 SECTOR REFORMS: SUPPORT FOR INCREASED AUTONOMY AND ACCOUNTABILITY

Urban water and sanitation services in Africa are often provided by institutions within the national, regional, or local governments which are not held fully accountable for quality of service delivery. Services are often subject to political pressure, and utilities do not have sufficient autonomy and authority to manage their operations on a sound commercial basis. SUWASA worked on sector reforms (including policy, institutional, and legislative reforms) that promoted increased autonomy and accountability for service providers and improved oversight by their boards and regulatory authorities. SUWASA supported sector reforms in three states of Nigeria (Bauchi, Ebonyi, and Rivers) and in South Sudan.

1.3.2 REGULATORY REFORMS: ESTABLISHING AND STRENGTHENING OF REGULATORY AGENCIES

Because urban water service providers typically do not face market pressure from competitors, it is important that their services and tariffs be regulated to ensure effective and efficient service delivery to customers. Experience from around the globe shows that for the benefits of economic regulation to be realized, the functions should be handled by an autonomous regulatory agency established by law, and the functions should have self-governing funding arrangements. Many countries in Africa do not have adequate regulatory frameworks. SUWASA encouraged regulatory agencies to benchmark regulatory performance and sought to ensure that regulatory functions were expanded to cover informal and previously unregulated service provision. SUWASA worked on regulatory issues in Zambia, Liberia, Uganda, Mozambique, and Nigeria.

In Zambia, SUWASA worked with the National Water and Sanitation Council (NWASCO) to develop a cost of water services model to provide a more accurate methodology for utilities to estimate their costs of providing water to customers. The cost of service model also served as a more uniform tool for NWASCO to evaluate tariff proposals.

In Liberia, SUWASA adapted the cost of service model for the Liberia Water and Sewer Corporation to use in assessing water service operating costs in the towns under its jurisdiction.

In Uganda, SUWASA helped the government develop a clear rationale and institutional arrangement for establishing an autonomous regulatory agency. SUWASA worked in collaboration with GIZ to support the government in designing the institutional framework for the regulatory agency, which will be known as the Uganda Water and Sewerage Regulatory Authority (UWASRA). Pending its establishment by an act of parliament, based on a legislative framework developed with support from SUWASA, UWASRA will be autonomous with its own funding stream.

SUWASA also assisted the Government of Mozambique (GoM) in developing a regulatory framework for small private water service providers in urban and peri-urban areas of the country's capital. In Nigeria, SUWASA supported the Rivers State government establish the Rivers State Water Services Regulatory Commission (RSWSRC), while in Bauchi and Ebonyi, the project supported the establishment of regulatory units within the sector ministries.

1.3.3 COMMERCIAL FINANCING: BUILDING LINKAGES FOR PRIVATE SECTOR FINANCE

Residents of informal settlements and peri-urban areas face numerous obstacles to being connected to the water supply network. In the Kenyan town of Kisumu, SUWASA designed and facilitated a commercial

financing mechanism to assist the water company provide loans to low-income households for obtaining water connections, and in Nakuru assisted the utility in acquiring commercial financing for investment in prepaid water meters. Following initial success, the program facilitated commercial financing for eight other water companies to improve performance and expand services on a financially sustainable basis.

1.3.4 UTILITY REFORMS: SUPPORT FOR INCREASED PERFORMANCE AND CUSTOMER ORIENTATION

Utilities and local service providers in many countries struggle with poor performance, as a result of operational and managerial inefficiencies and inadequate incentives to improve service. At the utility level, SUWASA supported performance improvement, customer orientation, and enhanced management by strengthening institutional systems. Starting with the collection of accurate customer information, the establishment of computerized billing and accounting systems, and the improvement of human resource management systems, SUWASA supported utility-level reforms in Ethiopia, Nigeria, and South Sudan.

1.3.5 SANITATION REFORMS: CITYWIDE APPROACHES TO FSM AND INVESTMENT PLANNING

Many urban cities and towns in Africa are struggling to address growing sanitation challenges. SUWASA worked in the town of Tambacounda, Senegal, to develop a FSM strategy built on the five pillars of storage, transportation, treatment, financing, and institutional arrangements. The strategy seeks to establish safe and regulated FSM services, with engagement of the private sector in the transportation and safe disposal of fecal sludge.

In South Sudan, SUWASA worked with the Juba City Council to establish a clear understanding of the sanitation challenges facing the fastest-growing city on the continent. SUWASA supported the development of a sanitation reform and investment plan based on short-, medium- and long-term goals. This 15-year plan defines investment needs, seeks to formalize oversight of the fecal sludge market, advocates for the expansion of existing wastewater lagoons, and envisions a limited sewer network in the long term. The citywide approach for sanitation in Juba was based on institutional mapping, household surveys, and studies of private sector involvement in FSM.

1.4 PROJECT IDENTIFICATION AND SELECTION PROCESS

SUWASA used a highly structured process for selecting reform opportunities to be supported by the program, focused on identifying reform initiatives that were in accord with SUWASA's program objectives and resources, as reflected in the following criteria:

- **Policy Objectives.** SUWASA strived to foster reforms in the water and sanitation sector that improved access to safe, affordable, and reliable water and sanitation services, especially for the poor and disadvantaged, and that were financially sustainable over the long term. To assure financial sustainability, SUWASA prioritized reforms based on the program's core commercial principles (listed in Table 4).
- **Added-Value and Impact.** SUWASA sought to add value to the overall reform process in the water and sanitation sector of a selected country or the broader region (i.e., to provide a key element in the reform process that contributes significantly to the overall success of sector reforms and/or introduces innovative approaches in addressing common impediments for sustainability in the sector).
- **Replicability and Relevance to Reforms in Sub-Saharan Africa.** SUWASA sought reform initiatives with sufficient relevance and innovative elements to serve as best practice examples and/or pilot case studies, with strong potential to be replicated by or to provide lessons that are relevant to a significant number of African countries and localities undergoing similar reform efforts.

- **Level of Support from Reform Partners (Political, Financial, In-Kind).** Since SUWASA projects were built on strong cooperation with implementing partners in the targeted countries, it was important that reform partners had strong political support for their reforms and that they were committed to sharing in the effort and costs of the initiative. The degree of leverage of SUWASA funds was also an important criterion for SUWASA support, including support by the project proponents as well as the international donor and/or private sector community.
- **Project Feasibility, Viability, Duration, and Maximum Support per Project.** The likelihood that a reform would succeed in achieving its stated objectives was an important consideration. A SUWASA reform initiative had to be demonstrably feasible and viable, given the program’s limited resources and operating modalities. In addition, projects were to have been suitable for implementation through SUWASA in terms of timeframes and funding requirements.

SUWASA conducted two rounds of reviews of project support activities during Years 1 and 2 of the program, using the following process:

1. The USAID Contracting Officer’s Representative issued a Scope of Work that defined potential project opportunities for the SUWASA implementation team to assess and rank against the five project criteria.
2. The SUWASA team conducted in-depth due diligence reviews of the project opportunities, including desk studies, country visits, meetings with reform stakeholders and champions, USAID missions, and multilateral and bilateral donors; and developed preliminary recommendations and project rankings.
3. USAID convened meetings and videoconferences with sector specialists to review SUWASA recommendations and rankings, including USAID headquarters and mission personnel, and sector experts from other development agencies including World Bank and UN-Habitat. Based on these reviews, USAID selected projects to be supported by SUWASA.
4. The SUWASA team developed a detailed Reform Work Plan and Monitoring and Evaluation Plan for each selected project, including Memoranda of Understanding (MoUs) with project partners, definition of support to be provided (including SIP support), tasks, schedules, and budgets combining USAID headquarters and mission buy-in funding if applicable.

The SUWASA Statement of Work required the provision of support to “at least twelve reform activities in sub-Saharan Africa in at least five countries.” By the end of the program, SUWASA’s portfolio included 17 reform initiatives in nine SSA countries, as indicated in Table 4. Further detail of each initiative, including achievement and results, is provided in Section 2.

TABLE 4. SUWASA REFORM INITIATIVES




Country	Reform Activity	Duration
Ethiopia	Support to HAWASSA Water Supply and Sanitation Services Enterprise (HTWSSSE)	June 2011–May 2014
Kenya	Nakuru prepaid meter pilot project	December 2010–April 2013
	Kisumu piped water extension pilot project	December 2010–April 2013
	Commercial utility finance	May 2013–June 2015
Liberia	Support for economic regulation for urban water sector	May 2013–March 2015
Mozambique	Development of licensing and regulatory framework for private water operators	October 2011–June 2015
Nigeria	Urban water sector-wide reform for Bauchi State	May 2011–October 2014
	Support to Bauchi State Water Board	May 2011–November 2014
	Ebonyi State – Water sector reforms	April 2013–May 2015
	Rivers State – Water sector reforms	
Senegal	Improved fecal sludge management services and oversight in selected communities	August 2012–September 2014

Country	Reform Activity	Duration
South Sudan	Urban water sector-wide reform for South Sudan	September 2011–March 2015
	Support to Wau water station	
	Support to Maridi water station	
	Juba Sanitation Project	
Uganda	Support for establishment of an autonomous water regulatory agency	July 2012–December 2013
Zambia	Support to National Water Supply Sanitation Council	August 2012–July 2013

1.5 KEY IMPLEMENTATION PARTNERS AND STAFFING

Table 5 lists the core implementation team for SUWASA. Local subcontractors were hired as needed in each of the countries to support implementation of the reform initiatives, and in Nairobi to support knowledge management and communications.

TABLE 5. SUWASA IMPLEMENTING ORGANIZATIONS

Contractor	Expertise	Project Role
Prime Contractor		
 TETRA TECH ARD	Tetra Tech ARD is a full-service development company with extensive experience in water utility management and local governance. Tetra Tech's in-house staff have technical expertise in water supply and sanitation service delivery and sector institutional development experience, as well as skills and procedures in contracts, grants, and personnel management and collaboration.	Lead organization for all technical, contractual, financial, management, and administrative aspects of SUWASA, including knowledge management, program communication and direct management of reform work plans in Liberia, Nigeria, South Sudan, Ethiopia, Uganda, Zambia, and Mozambique.
Subcontractors		
	Based in Washington, DC, SEGURA provides advisory services to clients in emerging markets around the globe, with a particular focus on water sector and utility-level reform, knowledge management, and infrastructure financing.	Assisted with selected reform work plan designs and project selection. Provided technical assistance on tariff studies, cost of service studies, regulatory agency establishment, utility accounting systems and financial assessments primarily in Ethiopia and Nigeria.
	Development Innovations Group (DIG), based in Bethesda, MD is a business that fosters innovative solutions in developing economies including financial services for the poor, microfinance, and management/ advisory for basic services delivery in peri-urban and slum areas.	Led the development, management and implementation of the Kenya reform work plan focused on accessing commercial financing. Initially led the management and implementation of the urban sanitation project in Senegal.

At the peak of SUWASA implementation in March 2014, 49 full-time staff were working on the program from the Nairobi regional office and country project offices, with additional members of the project technical and management support staff based in Tetra Tech ARD's home office. The SUWASA organogram for the project implementation is provided in Figure 3. Figure 4 presents the structure for providing technical and administrative support to the country office teams.

FIGURE 3. SUWASA STAFF ORGANIGRAM (MARCH 2014)

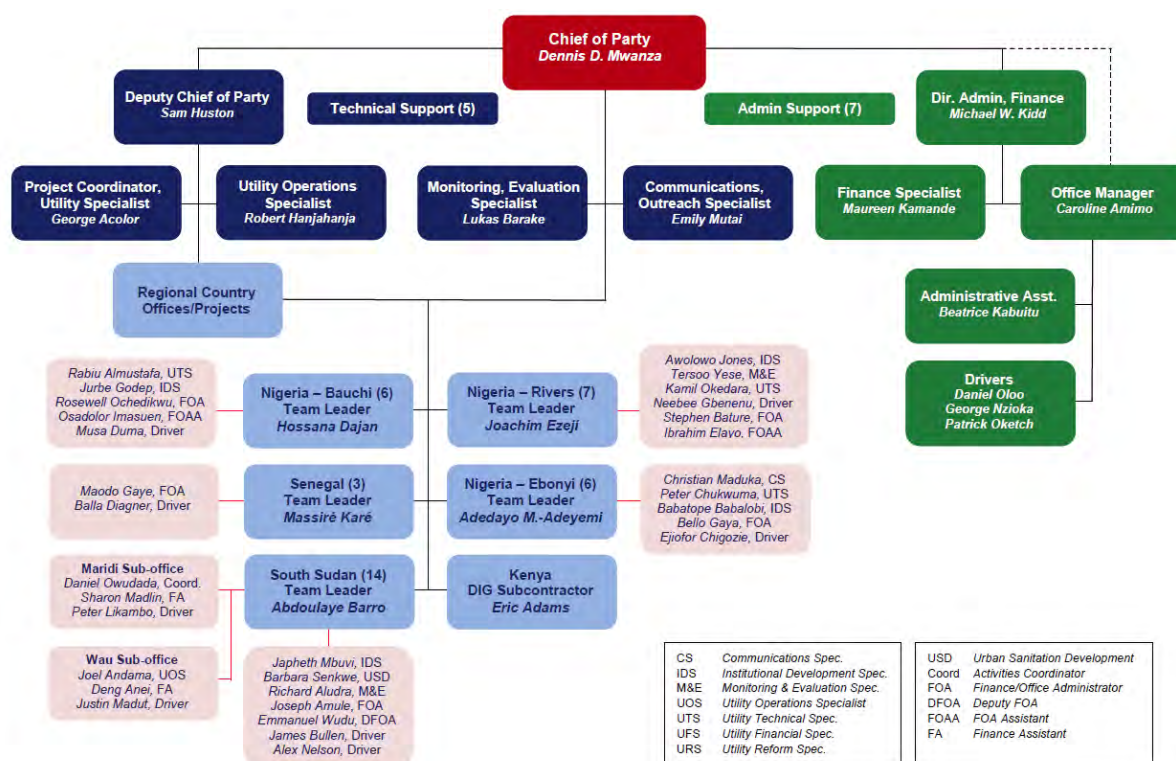
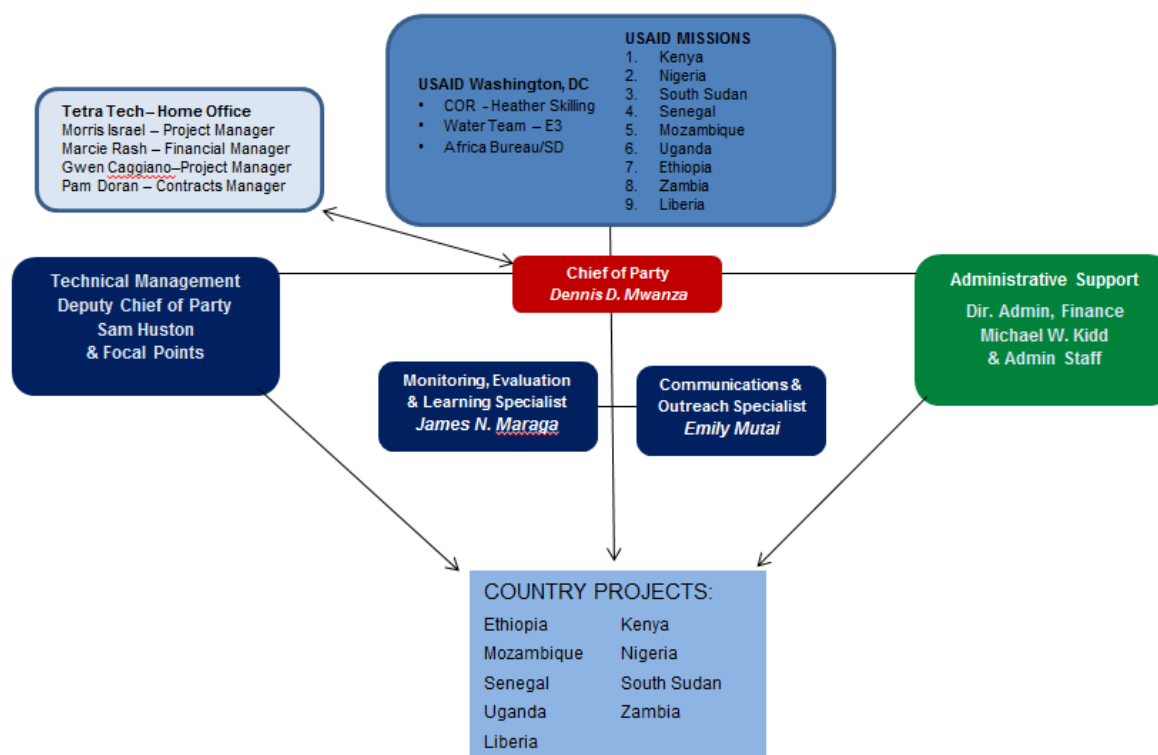


FIGURE 4. SUWASA FIELD SUPPORT DIAGRAM





SUWASA Team Planning Meeting in Mombasa, Kenya (January 2013)

2.0 REFORM PROJECTS

2.1 ETHIOPIA: WATER AND SANITATION SERVICES IN HAWASSA TOWN

BACKGROUND

The SUWASA Ethiopia initiative introduced commercial practices to the Hawassa Town Water Supply and Sewerage Service Enterprise (HTWSSSE), the water service provider for the municipality of Hawassa, the rapidly growing capital city of the Southern Nations, Nationalities and Peoples Region (SNNPR). The goal was to assist HTWSSSE become an autonomous, efficient and sustainable enterprise capable of meeting the water demand of a growing urban population. For many years, HTWSSSE had struggled with the challenges that affect urban and peri-urban populations in most of Ethiopia.

When the SUWASA project began, HTWSSSE had a well-functioning board of directors that was effectively engaged in the water sector enterprise and committed to reforms for improving service delivery and system sustainability. The utility was reasonably well managed, but SUWASA recognized that substantial improvements were needed, particularly in such areas as financial management, capital planning and private sector participation. For example, tariffs had not been increased since 2004 despite significant inflation.

Financial projections conducted by SUWASA found that the utility was facing a growing gap between revenues and operating expenses, with no financial capacity to meet growing service demands. The utility did not have a preventive maintenance policy and did not have a reliable inventory and valuation of its infrastructure assets. Its financial reporting systems relied heavily on cash-based accounting, which did not provide a clear picture of financial health to management or its board.

In addition, HTWSSSE's organization, business plan and staffing alignment needed upgrading and improvement to reflect increasing demands for improved water and sanitation services, particularly in light of new production capacity that was coming on line with World Bank support.

The key objectives of the project were:

1. Support the transformation of HTWSSSE into an autonomous utility; and
2. Update Capital Investment and Financial Plans.

APPROACH

SUWASA provided support to HTWSSSE to develop and implement reforms that focused on increasing financial sustainability, improving operational efficiency and instituting new accountability mechanisms.

Establishing a Fair and Equitable Tariff

Under HTWSSSE's existing structure, revenue did not cover the utility's expenses and did not provide a means for expanding services in underserved areas. While a tariff increase was needed, it had to be structured to reflect the needs of the poor. SUWASA research estimated that 20% of Hawassa's population relied on standpipes, although standpipes accounted for only 6% of HTWSSSE's revenues. This situation presented an opportunity to minimize rate increases on standpipe customers and maintain partially subsidized lifeline rates for low volume consumers with minimal impact on HTWSSSE to cover its operating costs as well as help fund infrastructure replacement and expansion for providing services to its poorest consumers.

Based on SUWASA's recommendations, a tariff restructuring and rate increase was adopted in July 2012 (see Table 6 for the simple tariff structure that was adopted). The revenue from the increase allowed HTWSSSE to increase cost recovery, as well as help fund infrastructure replacement and expansion for providing services to its poorest consumers.

TABLE 6. NEW TARIFF STRUCTURE FOR HTWSSSE

Structure		Consumption 0–10 m ³	Consumption more than 10 m ³
Domestic and non-domestic	Cost recovery	100% operating cost	100% full cost
	Tariff (Birr/m ³)	5.10	8.67
Standpipes	Cost recovery	60% operating cost	60% operating cost
	Tariff (Birr/m ³)	3.00	3.00

Upgrading Billing and Accounting Systems to Reflect Commercial Business Practices

SUWASA introduced a new accounting reporting system to address the flaws of cash-based accounting, which the utility had used previously. The new accounting system has enabled the utility to produce financial reports compliant with International Financial Reporting Standards. SUWASA trained HTWSSSE's accounting personnel to use the system, including use of new management information system funded by the World Bank to increase the efficiency of data entry and analysis, and improved record keeping.

Improving Operational Efficiency and Strategic Planning

SUWASA assisted HTWSSSE in identifying and implementing priority measures to improve its performance monitoring and management reporting systems. To assist the utility in planning for improving services while meeting the needs of a rapidly growing population, SUWASA assisted HTWSSSE update its strategic plan to reflect current and planned operational changes, including the new tariff. The new plan covers the period from 2013 to 2017 and guides the utility's growth, sustainability and service delivery. It targets equitable distribution of services measured by (1) increases in the percentage of the population with access to water services and (2) the increase in the percentage of the population with household water connections. It also provided targets for revenue and bill collection; staffing; energy efficiency; water quality; service standards; and capital improvements.

Establishing a New Sewerage Department

SUWASA provided support to HTWSSSE in creating a new sewerage department to manage a fecal sludge drying/disposal facility that had recently been completed with World Bank funding. The sewerage functions were transferred from the municipality to HTWSSSE. SUWASA designed a new organizational structure, including job descriptions for the sewerage department, which were used by HTWSSSE in recruiting new staff for the department.

SUWASA developed a series of plans, standard operating procedures, manuals and training for staff and managers to help increase efficiency and improve service. These documents included: Performance Management Plan; Fixed Asset Valuation and Asset Management Plan; Accounting System Evaluation Report; legal, Institutional and Regulatory Review Study Salary Scale Study; and Manager and Staff Administration Manuals.

Increasing Accountability

Two performance agreements were designed: one provided performance targets and standards; the other a transparent incentive system for rewarding good performance. The first agreement was between HTWSSSE and the regional Water Resources Development Bureau. The second was between the utility's board and its managers. Though not legally binding, the agreements set targets for performance, work

schedules and evaluation. The signing of the performance agreements has been delayed, but the Government of Ethiopia's Water Resources Development Fund (WRDF) has cited the agreements as an important models of accountability mechanisms for incentivizing transparent, efficient and sustainable services.

Pilot to Expand Water Services to Low-Income Communities

SUWASA in partnership with Kenya's Water Services Trust Fund (WSTF), helped HTWSSSE expand coverage in peri-urban areas through the adoption of a modified management model for newly constructed water kiosks. WSTF provided technical assistance to HTWSSSE in launching the commercially based model, based on its successful application in Kenya. In the WSTF kiosk model, the operator is selected by the community in collaboration with the utility. The operator is required to have basic business management skills as well as some mechanical skills. Operators enter into a performance management contract with the utility and are paid against the amount of revenue collected. The overall goal of this kiosk management approach is to demonstrate that increasing water service access to the urban poor could be done on a financially sustainable basis by implementing effective private operator service contracts.



Hawassa resident at water point

RESULTS

The project had three key achievements namely increased financial sustainability, improved operational efficiency and new accountability mechanisms.

The approval of the new tariffs in July 2012 resulted in a significant improvement in the revenues of the utility. Training was also provided to 19 participants drawn from seven major secondary towns within, as well as, outside the SNNPR; nine Water Resource Development Bureaus; the MoWE and the WRDF, as way to replicate the approach to cost recovery in the sector.

Construction of 14 kiosks under the SIP resulted in more than 12,000 residents of Hawassa benefiting from new improved access to clean water and more affordable water supply. Under the new kiosk approach, the cost of water fell from 1 Birr for 20 Liters to about 0.06 Birr for the same amount.



Hawassa water kiosk

Indications are that the SUWASA intervention may serve as a model that can be adopted by other towns in Ethiopia as shown by UNICEF's interest in incorporating SUWASA lessons learned in the design of new activities for small towns.

LESSONS LEARNED

Innovation is Essential

The purpose of the project was not only to improve current practices, but also to introduce new ones. HTWSSSE introduced double-entry accounting and increased the use of accrual accounting in areas that were previously handled entirely on a cash basis. The project also emphasized the necessity of adopting strategic, business, and performance management plans. This work, in particular, paved the way for HTWSSSE to implement performance-based contracts.

Identify Areas of Reform that Will Produce High-Impact Changes

It is important to emphasize reforms in areas that will make a significant difference in utility service and financial performance. For example, HTWSSSE placed a high priority on reforming its maintenance program for fixed assets, focused on improving service continuity. Using the inventory of fixed assets as a starting point, the utility initiated a program of regularly scheduled preventive maintenance.

To support the utility in implementing high impact strategic improvements that span a number of years, SUWASA assisted the utility in developing improved demand forecasts and capital investment planning. As a result, investment plans were created that could be put into action as soon as funding is secured for such infrastructure improvements as water storage systems, distribution systems, and household connections.



Utilities, Local Authorities, and External Experts Must Collaborate

Stakeholder consultations on reforms

Technical assistance from outside authorities provides necessary capacity where shortages exist. On this project, national and international experts were employed as consultants to work with HTWSSSE to gather and analyze data on the utility's operations. The consultants provided expertise on tariff policies, financial reporting, and commercial practices. National consultants were critical in establishing local acceptance of proposed utility plans.

TABLE 7. PROJECT PERFORMANCE INDICATOR TARGETS (ETHIOPIA)

Performance Indicator	Level	Baseline Value	Targets (June 2011)	Actual (March 2014)
Number of people gaining access to an improved drinking water source (USAID F-indicator).	Goal	0	7,500	12,000
Number of people receiving improved service quality from existing improved drinking water sources (USAID F-indicator).	Goal	-	20,000	22,165
Percentage of operations and maintenance costs for water supply and sanitation services covered through customers charges.	Outcome	-	35% increase over baseline	185%

Performance Indicator	Level	Baseline Value	Targets (June 2011)	Actual (March 2014)
Number of good practices identified, promoted and adopted.	Output	0	3	2
Number of new policies, laws, agreements, regulations or investment agreements (public or private) implemented that promote access to improved water supply and sanitation (USAID F-indicator).	Output	0	2	1

2.2 KENYA: INNOVATIVE FINANCING FOR THE URBAN WATER SECTOR

The Kenyan government adopted the Water Act in 2002 and instituted reforms to commercialize the water and sanitation sector. The Water Act has been the driving force to improve sector efficiency and performance in the last decade. Since then, water service providers (WSPs) have made progress in developing internal systems and adopting good business practices such as proper management information systems, tracking of customer payment rates and non-revenue water reduction.

However, as with most water utilities across Africa, WSPs in Kenya face severe obstacles to accessing the funds from commercial banks required to finance infrastructure capital investments needed to expand and improve water services. These obstacles include the lack of capacity and tools to prepare financial analysis and project proposals meeting commercial bank requirements; absence of a credit record or other basis for banks to assess utility creditworthiness, and real and perceived risks by commercial banks in providing loans to water utilities.

To address these serious capacity gaps, the SUWASA initiative in Kenya aimed at improving and expanding water services by assisting Kenya's urban WSPs to successfully access commercial bank financing and implement innovative payment systems to finance critical infrastructure investments aimed at the urban poor. As originally designed and implemented, the project focused on linking the expertise of microfinance institutions (MFIs) with the strategic plans of WSPs in Kisumu and Nakuru, the third and fourth largest cities in Kenya. However, due to the success of the initiative (implemented from December 2010–April 2013) and demand from additional WSPs for assistance in accessing commercial financing, USAID/Kenya requested a second phase of SUWASA Kenya, funded by a Mission buy-in that broadened the partnerships beyond MFIs to include additional commercial banks in Kenya. Thus, the project evolved into two phases:

Kenya I: December 2010–April 2013, was carried out in Kisumu and Nakuru. Kenya II: May 2013–June 2015, was carried out in eight cities across Kenya, namely Embu, Nyeri, Meru, Murang'a, Murang'a South, Thika, Mathira, and Kisumu. Kenya I had the following objectives:

1. Create and manage innovative partnerships between WSPs and commercial banks in the country and to share experiences and strategies that increase access to water and sanitation;
2. Develop and roll out commercial loan products that meet the water and sanitation needs and affordability of the urban poor, and implement institutional arrangements for financing that link WSPs, banks, small businesses and communities; and
3. Promote sector reform by developing sustainable business models of water infrastructure projects that are suitable for commercial finance to increase access to water and sanitation services for the urban poor and improve the financial sustainability of the water service provider.

2.2.1 KISUMU, KENYA: FINANCING HOUSEHOLD CONNECTIONS TO INCREASE ACCESS TO SAFE WATER

BACKGROUND

Kisumu is Kenya's third largest city; with a population of approximately 520,000 and is one of the fastest growing cities in the country. It is however ranked amongst the poorest in Kenya, with 60% of its residents living in low-income settlements. Despite sitting on the shores of Lake Victoria, the second largest fresh water lake in the world, less than 20% of the urban poor have access to clean water. Most of the people access water through water vendors so the percentage of people with household connections is even much lower.

With the completion of a new water treatment plant in 2011, Kisumu Water & Sewerage Company, Ltd., (KIWASCO) was intent on increasing water distribution and ramping up access, but the challenge was how to provide financing so that the poor were able to pay for new connections. Addressing these challenges was key to the partnership between SUWASA, KIWASCO, and K-Rep Bank.

APPROACH

Building on the existing sector reforms, the project linked the expertise and experience of a microfinance bank with the strategic plans of KIWASCO to increase access to water and sanitation among the urban poor. SUWASA's approach in implementing the project included a market analysis, a business analysis, an investment analysis, financial negotiations and a community education outreach. SUWASA worked with K-Rep Bank to create a medium term financing package for KIWASCO, facilitated by a USAID Development Credit Authority (DCA) guarantee. KIWASCO used the financing to extend piped infrastructure to low-income families in the Nyamasaria community. The connected and metered households, schools and clinics pay a small monthly surcharge over a five year period to cover connection costs and allow KIWASCO to repay the loan to K Rep Bank. To support sustainability, SUWASA worked with the pro-poor unit of KIWASCO, helping them to design and conduct community education and outreach activities and train small scale operators from the local community under a Delegated Management Model (DMM) that works with Master Operators (MOs). The MOs, members of the local communities, are responsible for maintenance of individual household connections, as well as billing, collections and reporting. SUWASA assistance included:

1. Conducting a market assessment of low income settlements in Kisumu that were not served by the utility, resulting in the selection of the Nyamasaria as the target area.
2. Conducting a business analysis, including a financial analysis of KIWASCO to determine the financial position, debt capacity, and other factors critical to commercial bank evaluation of loan applications. The analysis showed that the company had assets of more than 15 times its current liabilities; settled creditors quickly; had good cash flow; had satisfactory turnover; was improving its operating profit margin.
3. Developing a feasibility and financing proposal to K-Rep Bank, based on the market and business analyses, resulting in a loan of KES 20.1 million (\$245,122) to KIWASCO with an eight month grace period and five-year repayment term for small pipe infrastructure to the low-income settlement of Nyamasaria.
4. Supporting KIWASCO in developing a community education campaign to share the costs and the benefits of the system, highlighting: financial and time savings benefits of a connection; health, and hygiene benefits; and improvement in water service.

In implementing the project, KIWASCO employed the DMM to manage the Nyamasaria connections through MOs. The DMM delegates the management of lines in low-income areas to community groups. SUWASA supported KIWASCO by developing a simple (Visual Basic) electronic billing and collections

system for use by the Master Operators that is easy to use, requires minimal data entry, enables tracking and reporting functions and has tamper-proof features to ensure that billing is not altered. According to the World Bank-Water and Sanitation Program evaluation of this arrangement⁴, the DMM system: (1) improves system monitoring leading to reduction of non-revenue water, (2) supports penetration of services in low-income settlements, (3) reduces the tariff to the community, (4) improves health, (5) creates employment and enhanced business skills in the community, (6) reduces staff-resident interface, hence reducing opportunity for corruption, (7) reduces costs to KIWASCO; and (8) results in more timely billing and collections.

RESULTS

The project benefited 8,975 people; 4,525 at the household level and seven schools. Water costs also went down from \$0.92 for a cubic meter of water, the average cost of water from vendors in the area, to \$0.32 per cubic meter. A survey of 91 beneficiaries at the end of the project indicated that time spent collecting water had dropped dramatically from 40% of the residents spending less than 30 minutes per trip to collect water before the project started to 94% by the end of the project. The survey also showed that beneficiaries were satisfied with the quality of water provided by KIWASCO.

LESSONS LEARNED

Outsource Infrastructure Construction

For a water service provider with limited technical capacity, outsourcing construction allows for incentivized contracts. KIWASCO outsourced trenching, pipe laying and chamber building with deadline-based and quality-based incentives in the contracts. KIWASCO also required contractors to hire casual labor from Nyamasaria. As a result, the work was completed in five months and the neighborhood experienced economic benefits and took ownership of the project.

Output-Based Aid is a Motivating Tool

Output-Based Aid provides incentives for a service provider to meet deadlines despite hardships. The World Bank's Water and Sanitation Program provided Output-Based Aid that paid half of the loan and half of the interest accumulated during the loan's grace period. The aid was tied to achievement of the project's connection goal. To secure the aid, KIWASCO pushed its staff to track progress, identify challenges, solve problems and meet deadlines despite external setbacks that included delays in loan approval, road construction problems, heavy rains, and political rallies.

Community-Based Groups Must Be Carefully Vetted and Trained

Though encouraging community involvement is important, it is critical to make sure that community-based groups are endowed with necessary technical skills and motivation. KIWASCO used five community-based groups as Master Operators. This community involvement was expected to help mitigate risks such as unpaid bills, vandalism and non-revenue water loss. The Master Operators provided connection maintenance, billing, collections and reporting services. At least two groups lacked the organization and management skills to handle the tasks. All groups were slow to collect payments, possibly hampered by previously unidentified internal community disputes. As a result, the Master Operator system fell short of expectations.

Water Service Providers Must Have the Necessary Financial Capacity and Technical Assistance

Though the service provider may have the technical capacity to expand its services, other issues arise with growth. In particular, as connections and water sales increase, financing charges change, reducing

⁴ Evaluation of delegated management model implemented in Kisumu Water and Sewerage Company (KIWASCO). The Water and Sanitation Program of the World Bank (World Bank-WSP). September 2010.

consumer prices and altering project viability. The company must be able to adjust its finances accordingly. In the implementation process of the project, technical expertise was required from SUWASA to assist KIWASCO with the financial and administrative challenges that arose from the growth in the number of water connections.

Partners' Bureaucratic Procedures Must Be Taken into Account

A partner's procedures affect implementation timelines and delays have a ripple effect. A delay in the approval of the loan created deadline difficulties and resulted in a shorted timeframe for implementation. In addition, the delay created a loss of momentum in the level of community excitement.

Internal Advocates for the Project Are Critical

Having advocates within the water service provider's management and staff helps to maintain implementation momentum. Despite some internal skepticism, advocates within KIWASCO, including the managing director, the Nyamasaria project manager and the finance and communications managers, pushed the project forward. They communicated effectively with SUWASA and reacted efficiently to problems on the ground.

2.2.2 NAKURU, KENYA: FINANCING PRE-PAID METERS TO IMPROVE THE QUALITY OF SERVICE

BACKGROUND

Nakuru is the fourth largest urban center in Kenya. A 2010 UN Habitat study reported a population of 473,288, noting that Nakuru was the "fastest growing city in East Africa" with an annual population growth rate of 13.3%. Over 60% of Nakuru's population lives in low income, densely populated settlements with less than five percent served by direct connections to clean water. As a result, the majority buy water from water vendors, spending an average KES 6.3 (roughly US\$0.06) per 20 liter container of water. Many connections in these settlements are illegal, leading to high revenue losses for the utility, collection problems and disconnections of the service.

To address these challenges at the utility and consumer level, SUWASA worked with Nakuru Water and Sanitation Services Company (NAWASSCO), Family Bank and the WSTF to develop a business plan resulting in a large-scale pilot of 95 public prepaid meters strategically-placed in 10 low-income settlements of Nakuru. Family Bank provided financing to NAWASSCO for the construction of the water points while WSTF financed 15 meters, the software program and staff training. SUWASA implemented a project management and tracking tool; financed an additional 80 public pre-paid meters; and provided financial and marketing technical assistance.

APPROACH

The project employed a comprehensive approach starting with a market assessment to understand the urban poor's water practices, demand and willingness to pay for improved services. It then went on to carry out investment planning with NAWASSCO that centered on helping the utility to assess and identify investment opportunities, explore alternative service delivery mechanisms, conduct financial analysis and cash flow projections, calculate returns on investment, and translate this into a financing proposal that met the terms and conditions of other partners, including the financing partner.

The market assessment revealed that residents resist individual connections because of the high initial cost of the connection, especially as most families live in rented accommodations and are not willing to make this investment. On the other hand, the business analysis showed that NAWASSCO was capable of taking on commercial financing and had good pipe infrastructure coverage in low-income areas.

The project then explored alternative delivery mechanisms and a commercially viable way to improve the quality of service to the urban poor. The partners determined that public pre-paid meters would best serve

customers. SUWASA examined supplier options and projects in South Africa, Namibia and Uganda. After a review of many systems, SUWASA identified the Elster public pre-paid meter as the most commercially viable option. With this system, consumers upload small amounts of credit to a “token” at NAWASSCO zonal offices, enabling them to access safe and affordable water from the meter. The meter shows the consumer their credit balance and the amount of water received.

An investment proposal was presented to the NAWASSCO board for approval. As NAWASSCO was the first company ever to pilot this public pre-paid meter system in Kenya, the NAWASSCO board sought a co-financing arrangement with partners to reduce exposure to the company. As such, USAID and the Kenya WSTF shared in this investment. WSTF was keen to partner in this pilot to inform its national strategy for pre-paid meters.

After NAWASSCO’s board approval, SUWASA helped the utility finalize the financing proposal and compile legal documentation required by the identified financing partner, Family Bank. SUWASA facilitated negotiations between the bank and the WSP on loan terms and conditions.

Since pre-paying for water was a new idea, a critical component of the project was to ensure that people understood how the system works and its benefits compared to other alternatives. For this reason, SUWASA designed a strategy for community education and buy-in that focused on lessons learned in Kampala, Uganda, where the system had been piloted. In addition SUWASA also capitalized on NAWASSCO’s community relationships in the area. NAWASSCO had implemented projects in low-income settlements, and had built relationships with local representatives, landlord associations, community elders, youth representatives, women representatives, religious leaders and community leaders. These relationships facilitated the education and buy-in process.

RESULTS

This was the first large-scale public pre-paid meter pilot in Kenya, and demand was high from low-income neighborhoods, landlords, and even middle-income residential areas of the city. The combined investment of KES 18.3 million (\$223,171) benefited more than 15,000 people in low-income areas.

A survey carried by SUWASA in 2013 to assess the impacts of the project showed that time spent collecting water had gone down. Before the installation of the pre-paid meters, 67% of the beneficiaries spent 1 hour or more daily collecting water. After the installation of the meters, 92% of the beneficiaries spent less than 15 minutes to collect water. Time saved was due to proximity of the water points to the households unlike in the past where people were collecting water from stand pipes located far away. Majority of the beneficiaries, 53%, indicated that the meters were serving them well.

Further, the cost of water dropped from \$0.08 to \$0.01 for 20 liter jerry can, translating to an average monthly water bill of \$3.23. The utility also benefited from the new technology as it was now achieving a collection rate of 100%. This was largely as a result of minimum cash handling.

LESSONS LEARNED

Pre-Paid Meter Placement and Commercial Viability

For SUWASA, a key aspect related to the placement of the USAID meters was to establish very clear site selection criteria, especially in light of the fact that SUWASA was intent on commercial viability and maximizing consumer benefit. The community was engaged to identify and select landlords who would provide a location for the pre-paid meter. Landlords signed agreements to keep and maintain the meter on their property. The NAWASSCO Community Relations Officer also helped identify communities where strong relationships existed to determine the location of meters.

Support from Water Service Providers’ Senior Management is Critical

Integration of a prepaid meter system required new policies and procedures. It also demanded that the staff learn new skills. Senior management must be committed to motivate its staff members. Poor training from meter suppliers created challenges for the workforce and led to project delays. Further, NAWASSCO staff were responsible for installing the new meters in addition to their regular tasks, leading to staff frustration, persistent interruptions and delays. NAWASSCO management was required to motivate staff by explaining the importance of the program and its value to the company. SUWASA helped NAWASSCO organize training and orientation meetings with key project staff to review project financing, procedures, benefits and goals so that messages and timelines were clear to all.

Community Members Can Be Integral Players in the Success of a Project

Community members can serve as watchdogs against risks including vandalism, theft or corruption. Ongoing community education informed beneficiaries about the new water infrastructure system, public health benefits and the role of the customer. The project received no reports of vandalism or theft. But there were reports of corruption on the part of company officials with the power to determine where the meters would be placed. NAWASSCO's Pro-Poor Coordinator worked closely with landlords and tenants to control these issues.

Landlords Are Important Players in the Success of the Project

Support from landlords cannot be taken for granted, and education and outreach is critical.

SUWASA's outreach program offered education for landlords on the benefits of prepaid water service to their property. The outreach led to approval from landlords and made them interested in hosting meters. As a result, other incentives for meter placement were unnecessary. Though their support is critical, landlords' role in the system must be small and clearly defined to avoid corruption. Landlords were removed from responsibilities such as managing water and tokens and handling cash.

TABLE 8. PROJECT PERFORMANCE INDICATOR TARGETS (KENYA I)

Performance Indicator	Level	Baseline Value	Targets (2010)	Actual (April 2013)
Number of people gaining access to an improved drinking water source (USAID F-indicator)	Goal	0	7,500	8,975
Number of people receiving improved service quality from existing improved drinking water sources (USAID F-indicator)	Goal	0	15,000	9,120
Amount of new financing accessed by water and sanitation service providers.	Output	-	\$250,000	\$246,626
Number of good practices identified, promoted and adopted.	Output	-	2	2
Number of new policies, laws, agreements, regulations or investment agreements (public or private) implemented that promote access to improved water supply and sanitation (USAID F-indicator).	Output	-	3	3

2.2.3 KENYA II: INNOVATIVE FINANCING FOR THE URBAN WATER SECTOR

BACKGROUND

Building on the success of Kenya I, Kenya II expanded its support to additional water service providers (WSPs) to enable them to unlock commercial financing for infrastructure projects in low-income areas.

SUWASA Kenya II facilitated partnerships among local WSPs, commercial banks, the WSTF, and communities. SUWASA offered tailored technical assistance to eight credit-worthy WSPs to develop investment proposals for commercial financing, while supporting three Kenyan banks to adapt their lending methodologies for water service provider financing. SUWASA also partnered with WSTF to identify water service provider projects that could benefit from the WSTF Results Based Aid programs, and to develop a guide to commercial bank financing for WSPs.

APPROACH

To unlock commercial financing for viable, market-responsive water infrastructure projects, SUWASA provided essential support to Kenyan WSPs, banks, WSTF and local communities as outlined below.

Support WSPs in Identifying Commercially Viable Projects and Developing Bankable Financing Proposals

SUWASA provided training and technical assistance to credit-worthy utilities to identify, plan, finance and implement commercially viable investments that improve their financial performance and increase the urban poor's access to water services. SUWASA's support to utilities included:

- Assessing challenges to improve financial performance and expand service delivery to the urban poor;
- Analyzing utilities' financials, management information system reports, debt service capacity, and profitability;
- Identifying commercially viable financing solutions based on market research, financial analysis, cost-benefit analysis and financing terms, among others;
- Developing business plans with utilities' management and presentations to their respective Boards of Directors;
- Linking utilities with financing (commercial, government and grant) and technical assistance with complementary sector actors;
- Developing infrastructure financing proposals to banks with utilities' management; and
- Monitoring outputs to ensure WSPs meet debt obligations to the banks.

Advise Commercial Banks on Developing Water Financing Products and Lending Methodology for Utilities

SUWASA worked with bank partners to develop products that serve the water and sanitation utility market and mitigate risks. SUWASA provided training and technical assistance to bank partners on the institutional and regulatory framework, product design, financing benchmarks for utilities, risks and mitigations, and loan guarantees. Under this component, SUWASA supported bank partners by:

- Advising banks on legal framework for lending to utilities;
- Leveraging market research findings to inform product design;
- Identifying and mitigating risk factors associated with lending to utilities;
- Evaluating financial benchmarks to determine utility credit worthiness;
- Supporting the development of utility loan products;
- Producing a water financing tool kit and related staff training program;
- Supporting bank monitoring of critical risk factors affecting loan repayment; and
- Linking banks to financial opportunities that improve loan security (i.e., USAID's DCA) and incentivize utility participation (e.g., Results Based Aid incentive grants).

Engage the WSTF to Leverage Additional Resources to Promote Water Sector Financing

Created in 2002 to assist in financing the provision of water services to areas that lack adequate services, WSTF was a key partner under SUWASA. The project supported WSTF by:

- Producing a Guide to Commercial Financing for Water and Sanitation Service Providers in Kenya;
- Facilitating the relationship between WSTF and utility partners to assist WSPs in accessing Results Based Aid;
- Helping WSTF develop a Gender Workplace Policy; and
- Working with WSTF to review and revise its monitoring and evaluation (M&E) tools to include gender indicators.

Foster Inclusive Service Delivery to Communities by Helping WSPs Understand the Market and Adopt Gender-Sensitive Policies and Practices

To identify investments that respond to communities' needs and allow WSPs to generate the cash flows required to repay a commercial loan, SUWASA helped WSPs to:

- Collect data on existing/potential customers through quantitative and qualitative market assessments to understand their customers' needs and economics while demonstrating that the poor represented a viable market opportunity.
- Develop community outreach and education campaigns to gain buy-in from the community through a better understanding of the financial and practical impacts of the project.
- Understand how gender equality mainstreaming policies and practices could be integrated in the project design to guide investment decisions, improve project outcomes and create a better and more equitable work environment. For example, all market assessment findings were disaggregated by sex so utilities could further understand how water conditions, demand for water and willingness/ability to pay varied for men and women.
- Provide gender equality mainstreaming training to water service provider staff to: raise awareness of gender concepts and the relevance of gender in the water and sanitation sector; review the WSP's policies and practices from a gender perspective; and develop action plans to integrate gender considerations into the WSPs' operations and project implementation.

RESULTS

Support Utilities in Identifying Commercially Viable Projects and Developing Bankable Financing Proposals

The Kenya II project demonstrated the viability of commercial financing for infrastructure development, and may help usher in a transition from an investment approach primarily based on grants toward one that is driven by customer demand and financed through commercial banks. As a testament to this success, the project helped eight WSPs develop investment proposals for projects valued at \$4.67 million (see Table 9). The eight utilities are: Embu Water and Sanitation Company (EWASCO), Kisumu Water and Sanitation Company (KIWASCO), Mathira Water and Sanitation Company (MAWASCO), Meru Water and Sewerage Services (MEWASS), Murang'a Water and Sanitation Company (MUWASCO), Murang'a South Water and Sanitation Company (MUSWASCO), Nyeri Water and Sewerage Company (NYEWASCO) and Thika Water and Sewerage Company (THIWASCO).

TABLE 9. PROJECT LOAN STATUS

Town	Water Service Provider	Total Proj. Value (USD)	WSP contribution (USD)	Total Loan Amount (USD)	Term Sheet Submitted (USD)	Loan Offer Made (USD)	Loan Disbursed (USD)
Embu	EWASCO	1,255,667	352,333	903,333	903,333	903,333	903,333
Kisumu	KIWASCO	22,222	-	22,222	22,222	22,222	22,222
Mathira	MAWASCO	847,476	168,495	678,981	678,981	-	-

Town	Water Service Provider	Total Proj. Value (USD)	WSP contribution (USD)	Total Loan Amount (USD)	Term Sheet Submitted (USD)	Loan Offer Made (USD)	Loan Disbursed (USD)
Meru	MEWASS	1,467,045	293,409	1,173,636	1,173,636	1,173,636	-
Murang'a South	MUSWASCO	244,716	48,943	195,773	195,773	195,773	195,773
Nyeri	NYEWASCO	187,416	37,483	149,933	149,933	149,933	-
Murang'a	MUWASCO	351,897	70,379	281,517	281,517	-	-
Thika	THIWASCO	288,889	-	-	-	-	-
Total USD\$	-	\$4,665,328	\$971,043	\$3,405,395	\$3,405,395	\$2,444,897	\$1,121,329
Total KES	-	418,211,460	87,393,870	306,485,550	306,485,550	220,040,730	100,919,610

Table Notes:

- In the case of EWASCO, the total project value listed in the table above is KES 113,010,000 (~\$1,255,667), which comprises KES 111,342,000 (~\$1,237,133) for the project, and KES 1,668,000 (~\$18,533) in refinancing of pre-existing debt. EWASCO's total loan of ~\$903,333 from Housing Finance consisted of ~\$884,800 for the household extension project, and ~\$18,533, which was used for EWASCO to refinance pre-existing debt.
- In addition to the loan disbursed to KIWASCO (Kisumu), the company refinanced their existing loan from K-Rep bank (from SUWASA Kenya I) with a loan from Housing Finance at a lower interest rate.
- MUSWASCO (Murang'a South) received a total loan offer of KES 85 million (~\$944,444), but is implementing the project in two phases. The amounts for Phase I only are shown in table

SUWASA's technical assistance to utilities resulted in bank loans and loan offers for projects, such as water supply network rehabilitation, pipeline extensions and household connections, as well as the upgrade of a water treatment plant. As a result, 38,231 low-income residents and institutions (e.g., schools, health facilities, and government agencies) benefited from improved water services.

SUWASA also developed knowledge products from this work to establish commercial financing as a common practice for Kenyan WSPs, including a Guide to Commercial Financing for WSPs, a Bank Partner Tool Kit for Water Sector Financing, a Guide to Community Outreach and Education, and a Gender Equality Mainstreaming Tool. SUWASA brokered arrangements among WSPs, communities, commercial banks (Kenya Commercial Bank, Housing Finance, K-Rep), and WSTF that unlocked new, sustainable funding sources to expand water services to the poor and unserved.

Gender Equality Mainstreaming with Utility Partners

Over the years, USAID has demonstrated its commitments to gender equality in the Water and Sanitation sector, in part with the development of its Gender Equality and Female Empowerment Policy, 2012 and Water and Development Strategy, 2013-2018. In line with these policies, SUWASA conducted gender analysis studies in five Kenyan towns including Embu, Meru, Murang'a, and Murang'a South. In Embu (EWASCO), SUWASA facilitated the drafting of a company-wide Gender Equality Mainstreaming. The policy, which was approved on March 23, 2015, addresses: hiring practices; expectations of staff in a gender-sensitive work environment; roles and



responsibilities of the Gender Mainstreaming Committee; and mechanisms for addressing gender issues when they arise. The approval of this policy will now allow EWASCO to allocate funds to further support gender mainstreaming activities, such as training and capacity building.

At the sector level, with SUWASA assistance WSTF updated its WSP toolkit, which guides utilities in project preparation and implementation, and recommended inclusion of steps and activities to improve gender inclusiveness in the following areas: (1) market assessment; (2) community outreach and education; and (3) monitoring and evaluation.

Commercial Water Financing Products and Lending Methodologies for Utilities

With SUWASA support, bank partners developed products for water and sanitation utilities and lending methodologies to mitigate risks associated with lending to this market. SUWASA provided technical support to K-Rep Bank, Kenya Commercial Bank and Housing Finance Company. All of these banks hold a USAID DCA to provide additional security for lending to the sector.

Accelerating and Improving WSTF Results Based Aid Programs

WSTF manages two donor-funded programs that incentivize commercial financing in the sector by providing a grant if the utility uses commercial financing for a project and meets prescribed targets. The Results-Based Aid (RBA) programs consist of: (1) the World Bank funded Output-Based Aid (OBA) program; and (2) the KfW-funded Aid-on-Delivery (AoD) program. While these programs provide a financial incentive, they have relied almost entirely on SUWASA assistance to help utilities develop bankable projects and to engage local commercial banks that are interested to lend to the sector. As a result, the SUWASA projects and partners have provided the practical experience and guidance to develop and refine the RBA programs. For example, the Embu project was the first ever to use funds from the AoD program which had hitherto been dormant. Other utilities that benefited included: Meru Murang'a South and Mathira (all SUWASA projects).

LESSONS LEARNED

WSPs Need to Understand their Market to Provide Demand-Driven Service Delivery

Through market assessments, utilities gained a much more complete picture of existing and potential customers' demand and their ability to pay for water services. Sex-disaggregated survey information enabled them to understand the roles, responsibilities, needs, and priorities of men and women. The collection and analysis of this data was critical to helping WSPs identify market-responsive infrastructure investments that would allow them to generate the cash flows needed to repay a commercial loan.

Technical assistance and loan guarantees are vital tools to stimulate new commercial credit markets

An effective approach to foster commercial banks' interest in water sector financing is to combine technical assistance in product development and lending methodologies with reducing the banks' lending risks using mechanisms such as the USAID DCA guarantee.

The technical assistance and training SUWASA provided to Kenyan banks allowed the lenders to design viable financial products for utilities and to adopt the appropriate lending methodology to further mitigate risks. The DCA, which guarantees up to 50% of the loan amount, was additional security for banks, encouraging them to lend to a new market.

Community Involvement is Essential

From project design to implementation, community involvement is essential to successfully expand services to the poor. Market assessments allowed WSPs to identify viable and market-responsive investments, but community outreach and education is still necessary to ensure successful implementation

by educating the target population on the direct benefits and associated costs of getting a WSP water connection.

TABLE 10. PROJECT PERFORMANCE INDICATOR TARGETS (KENYA II)

Performance Indicator	Level	Baseline Value	Targets (May 2013)	Actual (September 2015)
Number of people gaining access to an improved drinking water source (USAID F-indicator).	Goal	0	10,000	38,231
Number of people receiving improved service quality from existing improved drinking water sources (USAID F-indicator).	Goal	-	10,000	62,418
Amount of new financing accessed by water and sanitation service providers.	Output	0	\$750,000	\$3,405,395
Number of good practices identified, promoted and adopted.	Output	0	2	1
Number of new policies, laws, agreements, regulations or investment agreements (public or private) implemented that promote access to improved water supply and sanitation (USAID F-indicator).	Output	0	3	5

2.3 LIBERIA: SUPPORT FOR ECONOMIC REGULATION OF THE WATER SECTOR

BACKGROUND

The LWSC is responsible for providing water services in all county capitals and cities with greater than 5,000 population across Liberia. It has been decades since water has flowed through piped networks in most of Liberia's cities due to the devastation of Liberia's civil wars. Outside of Monrovia, only three towns currently have limited functioning piped water systems. Through the support of donors, such as USAID's Liberia Municipal Water Project (LMWP), restoration of water services is underway, but LWSC faces serious gaps in its capacity to manage and sustain water services as they come online. One of the fundamental challenges it faces is the lack of a uniform procedure for accurately determining and monitoring the cost of providing services in each of its outstations, a critical first step in determining the amount of operating revenue required for each town, to be recovered through a combination of tariffs and operating subsidies.

In coordination with LMWP, SUWASA supported LWSC develop and pilot a methodology for calculating and using the true cost of water services as a basis for tariff decision making and operational budgeting in LWSC's outstations. The project had two specific objectives:

1. Development and implementation of a methodology for calculating and using the cost of water services as a basis for tariff decision-making in LWSC stations; and
2. Support for expansion of kiosk service in the town of Robertsport.

APPROACH

SUWASA partnered with USAID's LMWP project to complement their ongoing support to LWSC in restarting water services in several of the outstations. The major focus of SUWASA's support was the Robertsport outstation, since restoring of water services with LMWP support was near completion.

The project included the following key tasks: (1) development of a cost of water services calculation methodology based on a cost of service model previously developed by SUWASA for Zambia's regulatory agency (see Section 2.9); (2) development of a tariff setting methodology using optimal cost of service as the basis; (3) pilot testing the cost of service and tariff methodologies in two LWSC outstations: RobertSPORT and Kakata; (4) preparation of tariff guidelines for LWSC outstations; (5) training of a cross-section of LWSC personnel on use of the methodology and guidelines and, in a parallel effort; (6) through SUWASA's Small Investment Program, supporting construction of a 2-kilometer pipeline and three water kiosks in RobertSPORT to provide the first piped water service in the town since the outbreak of the civil war. The technical approach involved:

1. A review of available policy documents on water services provision to understand the general policy direction and assure that proposed technical approaches for the activity were consistent with government policy;
2. A review of LWSC performance reports, budgets, and tariff proposals to assess the financial health of the utility and outstations, and adequacy of existing tariffs to recover current and projected operating costs;
3. Field visits to selected outstations to understand operating costs and reporting practices customer base (current and potential), and financial management capacity of outstation staff;
4. Development of the cost of service tariff model and guidelines, and pilot testing in two towns, RobertSPORT and Kakata; and
5. Training of a cross-section of utility staff on application of the tariff model.

RESULTS

Development of a Cost of Water Services Calculation Methodology

The project developed a methodology for calculating and using cost of water services as a basis for tariff decision making. SUWASA tested the methodology in two LWSC outstations – one with a new system coming online (RobertSPORT) and one with a history of operations (Kakata). The project provided guidance based on the results of the pilots in RobertSPORT and Kakata.

Preparation of Tariff Guidelines for LWSC Outstations

SUWASA prepared guidelines and recommended procedures for developing tariffs and reviewing proposed tariff adjustments for LWSC outstations. The guidelines are designed for use by the GoL's new Water Supply and Sanitation Commission (WSSC) in developing its operational policies and procedures. The guidelines provide a clear procedure for calculating the cost of services to inform future tariff adjustments, instructions for using the methodology and recommendations for implementing an accountable and transparent tariff-setting process. This process will ensure that both customers and local authorities are clear about the need and justification for tariff adjustments.

Support to Expansion of Kiosk Service in Robertsport

With SIP funds, SUWASA supported the construction of small infrastructure improvements to allow service expansion in Robertsport. The pipeline extension and the construction of public water kiosks in Robertsport provided improved access to drinking water in the town and an important opportunity to test and apply the proposed tariff-setting methodology. After the three SUWASA kiosks were constructed, LWSC extended the pipeline and constructed two additional kiosks with its own funds.



Pipeline extension in Robertsport

Prior to construction of the SUWASA-funded pipeline extension and kiosks, Robertsport residents could only purchase treated drinking water from a small treatment facility on the outskirts of town that was established with LMWP support in 2013. Given the facility's distance from the city's population centers, sales were almost exclusively to vendors who re-sold the water in town. In 2014, only 15% of Robertsport residents reported the facility as their primary water source (LMWP February 2014 Household Survey). After construction, 57% of households reported the new kiosks as their primary source (LMWP August 2015 Household Survey). This equates to over 1,600 residents gaining access to an improved drinking water source.

Among households which access water from the same source year round (92% of all households in the 2015 survey), the average distance to water sources dropped from over 500 meters in 2014 to approximately 200 meters in 2015 after construction of the kiosks. The percentage of households buying water from vendors dropped from 22% in 2014 to 1.5% in 2015, which is attributable to residents opting to purchase water directly from kiosks as opposed to water resellers. In addition, more than 60 households reported they stopped purchasing sachet water because they now obtain drinking water directly from the kiosks.

LESSONS LEARNED

One Size Does Not Fit All

While SUWASA built on the experience and tools developed for similar work in Zambia, it was clear that the substantial differences between the state of the water sectors in the two countries required a more simplified approach in Liberia. Where Zambia had a comparatively sophisticated autonomous regulatory agency, Liberia was without a clear regulatory framework leaving tariff-related decision making to the LWSC board of directors, which was operating within an unclear institutional framework. Additionally, key utility staff in the LWSC commercial and billing departments suffered capacity deficits that made it impractical to roll out a complex tariff modeling system. Thus, SUWASA focused on a basic tariff adjustment model, aimed at capturing regular operation costs and revenue flows, to create a simplified methodology for appropriately adjusting tariffs that could be readily understood and used by LWSC staff, and WSSC.

Linking Cost of Service Interventions with Infrastructure Expansion

In fragile, post-conflict environments, it is often difficult to focus on institutional strengthening while the limited and neglected infrastructure cannot be relied upon to provide even the most basic levels of

service. Because it is politically difficult to focus on cost-reflective tariffs, which often leads to increase in the rates paid by customers, linking these efforts with infrastructure investment and expanded services make such reforms more palatable. Thus, it is important to focus on the institutional challenges in tandem with infrastructure investments to ensure that once new infrastructure is completed, the required institutional capacity can sufficiently maintain operations and sustain service provision.

Building Momentum for a Commercial Approach

In Liberia, the policy supporting commercial approaches to sustainable water supply were established and clear, but the institutionalization of these policies is lacking. LWSC continues to operate with government subsidies, with limited incentives for improving revenue collection and with a lack of accountability for improving commercial viability. Given these challenges, it is extremely useful to establish a cost of service baseline to create an initial understanding of the true operation costs and revenue flows. The results of SUWASA's pilot heightened the awareness of LWSC senior management to the dire financial circumstances of the utility and the need to institute substantial improvement in financial reporting and planning between outstation and headquarters managers.

TABLE 11. PROJECT PERFORMANCE INDICATOR TARGETS (LIBERIA)

Performance Indicator	Level	Baseline Value	Targets (April 2013)	Actual (May 2015)
1. Number of people gaining access to an improved drinking water source (USAID F-indicator).	Goal	0	2,000	1,648
2. Percentage of operations and maintenance costs for water supply and sanitation services covered through customers' charges.	Outcome	29%	5% increase over baseline	186%
3. Number of good practices identified, promoted and adopted.	Output	0	1	1

2.4 MOZAMBIQUE: LICENSING AND REGULATING PRIVATE WATER OPERATORS

BACKGROUND

As is the case for most cities in Africa, Mozambique's urban population has grown faster than its municipal services have been able to accommodate. In many parts of the capital Maputo and the surrounding districts of Matola and Marracuene, private operators (Fornecedores Privados de Água, or FPAs) have provided services for decades to fill the service void resulting from the inability of the main utility, Agua de Região de Maputo (ARdM), to expand services to meet consumer demands in this rapidly growing area.



Typical FPAs are small private water providers who invest in boreholes and small distribution networks across the metropolitan area. According to a 2013 study conducted by SUWASA, FPAs managed half of

the total water connections in the Maputo and Matola Municipalities. However, FPAs were unregulated and operating without guidelines governing their water quality and service standards or tariffs.

The overall goal of the project was to improve the provision of water within the existing and expanded areas of Maputo and Matola by regularizing small-scale operators from the current FPAs to formally contracted Small Scale Infrastructure Providers (SSIPs) operating under transparent and enforceable standards. The project aimed to clarify the operational framework within which FPAs operate and to institute an effective licensing system. Further, it aimed to enhance the capacity of responsible government agencies to refine, issue and enforce licenses and of service associations to support their members by providing effective communications among government, customers, and operators. The specific objectives were:

1. Design of Regulatory Framework and Licensing process; and
2. Planning of the implementation of Regulatory Framework and Licensing.

APPROACH

The SUWASA Mozambique project aimed to work with all stakeholders in the sector to resolve the extremely difficult issues that for years have blocked the development of a regulatory framework for FPAs. The main partner was the National Directorate for Water (DNA). Other agencies in the water sector that were also directly involved in the process were FIPAG, *Conselho de Regulacao do Abastecimento de Agua* (CRA), ARA-SUL, AIAS, MISAU, Municipality of Maputo and Matola.

Due to the complex challenge presented by multiple stakeholders, SUWASA worked with a variety of government and non-government parties to develop consensus around a regulatory framework for FPAs through an umbrella regulatory advisory group, Grupo Consultativo de Regulação (GCR) which was created by SUWASA and the DNA. Thereafter, SUWASA provided technical assistance for the development of a regulatory, licensing, and transitioning framework for the FPAs. This began with a detailed survey of the FPAs, their operations, and customers. Survey results were presented in a geo-referenced database to provide a user-friendly tool for rapidly assessing the scope and status of communities served by FPAs. Using the data and working in close consultation with DNA and the GCR, SUWASA developed a comprehensive analysis of regulatory options and an implementation strategy for assuring that these communities are provided with safe, reliable, and affordable water services. In addition, SUWASA developed a stakeholder communications strategy for DNA to educate and inform communities and FPA's of the implementation progress.

Results

Regulatory and Licensing Framework Developed and Approved

SUWASA's comprehensive review of the existing regulatory framework for urban water services led to greater understanding of the key issues and obstacles associated with different regulatory options. SUWASA facilitated the identification of the principles to be applied and identified institutional options and conditions for implementing a licensing and regulatory scheme for the FPAs. This framework was adopted by the Government of Mozambique (GoM) via a Ministerial Decree in October 2015, following the closure of the SUWASA program. The approval of this regulatory framework marks a major milestone in the formalization and regulation of small and medium scale private water providers. This successful reform and the process established up to get there, sets a significant precedence for pursuit of similar regulation in the region where the issue of informal water providers is a rapidly growing issue.

Comprehensive FPA Data Baseline Completed

When SUWASA began, the most current information available on FPAs was a survey conducted in 2010, which concluded that a third of house connections in greater Maputo were on FPA networks. SUWASA conducted a follow-up inventory of FPAs in 2013 to measure the growth and scale of private water providers and their role in water services.

Using some of the latest technology—a survey of FPAs showed that they represented 50 percent of total water connections for greater Maputo, clearly highlighting the rapid growth of FPAs since 2010 and the fact that informal private water providers could no longer be ignored from a regulatory perspective. The updated web map, in which GIS was used to identify locations for FPAs, now clearly shows license status for all FPAs along with their names and telephone numbers. This information can be accessed at (<http://bit.ly/14Ek1gq>).

Consensus among Stakeholders on Formalization of FPA Operations

Several key stakeholders were originally opposed to formalizing the role of FPAs through licensing and regulation. Previous government initiatives to bring the FPAs into a formalized environment did not succeed, due in part to a lack of understanding of the scale and dynamics of FPA water provision.

The establishment of the regulatory advisory group (GCR) by SUWASA helped to clarify FPA challenges and issues and thereby facilitated the development of a licensing and regulatory framework with increased backing from key stakeholders. The survey and visual presentation of FPA services across the Maputo metropolitan area gave participants an appreciation of the importance and geographic scope of FPA's in the water sector, and the urgency of initiating an effective regulatory structure.

Supporting the Regularization of FPAs

SUWASA evaluated the capacity of each of the agencies involved in the development of the regulation and licensing of the new decree. The project held meetings with the agencies and assessed the capacity needed to complete the task. As this is a relatively new concept, there is need for piloting. Consequently, after holding discussions with DNA, it was agreed that the pilot project should have four sites:

1. A Municipality in the FIPAG area – city of Matola;
2. An Urban District/Municipality outside FIPAG areas but inside the AIAS area – Manhica;
3. An Urban District inside a municipality but outside FIPAG area and AIAS – Marracuene Town; and
4. A Rural District – Marracuene.

LESSONS LEARNED

Determining Legal Framework for Alternative Service Providers is Essential

With technical support from SUWASA, it was determined that existing legislation could not legally recognize FPAs and that without a ministerial decree from the government granting legal recognition, it would be impossible to formally regulate FPAs. Therefore, the water sector's legal foundation could not serve as a basis for the licensing or regulating of private water service providers. To ensure that regulatory



Mapping private water operators for better sector planning and regulation in Mozambique

authority was properly established, a decree from the Council of Ministers was required, a contentious and politically difficult step that was made in October 2015.

The Right Balance Must Be Struck between Centralized and Decentralized Regulation

While CRA has the mandate within the GoM to regulate all water supply and sanitation services in the country, provincial, municipal, and district authorities retain the authority to regulate public services under their control. While this latent authority of local bodies to regulate services might seem inconsistent with CRA's overriding mandate to regulate all water supply and sanitation services, CRA recognizes the impracticality of attempting to directly regulate hundreds of small systems dispersed throughout the country. CRA therefore, favors decentralization and has developed and implemented institutional models for decentralized regulation that involve local authorities, which have now been formalized with the Ministerial Decree.

Consensus Building is Essential

A consensus-building approach is critical to bring all key stakeholders together, to clarify specific issues and concerns, and to define various options and limitations while helping to determine workable middle-ground solutions, even for subjects on which stakeholders hold highly divergent views. Additionally, presentation of data in clear graphical formats can help stakeholders gain a common understanding of the need for action and regulatory alternatives. The critical need for consensus building is underscored by the history of unrest among FPAs and lack of understanding between the operators and the Government. In 2010, for instance, private providers threatened to stop the distribution of water to the communities when a regulatory initiative was announced by the Government, forcing a withdrawal of the initiative.

TABLE 12. PROJECT PERFORMANCE INDICATOR TARGETS (MOZAMBIQUE)

Performance Indicator	Level	Baseline Value	Targets	Actual
Number of good practices identified, promoted and adopted.	Output	0	2	1
Number of new policies, laws, agreements, regulations or investment agreements (public or private) implemented that promote access to improved water supply and sanitation (USAID F-indicator).	Output	0	1	1

2.5 NIGERIA: EBONYI, BAUCHI, AND RIVERS STATE REFORMS

As with most public services in Nigeria, a federation of 36 States, provision of water services is highly decentralized with responsibilities falling largely on State and local governments. With a significant buy-in from the USAID Nigeria Mission, SUWASA supported three State governments and their utilities in improving water services through the implementation of sector-wide and utility-level reforms critically needed to improve and expand reliable, affordable, and financially viable services. SUWASA designed assistance programs tailored to each State's unique situation and needs, while conducting State capacity building activities and knowledge sharing across the three targeted States as well as other States.

2.5.1 EBONYI, NIGERIA: WATER SECTOR REFORM

BACKGROUND

The Ebonyi State Water Corporation (EBSWC) is responsible for urban water services across the state. Although it was established as a corporation in 2004, prior to the SUWASA intervention, the utility had no board of directors and relied on the Ministry of Public Utilities and other line ministries for direction and oversight. In 2014, the number of recognized water connections in Abakaliki, the state capital, was 2,083 for a service area with a population of 900,000, less than 2% of the estimated total need. EBSWC suffered from poor technical and financial performance, compounded by the near absence of information technology tools, e.g., billings and financial management were largely carried out manually. EBSWC's average percentage of non-revenue water was more than 60%, and less than 4% of its operating and maintenance costs were covered by water sales. As a result, the utility was totally dependent on subsidies from the state government to continue operations.

These enormous challenges required comprehensive restructuring, including both institutional and policy reforms to the state's water sector. The reform effort needed to effect greater autonomy for EBSWC (as provided for in the 2004 legislation establishing the corporation). The effort also needed to implement a long-neglected commercial approach to operations. The effort required an increased focus on accountability to customers-as well as modernization of managerial systems and resources for building institutional capacity. Against this background, SUWASA implemented an urban water sector reform project to support Ebonyi State put in place critical sector reforms to improve water service delivery. The specific objectives of the project were:



Residents of Abakaliki using hand pumps

1. To support the Ministry of Public Utilities in creating an enabling environment for better urban water service provision in Ebonyi State, and.
2. To support the transformation of EBSWC into an autonomous and financially viable utility.

APPROACH

SUWASA supported critically needed reforms at both the sector and utility levels to improve the policy, institutional and legal framework for urban water services. Sector-level activities included clarification of the roles and responsibilities of EBSWC and other water, sanitation, and hygiene (WASH) sector institutions to remove overlaps and develop incentives for each to fulfill their mandates. This initiative also created a conducive environment to enable EBSWC to operate as a corporatized entity as intended with the 2004 corporatization of the utility through legislation. SUWASA sector reform activities included:

- In collaboration with the State Ministry of Public Utilities, established a State Working Group comprising representatives of the all State ministries engaged in the sector, including EBSWC, local governments and civil society representatives to review and update a draft State Water and Sanitation Policy previously prepared with the support of UNICEF but not acted upon.
- Reviewed the roles and responsibilities of key institutions in the urban water sector and support to State officials in reorganizing critical functions to reduce overlap and improve sector effectiveness.
- Provided technical assistance to the State Ministry of Public Utilities to establish a regulatory unit within the ministry. SUWASA also facilitated the capacity development of the new unit by training staff on water sector regulation, operationalization of the Regulatory Unit, legal framework for water

service regulation, water quality standards regulation, regulatory tools, and the role of consumers in water service regulation.

- Assisted in finalizing and disseminating the Water Sector Sanitation Status Overview (SSO), providing all stakeholders with a clear and transparent assessment of water supply and sanitation services in Ebonyi State.

At the utility level, SUWASA focused on re-engineering EBSWC's internal working processes with an emphasis on operationalization of the Board of Directors; computerization of business processes (billing and accounting systems), development of codes of practices to address gaps in plant operations and maintenance, water safety plans, non-revenue water management to achieve technical efficiency as it concerns water production, distribution network and customer service. SUWASA also supported EBSWC to conduct a customer enumeration exercise to establish a reliable customer database to improve its billing and collection efficiencies.

SUWASA prepared a comprehensive organizational development study resulting in the redesign of the organizational structure, new job schedules and staff placement after an extensive staff appraisal process. Small Investment Program (SIP) funds were utilized to provide vital tools and equipment that were lacking in EBSWC, including procurement of computer hardware and software licenses for EBSWC business process re-engineering.

Working closely with the African Water Association (AfWA), SUWASA facilitated a Water Operators Partnership (WOP) arrangement between Lusaka Water and Sewerage Company and EBSWC to provide peer-to-peer learning to EBSWC managers and staff.

RESULTS

Development of a Water Supply and Sanitation Status Overview

Through assistance of SUWASA, in 2014 EBSWC published the SSO and distributed it to stakeholders in the state. The report provides insight into the institutions, policy and legal environment, urban and rural water and sanitation coverage, projected demands and investment requirements, and presents recommendations for improving water and sanitation services in Ebonyi.

Development of a New State Water and Sanitation Policy

The draft WASH Policy prepared with SUWASA support was validated through a stakeholders' workshop and meeting of Ebonyi State WASH officials and, in January 2014 was presented to the Ministry of Public Utilities. The policy, which is aimed at guiding provision of water and sanitation services for both urban and rural communities, includes recommended institutions and their roles, sector principles and strategy, and introduces cost recovery principles for financial sustainability. The Ministry has since presented the policy to the State Executive Council for approval.

Institutional Framework for Ebonyi Water Sector

In collaboration with State officials, SUWASA assisted the EBSWC review the roles and responsibilities of key institutions in the urban water sector with the purpose of developing a framework to support good governance, effective supervision, monitoring and regulation. SUWASA supported implementation of the proposed structures, including: (1) establishment of State Water Regulatory Unit, (2) establishment of Ebonyi State Integrated Water Resource Committee, and (3) establishment of Board of Directors.

Based on the design of a new Institutional Framework for Urban Water Supply in the state, SUWASA, facilitated the formation of the Ebonyi State Water Regulatory Unit, monitoring service standards, and water quality. The unit comprises of four representatives from: EBRUWASSA, the Ministry of Public Utilities, Ministry of Health, and the Ebonyi State WASH Forum.

The State Government inaugurated a Board of Directors for the Ebonyi utility on October 1, 2014. The Board signed a code of conduct and adopted a Board Charter to guide its operations. As a result of this, critical gaps in the corporate governance structure were resolved and the Board introduced a multi-stakeholder perspective for the management of the corporation. Shortly after its inauguration, the Board approved implementation of the SUWASA organizational development proposals on new staff duties, schedules and job placements. The Board also proposed a review of current tariffs structures and the EBSWC Law to ensure it reflects cost recovery principles and the corporate status of EBSWC.

Customer Database

The provision of Information and Communication Technology (ICT) tools and software enabled the utility to compile a customer database with over 16,500 households. A computerized billing and accounting system was put in place and training provided to EBSWC staff to ensure that financial management is improved. Additionally, the adoption of geographic information systems (GIS) has given managers greater insight into the utility's performance since they are able to get quick and reliable information on billing, customer care and water network distribution.



Customer enumeration

Water Operators Partnership (WOP)

Under this WOP arrangement, the Lusaka Water and Sewerage Company helped EBSWC systematically evaluate its management and operations, and produce both a diagnostic report and performance improvement plan (PIP). Through the WOP process, EBSWC was exposed to best practices in utilities management (e.g., customer management, infrastructure planning, performance agreements, target setting, and monitoring and evaluation). EBSWC management used the PIP to establish priorities in building staff capacity and implementing improvements in water distribution systems management, water infrastructure planning, metering, consumer zoning, pipeline mapping, and leakage detection. WOP mentoring introduced commercial department staff to best practices in such areas as billing and collection, business growth analysis, payment option systems, GIS, billing software, and customer care. One direct output of the WOP was that EBSWC managers and staff now regularly convene focus groups within the utility that enable staff and managers to share their views and suggestions on key operational matters, including water production, distribution and network management, and corporate planning.

Small Investment Program (SIP)

The SIP was used to add value to the reform process through demonstration and training. The program targeted the provision of tools and equipment that were lacking in EBSWC. Working closely with the utility, SUWASA purchased: (1) computer hardware and software licenses to strengthen information management and improve business processes; (2) tricycles with a public address system for revenue collection and network surveillance; (3) leak detection equipment and implementation of a non-revenue water management program; and, (4) thrust boring equipment to support pipe laying across asphalted roads without destroying the surface and disturbing traffic flow.

Design of a New Organizational Structure for EBSWC

To further support corporatization efforts, a new organizational structure was designed for the utility. The organizational structure, which is now being implemented, comprises five departments, 20 key units, and

five auxiliary units all reporting to the Managing Director (directly or indirectly). The Managing Director reports to the Board of Directors. The Board is the policy and decision making body for the Corporation.

LESSONS LEARNED

Linking Institutional Reforms with Infrastructure Investment

The success of SUWASA's intervention in Ebonyi was largely contingent on the significant water supply infrastructure investment being implemented by the Ebonyi State government, which is estimated to be more than \$120 million. SUWASA focused its reform effort on building core EBSWC management systems so that the utility would have the structures required to successfully administer a commercial cost recovery approach to water service delivery once the new infrastructure went online. SUWASA also focused on practical improvements, such as leak detection, network management, and non-revenue water reduction, all of which will certainly be a priority for EBSWC in the coming years.

There are clear merits to linking institutional reforms with infrastructure investment, but synchronizing efforts is often difficult, as experienced in Ebonyi. Following the two-year SUWASA reform effort, the new treatment plant is yet to go online, making it difficult to maintain reform momentum and measure results from SUWASA's intervention.

GIS Network Mapping and Customer Enumeration

The customer enumeration exercise was critical in helping the utility establish an accurate customer data base. Prior to the SUWASA intervention, the utility did not have a clear understanding of its customer base. The enumeration helped EBSWC find the total number of connections, the number of illegal connections, and the large number of potential customers yet to be connected. This initiative was integrated with the GIS mapping of the water distribution network, which allowed the utility to actually know the location of customers by street and plot number. Such management information systems advanced EBSWC's ability to analyze operations and make management decisions.

Adoption of New Technology Can be Rapid with Appropriate Staff Training

EBSWC had no staff with prior GIS background, and no off-the-shelf digital geospatial datasets were available. The challenges of unreliable Internet connections and electricity made reliance on a sophisticated cloud-based system unworkable. Rather than investing in highly precise cadastral survey work at the outset, institutional capacity was built from the ground up through the development of skill sets and the use of datasets designed for immediate operational purposes. Over time, it is expected that human skills and datasets will become increasingly refined as operations become more sophisticated, demanding greater spatial accuracy and a higher level of skill. EBSWC is at the initial stages of this process, but it shows promise. GIS systems at EBSWC are built on teamwork, and they encourage capacity building and dataset refinement while keeping tools usable and workable.

TABLE 13. PROJECT PERFORMANCE INDICATOR TARGETS (NIGERIA, EBONYI)

Performance Indicator	Level	Baseline Value	Targets (April 2013)	Actual (May 2015)
Number of people gaining access to an improved drinking water source (USAID F-indicator).	Goal	0	1,500	0*
Number of people receiving improved service quality from existing improved drinking water sources (USAID F-indicator).	Goal	-	3,000	0*
Percentage of operations and maintenance costs for water supply and sanitation services covered through customers charges.	Outcome	-	10% increase over baseline	0*

Performance Indicator	Level	Baseline Value	Targets (April 2013)	Actual (May 2015)
Number of good practices identified, promoted and adopted.	Output	0	4	4
Number of new policies, laws, agreements, regulations or investment agreements (public or private) implemented that promote access to improved water supply and sanitation (USAID F-indicator).	Output	0	2	3

*The Ebonyi Reform Work Plan design was based on the new state funded water treatment plant being commissioned, which did not happen during SUWASA, resulting in the failure to achieve planned performance targets.

2.5.2 BAUCHI, NIGERIA: REFORM OF THE URBAN WATER SECTOR

BACKGROUND

Bauchi State, located in Northern Nigeria, has a population of 5.4 million, of which approximately 30 percent live in urban areas. Of this total population, only about 36 percent have access to piped water with very poor service. The roots of this inadequate piped water coverage were severe flaws in the urban water sector's institutional framework and serious management problems within the Bauchi State Water Board (BSWB), the main service provider for urban water services in the State.

The sector was characterized by a lack of a clear policy; weak legal and institutional frameworks; a lack of financial, management, and operational autonomy for BSWB; and old, dilapidated infrastructure. The state government was responsible for meeting all of the BSWB's operational and maintenance costs, including procurement of chemicals and diesel fuel (a significant component of operational costs) as well as personnel-related costs. In addition, the main treatment plant in Bauchi was managed by the state's Ministry of Water Resources and Rural Development; and the small amount of revenue the BSWB collected was transferred to the State treasury. BSWB had little information and no accountability systems in place to ensure the provision quality water service. Essentially BSWB worked like a de facto government department rather than a customer-centered, commercially managed enterprise.

BSWB's revenue-collection efficiency was very low and billing and financial recordkeeping was carried out manually without appropriate accountability procedures. The number of water connections was unknown, and there was no customer metering. Non-revenue water was estimated at 70 percent, and most losses were from illegal connections. Level of staffing in the BSWB was not clear because the employer was the state government, not BSWB.

To address the problems, SUWASA worked with the state government, the Bauchi State Water Board, and key stakeholders to design and implement a comprehensive transformation of the urban water sector and the State utility. At the sector level, activities focused on creating an enabling environment for service delivery with greater accountability and autonomy of the State utility by restructuring it as a public corporation, supporting design and implementation of a new water sector policy, and developing a strengthened and improved legislative and regulatory framework.

At the utility level, SUWASA provided technical and institutional support to the Bauchi State Water Board and its successor, the Bauchi State Water Corporation (BSWC), and to the BSWB to assume operational and financial autonomy, accountability and efficiency in its operations through development and implementation of a utility-wide performance improvement plan. The main goal of the Bauchi project was to improve and expand access to safe, affordable, sustainable, and reliable water services. The objectives were to:

1. Facilitate the creation of an enabling environment for WASH improvement in Bauchi State; and

2. Provide technical and institutional support to BSWB to have full operational and financial autonomy, accountability and efficiency in its operations.

APPROACH

SUWASA recognized that turning around water services in Bauchi required major legislative, regulatory and institutional reforms to the State's water sector as well as technical and managerial reforms at the service (utility) level. The pathway to achieving the required fundamental changes necessitated building a reform consensus among all key stakeholders. Difficult choices focused on the political and technical aspects of urban water sector reform in Bauchi State. SUWASA collaborated with key stakeholders, consulting them at every stage and ensuring that the reform process was a reflection of their vision.

Assessing Key Challenges: A State Status Overview

SUWASA supported the development and production of the Water Supply and Sanitation State Status Overview (SSO), which provided a baseline for sector performance. In addition to providing a solid foundation to prioritize and guide needed reforms, the SSO was an invaluable tool for fostering a common understanding among stakeholders of the water sector's institutional, policy and service gaps.

Mobilizing Stakeholders: Communications for Reform

Strong detailed stakeholder analysis and an outreach campaign was designed and implemented to explain the needed reforms and build public support. The awareness campaign explained the needs and benefits of reform. A similar campaign was designed and directed at utility staff and the political leadership, especially members of the state House of Assembly. Ensuring support from customers and utility staff as well as from the political leadership was critical to advancing the reform effort. The internal outreach campaign was important to build support and buy-in for the difficult decisions needed to improve performance.

Creation of the Reform Champions Team

As part of the stakeholder analysis, stakeholders interested in reform were identified. The analysis served as a basis for recruiting leaders and influential stakeholders to be part of the Reform Champions Team (RCT). The team consisted of prominent leaders, including government authorities led by the commissioner for the Ministry of Water Resources and Rural Development; representation from the office of the governor; civil service associations; the Ministry of Justice; the Ministry of Finance; the management of the water board; traditional leaders and civil society. The RCT formed the heart of local leadership for reform and for establishing a base of political support and ownership. Members of the RCT assigned themselves responsibility for achieving different reform milestones.

Policy Reform

Based on the outputs of the SSO, SUWASA worked with stakeholders to finalize the draft water policy and advocated for its approval. The review with stakeholders spanned the role of different institutions; how services should be delivered, the role of the private sector, performance monitoring and regulation of services; and alternatives for financing critically needed investment in infrastructure.

Revised Water Law for Bauchi State

Working closely with the RCT, SUWASA facilitated the revision of the edict that established BSWB with the aim of clarifying and defining the roles and responsibilities of sector institutions. From this revision, SUWASA prepared an assessment and designed a new institutional, legal, and regulatory framework for urban water services in Bauchi. As part of the new framework, a draft water and sanitation law that established reforms for the urban water sector was approved by the state government. The law provided

the legal foundation for the utility's transformation from a government entity, BSWB, to the autonomous Bauchi State Water and Sewerage Corporation (BSWSC).

The law, which was signed and gazetted by the Executive Governor, provided for a clear governance framework, including: a transparent system for the establishment and appointment of a board of directors; a new, competitive way of identifying and appointing the BSWSC managing director and other senior staff members; and development of an organizational structure with clear unit functions, job descriptions, and salary structures, all of which were lacking in the former arrangement. Overall, the new framework recommended reforms that will foster autonomy, accountability and promotion of transparency in the operations of the water provider and financial sustainability.



Unveiling the new logo for BSWSC

Training to Improve Utility Operations: Peer Learning and Study Tours

SUWASA facilitated a WOP with Swaziland Water Services Corporation (SWSC) to provide practical mentoring and capacity development for improved operational performance. Before commencing the WOP partnership arrangement, SWSC carried out an on-site scoping exercise to identify the capacity gaps of the Bauchi utility and to develop a training program tailored to help achieve the water sector reforms.



Customer enumeration in Bauchi

Additionally, SUWASA facilitated and supported study tours to South Africa, Zambia, and Swaziland for senior Bauchi State Government and water officials to see examples of well-functioning water utilities and learn ways to make tangible service delivery improvements. The study tours created a better understanding of the reforms required, and made progress possible.

Introducing Commercial Approaches: Business and Investment Planning

SUWASA assisted with the development of a strategic plan designed to put the new BSWSC on a path to financial sustainability. This effort was complemented by a revised tariff policy and structure to support the plan while minimizing impacts on the poor.

Part of reforming the utility involved a customer enumeration exercise and the introduction of computerized billing. The customer enumeration identified the number of illegal connections, which outnumbered the registered ones and illustrated the utility's low collection and billing efficiency. The exercise further identified three categories of customers: connected customers who were registered and receiving bills; customers who were not registered but connected; and, customers with illegal

connections. Accurate customer records from this exercise led to more efficient billing and collection, and eventually improved revenue for the utility. The enumeration exercise produced an updated database of customers.

SUWASA also helped launch computerized billing, providing software, computers and servers and establishing a billing unit that was also provided with training. As a result, BSWSC started printing bills for the first time and proposed to establish a customer care unit. Additionally, SUWASA supported mapping of the pipe-network and a rapid-assessment leak detection exercise.

Finally, SUWASA supported development of an investment plan, which is being used by the State government and the World Bank to help identify and prioritize urban water infrastructure investment opportunities in Bauchi.

RESULTS

The overarching result of the SUWASA project was the transformation of the BSWB into the BSWSC, an entity with a clear legislative framework that provides for an autonomous, accountable, and viable service provider. Other results include the development of a regulatory framework for urban water services leading to the establishment of regulatory unit within the Ministry of Water Resources, development of a computerized consumer database, a billing system, and an organizational structure with clear performance-based contracts and staff job descriptions. This was supplemented with a tariff structure that puts BSWSC on a sustainable financial path.

The new institutional, legal, and regulatory framework helped create the conditions required by the World Bank to approve a \$65 million loan for investment in urban water infrastructure in Bauchi, focused on Bauchi Town. The World Bank drew comfort from the promise that the implementation of the new framework would ensure sustainability of urban water services if dilapidated infrastructure is rehabilitated and extended to cover Bauchi Town's unserved areas. Without the water sector reform program and (especially) the new framework, the World Bank would not have considered investments in Bauchi. In 2010, Bauchi was ranked 18th out of the 36 states in terms of readiness to reform or engage with the private sector. As a result of the reform program implemented by SUWASA, the Bauchi water sector was ranked as being one of the top three Nigerian states.

LESSONS LEARNED

Stakeholder Ownership of the Reform Process

Forming the RCT accelerated the pace of institutional, regulatory, and legislative reforms. The RCT members were selected based on the critical role they could play in the reform process. They were also selected because of their authority as traditional leaders or because of their influence within state government. The RCT worked well because it included influential decision makers who understood how to mobilize institutional stakeholders and community groups.

Sustaining Commercial Orientation—Quick Win Situation

Through the formation of revenue task teams with clear targets and incentives, SUWASA was able to demonstrate that improved revenue collection was possible in Bauchi. Within six months of the formation of revenue teams, collections had doubled to more than four million Nigerian naira a month from the low two million naira a year. However, the financial gains were not sustained because the adopted measures were not institutionalized. After six months, incentives for revenue collection were removed, leaving no mechanism for rewarding performance. Institutionalized strategies to transform revenue collection through commercial approaches were both possible and critical for financial sustainability and continued operations.

Consultation and Effective Communication Strategies

For any reform effort to succeed, local stakeholders need to own the process. The process needs to be inclusive, and key players must support it. Although external experts facilitated the design of the institutional, regulatory, and legal framework, government actors carried out the communication of the reform proposals with support from a locally based team.

The SUWASA model was successful because it had a local team in place to act as a secretariat for the reforms to support the RCT cited above. This helped build a sense of ownership and minimized any sentiment that the reforms were made by external actors. Extensive consultations were also undertaken with the utility's management. However, a key lesson from the process was that a lack of adequate involvement from lower-level staff can threaten the reform process. Early communication to a wider spectrum of water utility staff could have helped manage fears and ensure staff-wide support.

TABLE 14. PROJECT PERFORMANCE INDICATOR TARGETS (NIGERIA, BAUCHI)

Performance Indicator	Level	Baseline Value	Targets (May 2011)	Actual (November 2014)
Number of people gaining access to an improved drinking water source (USAID F-indicator).	Goal	-	40,000	0
Number of people receiving improved service quality from existing improved drinking water sources (USAID F-indicator).	Goal	-	40,000	0
Percentage of operations and maintenance costs for water supply and sanitation services covered through customers charges.	Outcome	-	40% increase over baseline	20.11%
Amount of new financing accessed by water and sanitation service providers.	Output	-	\$60,000	\$65,000,000
Number of good practices identified, promoted and adopted.	Output	-	3	5
Number of new policies, laws, agreements, regulations or investment agreements (public or private) implemented that promote access to improved water supply and sanitation (USAID F-indicator).	Output	-	2	7

2.5.3 RIVERS, NIGERIA: RIVERS STATE WATER SECTOR REFORM

BACKGROUND

The SUWASA Rivers project was a 27 month project that provided support to the Ministry of Water Resources and Rural Development (MWRRD) implement reforms in its urban water and sanitation sector in compliance with the State Water Development Law enacted in 2012. A key component of this support was for the development of the regulatory framework and establishment of the Water Services Regulatory Commission and Small Town Water and Sanitation Agency as mandated by the water law. The project had two broad objectives:

1. Support the implementation of Rivers State Water Law and the development of a Regulatory Framework for establishment of an autonomous regulatory commission as well as facilitating the completion of a water supply development plan for selected Local Government Areas (LGAs); and

2. Enhance the functions of Port Harcourt Water Corporation (PHWC) and Rivers Small Towns Water Agency (RSSTOWA) to be fully operational and have financial autonomy, accountability and attain efficiency in their operations.

APPROACH

During project inception, SUWASA collaborated with representatives of the World Bank (WB) and the African Development Bank (AfDB) in a comprehensive institutional assessment of the State water sector. As a result of this assessment, the SUWASA team developed a work plan of training and technical assistance to be provided to the Rivers State Government and PHWC specifically designed to lay the groundwork for substantial financial and institutional support planned by the WB and AfDB. For example, based on close collaboration with AfDB, SUWASA focused its support to PHWC on conducting a pilot project in the only area of the city that had service, with the objective of building PHWC's capacity to improve collections and financial management – a critical capacity gap in light of the expected surge in new and re-connected customers as water supplies are re-started with new infrastructure under the AfDB's loan.

The breadth and complexity of the sector, and utility-level reforms mandated by the Rivers State Water Development Law, combined with public frustration brought about by years of extremely poor water service, required that SUWASA use a participatory, peer-learning approach to build understanding and support for reforms among sector institutions, civil society, and consumer groups. To advance the establishment of a new regulatory agency, as mandated by the 2012 water law, SUWASA initially supported MWRRD in the development of a vision and mission statement, and in finalizing the organizational structure and position descriptions of commission personnel. In supporting operationalization of the nascent agency, SUWASA provided international experts to provide technical assistance in developing the commission's policies and procedures, and development of a tariff.

Capacity building was a key element of SUWASA support. For example, SUWASA sponsored a peer-learning trip to Zambia so Rivers State Government officials and utility managers could learn about regulated utility management from Zambian officials at the National Water Supply and Sanitation Council (NWASCO). Upon its return, the peer-learning delegation was able to successfully make a case for appointing key personnel to RWSWC, the first critical step for setting up the regulatory agency in Rivers State, which had been delayed by a lack of political will.

The 2012 Water Act established a new sector for oversight and management of water systems for all towns in Rivers State outside of Port Harcourt, by establishing RSSTOWA. However, little progress had been made in operationalizing the new agency prior to the SUWASA project. In collaboration with the State water ministry, SUWASA clarified institutional arrangements between RSSTOWA and local Government authorities; designed a clear process of engaging with local private sector organizations for managing small town water supply systems; and developed procurement guidelines and templates to transparently procure the services of private water operators to manage the systems. To oversee this effort, the State ministry set up a committee with a mandate to supervise the procurement of private operators for the small town systems, in Eleme, Ataba, and Terabor. In addition, SUWASA supported the development of a sector-wide development and investment plan for five LGA water supply systems.

While working with PHWC, SUWASA concentrated its efforts in Eagle Island, a service area in Port Harcourt that had about 70% piped water coverage. Water users there were already better organized through community development committees than in many areas of the city. For the Eagle Island area, SUWASA designed and implemented technical assistance and a series of small investments to improve operational systems while providing PHWC staff with hands-on experience in improving customer service and in conducting accurate and timely billings and collections.

RESULTS

Operationalization of Rivers State Water Services Regulatory Agency

SUWASA facilitated the operationalization of Rivers State Water Services Regulatory Agency. With assistance from SUWASA, the agency was able to develop vision and mission statements, licensing terms and service agreements with service providers in the state. SUWASA also supported the agency with development of a tariff methodology in addition to day to data support. As a result of SUWASA's efforts, the Rivers State Government released the agency's budgetary allocation of \$250,000 for its first operational year. Strong advocacy by SUWASA also led to the appointment of the first Director General for the agency.



Stakeholder consultations on reforms and tariffs in Rivers

Introduction of Commercial Practices in PHWC

Through SUWASA's efforts, PHWC was able to compile a very detailed customer enumeration for Eagle Island, enabling it to update its customer database. The customer database was then uploaded to the SAGE accounting system, procured for PHWC by SUWASA. The interest created as a result of updating the customer database, where stakeholders discovered that they were paying only 10 to 30% of the real price of water, led to a tariff study to identify and evaluate alternative tariff structures.

Through the SIP, SUWASA funded a pilot metering program for Eagle Island. The main objective was to demonstrate the benefits of metering not only for non-revenue water control but also billing and collection.

Operationalization of RSSTOWA

The SUWASA initiative successfully operationalized RSSTOWA as a viable institution to improve access and quality of water service provision in towns outside Port Harcourt. It also successfully established systems that will provide the basis for financially viable and sustainable service delivery. RSSTOWA has now put in place important regulatory tools to enable full operationalization of the agency. The project also clearly defined a workable institutional structure and management frameworks for small towns water service provision, which allows for sustainability through private sector participation. Through SUWASA's efforts, the Rivers State government appointed the General Manager for RSSTOWA as well as released \$197,530 from the State Government to boost its operationalization. SUWASA successfully engaged with European Union/Niger Delta Support Project (NDSP), which is supporting reforms in the Niger Delta. EU/NDSP provided 103 pre-paid meters valued at €100,000 for the Town of Eleme small town water scheme.



Improved water availability in Eleme – small town

LESSONS LEARNED

Advancing Utility Reform with Small Investments

In an environment where infrastructure is extremely degraded, the limits of institutional reform alone are

obvious. SUWASA used small investments to do the following: advance reforms; allow utility personnel to acquire skills relevant to the institutional-reform effort; and introduce important commercial approaches to service delivery. The small investments included pipe repair, domestic meter installations, pump repairs, and replacement of derelict electrical components. Small investment successes in Eagle Island demonstrated tangible results and helped build support and momentum for continued reforms. These successes included the repair of the pressure modulating system on the water distribution pipe network and the installation of a computerized accounting system for the water utility. Updated customer billing information was entered into the new accounting system for more than 150 customers who received new household meters. These investments and associated technical support resulted in PWHC having the basic systems required to collect and monitor customer payments and to scale up commercial operations.

Learning from Regional Experience

Study tours served as important catalysts in motivating key stakeholders to launch the reforms in Rivers State. In February 2014, SUWASA sponsored a study trip for key government authorities tasked with establishing the Rivers State Water Services Regulatory Commission to learn from regulatory officials at the National Water Supply and Sanitation Council (NWASCO) of Zambia. The Rivers State delegation gained an understanding of what had worked in Zambia and how those lessons could be relevant to Nigeria. It also enabled the team to study the successes and challenges that led to the establishment of Zambia's NWASCO. Upon the team's return to Nigeria, the River State Government ensured the appointment of key personnel for Rivers State Water Sector Regulatory Commission (RSWSRC) and supported the release of the agency's budgetary allocation.

A second delegation from Rivers State went to Uganda to better understand how Ugandans have successfully engaged the private sector in managing small town water supply. Upon their return, the delegation supported the adoption of revised protocols to allow for local private sector participation in managing small town water supply in Rivers State. These protocols were put in place by RSSTOWA and are being used during ongoing procurement of local private sector management services. Additionally, SUWASA helped establish a WOP between PHWC and Nairobi City Water and Sewerage Company.

Political Will for Reform Efforts

The complexities presented by the Rivers State reform environment necessitated the adoption of flexible measures. These complexities included the delayed government appointment of senior managers and approved job descriptions for RSSTOWA, PHWC, and RSWSRC staff and the absence of a state-level reform committee. It also included the failure to sign a memorandum of understanding with USAID, which led many key stakeholders to question the political will required for the sector reform effort. This situation seriously undermined reform efforts, delayed planned activities, and constrained effective communication with stakeholders.

TABLE 15. PROJECT PERFORMANCE INDICATOR TARGETS (NIGERIA, RIVERS)

Performance Indicator	Level	Baseline Value	Targets (April 2013)	Actual (May 2015)
Number of people gaining access to an improved drinking water source (USAID F-indicator).	Goal	0	15,000	0
Number of people receiving improved service quality from existing improved drinking water sources (USAID F-indicator).	Goal	0	4,000	2,635
Percentage of operations and maintenance costs for water supply and sanitation	Outcome	0	5% increase over baseline	0

Performance Indicator	Level	Baseline Value	Targets (April 2013)	Actual (May 2015)
services covered through customers charges.				
Number of good practices identified, promoted and adopted.	Output	0	2	2
Number of new policies, laws, agreements, regulations or investment agreements (public or private) implemented that promote access to improved water supply and sanitation (USAID F-indicator).	Output	0	2	4

2.6 SENEGAL: SANITATION FOR THE URBAN POOR

BACKGROUND

The SUWASA Senegal project sought to improve the urban poor's access to reliable, sustainable and affordable sanitation services in selected communities. SUWASA partnered with ONAS, the Government of Senegal's (GoS) sanitation agency, to implement the project. The project was designed to complement USAID/Senegal's ongoing assistance to selected cities outside of the capital, Dakar, through the PEPAM project, and provide limited support to ONAS in implementing its extensive sanitation improvement initiative in the Dakar region, with support of the Bill and Melinda Gates Foundation. In consultation with the Mission, ONAS, ONAS-BV and USAID/PEPAM, it was first agreed that SUWASA would concentrate its efforts on sanitation challenges in the municipality of Tambacounda and the rehabilitation of the three fecal sludge treatment stations in the Dakar area through the Small Investment Program (SIP). However, after a further review of project activities, and considering the length of time required for regulatory approvals and environmental impact studies and the limited time available for work plan implementation, all activities related to infrastructure construction or rehabilitation should be discontinued. Based on a renegotiated Reform Work Plan, the budget and the activities of the project were revised. The revised project scope focused on the following:

1. Providing the municipality of Tambacounda with a Fecal Sludge Management Strategy; and
2. Supporting ONAS with geospatial system to optimize fecal sludge trucking operations in Dakar.

APPROACH

Urban Sanitation in Tambacounda

The Tambacounda sanitation sector, in general, and fecal sludge management, in particular, faces a number of bottlenecks including, high cost of constructing toilet facilities that are adaptable to mechanized desludging, challenges in mobilizing finance for sludge transportation, insufficient exhauster trucks for transport, and absence of a well-run fecal sludge treatment and disposal facility thereby contributing to the illegal dumping of the fecal sludge in the open environment. SUWASA collaborated with the Municipality of Tambacounda and the regional administration (Representative of the Central Government) to address these challenges.

In June 2013, SUWASA began an initiative to support the restructuring of the fecal sludge market in Tambacounda. The goal of the SUWASA project was to get a better understanding of the market, promote a gradual shift from manual to mechanized desludging, and improve the performance of the private sector in fecal sludge management.

The efforts started with an inventory and a situational analysis of sanitation practices in the municipality. Key challenges identified by the analysis, which are consistent with the situation in many African towns, included:

- Two-thirds of households surveyed had toilets that were not adaptable to mechanized desludging and that relied on manual desludgers, who often work in the unregulated informal sector;
- The poor quality of facilities and services for mechanized desludging and sludge transportation was exacerbated by mechanized desludging companies' low capacity to improve services;
- Weak oversight of laws and regulations regarding environmental protection and occupational health and safety (i.e., lack of health protection for mechanized desludging operators);
- Lack of ONAS presence in Tambacounda, requiring an interim solution for implementing improvements in the municipality's FSM sector led by the municipal government;
- Stakeholders' lack of information, training, and awareness regarding public health and safety issues associated with poor FSM management practices;
- Lack of coordination among stakeholders implementing various FSM programs and projects;
- Illegal dumping of fecal sludge in the open environment, seriously worsened by the absence of a well-run fecal sludge storage and treatment facility; and
- Significant obstacles to mobilizing finance for both an environmentally sound treatment facility and improved fecal sludge storage, collection, and transportation infrastructure.

RESULTS

With the results of the sanitation analysis, SUWASA worked with local authorities to develop a strategy for guiding improvements and investments in the FSM sector, with the objective of developing:

1. A clear institutional and regulatory framework for FSM in Tambacounda;
2. A clear strategy for activities throughout the FSM chain (storage and collection, transportation, treatment/recycling/reuse); and
3. Key elements for the design and development of a centralized fecal sludge storage and treatment facility, as well as a framework for promoting and supporting investments in improved household on-site sanitation facilities, so that all citizens, including poor populations, have access to proper sanitation.

The strategy established four pillars to provide a comprehensive method for curbing hazardous and illegal fecal sludge dumping. The strategy includes a call for the construction of a new fecal sludge treatment plant based on sound environmental and health principles, as well as methods and approaches for planning, implementation, fundraising, and management of the new facility based on commercial practices. To achieve this, the municipal government hosted a roundtable discussion with ONAS and potential donors about the sanitation interventions in Tambacounda outlined in the strategy. The discussion detailed the outstanding issues that require additional support and generated interest to further support improvements to the town's urban sanitation.

The strategy was complemented by a public awareness campaign on the health risks posed by improper fecal sludge management practices, and need to assure safe handling throughout the FSM cycle. The outreach campaign in Tambacounda informed households about the critical nature of safe fecal sludge, emphasizing the importance of latrine design and placement that allows for mechanical emptying; the importance of hiring well-trained and equipped desludgers and haulers; and the health hazards of illegally dumping fecal sludge in various areas of the town.

mSludge: Online Tracking of Sludge Trucks in Dakar

With support from the Bill and Melinda Gates Foundation, ONAS developed an online geospatial mapping and vehicle tracking system. This tool links customers with nearby ONAS-approved desludgers, and helps ONAS monitor desludgers' regulatory compliance. Through GPS devices installed on 100 sludge-hauling trucks, the mSludge platform tracks desludgers in real time, allowing current and past locations to be tracked with an online mapping portal. SUWASA supported the installation of GPS systems through financial support from the SIP. Through a centralized call center operated by ONAS, customers have a convenient way to locate legitimate haulers that can rapidly respond to their needs in the most cost-effective manner. The system allows for transparency and accountability and prevents illegal dumping. The ONAS call center, combined with mSludge, is an excellent example of how information and communication technology can help improve sanitation services in African cities.



A GPS system is installed in a truck in Dakar

Sensitization Campaigns

Sensitization campaigns, to popularize good practices for the proper management of fecal sludge in the municipality of Tambacounda, were carried out from June – August 2014. The campaigns used a mixed communication approach (road shows, door to door visits, TV commercials and focus groups.) In total, 732 home visits were made, 56 talks held and 9 road shows conducted. With regard to the media campaign 75 radio commercials and 7 radio programs were conducted in collaboration with local technicians Sanitation and Hygiene Services. These services reached approximately 6,873 people, mostly heads of households.



Stakeholder consultation on FSM

LESSONS LEARNED

- The entire service chain of the FSM cycle—including on-site management, sludge collection, transportation, storage, and treatment - needs to be considered when designing on-site urban sanitation interventions, because any break in the service chain can potentially erase gains in other segments.
- A detailed situational analysis is a critical precondition for the development of a fecal sludge strategic plan, to ensure that it covers all links in the sanitation service chain and that it adequately responds to sanitation constraints and challenges on the ground.
- Project stakeholders expect comprehensive solutions from donor-funded sanitation projects. Initial communications about the project led to unrealistically high expectations about the extent of infrastructure investments that were needed to effectively address problems throughout the entire FSM service chain. In particular, the lack of funds for a central facility that safely, effectively treats and disposes sludge poses the greatest constraint to FSM improvement in Tambacounda.

- Municipalities should place high priority on conducting public awareness campaigns that heighten the public's understanding of the risks of poor sanitation and fecal sludge management, in order to build demand for public and private investment in needed sanitation infrastructure and oversight.

TABLE 16. PROJECT PERFORMANCE INDICATOR TARGETS (SENEGAL)

Performance Indicator	Level	Baseline Value	Targets	Actual
Number of good practices identified, promoted and adopted.	Output	0	1	1
Number of new policies, laws, agreements, regulations, or investment agreements (public or private) implemented that promote access to improved water supply and sanitation (USAID F-indicator).	Output	0	1	3

2.7 SOUTH SUDAN: REFORMING THE URBAN WATER AND SANITATION SECTORS

BACKGROUND

The SUWASA South Sudan project promoted a structured, formal and systems-oriented approach to urban water and sanitation sector management in the country. The project started on September 1, 2011, with assistance only to the urban water sector, focusing on helping the South Sudan Urban Water Corporation (SSUWC) and its urban water stations work toward achieving long-term sustainability by adopting policies and practices based on commercial principles. However, in October 2012, USAID/South Sudan requested that SUWASA taking on an additional urban sanitation activity to raise awareness of the sanitation situation and to define potential interventions for the sanitation sector in Juba.

The overall goal of the SUWASA South Sudan project was to ensure improved access to safe, affordable, sustainable and reliable urban water and sanitation services. For urban sanitation, the aim of SUWASA was to expand urban sanitation service access in a safe, affordable and sustainable manner, through better understanding of the sanitation sector and prioritization of relevant sector reform and investments in Juba. The urban water component had three specific objectives:

1. Support the establishment of a clear institutional framework for urban water supply in South Sudan; support the establishment and operationalization of SSUWC Board of Directors and assist SSUWC in developing its Corporate Plan.
2. Support evolution of Targeted Urban Water Corporation (UWC) Stations Operational Autonomy; capacity building through peer-to-peer cooperation with NWSC of Uganda and Design and implement Small Investment Projects (SIP).
3. Set up a framework for Local Government Participation in the management of local water stations; Development of a framework for local government participation in management of the local water stations in line with policy and support preparedness at the state, municipal and local government



Poor water services due to lack of clear institutional framework in South Sudan

level to progressively assume the responsibility of the management of water supply service provision. For the sanitation component which was focused on Juba, the following specific objectives were defined:

1. To raise the understanding of current urban sanitation challenges and opportunities; and
2. To promote public and private financing for sanitation.

APPROACH

The SUWASA South Sudan project collaborated with major water and sanitation sector partners to push for reform and institutional strengthening at the national level. At the same time, SUWASA worked in Maridi and Wau to support Urban Water Stations develop operational capacity and implement a commercial approach for sustainable cost recovery and operation of the existing urban water supply infrastructure. For the sanitation sector, SUWASA focused on engaging the Juba City Council and the Town Blocks, the State Ministry of Health, Environment and Sanitation, Juba County and the national Ministry of Lands Housing and Physical Planning.

SUWASA engaged not only with central and local government but also with organizations across the sector in various fora such as the WASH Bi-annual Planning and Coordination Meetings, the WASH Coordination Meetings, the Urban Water Working Group (UWWG), the National Sanitation Task Force and the Juba Sanitation Working Group.

SUWASA collaborated with development partners active in the urban water and sanitation sector including the World Bank, KfW/GIZ, Japan International Cooperation Agency, the Netherlands, UNICEF and NGOs. SUWASA also partnered with SSUWC peers including the NWSC of Uganda and Kenyan Water Services Regulatory Board (WASREB) for capacity development and benchmarking. This was done through both study visits and hands on-training. SUWASA also engaged local partners and undertook consultations to build understanding and ownership of the water and sanitation reform.

The following activities were undertaken in the urban water sector:

1. Support for the establishment of a clear institutional framework for urban water in South Sudan;
2. Support for the establishment and operationalization of SSUWC Board of Directors;
3. Assistance for SSUWC to develop a corporate plan;
4. Assistance to targeted UWC stations in improving their capacity to assume greater operational autonomy;
5. Capacity building through peer-to peer cooperation with NWSC of Uganda;
6. Planned and implemented Small Investment Projects (SIP); and
7. Established a framework for local government participation in the management of local water stations.

To address the objectives on sanitation, SUWASA conducted several studies, including: Juba Household Sanitation Survey and Mapping; Juba Public Pay-per use Toilet Study; Exhauster Regulation Case Study; Roton Wastewater Lagoon Study; Urban Sanitation Roles and Responsibilities Mapping; Investment Planning for Urban Sanitation with the Juba Municipal Government; and Emergency Response to Cholera.

RESULTS

Establishment of a Clear Institutional Framework for Urban Water in South Sudan

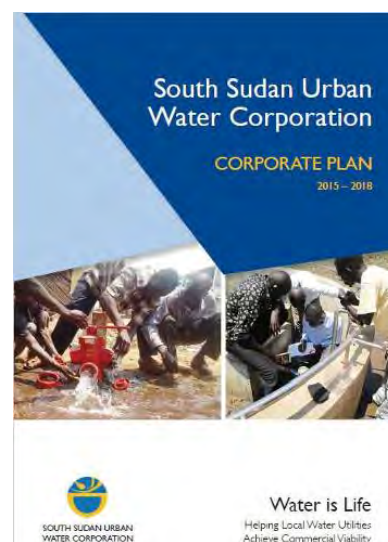
The Urban Water Sector Reform Initiative has helped the country jump start its urban water reform activities. The definition of roles and responsibilities at the national and local levels has provided a clear mandate for SSUWC as well as a framework upon which the formulation of the New Water Bill initiated by MEDIWR has been based.

Establishment and Operation of SSUWC Board of Directors

The SSUWC Board became an effective body and their board meetings have become institutionalized with seven held by March 2015, the last two of which were organized without SUWASA support. In addition, the study tour to NWSC of Uganda helped Board members to benchmark their utility reform process highlighting the progress they need to make but also showing that it can be done.

SSUWC Corporate Plan

The process of developing the Corporate Plan provided a platform for the different directorates to critically engage in thinking about the strategic direction for the Corporation. Their engagement also meant that there is a high level of ownership of the plan which was also reviewed and endorsed by the SSUWC Board of Directors in March 2015. The SSUWC has used the Plan as a basis for development of their annual work plans for the 2015/2016 financial year. Significantly, the plan provides a reliable instrument that the Board can use for their budget allocation discussions with the Ministry of Finance.



Framework for Local Government Participation in the Management of Water Stations

In Maridi, the Local water management committee was successfully created and is fully operational. By March 2015, the committee had held two monthly meetings. The operation of this committee will be critical to improving and sustaining services delivery in Maridi as the broad representation of local stakeholders means that the UWC station can call upon these players to assist with the different elements involved in service delivery, including customer outreach activities. It also presents a platform for the eventual formal involvement of the local municipality as well as laying a potential foundation for increasing transparency and accountability. The same cannot yet be said of Wau where further work is needed to broaden local stakeholder participation in the existing technical committee.

Support Evolution of Targeted UWC Stations Operational Autonomy

The peer-to-peer cooperation with NWSC facilitated the development of training plans for Maridi and Wau Water Treatment Plants and provided effective technical hands-on training in operation and maintenance, performance data recording and troubleshooting of the water treatment plants. The training resulted in the ability of the staff to undertake basic operation and maintenance including chemical dosing and other activities that they were not able to undertake before. In addition to the technical aspects, staff are now able to prepare and keep reports on operations of the plant. The result is that the plants are now functional and providing a service to the populations.

On August 21, 2012, a temporary mechanism for revenue ring fencing was set up by the Minister of Water Resources and Irrigation. This has allowed SSUWC stations in Maridi and Wau to retain the revenues collected for provision of fuel and chemicals to operate the water treatment plants and provide more water to their customers. This is a key building block in getting financial autonomy for the stations.

Planning and Implementation of Small Investment Program (SIP)

In Wau, the SIP investments in leakage control and the installation of 850 customer meters resulted in a reduction of non-revenue water. A foundation for increased billing and collection efficiency has been established with the provision of a computerized billing system and associated training was provided. Water supply increased to 14 hours a day from the time prior to SUWASA when the supply service could be interrupted for months due to lack of fuel and poor maintenance.

In Maridi, the SIP resulted in extension of the water distribution network by 2.5 kilometers, an addition of five new water points in underserved neighborhoods, reduction in non-revenue water due to repairs undertaken on the water main and improved revenue collection measure through installation of 100 water meters. These works ultimately led to an increased client base for the urban water stations, with 4,083 more people getting access to safe drinking water, and 20,998 people getting access to improved service quality from existing improved drinking water sources.

The SIP together with the training from NWSC provided an opportunity for hands on capacity building of staff of the UWC who undertook the installation of the customer meters. The connection of the water treatment plant to the MECO electricity grid, allowed the station to save an estimated 27% on its power cost compared to the generator fuel cost. Most importantly, all energy costs are now being covered from the stations revenue collection. As in Wau, a foundation for increased billing and collection efficiency has been established with the provision of a computerized billing system and training provided by SUWASA. *Encouraging Renewed Donor Focus on Urban Sanitation*

The process used by SUWASA has encouraged the donors to rethink their role in urban sanitation. The process and the studies are already being used as a foundation for doing more in urban sanitation in South Sudan. KFW is beginning to do work in Torit, Yei and Yambio and using the SUWASA success. It is also anticipated that USAID would support the city through a follow on activity to SUWASA.



Standpipe arrangements in Maridi



Discharge at the Roton Lagoon, Juba, South Sudan

Charting a Course for Access to Urban Sanitation

The sanitation intervention produced two main results: improved knowledge and understanding of current urban sanitation challenges and opportunities and a plan to attract private and public investments to the sector. The diagnostic studies listed above generated a wealth of information on the status of the sanitation sector in Juba and served as the basis for developing the Juba City Sanitation Reform and Investment Plan. The Plan presents recommendations for the 2015-2030 planning period in three five year planning cycles.

The Plan balances institutional reforms and strengthening with expansion and improvements to the physical management of fecal sludge in three important aspects. The Plan proposes improvements in institutional arrangements to enable the sector to attract and effectively utilize funding. Over the longer term, the Plan proposes to transfer responsibility for the management of existing and new treatment facilities to a new entity that will be created under the proposed water law to manage urban water and sanitation services. The Investment Plan is estimated to require approximately US\$ 207 million over the next 15 years. The Plan proposes that users of sanitation services and facilities pay for services while providers ensure value for money through reasonable tariff setting and regulation. The public sector could also provide targeted subsidies to encourage poorer households to invest in their toilets. The Plan proposes that in order to support sustainability of service delivery, revenue generated from the sector, especially fees collected from the exhauster tankers, need to be ring-fenced within general accounts and reinvested in the sector.



Roton Lagoon, Juba, South Sudan

Coalescing Stakeholder Action

The development of the Plan also provided a forum not just for discussing the sanitation problem and potential solutions, but has also led to a coalescing of action on priority issues. Several key actions have already been taken as a result.

- **Licensing of Exhausters:** Until August 2014, licensing of exhauster trucks was undertaken on an annual rotational basis by the three city blocks, on direction from Juba County. However, by October 2014, licensing was transferred to Juba City Council partly due to the discussions engendered by the plan development process but also due to the establishment of the Department of Environment and Sanitation within Juba City Council. This represents the beginning of the process of centralizing and consolidation of the regulatory function within the city council.
- **Governance Council:** The Juba City Council in March 2015 began the process of establishing a system for better management of Roton lagoon. SUWASA developed a proposal that has been endorsed and an order issued by the Governor of Central Equatoria State in April 2015 to create a governance council that will oversee operation and maintenance of the lagoon with the possibility of engaging the private sector.



Manuki Payam crew ready for work

- Focus on Completing Roton Lagoon: Even though no donor has committed officially to finance the completion of the Roton lagoon, the process has generated significant interest with discussions ongoing between the City Council and USAID, KFW and the World Bank.

LESSONS LEARNED

Stakeholder Mobilization for Decentralized Management Systems

To ensure local stakeholder involvement, workshops and consultations were held to review the situation and the challenges facing the Maridi and Wau water utilities. The project also reviewed the utilities' existing institutional and water management frameworks and developed ways to strengthen them in order to improve service delivery. These consultations helped increase understanding among the local government, civil society, and private sector groups on how urban water service should be managed to ensure efficiency, reliability, and affordability. This consultative effort helped build ownership and entrenched acceptance of reform principles.

Importance of a Commercial Approach

SUWASA provided support to the water utilities in Maridi and Wau as they implemented basic commercial approaches and worked toward financial sustainability and operational cost recovery. The project helped to optimize the use of energy and chemicals, introduced a ring fence for revenues, and supported improved billing and revenue collection. These elements were reinforced through a Water Operators Partners facilitated by SUWASA with the NWSC of Uganda, which provided peer-to-peer training and were combined with small investment projects. Working with established utility staff using a hands - on approach was critical for the utilities' understanding and ability to begin the process of implementing commercial principles to improve revenue collection.

Flexibility in Fragile Contexts

The political instability that faced South Sudan starting in December 2013 significantly affected the implementation of project activities. SUWASA increased its project focus on helping utilities build financial sustainability and improve cost recovery. The crisis halted utility subsidies from the government and created a greater need for improved customer revenue for the utilities to operate. SUWASA worked with key decision makers to promote commercial approaches that increased financial resilience and allowed for operations to proceed in the politically fragile environment.

The development of the corporate plan assisted SSUWC in institutionalizing a commercial approach and a new vision for the national water corporation. In Maridi and Wau, SUWASA helped establish stakeholder water management committees aimed at increasing local and more flexible decision- making.

TABLE 17. PROJECT PERFORMANCE INDICATOR TARGETS (SOUTH SUDAN)

Performance Indicator	Level	Baseline Value	Targets	Actual
Number of people gaining access to an improved drinking water source (USAID F-indicator).	Goal	0	3,000	4,083
Number of people receiving improved service quality from existing improved drinking water sources (USAID F-indicator).	Goal	-	5,000	20,998
Percentage of operations and maintenance costs for water supply and sanitation services covered through customers charges.	Outcome	Maridi 62% Wau 15%	Average 20% increase over baseline	Maridi 112%* Wau 105%*

Performance Indicator	Level	Baseline Value	Targets	Actual
Number of good practices identified, promoted and adopted.	Output	0	3	5
Number of new policies, laws, agreements, regulations or investment agreements (public or private) implemented that promote access to improved water supply and sanitation (USAID F-indicator).	Output	0	2	2

**Excluding staff salaries and chemicals provided by SSUWC*

2.8 UGANDA: ECONOMIC REGULATION OF URBAN WATER SERVICES

BACKGROUND

The Ugandan government has made significant strides in the past decade toward improving water service delivery in the country's urban areas. In Uganda's 80 largest towns, water supply services are managed by the NWSC, and service delivery has consistently improved since 1998. Coverage has increased, and operational and maintenance cost recovery has greatly improved, making NWSC one of the top performing state-owned water utilities in Africa. Within the region, Uganda has been a pioneer in engaging local entrepreneurs in the management of water services in small-and medium-size towns. The government has applied commercial principles such as performance agreements between the Ministry of Water and Environment and local water operators, as well as management contracts between the local municipalities and private water operators.

Despite significant gains, the water sector still lacks clear, autonomous regulatory oversight. Repeatedly, government and sector leaders have called for the establishment of an economic regulatory authority. In October 2003, the cabinet approved the Urban Water and Sanitation Reform Strategy and Action Plan, which recommended the establishment of an autonomous regulatory framework. In March 2004, the Water and Environment Joint Technical Review highlighted the need for a regulatory agency.

It was only in 2012, with SUWASA assistance to the Government of Uganda (GoU) that the matter received full attention, leading to the design of a regulatory framework for the urban water and sanitation sector. The SUWASA project was implemented in partnership with GIZ. As part of this partnership, SUWASA provided technical assistance for the design of a regulatory framework and its institutional and organizational structure—including assistance in defining the framework rationale, drafting relevant legislation, and helping develop a business plan.

APPROACH

Development of the autonomous regulatory framework was a highly collaborative process with key stakeholders. SUWASA held a series of consultation meetings to secure broad sector buy-in for the setup of an autonomous regulatory agency. Stakeholders included the Ministry of Water and Environment, the Ministry of Finance, NWSC, the Association of Private Water Operators, and development partners.

These efforts culminated in a study tour of Kenya and Zambia in June 2013 to review these countries' experiences and lessons learned in implementing their regulatory programs, including the establishment of autonomous water regulatory agencies. Other purposes of the study tour were to illustrate the value of an autonomous regulatory institution and to give participants a practical perspective on how regulatory authorities operate.

The final project output, Report on the Establishment of an Autonomous Regulatory Agency for Urban Water and Sewerage Services in Uganda, was completed in August 2013. The report's recommendations were adopted for implementation at the joint sector review meeting in November 2013.

RESULTS

The main result was the development and adoption of a framework for establishment of the Uganda Water and Sewerage Regulatory Authority (UWASRA). The framework details the rationale, the benefits, the functions and institutional and organizational arrangements for UWASRA. SUWASA worked in close partnership with GIZ, who will be supporting the establishment of UWASRA following the passage of the legislation establishing UWASRA.

Benefits of Establishing UWASRA

- For the ministry: Fewer resources will be required to perform regulatory functions. This will allow the ministry to concentrate on executive functions such as the formulation of policy and long-term objectives. In addition, UWASRA can provide the ministry with valuable advice as sector experts.
- For service providers: Service providers will have more reliable periodic tariff adjustments, fewer delays in tariff approvals, better financial sustainability through cost reflective tariffs, and improved customer awareness.
- For customers: Customers will be better represented in the sector. There will be improved complaint resolution mechanisms and a better understanding of water supply and sewerage services.

Functions of UWASRA

UWASRA will be charged with regulating water supply and sewerage services in Uganda's urban areas, including services provided by NWSC, private water operators in small and medium-sized towns, services provided in small towns that have not yet signed performance contracts, and services in rural growth centers that have piped water systems.

UWASRA's main regulatory functions will include:

- Issuing and monitoring licenses to water and sewerage service providers, defining performance targets, and setting penalties for failure to meet the targets.
- Reviewing and approving tariffs proposals from water and sewerage service providers and balancing cost-recovery objectives and issues of efficiency, equity and affordability.
- Monitoring water and sewerage service levels and benchmarking service and technical quality.
- Identifying economically viable service areas, recommending variations to these areas and ensuring that service providers are competing fairly.



Collaboration – GIZ, USAID

- Receiving and resolving customer complaints, providing information regarding water supply and sewerage services to customers. It is important to note that customers will be advised that the regulatory body will not assume water service providers' regular customer care activities.

Institutional Arrangements

With the establishment of UWASRA, a clear separation of functions can be achieved in the sector. These functions include:

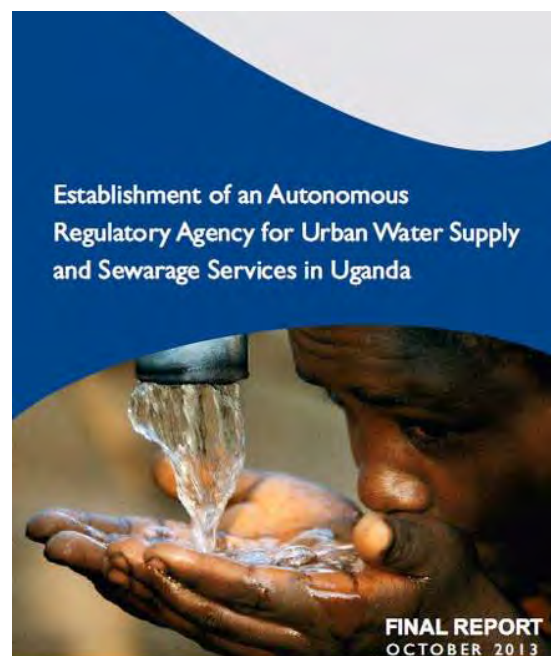
1. Policy and resource mobilization functions: These functions will continue to rest with the Ministry of Water and Environment. The functions include policy formulation, development of long-term sector objectives and targets, mobilization of financial resources for investment, and oversight of institutional framework issues.
2. Economic regulatory functions: UWASRA will handle these functions.
3. Service provision functions: These functions will be provided by licensed water and sewerage service authorities and service providers.

The chairperson of the UWASRA board will report to the water and environment minister. The minister's office will report to the Cabinet and parliament. UWASRA's autonomy will be assured through legislation.

UWASRA's Organizational Structure

UWASRA will be governed by a non-executive board consisting of a maximum of seven members. The Minister of Water and Environment will appoint the members of the board by means of a transparent process. The board will include representation from the Uganda Institution of Professional Engineers, the Uganda Law Society, accounting or financial associations, a customer organization, a commerce or manufacturing association, academic or research institutions, and the Ministry of Water and Environment. Board members will serve for five years and can be reappointed once.

UWASRA's day-to-day management will be led by an executive director appointed by the board in an open and competitive process. The executive director will have qualifications and experience in the water sector and in high-level management. The institutional, organizational and legal framework are outlined in the report that was produced as part of the activities.



LESSONS LEARNED

A number of lessons were learned from SUWASA's institutional and policy review of Uganda's water sector as well as from the experiences of neighboring countries in setting up and operating autonomous regulatory agencies. The following are worth noting as Uganda establishes UWASRA:

LEGAL FRAMEWORK

- Proper setup within a clear legal framework is a necessary prerequisite.

- Clarity of roles among all sector stakeholders is key. It is important that the regulatory agency, especially in its infancy, makes an effort to create awareness of its function and role in the sector. This means having a dialogue with other stakeholders, including the regulated entities and ministries.

DECISION-MAKING AUTONOMY

- The regulatory authority must have complete decision-making authority. In this respect, the regulatory agency should have financial autonomy, including possibly being financed by a small surcharge on customer water bills regional experience is around 1–2% of consumer bill.
- The objective and rationale of an autonomous regulatory agency is largely undermined if it is perceived to be a direct appendage of the ministry.
- Having a board chairperson elected by the board members is the best way to reduce favoritism and political influence over the autonomous authority.

PROFESSIONALISM AND PUBLIC INTEREST

- Autonomous regulation seeks to strike a delicate balance between utility service sustainability and consumer protection. To achieve this, professionalism and not politics should lead the way.
- All the key stakeholders had to have a buy in. At the start of the project, there was resistance from senior management of NWSC to establishment of an autonomous regulatory framework. SUWASA made all the necessary steps and consultations to ensure that NWSC which supplies water to more than 80% of the urban population in Uganda was in agreement with the proposal.

TABLE 18. PROJECT PERFORMANCE INDICATOR TARGETS (UGANDA)

Performance Indicator	Level	Baseline Value	Targets	Actual
Number of good practices identified, promoted and adopted.	Output	0	1	1

2.9 ZAMBIA: COST RECOVERY FOR URBAN WATER SERVICES

BACKGROUND

Since 2000, water tariffs in Zambia did not keep pace with the annual inflation rate of about 20 percent. As a result, tariffs had, in effect, declined. Tariffs did not reflect the actual cost of providing service, thereby constraining Zambia's 11 commercial utilities ability to provide quality services for their customers, making investments needed to keep pace with urban growth, and expanding services for the poor. Since Zambia has experienced an urban growth rate of 2.3 percent a year, the number of urban residents who are without reliable access to safe water has continued to grow.

In partnership with the Millennium Challenge Corporation (MCC), which is financing significant urban water infrastructure investments, SUWASA provided technical assistance to the autonomous water regulatory agency National Water Supply and Sanitation Council (NWASCO) to improve its financial and operational efficiency as well as its governance and accountability mechanisms for urban water services. NWASCO.

SUWASA's technical assistance focused on supporting NWASCO upgrade its tariff adjustment procedures to reflect more realistically the actual utility cost of service and to promote cost recovery and ensure that consumers are charged real costs. In addition to developing a tariff model, SUWASA also supported NWASCO in the development of appropriate corporate governance guidelines that clearly defined the roles and relationships among boards, shareholders, and water utility management. This was aimed at contributing to improved governance and accountability mechanisms for the eleven commercial utilities. The specific objectives of the project were to:

1. Promote financial and operational efficiency in the provision of urban water services
2. Support development of improved governance and accountability mechanisms for urban water services.

APPROACH

Updating Cost of Water-Service Model

NWASCO used a cost-plus method of tariff setting, a pricing method in which the customer pays for the utility cost of service plus a fixed percentage to the utility to determine the cost of service. However, the methodology used as a basis for determining the cost of service contained numerous deficiencies because it used a cost baseline that remained fixed for every financial year and tariff adjustments were determined by taking that fixed amount and adding a percentage to account for inflation and other specific costs including preventive maintenance.

This approach did not enable Zambia's commercial utilities to recover the actual cost they were facing, and it provided little incentive for them to improve efficiency and to minimize costs that were passed on to customers. To address these inefficiencies, SUWASA worked with NWASCO to develop two models: a dynamic tariff model and an accurate cost of services model. The cost of service model is a spreadsheet-driven analysis tool. It can be used by utilities to rack costs and to electronically submit tariff applications to NWASCO, which approves tariffs. The new cost of service model provides NWASCO and Zambia's 11 commercial utilities with an opportunity to: (1) Evaluate operational costs based on comparative data and benchmarking performance across utilities; (2) prepare detailed projections of each financial account included in the water utility's accounting systems; (3) charge for water based on costs that the utilities are actually incurring, a significant step toward achieving commercial viability; (4) understand actual costs and compare them to calculated costs, historical costs, and other utility costs; and (5) assist management as it controls costs, identifies inefficiencies, and makes new tariff proposals.

Updating Tariff Model

The project established a financial model that enables NWASCO to evaluate tariff proposals based on utilities' actual service costs and the degree to which they are utilizing opportunities to operate more efficiently. To expedite tariff reviews, the model allows utilities to submit their data in an electronic format that offers the opportunity for comparative benchmarking. The new tariff model developed by SUWASA and NWASCO has many benefits for utilities and consumers: (1) It aims to help utilities' financial sustainability



by providing sufficient revenues to cover the cost of providing water and sanitation services; (2) it achieves the equitable distribution and affordability of water and sanitation services by ensuring that a minimum quantity of water is affordable, particularly for low-income consumers; (3) it assures consumer protection, economic efficiency, and fair pricing, because consumers are not asked to cover a utility's inefficiencies or to pay unfair charges; (4) it ensures that the process is transparent, simple to understand, and predictable.

Updating Corporate Governance Guidelines

The corporate governance of water utilities in Zambia was, to a large extent, highly compromised. While all the utilities had boards of directors, the composition of boards was not in accordance with the prevailing Governance guidelines. Consultations with stakeholders and a review of documentation conducted by SUWASA showed that there were governance challenges, including: weak or non-existent corporate governance documents such as codes of ethics for boards of directors; and a lack of adequate guidelines for establishing effective board procedures.

Corporate governance guidelines were reviewed to make sure they were in line with the practices of similar Zambian companies and that they responded to international practices. As far as corporate governance is concerned for Zambian utilities, NWASCO's role is only to provide advisory services. Therefore, the Ministry for Local Government and Housing that oversees local authorities and therefore water utilities needed to be able to enforce the new corporate governance guidelines.

The existing corporate governance guidelines were vague and left out core issues such as good board practices, controls, transparency, shareowner rights, evaluation, risk management and the role of board committees. In addition, the role of the chairperson and that of the company secretary – two of the most important positions in a corporate governance system – were not clearly detailed.

RESULTS

Following approval by the NWASCO board of directors, NWASCO and seven of Zambia's 11 utilities used the new cost of service model and the new tariff model. The utilities decided to use the models as a basis for their tariff review applications for the 2014 fiscal year. This provided an opportunity to practically assess the models' usefulness and to seek feedback from the users. The assessment helped refine the models and develop user manuals.

The utilities now can negotiate their tariff increases using an empirical platform. As a result, utilities can calculate their costs and accurately generate tariffs in a timely manner. NWASCO is satisfied with the improved quality of information provided by utilities. In addition to the new corporate guidelines, SUWASA worked with NWASCO to develop the following:

1. A corporate charter for boards of directors that outlined a vision, mission, roles, powers, job descriptions, duties, functions and responsibilities for the boards and management. The charter describes how boards should be appointed and the rules governing procedures. The charter also spells out the way boards should be organized, the frequency of committee and board meetings and shareholders' rights.
2. A code of ethics to guide utilities' boards and management.

The guidelines covered principles including integrity, ethical behavior, the rights and equitable treatment of shareholders, the roles of stakeholders, disclosure, transparency and boards' roles and responsibilities.

LESSONS LEARNED

Working in a Reformed Water Sector Allows Effective Interventions

The success of this project can be attributed to Zambia's organized and reformed water sector. The sector has a healthy regulatory and institutional framework that is supported by an effective legislative framework. Good corporate governance reforms must be undertaken in an environment that respects the rule of law and institutions. In Zambia, good corporate governance and the promotion of cost recovery in water service provision are anchored in the country's Water Supply and Sanitation Act No. 28 of 1997 and the Companies Act, Chapter 388.

Consulting Customers in the Tariff Design Process is Effective

When designing the tariff and cost of water service models, consultations between representative groups of consumers and the utilities can be useful. Consumers are able to effectively contribute to the discussion. Once they understand the cost and macroeconomic issues, they are able to appreciate why an adjustment is justified. Customers are willing to pay for increased tariffs when it is clearly demonstrated that the tariff directly pays for improvements such as extension of services, improved water quality, and sustained water supply.

Access to Data and the Ability to Verify its Accuracy are Key to Developing a New Tariff

Analyzing utilities' commercial performance and developing the two models was a challenge in remote locations, where collecting and verifying data was difficult. Utility managers were reluctant to release confidential financial figures. Thorough investigation was required to confirm that the data provided was accurate and reliable; and in some cases, the data needed cleaning for the models to be effective.

Government Enforcement of the New Guidelines is Critical

Government—in this case, the Ministry of Local Government and Housing—must have a clear understanding of the need for corporate governance guidelines. Without this buy-in, technocrats in the ministry could provide the minister with inaccurate information on the nature or composition of the utility's board.

Board Management Plays a Critical Role in Corporate Governance Reforms

Corporate governance guidelines may not solve the sector's woes without commitment and a change in the management system. It is a utility director's responsibility to encourage corporate governance reforms. Being an agent for change at that level requires considerable political and interpersonal skill, tact, and business acumen.

TABLE 19. PROJECT PERFORMANCE INDICATOR TARGETS (ZAMBIA)

Performance Indicator	Level	Baseline Value	Targets (August 2012)	Actual (July 2013)
Number of good practices identified, promoted and adopted.	Output	0	2	2
Number of new policies, laws, agreements, regulations or investment agreements (public or private) implemented that promote access to improved water supply and sanitation (USAID F-indicator).	Output	0	2	3

3.0 LESSONS LEARNED

In the course of program implementation, SUWASA captured key lessons that provide valuable insights for the design and implementation of urban water and sanitation reforms by host country governments, USAID, and the international donor community. The lessons cut across the various aspects of the program and are detailed in the section below.

3.1 POLICY REFORMS TO INSTITUTIONALIZE ACCOUNTABILITY AND AUTONOMY OF SERVICE PROVIDERS ARE CRITICAL, BUT REQUIRE STRONG LOCAL POLITICAL LEADERSHIP TO SUCCEED

Provision of urban water and sanitation services is in most instances the responsibility of institutions (i.e., utilities and other water service providers) that have a strong linkage with the political systems of national, regional, or local governments. They tend to not be held fully accountable for the quality of service provided; services are often subject to political pressures and utilities do not have sufficient autonomy and authority to manage their operations on a sound commercial footing. They are faced with tariffs that are not based on incurred costs but rather on political considerations. Institutions are often weak as a result of many factors including the lack of a clear policy, legal, and regulatory framework for urban water services delivery.

Redesigning institutional arrangements was at the heart of SUWASA's sector reforms in Nigeria and South Sudan and demonstrated that local political leadership is absolutely critical for successful sector reforms. In designing SUWASA interventions, the starting point was to ensure there was a clear policy framework that demonstrated political commitment by local leaders to providing autonomy of the urban water service provider, urban water services should be provided based on cost recovery principles, and corporate governance should be used to promote accountability of the service provider. In both South Sudan and Bauchi State, Nigeria, a WASH sector policy was already in existence.

In designing and implementing a reform project, it is necessary to identify local reform champions. These should be stakeholder representatives that have a certain level of understanding of the reforms and are influential in decision making. The reform champion's team may comprise senior government and other stakeholder officials with capacity to steer the reform program and should be supported by a group of professionals, functioning as a secretariat, with a deep understanding of the local constraints, the challenges facing the urban water sector, and solutions that can possibly work to address the challenges. It is important for the secretariat be creative and flexible to create opportunities when dealing with the bureaucratic and protracted processes of advocating and mobilizing stakeholders for policy, legal, and institutional reforms that promote autonomy and accountability.

Implementation of any reform program can take painstakingly long and this should be taken into account in reform project designs. This is even more so when legislation has to be developed, as was the case for Bauchi. Enacting of new laws is beyond the influence of sector professionals and depends on parliamentary priorities.

3.2 ESTABLISHING REGULATORY BODIES IS A PARTICULARLY CONTENTIOUS AND LENGTHY POLITICAL PROCESS

While all water sector reforms are politically challenging, establishing autonomous, effective economic regulators is particularly difficult. On the one hand, governments tend to want to maintain the status quo

rather than ceding responsibility for tariff setting and monitoring of service delivery to an autonomous unit; yet on the other hand, they are in agreement on the need to have professionals determine appropriate tariffs and service delivery standards. Consequently, since reforms typically require enactment of new laws or decrees, such reforms may take years to be realized.

This was the experience in the countries in which there was a recognized need to establish a regulatory framework (Uganda and Mozambique). In Uganda, the regulatory reforms entailed not only design of the institutional framework, but enactment of specific legislation for establishment of an autonomous regulatory authority. In Mozambique, the new licensing and regulatory framework needed cabinet approval. In both cases, development of the draft legislation or decree, including stakeholder consultation, was completed with relatively few delays, but getting actual progress in approval by legislatures (or, in the case of Mozambique, the Council of Ministers) was much more challenging and remained undone after SUWASA closure. (The decree in Mozambique was approved after the close of SUWASA.)

This could be a reflection of the fact that regulatory reform tends to get mired in bureaucratic legislative processes which are slow and difficult to advance. Both cases, however, also faced significant resistance from key stakeholders who had to be brought on board through extensive consultations. In the case of Mozambique, the situation was made more complex because it involved formalizing private water providers as regulated entities for the first time. While regulation is clearly an important part of any water sector reform, the SUWASA activity seems to suggest that regulatory-type activities require much longer gestation periods, are highly subject to political processes, and may not lend themselves to interventions with relatively strict and short timeframes.

3.3 TARGET REFORM INTERVENTIONS WITH THE PERFORMANCE PATHWAY FOR WATER UTILITIES

Utility-level reforms cannot be carried out in a piecemeal fashion if they are to succeed, but rather should be guided by a strategy and implementation plan that reflect the current conditions and technical, financial, and managerial capacity of the utility; realistic and achievable performance goals and targets; and a clear pathway for achieving performance improvements. In this regard, the *SUWASA Performance Pathway for Water Utilities* is a tool that can be used to design reforms. SUWASA utilized this approach to determine the type of interventions required at different utilities. For example, in Bauchi the utility-level reforms included developing a PIP, undertaking a customer enumeration exercise, computerizing the billing system, and undertaking a human resources audit, all critical steps since the utility was in a dire financial condition and struggling to maintain even minimal services to its customers (i.e., in the “red zone” of the SUWASA performance pathway). In contrast, HTWSSSE in Hawassa, Ethiopia had already instituted many of these basic improvements and was striving to achieve full commercial viability (i.e., in the “yellow zone” of the SUWASA performance pathway). As such, a tariff revision to enable recovering operating and capital replacement costs was the appropriate activity to advance the reform process.

In addition to considering the internal utility conditions, local socioeconomic conditions must be taken into account in designing PIPs. The suite of SUWASA countries included fragile states like South Sudan, Nigeria, and Liberia which are at the beginning of (re)building institutional systems and utilities, and therefore were on the red portion of the SUWASA Pathways. Other SUWASA countries that have made progress—Zambia, Mozambique, Ethiopia, Kenya, Uganda, and Senegal—have advanced to the yellow and even green portion of the pathways. For example, a select number of well-performing utilities in Kenya have been successful in borrowing money from commercial markets.

While fragile countries like South Sudan that are just beginning institution building may require fundamental but effective interventions, such as training in basic technical operations, countries on the yellow path may require more institutional strengthening interventions such as upgrading internal business systems and improving customer orientation. Reasonably well-performing utilities in Kenya and

possibly Uganda require more targeted interventions that begin to decrease their reliance on government funding, to include the use of commercial financing for expanding services. What this suggests is that design of future interventions by USAID can be more specifically targeted to ensure interventions are appropriate for the specific performance level of selected utilities.

SUWASA's experience with the SIP has shown that investments without reform have not yielded service improvements while reform without investments is unlikely to be sustained. Hence the need to develop partnerships with key technical and financial partners to properly coordinate reform and investment plans that are able to reinforce both sustainable infrastructure expansion and reform efforts. Achieving financial viability often takes several years and requires a multifaceted strategy, including improvements in financial management, better operational performance, redesign of tariff structures and connection charges, and campaigns to increase connections for expanded services. With such an approach, targets for cost recovery that are realistic and consider the poor's ability to pay can lead to financial viability, as well as, improved access for the poor.

3.4 WATER OPERATOR PARTNERSHIPS ASSIST IN JUMPSTARTING OPERATIONS IN FRAGILE ENVIRONMENTS

If designed and executed well, WOPs and peer-to-peer learning can be instrumental in jump starting the reform process for weak utilities. This was the case with SSUWC which benefited from the WOP arrangement with NWSC of Uganda. The technical training provided by NWSC jumpstarted operation of the water treatment plants in Wau and Maridi, which had been non-operational for months. Similarly at the headquarters level, the corporate advice provided by NWSC helped shape the attitude of the SSUWC toward a more commercial and corporate orientation. Similar results were observed in Bauchi, Nigeria which received support from Swaziland Water for improving utility performance. Also, Ebonyi, Nigeria received support from LWSC in which EBSWC staff were exposed to several aspects of modern water utility management with specific attention to customer care, billing and collection management, and technical operations. These partnerships and relationships not only are valuable during the life of the program, but may also lead to long-term relationships that will further support utility reforms.

3.5 INFORMATION AND COMMUNICATION TECHNOLOGY CAN HELP FILL SECTOR INFORMATION GAPS

Critical information deficits can be quickly and efficiently overcome using simple information technology together with user-friendly software. This was the case in Juba, South Sudan, and Ebonyi, Nigeria where georeferenced data on city growth, population size, household sanitation and hygiene behaviors, water network infrastructure, and access were gathered in relatively short periods of time using readily available iPads or tablets with geo-locating functionality. In Ebonyi, SUWASA developed network maps of the utility's distribution network and infrastructure assets linked to a GIS system, which were critical to the utility in implementing an improved maintenance and long-term asset management program. In Juba, maps of city growth and population settlement patterns, together with related sanitation and hygiene behavior information collected in a sanitation survey were generated within weeks. The maps provided stakeholders and government decision makers with the first comprehensive overview of the sanitation challenges in the Juba metropolitan area, and served as the foundation for the first citywide Juba Sanitation Reform and Investment Plan.

3.6 THE PRIVATE SECTOR CAN PLAY A VITAL ROLE IN FILLING SERVICE GAPS UNDER AN EFFECTIVE REGULATORY FRAMEWORK

The role of the local private sector in filling the service gaps in both water supply and sanitation should not be overlooked. In many instances the local private sector is considered by governments as informal

businesses that remain unregulated. However, it is clearly evident that the private sector can respond quickly and facilitate a viable market for services even in a post-conflict situation, as evidenced by the fecal sludge truckers operating in Juba. The same can be said of Mozambique where 816 private water providers serve roughly half of the population in the Municipality of Maputo and neighboring Matola. These markets emerged in institutional vacuums, indicating that there was no clarity on regulations to assure necessary social, environmental, and other safeguards. This justified the need to formally recognize the private operators, develop a licensing framework, and have their services regulated. With clear definition of the objectives of the licensing and regulatory framework, the private operators can embrace this approach as happened in Mozambique. In this context, USAID can play a role in supporting public agencies to create an enabling environment as well as provide a regulatory structure for efficient and equitable service delivery that involves the private sector.

3.7 COMMERCIAL FINANCING FOR WATER UTILITY INFRASTRUCTURE REQUIRES SIGNIFICANT ENABLING ENVIRONMENT AND MARKET PRECONDITIONS

USAID can facilitate short-term commercial financing for water utility service expansion in Africa as evidenced by SUWASA achievements with utilities in Kenya. The ultimate goal would be to develop the market to a point where utilities are willing and able to borrow without any subsidy or guarantee mechanism and commercial banks are sufficiently interested to the point of triggering competition within the sector. This success is dependent on a number of preconditions. First, it is necessary to have an enabling policy environment such as was provided by the 2002 Water Act in Kenya that allowed water service providers to “utilize acceptable business practices in their operations.” This provision allows mobilization of infrastructure financing from the commercial and open market. What is important is for utilities to reach sufficiently high performance levels to provide comfort to commercial lenders.

Second, the existence of a thriving local banking sector already engaged in financing activities and a supportive enabling environment is critical to bring utilities and banks together for lending. The existence of active local banks in turn facilitates a culture of borrowing and therefore can promote greater willingness on the part of the utilities to look for commercial financing. This also opens an avenue for USAID to facilitate lending by the local commercial banks to the water sector.

Third, as this market is still very new and therefore uncertain for both utilities and commercial banks, measures to mitigate loan default risks are essential, while also ensuring that the utilities maximize use of loans in a speedy and efficient manner. Credit enhancement mechanisms such as the DCA and subsidies delivered under OBA are important first steps to mitigate risks. The DCA gives commercial banks comfort to rely less on asset (collateral)-based lending and more on the financial viability of the utility and the investment for which the loan is needed. The RBA, which currently includes the World Bank, administered Global Partnership on OBA and the KfW-administered AoD in Kenya, subsidizes the loan by between 40-60% based on successful completion of the project and that it yields the desired results measured through achievement of agreed targets and timelines. The Kenya experience indicates that it can be highly advantageous to build in both DCA- and RBA-type arrangements, especially in new markets. They are particularly useful as they tend to target low-income consumers who would otherwise be left out, as they can be falsely seen as a non-profitable market segment.

The technical assistance provided by SUWASA to the banks and utilities was critical. For the banks, it was necessary to help them understand that the water sector is a viable sector to lend to and that utilities are legal entities. For the utilities, it was important to demystify the myth that commercial banks are to be avoided for investment funding. There was need to provide them with advice on the costs and benefits of taking a commercial loan, including how this links to network expansion and the related long-term

financial viability of the utility. Advice was also needed to help both the utilities and the banks to navigate the donor requirements for DCA and RBA.

3.8 UNCLEAR INSTITUTIONAL RESPONSIBILITIES AND SIGNIFICANT CAPACITY GAPS HINDER PROGRESS ON URBAN SANITATION

The limited progress made in terms of delivering improved services in sanitation in both Juba, South Sudan, and Tambacounda, Senegal, speaks to the fact that urban sanitation reform lags far behind water supply and to the organizational complexity of dealing with urban sanitation issues. In both cities, complex institutional arrangements have resulted in sanitation having no clear institutional home. In Juba for instance, the Juba County government has responsibility for the wastewater treatment lagoon, but has neither the jurisdiction nor technical capacity to manage the facilities. Meanwhile, Juba City Council has the legal mandate, but limited capacity, and the South Sudan Urban Water Corporation which has technical competence is not involved with urban sanitation. A similar situation exists in Tambacounda where ONAS is responsible for urban sanitation, but has no presence on the ground, while the Municipality of Tambacounda is willing take responsibility but has no capacity. It is also evident that the private sector currently plays a significant role in the sanitation sectors of both cities, especially in FSM. However, this role is neither properly recognized, promoted, nor regulated.

3.9 LOCAL WASH SYSTEMS CAN BE ADVANCED IN FRAGILE ENVIRONMENTS IS POSSIBLE BUT REQUIRES FLEXIBILITY

USAID can work successfully in fragile and/or conflict-impacted countries despite significant security challenges, weak institutional structures, and low human resource capacity. However, this requires good project design and sufficient flexibility in approach to influence the reform or establishment of water and sanitation institutions as was the case with South Sudan and Nigeria, from which the following lessons were drawn.

Flexibility is key: In fragile environments, it is important to be highly flexible in implementation arrangements, program activities, and implementation team availability. This requires preparedness and agility to respond to external shocks ranging from outbreak of political and security crises as was the case in December 2013 in South Sudan, to terrorist attacks that were common in Nigeria, and the Ebola crisis in Liberia. This necessitates flexibility on the part of USAID to provide for demobilization and remobilization of staff quickly and at short notice. In addition, the program must have sufficient flexibility to allow implementation of both emergency responses as well as long-term development interventions. In the case of Juba, for instance, the cholera outbreak of May 2014 presented an emergency challenge to which SUWASA responded by providing capacity to the Juba City Council to engage directly with management of fecal waste. The outbreak, however, was also used as a platform for engaging the mayor and the city council on the need for a longer-term solution which involves planning and mobilizing resources for sanitation improvements. In the case of Bauchi, Nigeria, security concerns resulting from the Boko Haram insurgency required that consultation meetings be held in Abuja instead of Bauchi at increased expense to the program.

Focus on “quick wins:” Technical assistance programs must be cognizant of the limited time for implementation, and focus on identifying those intervention where the program can make quick gains and around which the sector players can rally to keep the reform effort going. SUWASA focused on the challenges facing Juba to which most stakeholders could relate, particularly the problems and health risks from the Roton sludge treatment lagoon. This focus on an activity that was challenging but doable is what coalesced stakeholders to rally around the mayor in developing the investment plan and the consequent establishment of the sanitation governance council.

Partner with local political leadership: In an emerging or post-conflict country with limited institutions and institutional capacity, there is a certain inevitability linked to identifying champions who believe in the reform process. This was the case in Juba where the mayor was clearly a champion helping to move the process despite the complicated institutional arrangements. However, for long term sustainability, it is important that effort is put into developing and strengthening systems that would anchor the reform in state/national/local institutions rather than in an individual. The idea of the sanitation working group and the ongoing effort to operationalize the sanitation governance council in Juba are crucial entry points into ensuring that the reform can retain its momentum. In Bauchi, it was a group of champions established through the RCT that helped spearhead various milestones in the road map to reform. The RCT worked well because it included influential decision makers who understood how to mobilize institutional stakeholders and community groups.

3.10 SMALL INVESTMENTS CAN LEVERAGE TECHNICAL ASSISTANCE TO INSTITUTIONAL REFORM EFFORTS

The SUWASA SIP was invaluable in complementing technical assistance provided to water service providers, heightening the interest and commitment of utility and water ministry officials to the reform initiatives, and supporting pilot and demonstration activities, such as the water kiosk management pilot in Hawassa, Ethiopia, and the metering pilot in Rivers State, Nigeria. This linking of infrastructure or hardware and software investments with institutional reforms makes it easier to get the engagement of utilities while also providing much needed service improvements. It is necessary to ensure that SIP designs focus on institutionalizing and sustaining both service delivery and financial sustainability and provide leverage for the overall reform effort.

3.11 GENDER EQUITY REMAINS A CRITICAL CHALLENGE

Gender inequity, both in water and sanitation policies and in the provision of opportunities for women in the sector workforce, continues to be a major challenge in Africa. SUWASA demonstrated that taking certain simple measures can help reduce the imbalance in the short term. One example based on the Kenya experience is to introduce basic things like workplace toilets and flexible reporting hours for women employed at water utilities to have a positive impact on the participation of women in the workforce. As a further example, considering the different needs of men and women in design of water and sanitation services can improve connectivity and revenue as was the case with the removal of the land title requirement for water connections in Kenya. Although these actions seem simple, it is an area that many utilities still do not pay sufficient attention.

4.0 PROMOTION OF BEST PRACTICES

4.1 KNOWLEDGE PRODUCTS AND SHARING

An overriding objective of the SUWASA program was to demonstrate and promote best practices in urban water and sanitation reform to encourage replication and provide knowledge and tools to governments, utilities, public and private water sector practitioners, media and the general public to understand and support reform activities. This section summarizes SUWASA's activities to meet this objective.

Pathways for Urban Water and Sanitation: By 2014, SUWASA had accumulated a wealth of knowledge after five years of supporting urban water and sanitation sector reforms. SUWASA had produced a wide range of knowledge products, such as technical reports, baseline surveys, tariff review reports, project completion reports, all of which provide valuable references for systemic learning and sharing. To make this wide range of knowledge products readily accessible, SUWASA developed a user-friendly tool called *Pathways for Urban Water and Sanitation* comprising key reform messages linked to useful resources from SUWASA's activities (see Annex II). The pathways were developed to share experiences, deliver key messages, and provide links to useful resources such as manuals, case studies, templates, and reports. The Pathways communicate complicated reform topics in a highly accessible manner to a broad range of sector stakeholders. It is a useful tool for sector practitioners in envisioning and sequencing reform efforts.

The usability and relevance of the pathways were tested through focus group discussions with stakeholders in Kenya, Nigeria, and South Sudan. Feedback was incorporated in the final version of the pathways, but stakeholders were unanimous on the usefulness and richness of the tool. The complete pathways were first disseminated at the SUWASA Knowledge Forum to over 120 key stakeholders (see Section 4.1.2). The feedback received was very positive and stakeholders proposed over 15 additional resources for the pathways. The Pathways were prepared as interactive PDFs and on the SUWASA website⁵ and also available at <http://usaid-SUWASA.org/pathways>.

Website: The SUWASA website was launched in 2009 to share information and products with sector stakeholders. Website content was continually updated and expanded as SUWASA reform activities and experience grew and deepened. The website grew steadily over the years. Also, SUWASA built a strong institutional memory through its accumulation of publications, activity summaries, reports, snapshots and thematic resources from partners. A sharing and learning component was introduced within the activity pages to ease the sharing of materials related to specific SUWASA thematic areas (<http://usaid-suwasa.org/>).

HTML Newsletter: An e-newsletter, SUWASA News, was introduced at the start of the project to help communicate



⁵ The interactive PDFs are provided in Annex II, including active links to all resources.

program results and success of activities, including highlighting significant policy and reform developments. The newsletter also provided up to date information on new water sector knowledge resources and important upcoming events of particular relevance to African water sector stakeholders. Examples of the newsletter are provided in Annex IV.

Success stories from SUWASA activities were highlighted to share the human element of our work within the context of the program's broader goals. SUWASA disseminated 18 quarterly issues of the newsletter to a list serve ranging between 1,600–2,200 sector stakeholders.

Promotion Materials: SUWASA employed various types of promotion materials during the course of the project to share activity progress, approach and lessons learned. The materials included one page fact sheets, four page activity profiles that provide more details on the activities, and snapshots. Examples are provided in Annex IV.

In 2012–2013, SUWASA activities were featured in USAID's flagship newsletters, *Frontlines* and *Global Waters*. *USAID Frontlines* highlighted two SUWASA activities in the March/April 2013 issue. The article on Kenya highlighted the use of prepaid meters in improving service delivery to the urban poor and on Nigeria, the customer enumeration in exercise as a key component of ongoing policy and utility reforms. *Global Waters*, USAID's water magazine, highlighted innovative financing for water in Kisumu, Kenya. Further, at the Annual Water Sector Conference in Nairobi, Kenya, February 20–21, 2014, SUWASA made a presentation titled Financing Options in Urban Water and Sanitation.

4.1.1 INTERNATIONAL AND REGIONAL CONFERENCES

Over the six years, SUWASA regularly organized and participated in informal and formal sessions on urban water and sanitation reform issues, with contributions by top experts and specialists from peer organizations. SUWASA took advantage of extensive networking opportunities to promote the reform principles and good practices that were the foundation of the SUWASA program. SUWASA met its program commitment to lead at least two knowledge dissemination sessions per year at major international water and sanitation forums.

SUWASA facilitated forums and opportunities for broader exchange among water sector officials, policy makers, development partners and USAID through key international and regional water sector events including, the Africa Water Week, Africa Water Association Congress, WEDC Congress, Scientific and Technical Council of the African Water Association, Global Water Summit and the World Water Week. Examples of SUWASA's activities at these important forums are provided below.

- **Hosting Technical Sessions:** SUWASA organized workshops designed for public and private water providers to improve their technical capacity in investing more in low income urban areas by seeking alternative ways to deliver water services in what are considered traditionally difficult areas. The workshop drew from insights and experiences from implementing the projects in Kisumu and Nakuru. Participants also visited the public pre-paid meters project in Nakuru. Participants expressed interest in learning and replicating the SUWASA Kenya utility financing model in other countries. Since this presentation, utilities and development partners have visited the public pre-paid meter project in Nakuru to learn more.
- **Supporting Technical Experts to Share Knowledge:** SUWASA supported speakers from activity countries to share reform activities, experience and diverse opinions with regional forums. For instance, during the 5th Africa Water Week, USAID through SUWASA was the lead convener of the Water and Sanitation track of the conference. Within this track, SUWASA organized a session on WASH Finance Mobilization which included presentation from a national water trust fund, a microfinance project and a regional multilateral development bank. The session focused on ways forward for financing of water and sanitation services. The session explored more innovative ways to

raise investment funds from multilateral development banks, commercial and investment banks, micro-finance institutions, and the private sector. Water utility managers and private operators were often keen to discuss the projects, viewed as remarkable examples in seeking solutions for improving services for the urban poor.

- **Presenting at Regional Sector Events:** The SUWASA team made several presentations at various forums as detailed in the table below:

TABLE 20. ILLUSTRATIVE SUWASA REGIONAL CONFERENCE PRESENTATIONS

Presentation Title	Conference and Dates
'Does Regulation Matter in Attracting Private Sector Investment?'	4th Africa Water Week, Cairo, Egypt, May 14–18, 2012
Private Sector Investment in Water and Sanitation	AfWA Congress, Marrakech, Morocco, February 20–24, 2012
WASH Finance Mobilization: What are the opportunities beyond public finance?	Africa Water Week - Dakar, Senegal, May 26–28, 2014
Capacity Development Workshop	36th International WEDC Congress July 1–5, 2013, in Nakuru, Kenya,
Financing Utilities to Deliver Services to the Urban Poor at Scale	International Water Association (IWA) Development Congress, Nairobi Kenya, October 14–17, 2013
'Public pre-paid meters - a viable service option for low income areas? The Nakuru Experience	IWA Development Congress, Nairobi Kenya, October 14–17, 2013.
Water Utility Management in Fragile Environments	Africa Water Week - Dakar, Senegal from May 26–28, 2014
Are Cost Reflective Tariffs a Panacea to Utility Financial Challenges - Lessons from Hawassa, Ethiopia	IWA Development Congress, Nairobi Kenya, October 14–17, 2013
Metafinance, Financing Utilities to Deliver Services to the Urban Poor at Scale	IWA Development Congress, Nairobi Kenya, October 14–17, 2013
Private Network Water Service Providers - Competitors or Partners for Water Utilities	IWA Development Congress , Nairobi Kenya, October 2014
Accessing Commercial Bank Financing to Deliver Services to All - What Utilities Need to Know and Do"	IWA Development Congress, Nairobi Kenya, October 14–17, 2013
Opportunities for Fecal Sludge Management in a Post-Conflict Situation," a case study of Juba.	17th AfWA Congress in Abidjan, Côte d'Ivoire, February 17–20, 2014
Regulatory reforms in Uganda and the potential of improving and expanding water and sanitation services through regulation and benchmarking in the sector.	17th AfWA Congress in Abidjan, Côte d'Ivoire, Feb 17–20, 2014

- **Activity Close-Out Events:** Upon completion of each SUWASA reform project, the SUWASA country teams and Nairobi program managers facilitated close-out events to review project results, promote continuation of reform progress, and disseminate lessons learned. The events held in activity countries brought together diverse groups of stakeholders including USAID Mission representatives, government officials, and civil society. Working on interactive panels, participants discussed the key SUWASA activity outputs, and opportunities to accelerate and/or maintain momentum of the reforms.

4.1.2 SUWASA KNOWLEDGE FORUM

A culmination of SUWASA's activities in knowledge sharing was the Regional Knowledge Forum held in Kampala, Uganda, on May 11–13. The theme of the Knowledge Forum was *Path to Financial Sustainability for Urban Water and Sanitation Services in Africa* and focused on practical solutions for delivering sustainable urban water and sanitation services. The forum was attended by 120 participants from 22 countries including: Burkina Faso, Cameroon, Côte d'Ivoire, Ethiopia, Ghana, Kenya, Liberia, Madagascar, Malawi, Mali, Mozambique, Netherlands, Nigeria, Uganda, South Africa, South Sudan, Senegal, Tanzania, USA, United Kingdom, Zambia and Zimbabwe. Among participants were senior officials from government ministries, municipalities and regulatory agencies, utility managers, managers of dedicated funding units, private operators, commercial bank representatives, civil society and development partners.

The main objective of the forum was to share lessons learned and provide a platform for discussion on building momentum and moving water and sanitation sector reforms forward. Panels incorporated perspectives of SUWASA's implementing partners and allowed for cross country and thematic sharing. The event included a session to introduce the Performance Pathways and allow participants to make inputs and suggest additional resource links. The forum emphasized that operational efficiency and financial sustainability are necessary conditions to serve the poor. Presentations also stressed the need for a renewed focus on services to the un- and under-served. These programs need to be integrated in citywide planning and programs that emphasize network penetration to ensure quality of access to services.

All Knowledge Forum presentations and SUWASA Pathways are posted on the SUWASA website. A comprehensive report on the Knowledge Forum and outputs from group discussions is also available. Events and sharing organized by SUWASA received consistently positive feedback from participants through event evaluations and follow-up correspondence. Participants gave a 94% rating for facilitation at the knowledge forum, 93% for relevance and participation. According to 87% participants, forum themes and sub-themes were relevant to water and sanitation services in Africa and led to sharing of new knowledge.

5.0 M&E INDICATORS AND TARGETS

5.1 SUMMARY OF SUWASA PERFORMANCE INDICATORS

SUWASA used six indicators to track program performance (Table 21). The program met and exceeded targets for all six indicators. Of the six indicators, two are goal indicators: Indicator 1, *Number of people gaining access to an improved drinking water source (USAID F-indicator)* and Indicator 2, *Number of people receiving improved service quality from existing improved drinking water sources (USAID F-indicator)*. SUWASA had planned a target of 64,480 for the number of people gaining access to an improved drinking water source and achieved 64,937. This number is likely to increase since utilities are still implementing project activities. SUWASA had planned a target of 54,200 for the number of people receiving improved service quality from existing improved drinking water sources but achieved 117,336. As with Indicator 1, this number is likely to go up since utilities are still implementing project activities.

There was only one outcome indicator, Indicator 3, *Percentage of operations and maintenance costs for water supply and sanitation services covered through customers' charges*. The overall target was 15% over the baseline for each service provider assisted. At the end of the program, Hawassa Water Supply and Sanitation Services Enterprise (HWTSSSE), Ethiopia, had achieved 185%, Bauchi, Nigeria, 20.11%; Maridi, South Sudan, 112% (excluding salaries and chemicals) and Wau, South Sudan, 105% (excluding salaries and chemicals).

The three output indicators, Indicators 4, *Amount of new financing accessed by water and sanitation service providers*; Indicator 5, *Number of good practices identified, promoted and adopted* and Indicator 6, *Number of new policies, laws, agreements, regulations or investment agreements (public or private) implemented that promote access to improved water supply and sanitation (USAID F-indicator)* also achieved impressive results. The planned target for the amount of financing accessed by water and sanitation service providers was \$420,000 but \$68,652,021 was leveraged. The planned target for good practices identified, promoted and adopted was 15 but the program achieved 27. The program also planned for 14 new policies, laws, agreements, regulations or investment agreements but achieved 32.

5.2 ANALYSIS OF PERFORMANCE RESULTS

Table 21 below provides information on the performance of SUWASA in relation to the performance targets. Table 22 provides data on the number of good practices identified, promoted and adopted; Table 23 provides information on the number of new policies, laws, agreements, regulations and investment agreements (public or private) implemented that promote access to improved water supply and sanitation and. Table 24 provides a breakdown of the indicators by country.

TABLE 21. SUWASA PROGRAM PERFORMANCE INDICATOR TARGETS AND RESULTS

Performance Indicator	Level	Baseline Value (2010)	Planned Targets	Actual Results (September 2015)
1. Number of people gaining access to an improved drinking water source (USAID F-indicator).	Goal	0	64,480	64,937
2. Number of people receiving improved service quality from existing improved drinking water sources (USAID F-indicator).	Goal	0	54,200	117,336
3. Percentage of operations and maintenance costs for water supply and sanitation services covered through customers charges.	Outcome	-	15% increase over baseline	185% (HTWSSSE)^ 20.11% (Bauchi) 112% (Maridi)* 105% (Wau)*
4. Amount of new financing accessed by water and sanitation service providers.	Output	-	\$420,000	\$68,652,021
5. Number of good practices identified, promoted and adopted.	Output	-	15	27
6. Number of new policies, laws, agreements, regulations or investment agreements (public or private) implemented that promote access to improved water supply and sanitation (USAID F-indicator).	Output	-	14	32

*Excluding staff salaries and chemicals provided by SSUWC

^% increased revenue collection, O&M baseline was not established

TABLE 22. NUMBER OF GOOD PRACTICES IDENTIFIED, PROMOTED, AND ADOPTED (INDICATOR 5)

Country/Project	Good Practice(s)	Identified	Promoted	Adopted
Ethiopia	Cost reflective tariff	✓	✓	✓
	Performance agreement	✓	✓	
	Revised organizational structure	✓	✓	✓
	Sub-total			2
Kenya	Pre-paid communal water meters	✓	✓	✓
	Commercial Bank financing in Kisumu and Nakuru	✓	✓	✓
	Gender mainstreaming in utility work	✓	✓	✓
	Sub-total			3
Mozambique	Integrating private water operators in the provision of urban water services	✓	✓	✓
	FPAs inventory	✓	✓	✓
	Sub-total			2
Nigeria	Bauchi - Water and sanitation sector investment plan	✓	✓	✓
	Bauchi - Customer enumeration	✓	✓	✓
	Bauchi - Computerization of BSWB Billing System	✓	✓	✓

Country/Project	Good Practice(s)	Identified	Promoted	Adopted
	Bauchi State Water Board Tariff Study	✓	✓	✓
	Bauchi - utility twinning with Swaziland water	✓	✓	✓
	Sub-total			5
	Ebonyi - Performance Improvement Plan	✓	✓	✓
	Ebonyi - Computerized Billing	✓	✓	✓
	Ebonyi – GIS Mapping	✓	✓	✓
	Ebonyi – Utility twinning with LWSC	✓	✓	✓
	Sub-total			4
	Rivers - Rivers utility twinning with Nairobi City Water and Sanitation Company	✓	✓	✓
	Rivers – Tariff Study	✓	✓	✓
	Rivers Double Entry Accounting System	✓	✓	
	Sub-total			2
Senegal	Private sector participation in fecal sludge management	✓	✓	✓
	Sub-total			1
South Sudan	Formation of Water Management Committee in Wau & Maridi	✓	✓	✓
	Development of capacity development plans	✓	✓	✓
	Development of Corporate Plan for SSUWC	✓	✓	✓
	Development of Sanitation Investment Plan for Juba City	✓	✓	✓
	Sanitation Stakeholder Forum	✓	✓	✓
	Sub-total			5
Uganda	Establishment of an autonomous regulatory framework	✓	✓	✓
	Sub-total			1
Zambia	Corporate governance guidelines for NWASCO	✓	✓	✓
	Tariff evaluation model	✓	✓	✓
	Sub-total			2
Grand Total		42	42	27

TABLE 23. POLICIES, LAWS, AGREEMENTS, REGULATIONS, AND INVESTMENT AGREEMENTS (INDICATOR 6)

Type	Kenya	Nigeria	Senegal	South Sudan	Mozambique	Ethiopia	Zambia	Total
Policy	1. WSTF Gender Workplace Policy	1. Bauchi State Water, Sanitation and Hygiene Policy 2. Bauchi State Water Board Tariff Analysis. 3. Bauchi State Communication Strategy	1. FSM Strategic Plan	1. Corporate policy for SSUWC		1. Tariff Analysis	1. Board Charter for Commercial Utilities 2. Code of Ethics for Directors 3. Code of Ethics for Staff	10
Law	-	1. Bauchi State Water Law	-	-	1. Ministerial Decree Establishing Regulator Framework for Private Water Service Providers			1
Agreement/ MoU	1. Financing MoU between WSTF and Nakuru Water and Sanitation Company 2. Partnership MoU between WSTF and SUWASA Kenya 3. MoU between SUWASA Kenya and EWASCO 4. MoU between Housing	1. Performance Contract between RSSTOWA and General Manager 2. Performance Contract between PHC and Managing Director 3. WOP Agreement between EBSWC and Lusaka Water and Sewerage Company 4. MoU between Ebonyi State Government and USAID 5. MoU between Rivers Ministry of Water and Rural	1. MoU between Commune de Tambacounda and SUWASA 2. MoU between ONAS and SUWASA	-				18

Type	Kenya	Nigeria	Senegal	South Sudan	Mozambique	Ethiopia	Zambia	Total
	Finance and SUWASA 5. MoU between K-R-Rep and SUWASA 6. MoU between SUWASA And MEWASS 7. MoU between SUWASA And MAWASC O	Development and SUWASA 6. MoU between Ebonyi State Ministry of Public Utilities and SUWASA 7. MoU between Bauchi State and USAID						
Regulation	-	1. Bauchi institutional regulatory framework	-	-				1
Investment Agreement		1. Rivers Small Investment Plan 2. Bauchi Sector Investment Plan	-	1. Juba Sanitation Investment Plan				3
Total	8	14	3	2	1	1	3	32

TABLE 24. BREAKDOWN OF INDICATOR TARGETS, BY COUNTRY

Project	Indicator 1	Indicator 2	Indicator 4
Ethiopia	12,000	22,165	0
Kenya I	8,975	9,120	\$246,626
Kenya II	38,231	62,418	\$3,405,395
Liberia	1,648	0	0
Nigeria (Bauchi)	0	0	\$65,000,000
Nigeria (Rivers)	0	2,635	0
South Sudan	4,083	20,998	0
Total	64,937	117,336	\$68,652,021

6.0 FINANCIAL SUMMARY

The SUWASA Task Order contract was awarded on September 30, 2009, as a four-year \$17,708,358 project. Through a series of contract modifications, the task order was extended to six years and the contract ceiling was increased to \$41,461,512. Final obligated amount was \$40,939,100, of which \$17,333,078 was buy-in from missions (see Table 26). Financial expenditures over the six-year life of the SUWASA program are shown in Table 25.

TABLE 25. CUMULATIVE EXPENDITURE

Project/Country	Cumulative Expenditures (USD) (as of September 30, 2015)
Regional Core Costs	\$13,235,396
Project-Level Costs	
Ethiopia	\$1,639,401
Kenya	\$1,972,514
Kenya II	\$2,417,166
Liberia	\$434,857
Mozambique	\$1,242,299
Nigeria - Bauchi	\$4,540,587
Nigeria - Ebonyi	\$2,428,478
Nigeria - Rivers	\$2,369,356
Senegal	\$1,802,361
South Sudan	\$6,848,514
Uganda	\$715,704
Zambia	\$802,161
Grand Total	\$40,448,794

TABLE 26. MISSION BUY-IN TO SUWASA PROGRAMMING

Mission	Buy-in
South Sudan	\$6,532,899.00
Nigeria (Bauchi, Ebonyi, Rivers)	\$8,456,262.00
Liberia	\$441,487.00
Mozambique	\$217,430.00
Kenya 2	\$1,685,000.00
Total	\$17,333,078

ANNEX I: TECHNICAL AND M&E REPORTS

All documents available for download at:

<https://drive.google.com/open?id=0B9NY2uU-DtUBRWIWdm5RWWhmUzQ>

CODE	TITLE OF REPORT	YEAR
	ETHIOPIA	
ETH 01	Accounting System Assessment for Hawassa Town Water Supply and Sewerage Service Enterprise (HTWSSSE) Ethiopia: Final Progress Report	June, 2012
ETH 02	Hawassa Town Water Supply and Sewerage Service Enterprise (HTWSSSE) Ethiopia Accounting System Evaluation Report	September, 2012
ETH 03	HTWSSSE Business Plan	May, 2013
ETH 04	Community Engagement Manual for the Urban Poor Concept (UPC)	March, 2014
ETH 05	Concept Paper on Enforcing Autonomy of Ethiopian Urban Water and Sewerage Enterprises	May, 2013
ETH 06	Concept Paper on Formalizing Performance Management in Ethiopia	May, 2013
ETH 07	Development Of Framework for The Management Of Water Kiosk By Private Operators in Hawassa, Ethiopia: Final Report	July, 2013
ETH 08	Promoting Commercial Practices for Efficient and Sustainable Water Service – Activity Profile	May, 2015
ETH 09	Ethiopia Environmental Mitigation And Monitoring Plan (EMMP)	April, 2013
ETH 10	Ethiopia Monitoring and Evaluation Plan (M&E Plan)	December, 2011
ETH 11	Final Report SUWASA Ethiopia: HTWSSSE	September, 2013
ETH 12	Financial Statements and Accounting Manual of HTWSSSE	May, 2013
ETH 13	Fixed Asset Valuation and Asset Management Plan: Final Draft Report	May, 2012
ETH 14	Fixed Asset Valuation and Asset Management Plan: Executive Summary	December, 2012
ETH 15	HTWSSSE Baseline Survey Report	December, 2011
ETH 16	HTWSSSE Tariff Proposal	July, 2012
ETH 17	HTWSSSE Fixed Asset Valuation – Final Report	December, 2012
ETH 18	HTWSSSE Baseline Survey Report – Final Report	December, 2011
ETH 19	Highlight for Development of Tariff Strategy	March, 2013
ETH 20	HTWSSSE – Non-Financial Management Staffs Administration Manual	May, 2013
ETH 21	Project Inception Report	July, 2011
ETH 22	Job Description Manual	May, 2012
ETH 23	Managerial Employees Administration Manual	May, 2013
ETH 24	Study and Staffing Plan of HTWSSSE	May, 2012
ETH 25	Performance Agreement between HTWSSSE and the Board of the Enterprise	May, 2013

CODE	TITLE OF REPORT	YEAR
ETH 26	Performance Agreement between HTWSSSE and the Water Resources Bureau of the Southern Nations, Nationalities and Peoples Regional State	May, 2013
ETH 27	SUWASA Ethiopia Reform Work Plan	November, 2010
ETH 28	Small Investment Project Proposal: Financing Hawassa Low Income Area Water Supply Extension	July, 2012
ETH 29	Tariff Analysis for HTWSSSE	July, 2012
ETH 30	Tariff Development Training Report	December, 2012
KENYA		
KEN 01	Due Diligence Mission Report	April, 2011
KEN 02	SUWASA Kenya: Innovative Financing for Water and Sanitation in Kenya	April, 2012
KEN 03	The Market Demand Assessment for Water and Sanitation Services	November, 2011
KEN 04	SUWASA Kenya – Reform Work Plan	July, 2010
KEN 05	SUWASA Kenya – Project Inception Report	January, 2011
KEN 06	SUWASA I – End of Project Report	November, 2014
KEN 07	Prepaid Yard Taps (technical drawings)	June, 2012
KEN 08	SUWASA Kenya II – Project Inception Report	July, 2013
KEN 09	Water/Sanitation Market Supply-Demand Assessment in Nyahururu	December, 2013
KEN 10	SUWASA Kenya Gender Tool	January, 2014
KEN 11	Gender Analysis Report - Final	January 2014
KEN 12	Bank Partner Tool Kit manual - Final	January, 2014
KEN 13	Embu Market Assessment	August, 2014
KEN 14	Murang'a Market Assessment Report	August, 2014
KEN 15	SUWASA Kenya II M&E Plan	July, 2014
KEN 16	NYEWASCO Business plan and financing proposal	July, 2014
KEN 17	WSTF Guide to Commercial Financing for Water and Sanitation Service Providers in Kenya	September, 2014
KEN 18	Murang'a South Market Assessment Report	September, 2014
KEN 19	MAWASCO Business Plan and Financing Proposal	September, 2014
KEN 20	EIA Report for the Proposed Development at THIWASCO - Final	May, 2014
KEN 21	THIWASCO Feasibility study report – Final	May, 2014
KEN 22	Kenya II Project Activity Profile	May, 2015
KEN 23	SUWASA Kenya – Reform Work Plan	June, 2013
KEN 24	SUWASA Kenya II – End of Project Report	June, 2015
LIBERIA		
LBA 01	Activity Profile - Cost Reflective Water Tariffs for Financial Sustainability, Liberia	May, 2015
LBA 02	Project Monitoring and Evaluation Plan	August, 2013
LBA 03	Tariff Model - Final	January, 2014
LBA 04	Tariff Model - Kakata	January, 2014
LBA 05	Cost of service data tracker - Final	January, 2014
LBA 06	Overview of COS & Tariff Model	January, 2014
LBA 07	SUWASA Liberia COS and Tariff Model User Manual Final	November, 2013
LBA 08	End of Project Report	June, 2015
LBA 09	Project Reform Work Plan	April, 2013
MOZAMBIQUE		
MZQ 1	Capacity Building and Implementation Plan	June, 2013
MZQ 2	Consolidated report Portuguese	July, 2013
MZQ 3	Consolidated Report	July, 2013

CODE	TITLE OF REPORT	YEAR
MZQ 4	Development of an inventory of private water providers in Maputo, Matola, Marracuene	September, 2013
MZQ 5	End of Project report	May, 2015
MZQ 6	FAQ-Port	September, 2013
MZQ 7	Guidelines for regulation of small towns English	April, 2013
MZQ 8	Project Inception Report	February, 2012
MZQ 9	Inception Report-Regulatory and Licensing Framework	November, 2012
MZQ 10	Licensing Regime - English	July, 2013
MZQ 11	Licensing regime - Portuguese version	Julho de 2013
MZQ 12	Licensing regime	July, 2013
MZQ 13	Activity Profile - Accountable Water Services from Private Water Operators, Mozambique	May, 2013
MZQ 14	M&E Plan	April, 2012
MZQ 15	Regulation of class 1 FPAs Portuguese	Julho de 2013
MZQ 16	Regulation of class 1 FPAs	April, 2013
MZQ 17	Regulation of class II to class IV FPAs Portuguese	Julho de 2013
MZQ 18	Regulation of class II to class IV FPAs	July, 2013
MZQ 19	Regulatory and Licensing Proposals and Options	December, 2012
MZQ 20	Regulatory Regime English	July, 2013
MZQ 21	Regulatory Regime Portuguese	Julho de 2013
MZQ 22	Regulatory regime Report 3a Portuguese	Julho de 2013
MZQ 23	Regulatory regime Report 3a	July, 2013
MZQ 24	Regulatory regime Report 3a - format	July, 2013
MZQ 25	RWP - Mozambique - Final	July, 2010
MZQ 26	Situational Analysis Report	June 2012
MZQ 27	Sumario Proposta Reg FPA 16 de Julho 2013c	September, 2012
MZQ 28	Development of an Inventory of Private Water Providers in Maputo, Matola and Marracuene, Mozambique – Final Report with Addendum	September, 2012
MZQ 29	Development of an Inventory of Private Water Providers in Maputo, Matola and Marracuene, Mozambique – Final Report	July, 2013
NIGERIA – BAUCHI STATE		
NG-BCH 01	Accounting and Billing System Review Progress	March, 2013
NG-BCH 02	Bauchi - Activity Profile - Reform of the Urban Water Sector in Bauchi, Nigeria	May, 2015
NG-BCH 03	Bauchi Customer Enumeration - Final Report (2013)	July, 2013
NG-BCH 04	Bauchi Institutional Framework Report	July, 2012
NG-BCH 05	Bauchi Regulatory Framework Report	July, 2012
NG-BCH 06	Bauchi Sector Reforms - The process and proposals	December, 2012
NG-BCH 07	BAUCHI STATE STATUS OVERVIEW Draft Mission Report 2	February, 2013
NG-BCH 08	Bauchi State WASH Policy - Edited version	May, 2012
NG-BCH 09	Bauchi Water Law-Final Draft	December, 2012
NG-BCH 10	Bauchi - Assessment Report_v0 2	June, 2012
NG-BCH 11	BSWSC Change Management Report	November, 2013
NG-BCH 12	BSWSC HR Strategy	November, 2013
NG-BCH 13	BSWSC Job Descriptions_Final1	November, 2013
NG-BCH 14	BSWSC - OD Project_final_report2	November, 2013
NG-BCH 15	BSWSC – ORG - CHART-Final	November, 2013
NG-BCH 16	BSWSC - Personnel Policies	November, 2013
NG-BCH 17	Training Programme	November, 2013
NG-BCH 18	BWSC COMPENSATION PLAN - Final	October, 2013

CODE	TITLE OF REPORT	YEAR
NG-BCH 19	Customer Enumeration Inception Report	November, 2012
NG-BCH 20	Customer Enumeration Pre-Training Report	November, 2012
NG-BCH 21	Customer Enumeration Training Manual	November, 2012
NG-BCH 22	Draft Investment Plan	January, 2013
NG-BCH 23	Draft Water Law	September, 2012
NG-BCH 24	END OF PROJECT REPORT - BAUCHI - Final REVIEWED DRAFT - FINAL - 22-10-14	October, 2014
NG-BCH 25	EP2007_Bauchi_Final Report	May, 2014
NG-BCH 26	EP2007_Bauchi_Institutional Framework Report_v3	July, 2012
NG-BCH 27	Final BSWB Investment Plan July 2014 (2)	July, 2012
NG-BCH 28	Final BSWB Strategic Plan 2014-2017 (1)	August, 2014
NG-BCH 29	Final Communications Strategy for Bauchi State WS Sector Reform.	September, 2013
NG-BCH 30	FINAL REPORT ON BAUCHI CUSTOMER ENUMERATION (SUWASA)	July, 2013
NG-BCH 31	Gazetted Water Law	April, 2014
NG-BCH 32	Inception Report -Nigeria	August, 2011
NG-BCH 33	Institutional Framework Report for Urban Water Services - Bauchi State, Nigeria	May, 2014
NG-BCH 34	Institutional Regulatory and Legal Framework Final Report	July, 2012
NG-BCH 35	Institutional Regulatory and Legal Framework Inception Report	May, 2012
NG-BCH 36	Nigeria Bauchi State RWP	November, 2010
NG-BCH 37	Nigeria Bauchi - Regulatory Framework Report	
NG-BCH 38	Nigeria Bauchi - Developing GIS Linkages to Customer data base for BSWB	May, 2013
NG-BCH 39	Nigeria Bauchi - Institutional Framework - Consultancy Report	July, 2012
NG-BCH 40	Nigeria ME Plan-Final	April, 2012
NG-BCH 41	Presentation POYRY urban sanitation Bauchi	March, 2013
NG-BCH 42	Regulatory Framework Report for Urban Water Services - Bauchi State Nigeria	July, 2012
NG-BCH 43	Report of Rapid Assessment of BSWB Facilities	June, 2012
NG-BCH 44	Revised Inception-RWP-Bauchi -Final Aug252011	August, 2011
NG-BCH 45	SA-Zambia Study Tour Report-19 July 2012	April, 2012
NG-BCH 46	SIP Bauchi, 04 Jan 13	January, 2013
NG-BCH 47	State Assessment Report REVISED	October, 2012
NG-BCH 48	State Status Overview - Bauchi State	February, 2013
NG-BCH 49	Strategic Partnership Agreement between BSWB SUWASA and WEIN	March, 2013
NG-BCH 50	Tariff Study	September, 2013
NIGERIA – EBONYI STATE		
EBY 01	Activity Profile - Water Sector Reforms, Ebonyi, Nigeria	May, 2015
EBY 02	Ebonyi End of Project Report - Final	April, 2015
EBY 03	Ebonyi Project Inception Report v2	July, 2013
EBY 04	Ebonyi State WASH Final Report	October, 2011
EBY 05	EBONYI STATE WATER CORPORATION INCEPTION REPORT FEBRUARY 2014 SUWASA (2)	February, 2014
EBY 06	Final ME Plan-Ebonyi	July, 2013
EBY 07	SSO Ebonyi	September, 2009
EBY 08	SUWASA Ebonyi Report Financial Management Advisor	July, 2014
EBY 09	SUWASA Nigeria Ebonyi RWP	April, 2013
NIGERIA – RIVERS STATE		

CODE	TITLE OF REPORT	YEAR
RVS 01	Business Plan and Budget April 11 final	April, 2014
RVS 02	Establishment of the Rivers State Water Services Regulatory Commission	October, 2013
RVS 03	Inception Report - Rivers	December, 2013
RVS 04	Nigeria State Assessment Report, October 31, 2012	October, 2012
RVS 05	Report On Specific Regulatory Tools Required for Operational Utility Service Areas- Updated	October, 2014
RVS 06	Report on Systems and Procedures - Cale Case (2)	July, 2014
RVS 07	Rivers State ME Plan (2)	August, 2013
RVS 08	Rivers - Activity Profile - Water Sector Reform in Rivers, Nigeria	May, 2015
RVS 09	Rivers – CSO report Outline FMWR Final REVISED 2012_2	March, 2012
RVS 10	Rivers State _end of project report 2015 FINAL	May, 2015
RVS 11	Rivers State Tariff Study	September, 2014
RVS 12	Rivers state WASH Policy - final 7th July 2010	July, 2010
RVS 13	Rivers State Water Services Regulatory	May, 2014
RVS 14	RSS_ Investment Report	September, 2014
RVS 15	SET-UP OF SMALL TOWNS WATER AND SANITATION AGENCY IN RIVERS STATE NIGERIA- Updated	December, 2014
RVS 16	SUPPORTING ESTABLISHMENT OF RIVERS STATE NIGERIA WATER SERVICES REGULATORY COMMISSION- Updated	October, 2014
RVS 17	SUWASA 5-State Assessment, Presentation to COR, 10-04-2012	October, 2012
RVS 18	SUWASA Nigeria Rivers RWP, 16 Apr 13	February, 2012
RVS 19	WATER TARIFF STUDY- RIVERS STATE NIGERIA-updated	September, 2014
SENEGAL		
SEN 01	End of Project Report (Senegal) 30th September 2014 - FINAL	September, 2014
SEN 02	Senegal - Activity Profile - Sanitation for the Urban Poor in Senegal	May, 2015
SEN 03	Senegal M&E Plan October 31 2012 Final	October, 2012
SEN 04	Senegal Reform Work Plan June 1, 2012	May, 2012
SEN 05	Situational Analysis of Fecal Sludge Management in Tambacounda	January, 2014
SEN 06	Situational analysis Tambacounda FSM final report	February, 2014
SOUTH SUDAN		
SSD 01	EOP SUWASA SSP Report Revised	March, 2015
SSD 02	Establishing Local Management Committees at the Urban Water Stations in Wau and Maridi	January, 2015
SSD 03	Final technical assistance & on-job training Main Report Final	June, 2013
SSD 04	Final technical assistance & on-job training Report	June, 2013
SSD 05	Final technical assistance & on-job training Report	June, 2013
SSD 06	Final technical assistance & on-job training Report_Annexes_6_FINAL	June, 2013
SSD 07	Interim On-job Training Report - SUWASA-SS_FINAL	May, 2013
SSD 08	Juba Assessment Report	October, 2005
SSD 09	Juba Sanitation Reform and Investment Plan	January, 2015
SSD 10	Juba Sanitation Mapping and Household Survey.docx	December, 2013
SSD 11	Juba Sanitation Survey and Mapping Report	December, 2013
SSD 12	Maridi Baseline Survey Report	March, 2012
SSD 13	Maridi Situational Analysis Report	January, 2012
SSD 14	NWSC Inception and Rapid Assessment Report	December, 2012
SSD 15	Presidential Order on Formation of SSUWC BOD	May, 2012
SSD 16	Report -NWSC SSUWC Baseline Data & Framework PC_Draft final	September, 2013
SSD 17	RWP South Sudan Final Draft 08-17-2011	August, 2011
SSD 18	Sanitation Task Force Meeting Report	October, 2014

CODE	TITLE OF REPORT	YEAR
SSD 19	SIP Maridi Proposal	October, 2012
SSD 20	SIP Wau Proposal	October, 2012
SSD 21	South Sudan - Activity Profile - Juba Sanitation Reform and Investment Plan, South Sudan	May, 2015
SSD 22	South Sudan - SSUWC Situational and SWOT Analysis	October, 2013
SSD 23	South Sudan - Study Tour - Kampala Report -FINAL	June, 2013
SSD 24	South Sudan - Water Inception Report v1	November, 2011
SSD 25	South Sudan Environmental Mitigation and Monitoring Plan	December, 2012
SSD 26	South Sudan ME Plan-Revised August 27 2014- Final	August, 2014
SSD 27	South Sudan Sanitation Inception Report Final	November, 2013
SSD 28	South Sudan Sanitation Inception Report Final	November, 2013
SSD 29	South Sudan-final-report	January, 2014
SSD 30	SSUWC Corporate Plan, 2015 - 2018	June, 2015
SSD 31	SUWASA SS Training & Capacity Development Plan-Final	March, 2013
SSD 32	Training and Capacity Development Plan	March, 2013
UGANDA		
UG 01	Draft Water Bill Explanatory Notes	October, 2013
UG 02	DRAFT WATER BILL final	October, 2013
UG 03	Establishment of an Autonomous Regulatory Agency for Urban Water Supply and Sewerage Services in Uganda	October, 2013
UG 04	Inception Report Draft	April, 2011
UG 05	M and E Plan for restructured project-February 2013	February, 2013
UG 06	SUWASA Uganda Lessons Learned - Final	April, 2013
UG 07	Uganda - Activity Profile - Improved Economic Regulation of Urban Water Services in Uganda	May, 2015
UG 08	Uganda Project Status Report April 10 2013	April, 2013
UG 09	Uganda RWP for restructured project	June, 2012
ZAMBIA		
ZMB 01	Board Charter for Commercial Utilities	October, 2013
ZMB 02	Code Ethics for Directors for Commercial Utilities	December, 2013
ZMB 03	Code Ethics for Staff for Commercial Utilities	December, 2013
ZMB 04	Corporate Governance Guidelines for Commercial Utilities	October, 2013
ZMB 05	Cost of Service Model Final Report	November, 2013
ZMB 06	Cost of Service Model v1 3	October, 2013
ZMB 07	Deliverable 1 SC008ZM Inception Report	September, 2013
ZMB 08	Deliverable 2- Zambia Report_1st_Stakeholder Consultative Workshop_9 Aug 2013_2	August, 2013
ZMB 09	Deliverable 3 Feedback Report, Oct 13	October, 2013
ZMB 10	Deliverable 4 Final Report	January, 2014
ZMB 11	Tariff Model	March, 2013
ZMB 12	End of Project Report (Zambia) 10th January 2014	January, 2014
ZMB 13	Final Report	October, 2013
ZMB 14	M and E Plan February 2013	February, 2013
ZMB 15	Monitoring Framework for Corporate Performance	October, 2013
ZMB 16	NCoSM Supplement Comparative Values	December, 2013
ZMB 17	NCoSM v 2.2	December, 2013
ZMB 18	NWASCO Cost of Service Model Handbook (2)	October, 2013
ZMB 19	NWASCO Tariff Model - Additional Guidelines 13-1113	October, 2013
ZMB 20	NWASCO Tariff Model 13-0915	October, 2013
ZMB 21	NWASCO Tariff Model 13-1031	December, 2013
ZMB 22	RWP for Zambia - FINAL	July, 2012

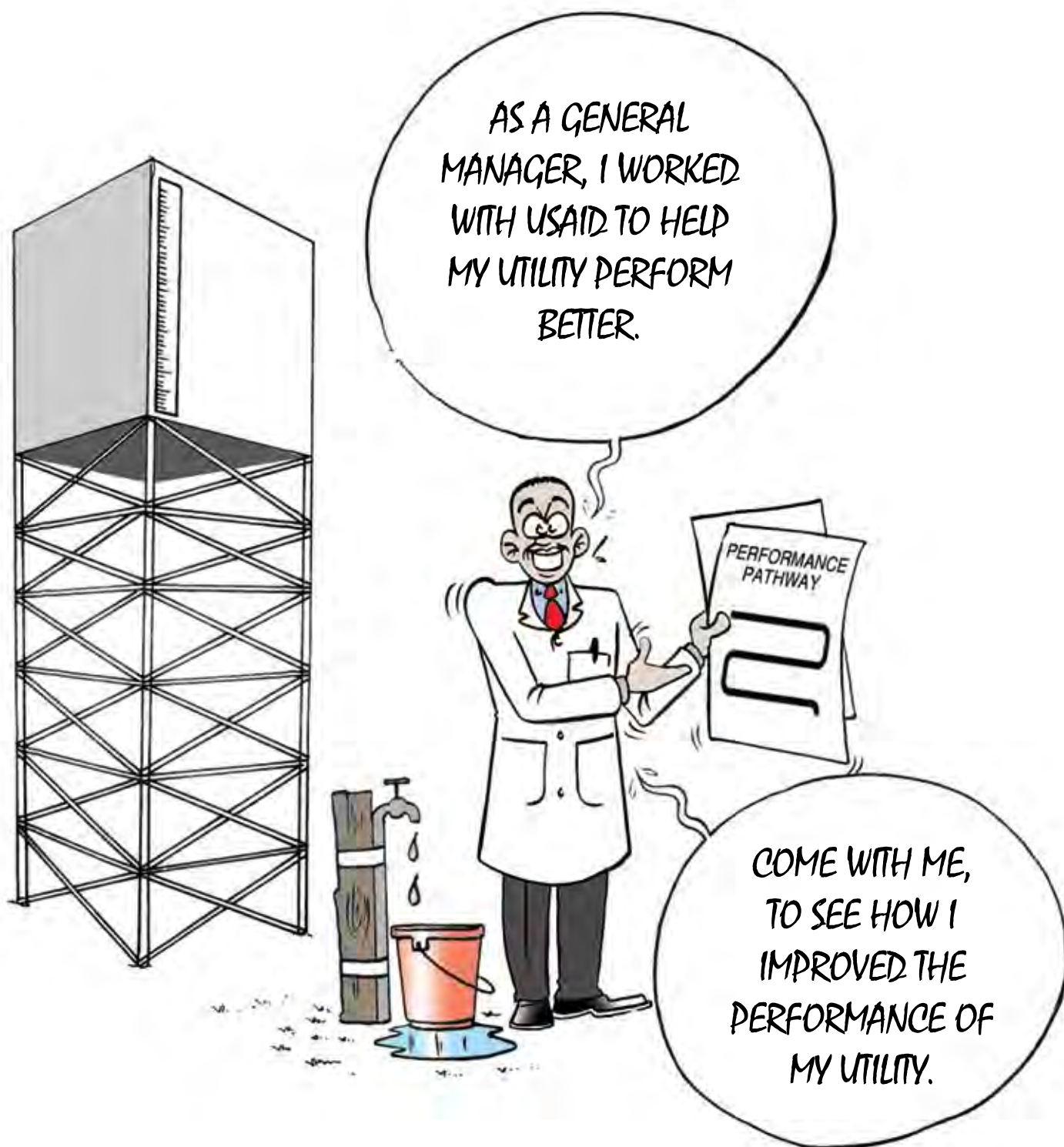
CODE	TITLE OF REPORT	YEAR
ZMB 23	SUWASA Project Inception Report 081812	November, 2012
ZMB 24	Tariff Setting Guideline - Rev 13-0915	September, 2010
ZMB 25	Tariff Setting Guideline - Rev. 13-1113	November, 2013
ZMB 26	Zambia - Tariff Evaluation Final Report	November, 2013
ZMB 27	Zambia - Activity Profile - Cost Recovery for Urban Water Services in Zambia	May, 2015
ZMB 28	NWASCO Tariff Model - Additional Guidelines 13-1113	October, 2013
ZMB 29	Zambia Project Concept, 05-16-2012	May, 2012
ZMB 30	Zambia Project Status Report February 2013	February, 2013
ZMB 31	NWASCO Cost of Service Model Handbook Final	December, 2013

SUWASA - General		
SUW 01	Commercial Financing - An Annotated Bibliography	February, 2015
SUW 02	Fecal Sludge Management - An Annotated Bibliography	April, 2015
SUW 03	Water and Sanitation Service in Fragile States: An Annotated Bibliography	April, 2015
SUW 04	Performance Pathway for Water Utilities	June, 2015
SUW 05	Citywide Approach for Sanitation	June, 2015
SUW 06	SUWASA Knowledge Forum Report	May, 2015
SUW 07	SUWASA Annual Work Plan Year 1	January, 2009
SUW 08	SUWASA Annual Work Plan Year 2	November, 2010
SUW 09	SUWASA Annual Work Plan Year 3	October, 2011
SUW 10	SUWASA Annual Work Plan Year 4	September, 2012
SUW 11	SUWASA Annual Work Plan Year 5	September, 2013
SUW 12	SUWASA Annual Work Plan Year 6	August, 2014
SUW 13	Small Investment and Subcontracts Manual	January, 2010
SUW 14	SUWASA Performance Monitoring Plan – Revised	September, 2014
SUW 15	Mid-term Project Evaluation - External	September, 2013

ANNEX II: PERFORMANCE PATHWAY FOR WATER UTILITIES



PERFORMANCE PATHWAY FOR WATER UTILITIES



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Low Performing Utility

Performing Utility

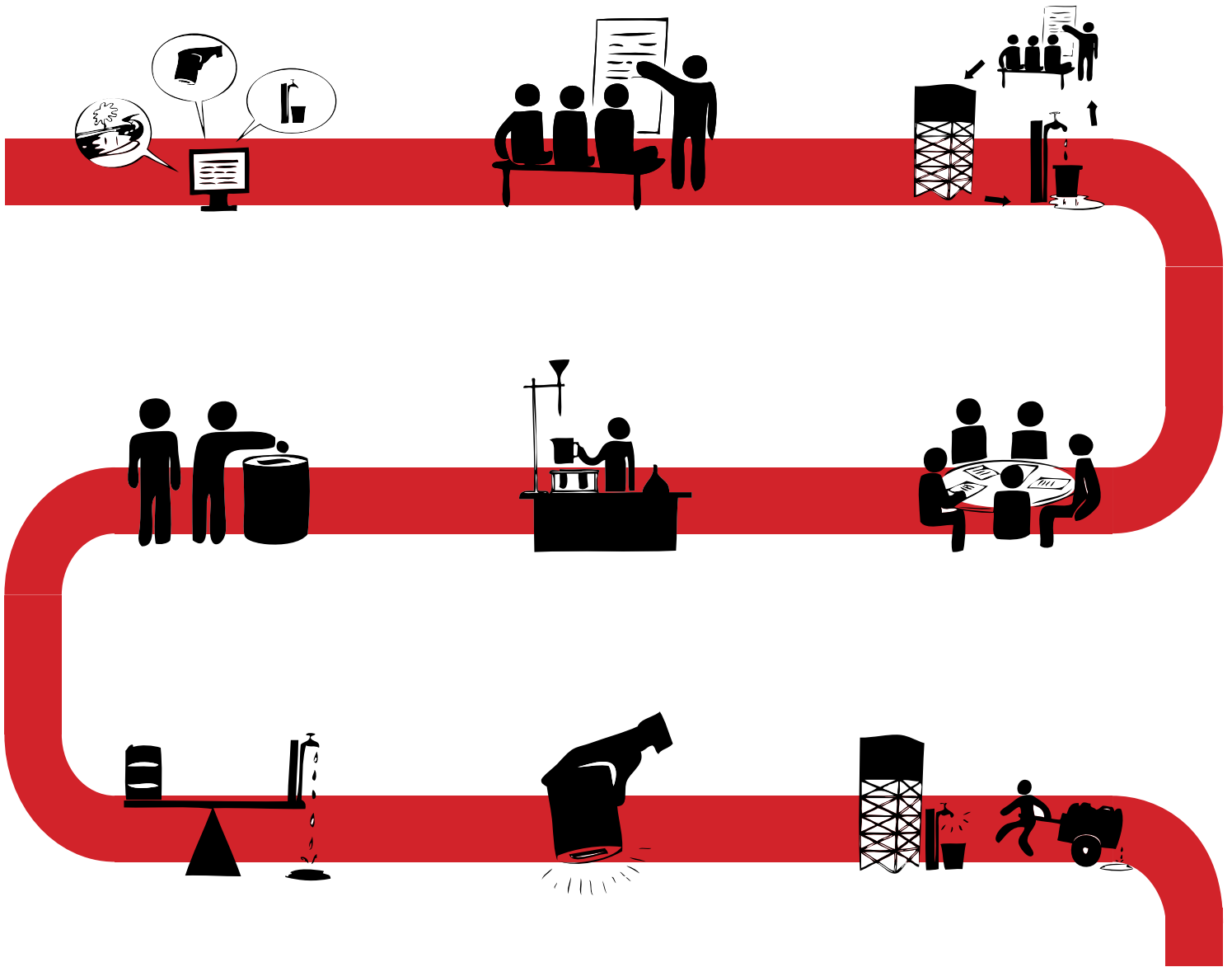
Well Performing Utility

***Financial sustainability is the
foundation of reliable water supply***



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Financial sustainability is the foundation of reliable water supply



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Resource Links

**Low
Customer
Revenue**

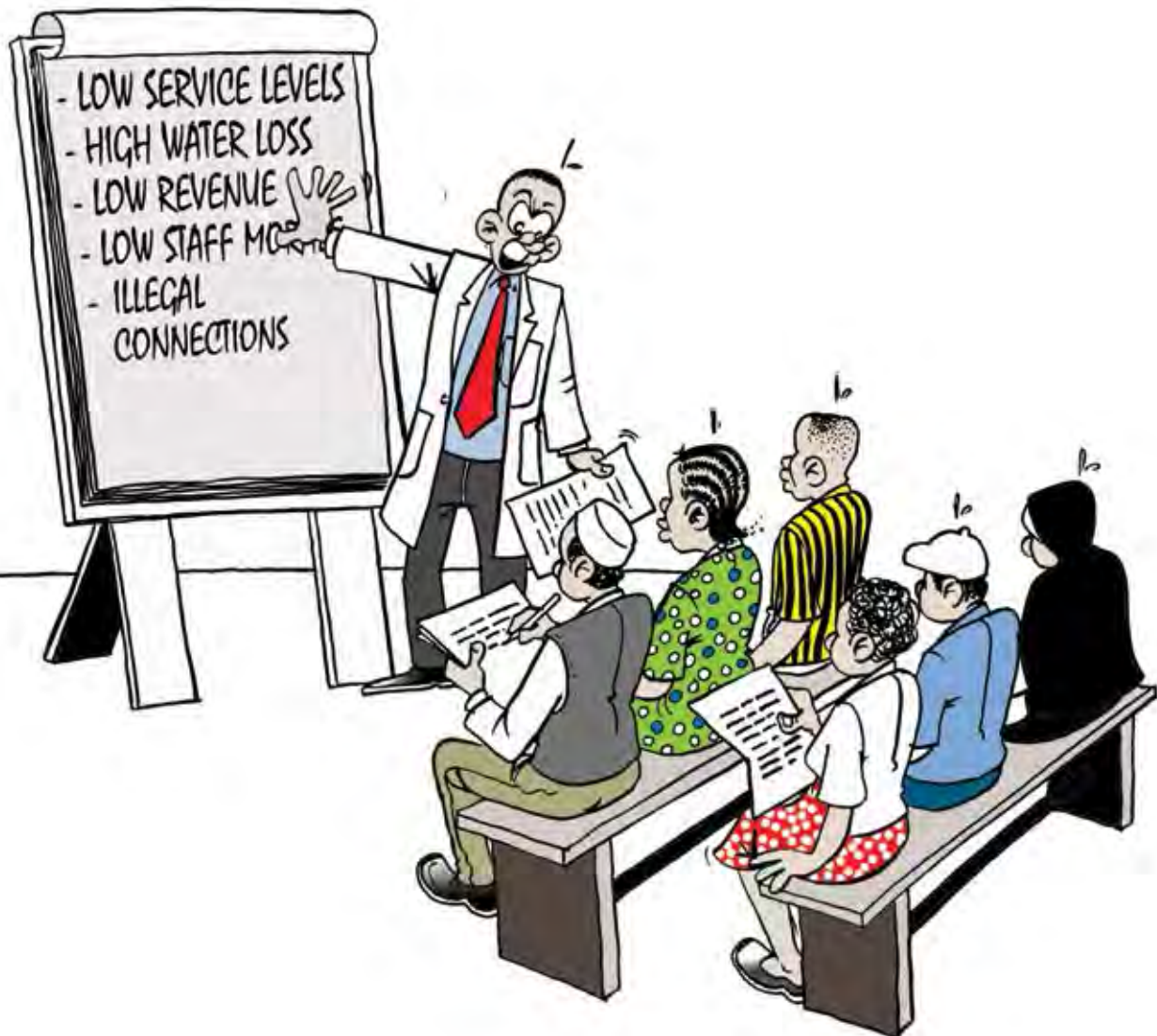
**High
Operating
Costs**

**Limited
Water
Service**



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SUWASA
Sustainable Water and Sanitation in Africa



Resource Links

**Conduct
Sector
Baseline**

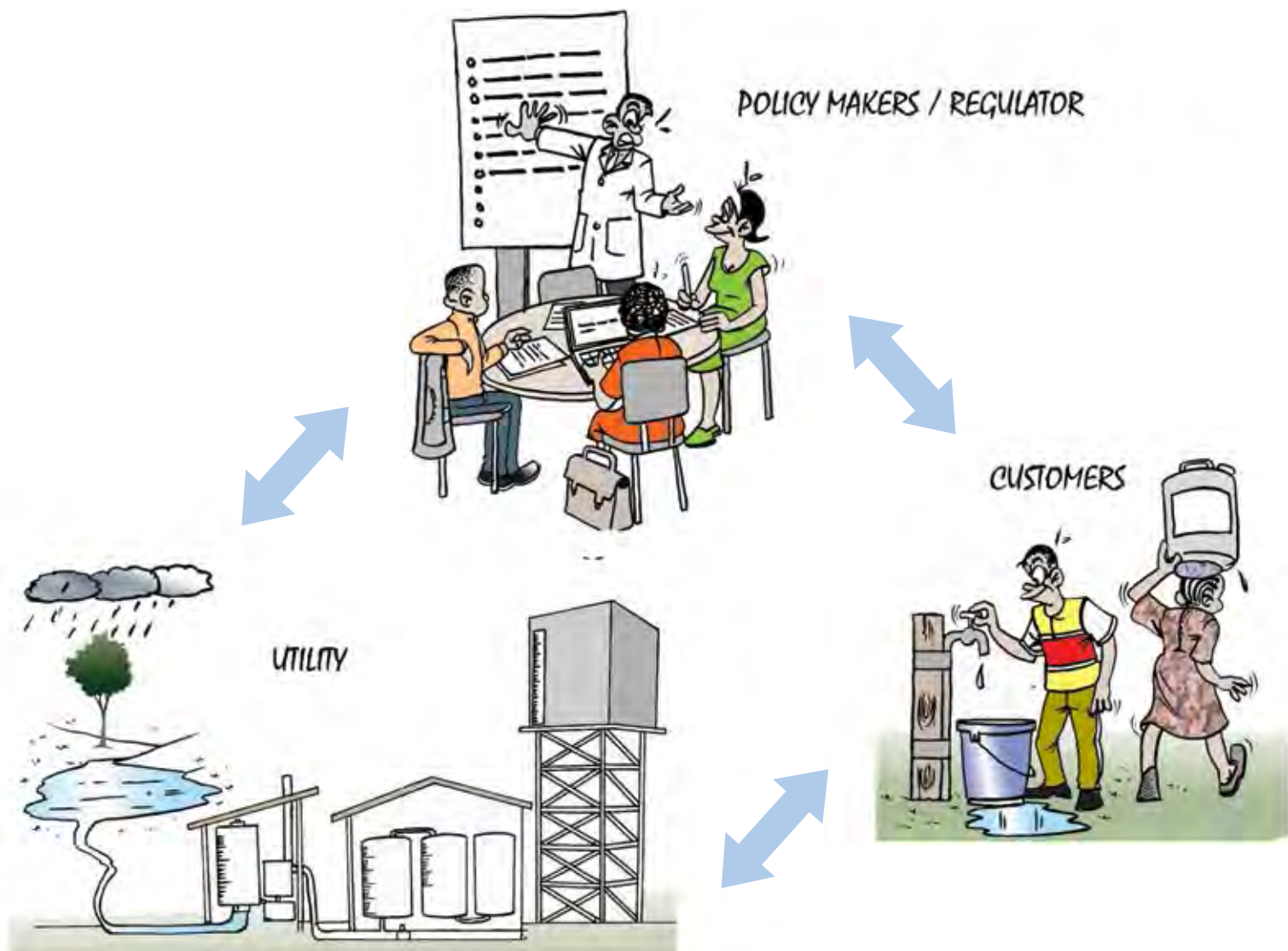
**Collectively
Understand Key
Challenges**

**Establish
Reform
Champions
Team**



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Resource Links

**Analyze Sector
Roles and
Responsibilities**

**Map Out
Sector Relationship
in Stakeholder
Workshops**

**Agree on
Roles and
Responsibilities
with Stakeholders**



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Sustainable Water and Sanitation in Africa



Resource Links

**Review Policy
Provision for
Establishing
a Board**

**Establish a
Representative
and Accountable
Board**

**Review
Roles and
Responsibilities
with Board**



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Resource Links

**Establish
a Water
Operator
Partnership**

**Conduct
Joint Diagnosis
of Improvement
Areas**

**Plan to Address
Challenges
Identified during
Diagnosis**



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Resource Links

**Establish
Provisions for
Revenue Ring
Fencing**

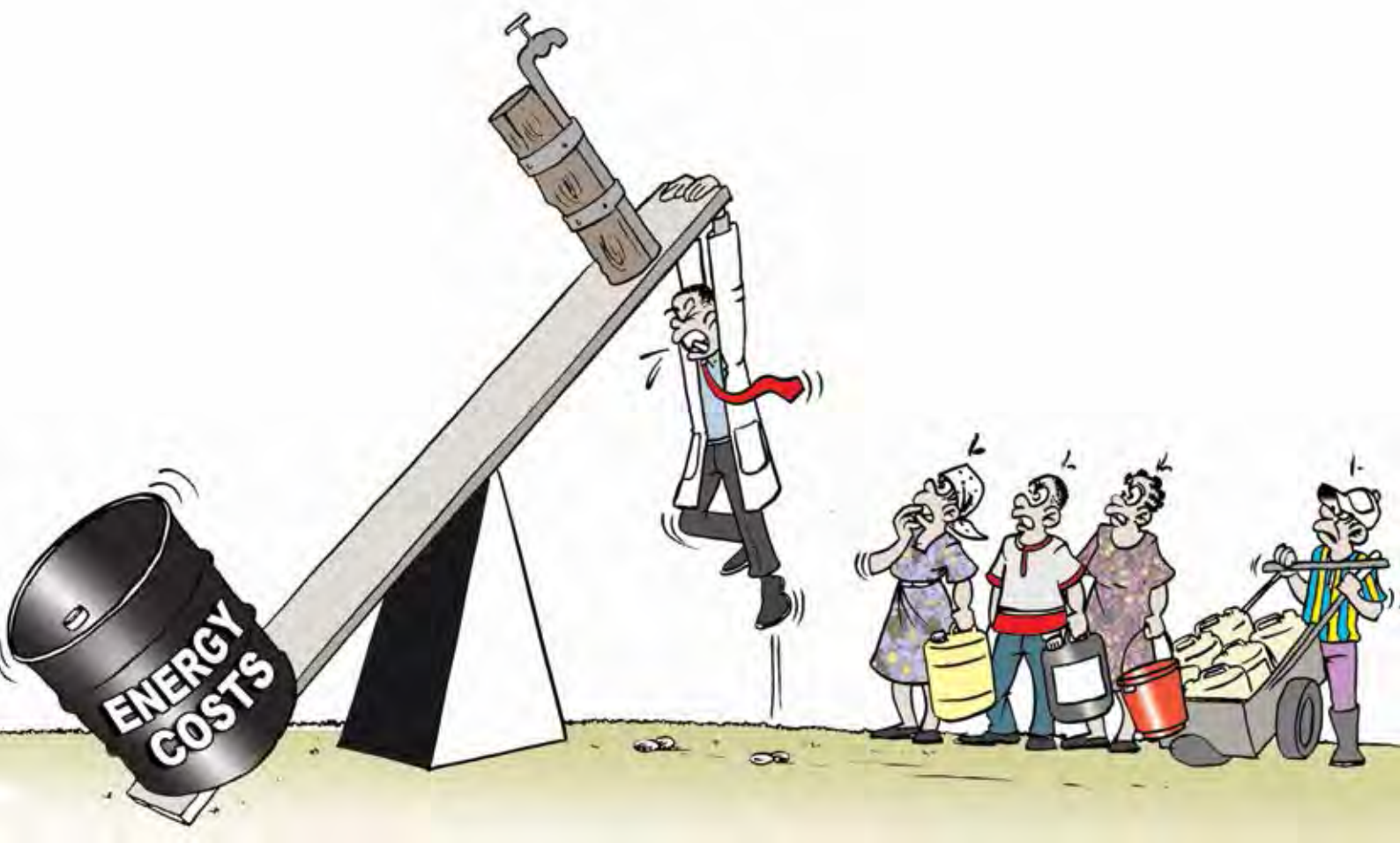
**Improve
Revenue
Collection**

**Reinvest Revenue
in Operations and
Maintenance**



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Resource Links

**Understand
Operational
Costs**

**Identify
Efficiency
Gains**

**Eliminate
Unnecessary
Costs**



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Resource Links

**Assess
Commercial
Losses**

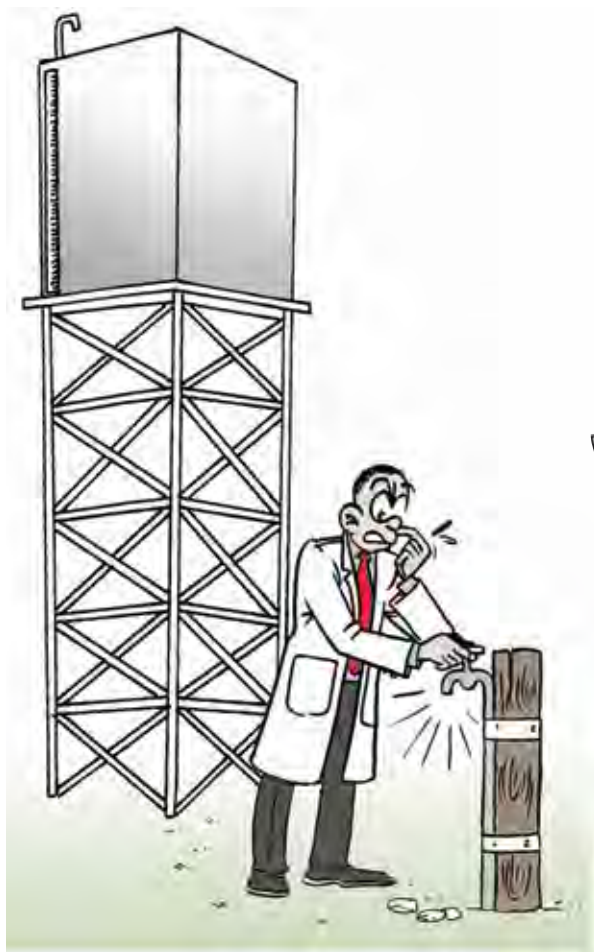
**Assess
Physical
Losses**

**Develop an Action
Plan for Non
Revenue Water
Reduction**



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Sustainable Water and Sanitation in Africa



Resource Links

**Focus on
Improving
Customer
Relations**

**Establish a
Customer Care
Department**

**Make Customer
Payments
Systems More
Convenient**



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SUNASA
Sustainable Water and Sanitation in Africa



Financial sustainability is the foundation of reliable water supply



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SUNWASA
Sustainable Water and Sanitation in Africa



Resource Links

Calculate
Operations
Costs

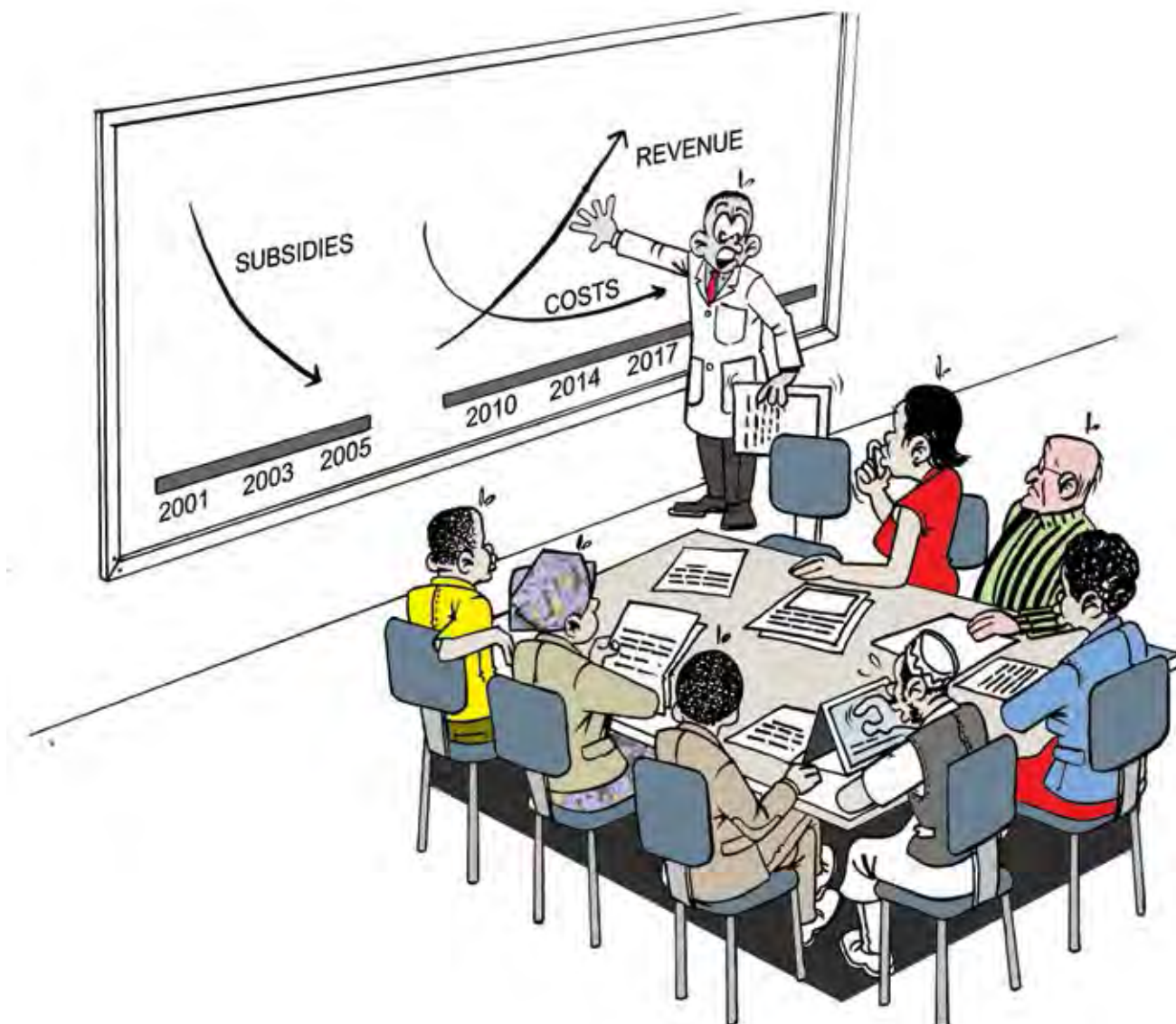
Determine
Revenue from
Collections

Develop Path
Towards
Financial
Viability



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Resource Links

**Establish
Consensus for
Commercial
Approach**

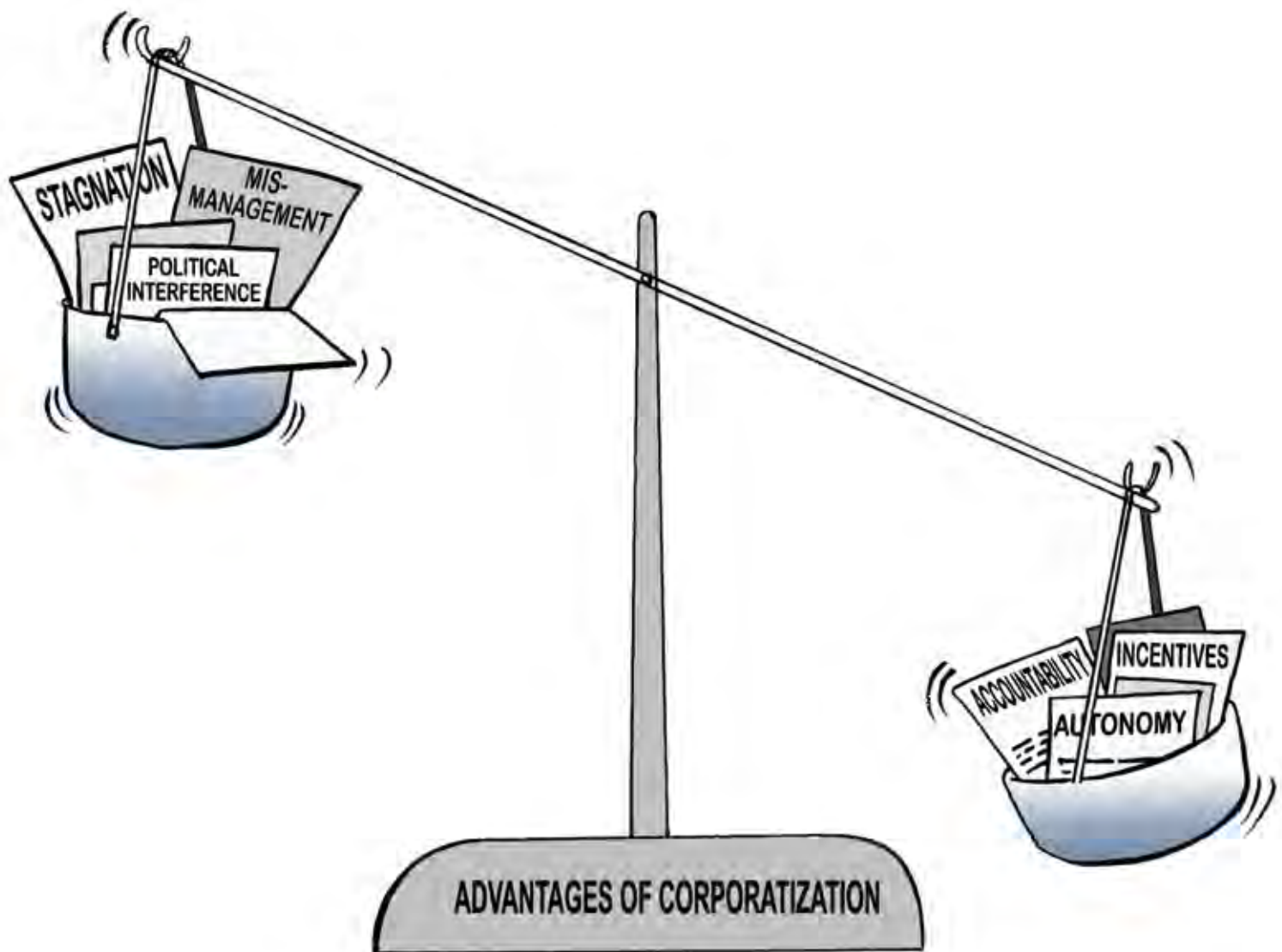
**Formalize
Commercial
Approach in
Policy**

**Adopt Commercial
Approaches for
Operations and
Management**



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Sustainable Water and Sanitation in Africa



Resource Links

**Develop
Legal and
Institutional
Agreement**

**Legislate
Institutional
Formation**

**Implement
Institutional
Structure**



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Resource Links

Establish Reporting Systems with Regulator

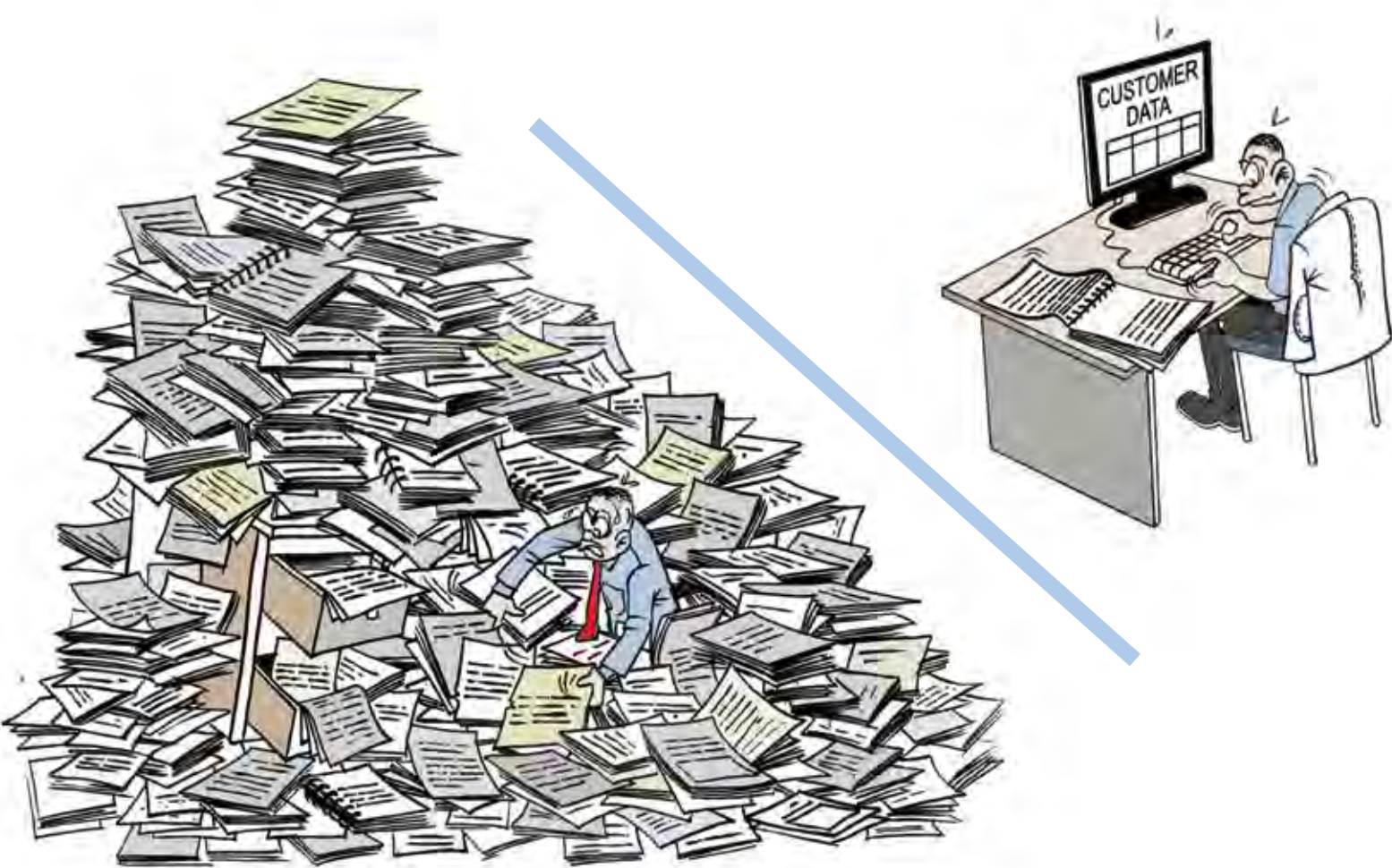
Improve Transparency via Regular Reporting

Establish Defined Service at Defined Costs



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Resource Links

**Assess the
Functionality
of Billing and
Accounting
Systems**

**Computerize
Billing and
Accounting
Systems**

**Provide
Training on
New
Computerized
Systems**



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Resource Links

**Conduct a
Cost of
Service
Analysis**

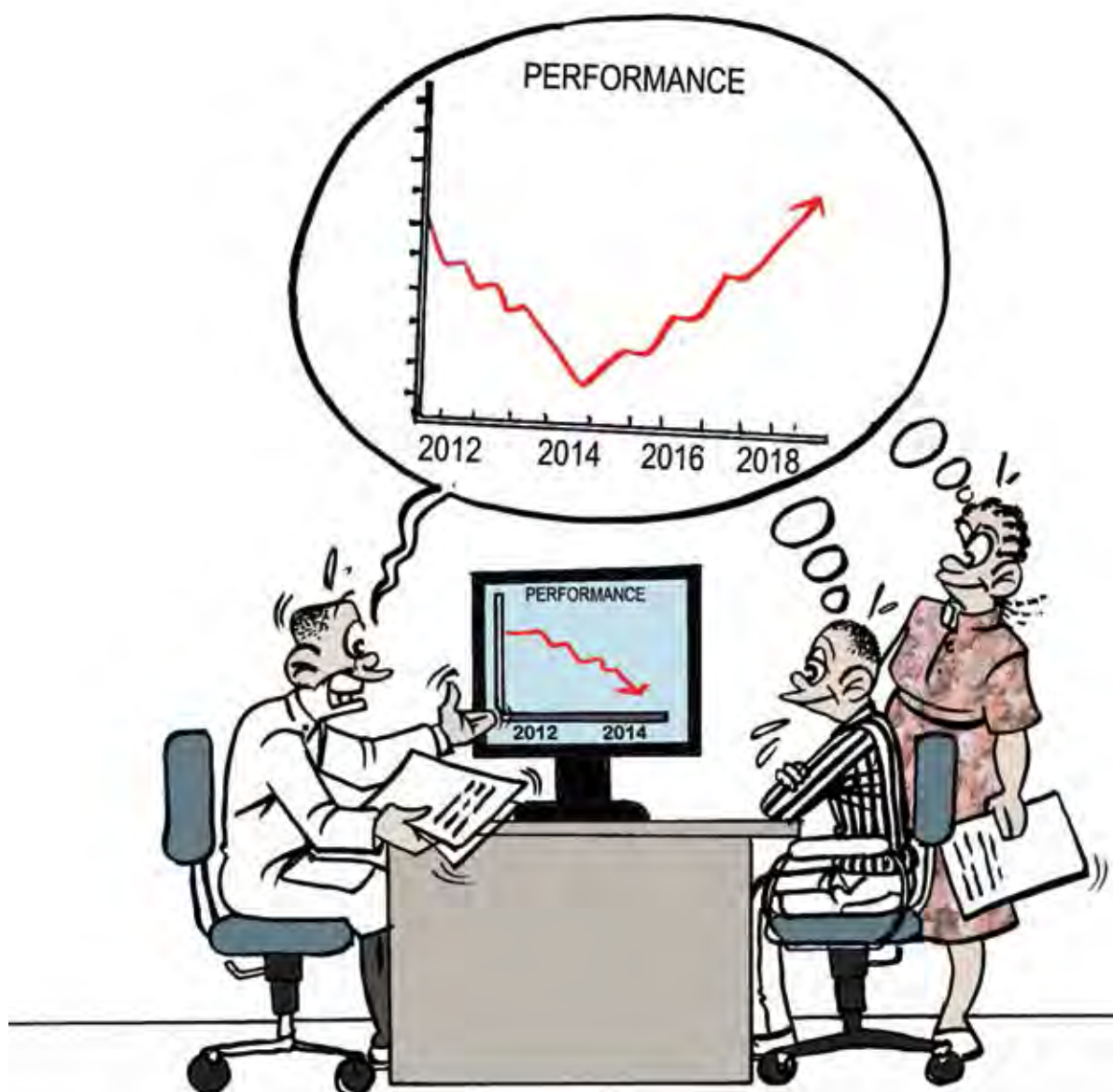
**Analyze
Current Tariff
Structure
Against
Actual Costs**

**Develop
Revised Tariff
Structure
Considering
Ability to Pay**



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Resource Links

**Review
Operational
Performance
of the Utility**

**Identify
Best Value
Improvements**

**Design and
Implement
Performance
Improvement Plan**



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Resource Links

**Identify
Unserved
Customers**

**Understand
Barriers to Service
for Unserved
Customers**

**Create
Tailored
Pro-poor
Approaches**



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Sustainable Water and Sanitation in Africa



Resource Links

**Ensure
Tariff Proposals
Reflect Costs
of Service**

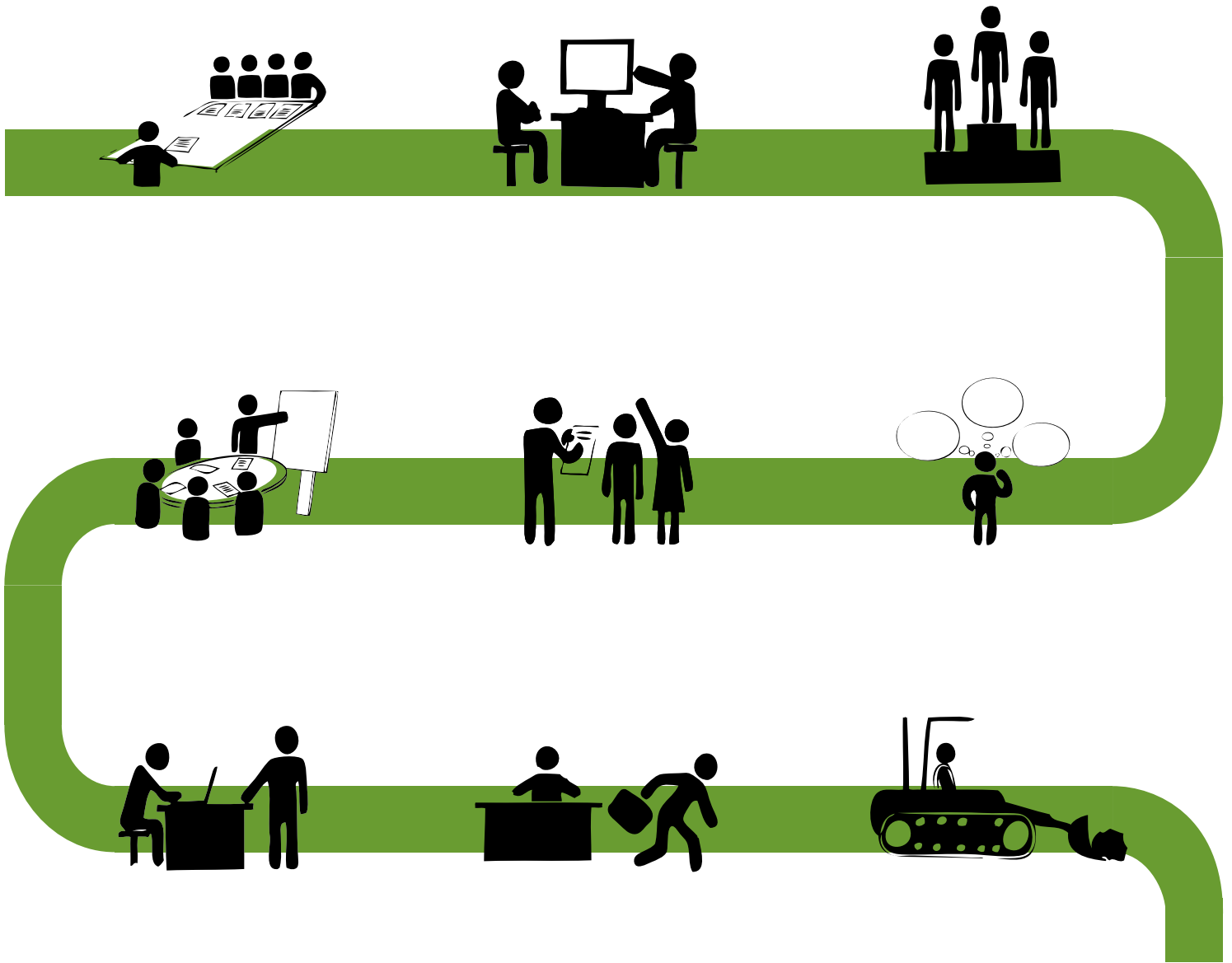
**Ensure
Tariff
Proposal is
Pro-poor**

**Seek
Regulator
Approval to
Adjust Tariff**



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SUWASA
Sustainable Water and Sanitation in Africa



Financial sustainability is the foundation of reliable water supply



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Resource Links

**Review
Utility
Financial
Statements**

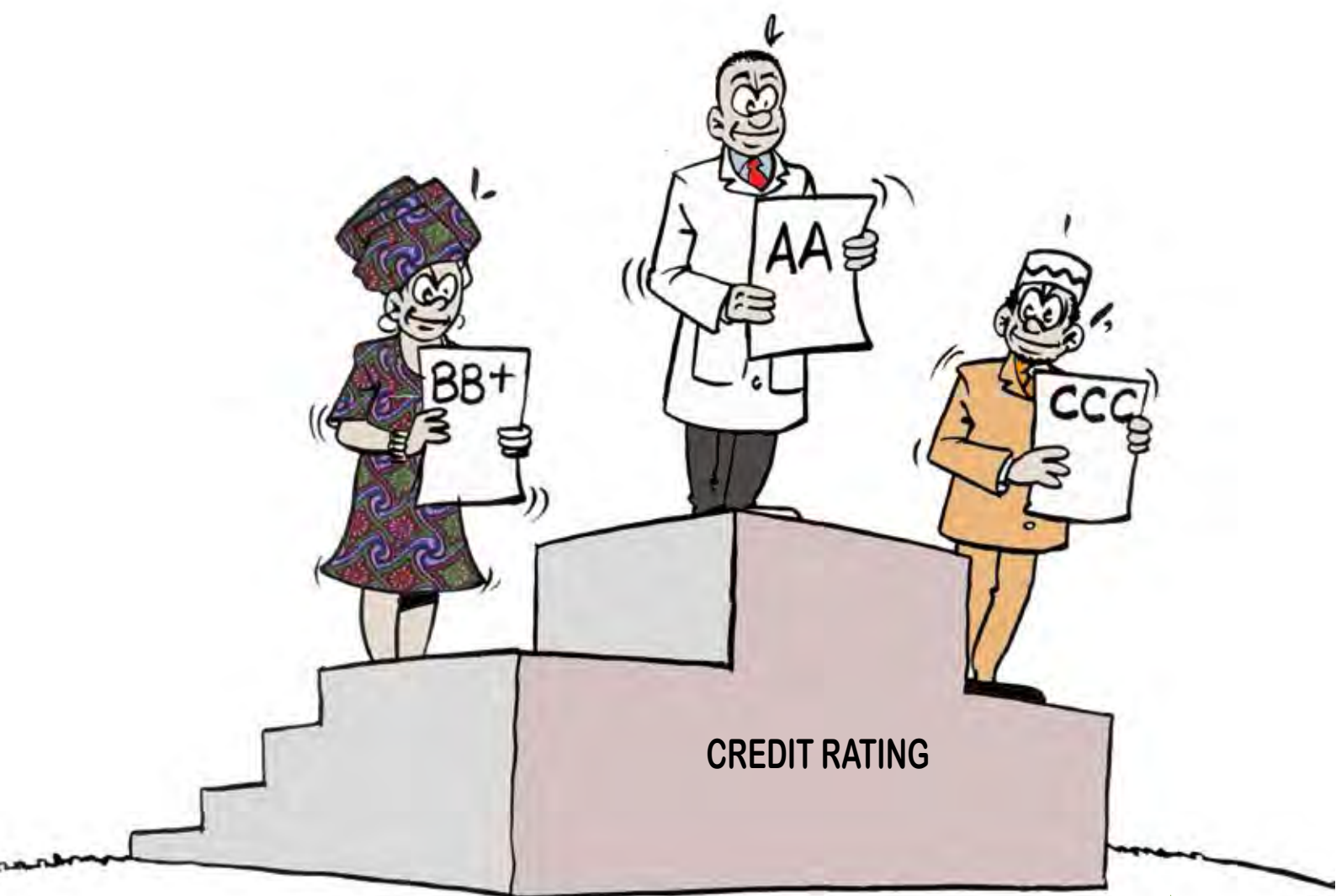
**Review
Utility Audit
Reports**

**Assess
Financial
Performance**



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Resource Links

**Provide
Objective
Performance
Assessments
with External
Credit Rating**

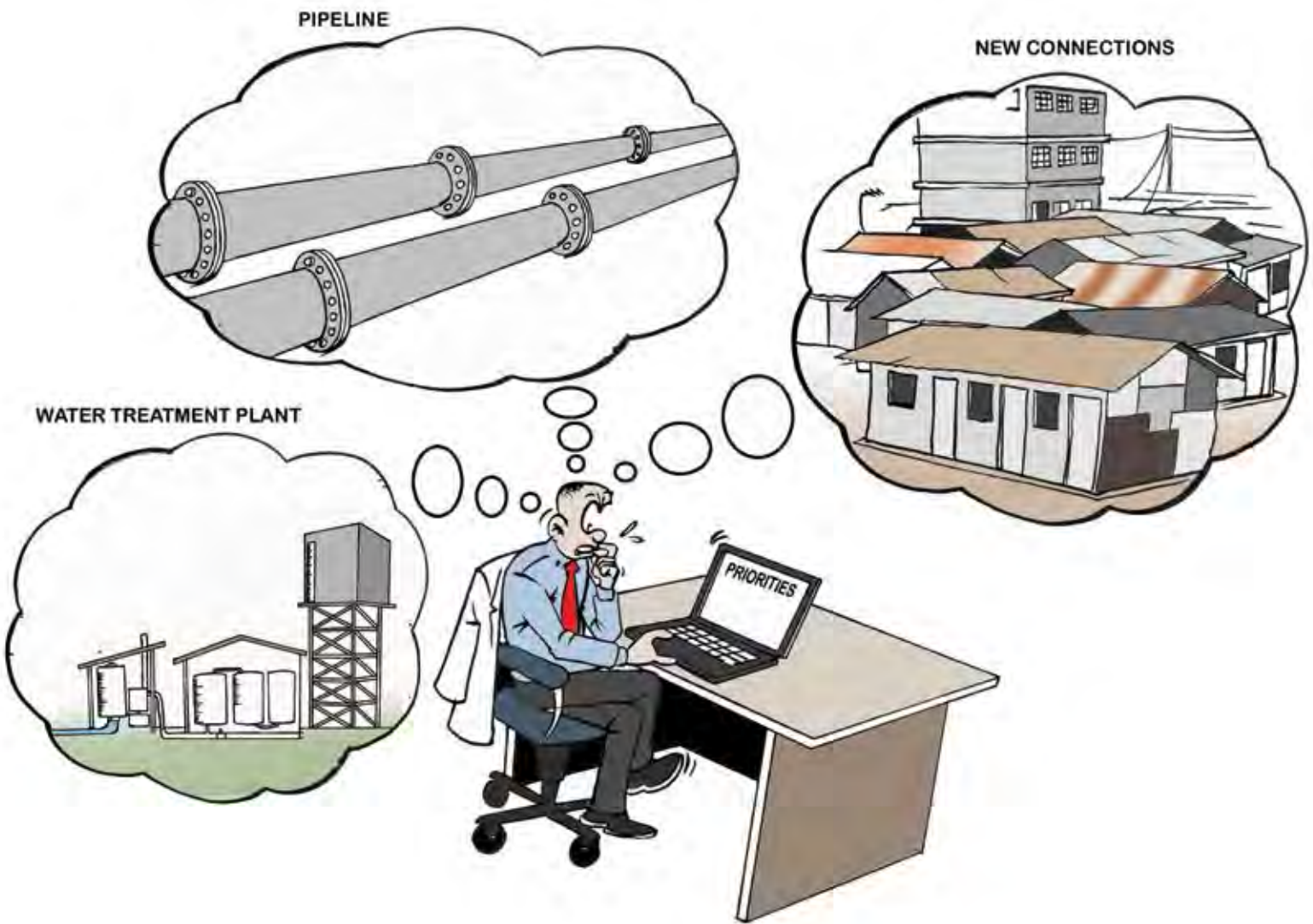
**Validate
Benchmarking
Performance
via a Credit
Rating**

**Instill
Confidence with
Commercial
Lenders from
Credit Rating**



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Resource Links

--

**Assess
Investment
Needs**

**Consider Risks
and Revenue
Returns on
Investments**

**Finalize
Prioritization
of Investment
Needs**



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Resource Links

**Conduct
Feasibility Studies
for Technical
Viability**

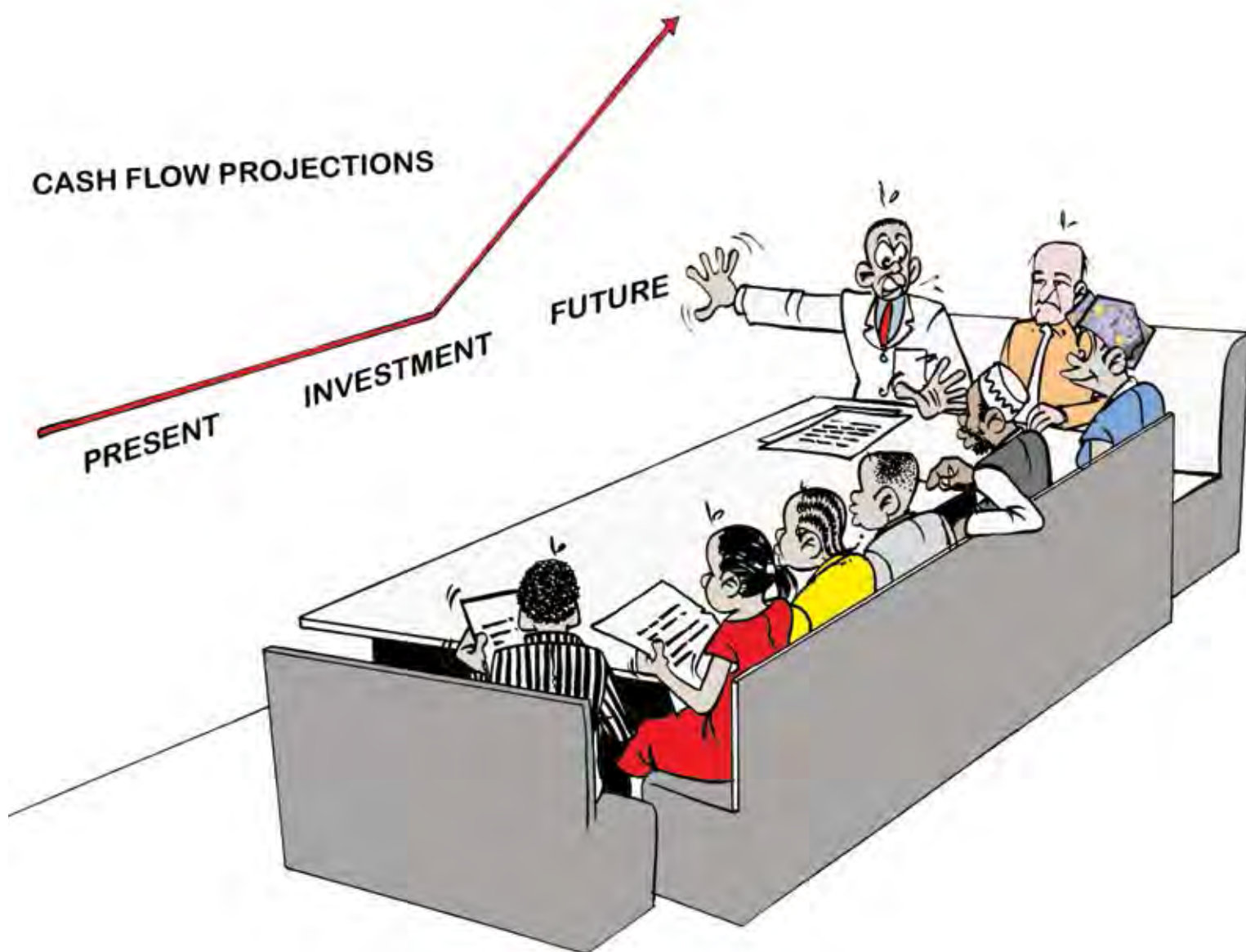
**Analyse Market
Research for
Customer
Preference**

**Produce an
Investment
Proposal**



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Sustainable Water and Sanitation in Africa



Resource Links

**Model Cash
Flows for
Current
Operations**

**Model Cash Flows
for Operations
Following Proposed
Investments**

**Analyze
Proposed
Investments
Impact on
Financial Health**



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Resource Links

Prepare Investment Plans to Detail Financially Sustainable Replacement or Expansions

Prepare Business Plans to Detail Financially Sustainable Operations



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Resource Links

**Develop Viable
Proposal for
Bank Loan**

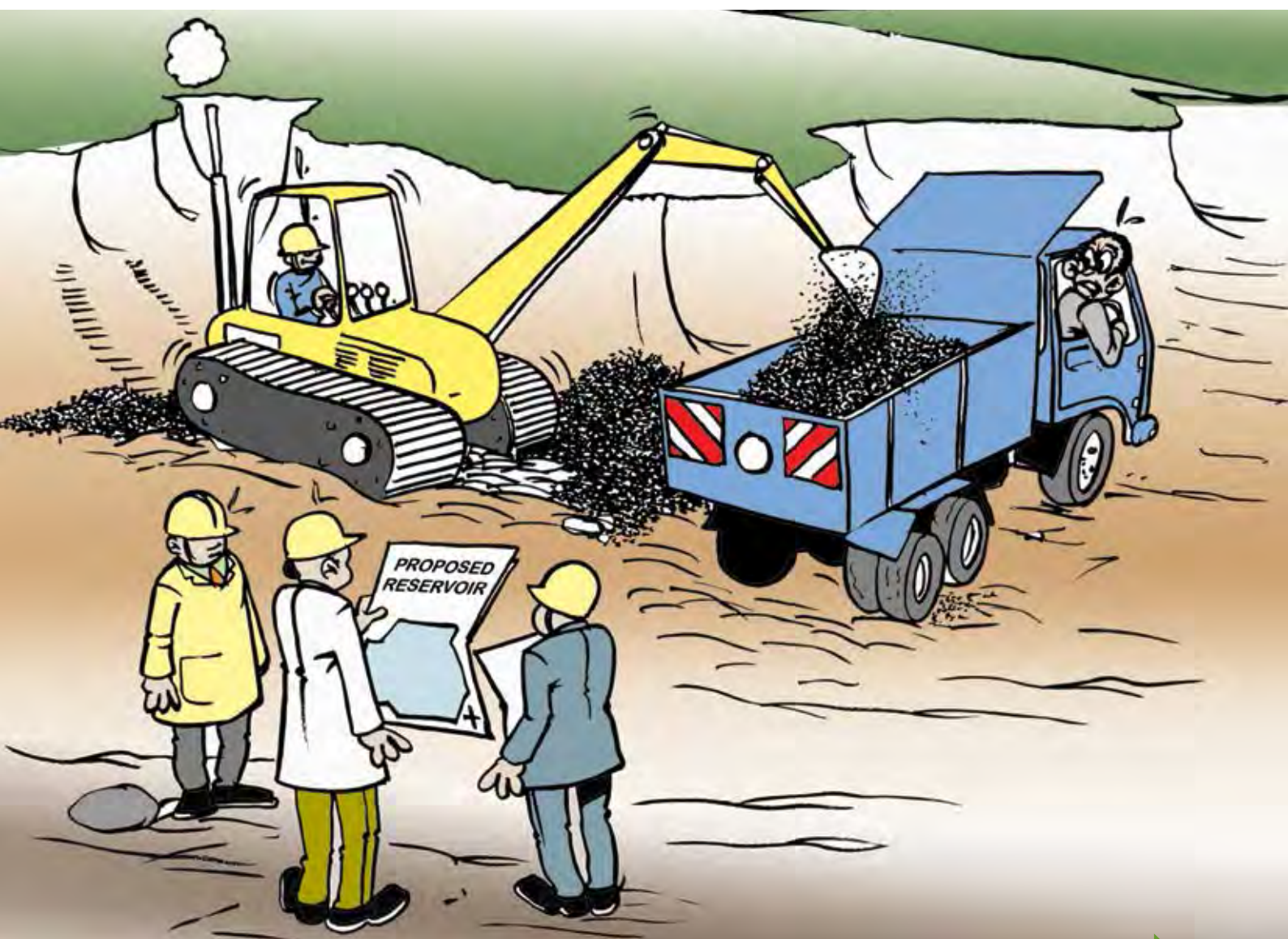
**Highlight
Financial
Sustainability
of Proposal**

**Consult Multiple
Banks for
Competitive
Lending Terms**



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Sustainable Water and Sanitation in Africa



Resource Links

Ensure
Effective Project
Management for
Implementation

Prioritize
Increasing
Revenue Flows
from
Investment

Expand Service
Delivery on a
Commercially
Sound Basis



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Low Performing Utility

Low Performing Characteristics

~8 hours of service per day

Unknown non-revenue water

~25% user fee collection efficiency

No water quality testing

Subsidy for capital & operation costs

Performing Utility

Intermediate Characteristics

Less than 24 hours of service per day

~40% non-revenue water

~70% user fee collection efficiency

Limited water quality testing

Subsidy for capital costs

Well Performing Utility

Well Performing Characteristics

24 hours of service per day

~20% non-revenue water

~95% user fee collection efficiency

Regular water quality testing

Access to commercial financing
for expansion

**Financial sustainability is the
foundation of reliable water supply**



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About SUWASA

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The program's ultimate goal is to improve and expand the delivery of water and sanitation services in urban and peri-urban settings in order to bring countries closer to achieving their Millennium Development Goals, while emphasizing a response to the particular needs of the urban poor. The program works to achieve long-term financial sustainability through the application of market-based principles in a collaborative approach with governments and service providers. Technical assistance is provided for the design of effective models of reform at sector and water utility levels, in order to facilitate innovative financing approaches for African water providers and establish long-term financial viability, to benefit all citizens.

SUWASA has implemented seventeen reform initiatives in nine countries including Ethiopia, Kenya, Liberia, Mozambique, Nigeria, Senegal, South Sudan, Uganda and Zambia. The initiatives cover five broad areas, namely: 1) Policy, institutional and legislative reforms; 2) Regulatory reforms; 3) Innovative financing; 4) Utility level reforms; and 5) Urban Sanitation. Detailed information on the projects can be found at: www.usaid-suwasa.org

Pathway Development & Consultation

The SUWASA Pathways were developed by the SUWASA Team in consultation with project partners including officials from government ministries, municipalities and regulatory agencies, utility managers, managers of dedicated funding units, private operators, commercial bank representatives, civil society and development partners.

Focus group sessions to review the Pathways were held in Nigeria, Kenya and South Sudan. Additionally, feedback and inputs on the Pathways were solicited at the SUWASA Knowledge Forum which gathered more than 120 participants from 22 countries, held in Kampala, Uganda on May 11-13, 2015.

The objective of the Pathways is to communicate complicated reform topics in a highly accessible manner to a broad range of sector stakeholders and to assist with envisioning and sequencing reform efforts. There are many possible reform paths, but the SUWASA Pathways offer viable reform routes. We hope these tools can be widely disseminated and used in the water and sanitation sector.

Acknowledgments

The Pathway development team was led by Sam Huston. Special thanks goes to all those who provided contributions and feedback during the development of the Pathways. Valuable inputs were provided by Heather Skilling, Dennis Mwanza, Morris Israel, Toni Sittoni, Barbara Senkwe, John Butler, Robert Hanjahanja, James Maraga and Eric Adams. The illustrations were produced by Samuel 'Igah' Muigai. Production and layout was led by Emily Mutai and Rosalia Mumo.

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ANNEX III: CITYWIDE APPROACH FOR SANITATION



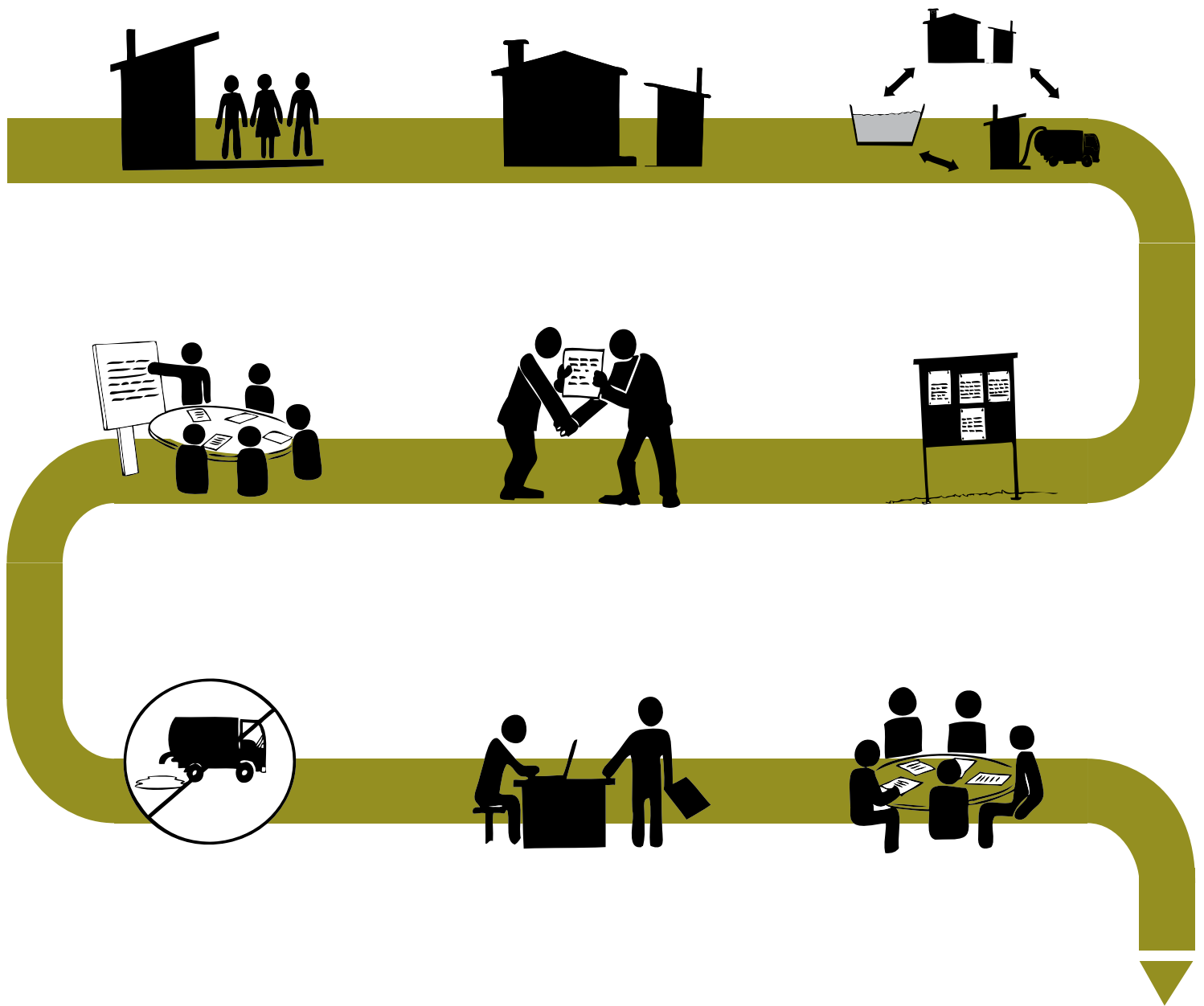
CITYWIDE APPROACH FOR SANITATION

A path for improving management of urban sanitation



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A citywide approach is the foundation for reliable sanitation services



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Resource Links

**Survey Public
and Household
Sanitation
Facilities**

**Assess Septic
and Latrine
Desludging
Systems**

**Assess Sludge
Management
and Disposal
Facilities**



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Resource Links

**Conduct
KAP Survey of
Sanitation
Behaviors**

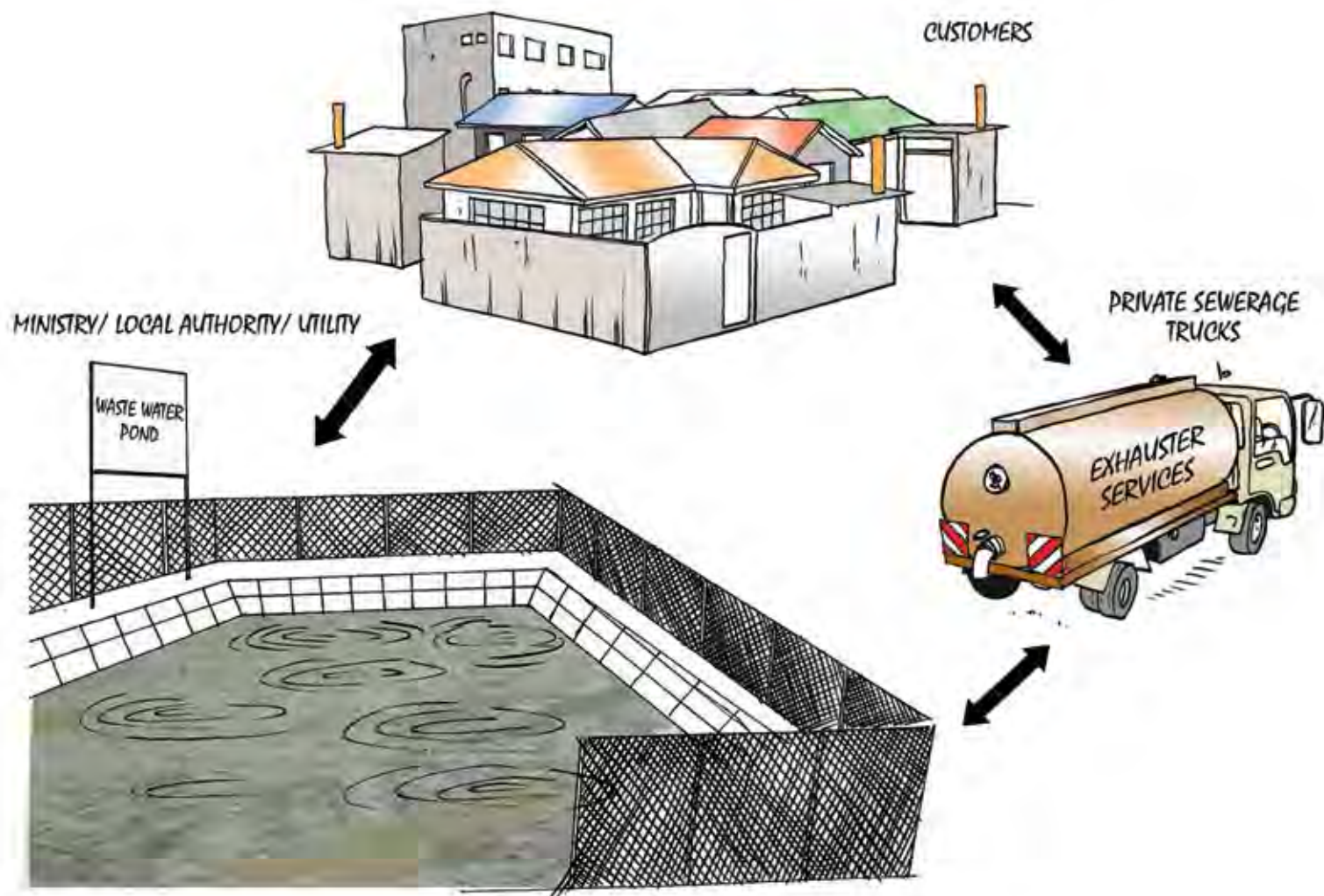
**Study the
Economics of
Household
Sanitation Options**

**Conduct a
Sanitation
Ability to Pay
Assessment**



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Resource Links

--

**Identify All
Public and
Private Sanitation
Stakeholders**

**Document
Current Sanitation
Functions for All
Stakeholders**

**Examine
Stakeholder
Relationships
and Overlaps**



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Resource Links

**Prioritize Key
Sanitation
Messages**

**Develop
Targeted
Communication
Campaign**

**Advocate for
Action on
Sanitation**



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Sustainable Water and Sanitation in Africa



Resource Links

**Establish a
Sanitation
Working
Group**

**Advocate for
a Citywide
Approach for
Sanitation**

**Build
Political Will
for Action on
Sanitation**



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Resource Links

Coordinate Sanitation Roles through Sanitation Working Group

Clarify Issues Related to Overlapping Responsibilities

Focus on Institutional Capacity Building



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Resource Links

**Develop a
Safe Sludge
Disposal
Service Chain**

**Launch a
Fecal Sludge
Management
Plan**

**Enforce Safe
Transport and
Disposal of
Sludge**



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Sustainable Water and Sanitation in Africa



Resource Links

**Prioritize
Needs
for Public
Infrastructure**

**Develop a Master
Plan for Phased
Infrastructure
Expansion**

**Cost Out
Infrastructure
Needs in an
Investment Plan**



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SANITATION INVESTMENT PLAN



Resource Links

**Publicly
Launch
Investment
Plan**

**Mobilize
Public Funds
for Sustained
Investments**

**Seek
External
Lending for
Capital Costs**



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ANNEX IV: SUWASA COMMUNICATION DOCUMENTS



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Information and Communication Technologies (ICTs) for Water Sector Development in Africa

USAID's Sustainable Water and Sanitation in Africa (SUWASA) program fosters the transformation of water and sanitation delivery services to achieve long-term financial sustainability through the application of market-based principles. To support its mission of spreading effective models of reform at the water utility level, the project is utilizing information and communications technologies (ICTs) to advance project objectives.

As the cost of mobile technologies drops and cell phone penetration rates soar across Africa, international development practitioners are increasingly turning to ICT-based solutions to deliver efficient and timely results. Using ICTs facilitates data collection, streamlines reporting workflows and improves the knowledge base for more informed decision making.

Starting in mid-2013, SUWASA began to select the use of appropriate information and communication technologies to fit both local context and need. Identified ICTs must have a low training burden, be adaptable within multiple contexts and must not rely upon internet connectivity.

The project's use of ICT applications is currently concentrated in two needs: providing decision making products for stakeholders and delivering simple easy-to-use systems for utilities and small service providers. SUWASA's ICT experience is summarized in following activities.

Bauchi, Nigeria – May 2013

To address the Bauchi State Water Board's (BSWB) low rate of billing and collection for water services provided, SUWASA undertook a customer enumeration intended to improve the utility's customer database and increase the number of customers who regularly pay their bills.

The enumeration focused on customer access to water, satisfaction with service and billing history. Enumerators collected over 75,000 customer records using traditional forms transferred data to an Access database. Though not collected in the original enumeration, follow up activities obtained household locations using Global Positioning Systems (GPS) units. Lacking a formal address system, spatial integration of the BSWB customer database is helping plan maintenance schedules, make decisions around new water

infrastructure investment and ensure that customer accounts are billed and paid.

Maputo, Mozambique – August 2013

Prior to SUWASA's engagement, the Direcao Nacional de Aguas (DNA), the agency responsible for management of water resources in Maputo, had only anecdotal evidence about private water suppliers who sell water services outside of the water utility network. To assist government partners in planning more efficiently for future investment and expansion of the water distribution network in Maputo, SUWASA developed a comprehensive inventory of private water suppliers.

To streamline data collection and reduce issues commonly associated with paper surveys, the SUWASA team trained local university students on electronic data collection techniques. Students learned how to manage tablet devices, accurately input and store data on the device and seamlessly upload the data to the cloud when connected to a wi-fi network.



(Continued on page 2)

Information and Communication Technologies (ICTs) for Water Sector Development in Africa

Data collection on tablet devices allowed enumerators to easily capture GPS coordinates as well as pictures using only one device. Upon upload, daily inventory results became immediately available on a cloud-based database accessible anywhere in the world to registered users.

Supervisory enumerators performed data quality checks and followed up with individual suppliers when necessary. The enumeration exercise was completed in six weeks and analysis followed shortly after. As all of the data were geo-referenced, spatial analysis has provided additional insight into service provision by socio-economic group.

Within a three month timeframe, the DNA gained a comprehensive and in depth examination of private water providers in Maputo. The results of this inventory are now being utilized for future planning, including strengthening better regulation of the sector.

Juba, South Sudan – September 2013

The rapid growth of Juba, the capital of South Sudan, over the past ten years presents municipal authorities with a multitude of challenges, particularly the provision of adequate sanitation facilities for an ever growing population.

Presently, information that would ordinarily be available for planning purposes, including the current size of the city and population density variations, is absent. The provision of accurate data regarding current sanitation conditions at the household level is a priority for the Juba City Council as new investments are being planned.

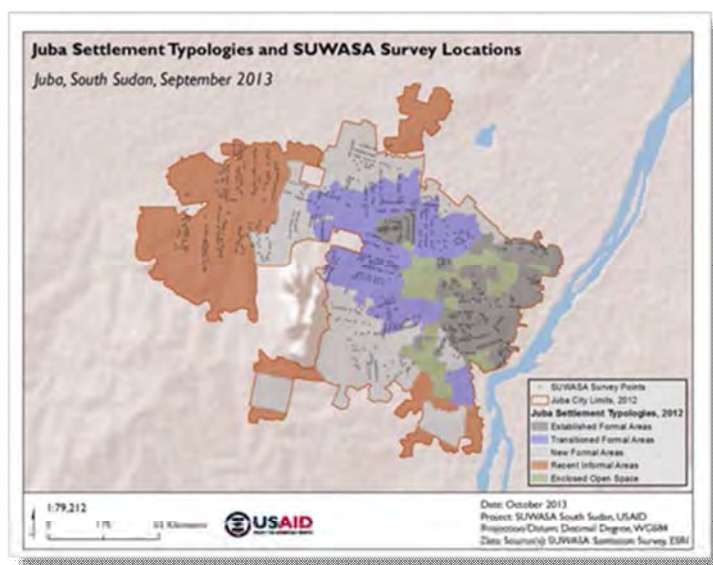
In support of the City Council, SUWASA planned a household survey to fill large information gaps around sanitation knowledge, attitudes and practices across Juba. Survey content included questions on toilet ownership, levels of satisfaction with waste disposal services, health and hygiene knowledge and domestic water sources and practices.

The lack of population data in Juba, presented a particular challenge when designing a statistically

relevant survey. Recent satellite imagery was obtained from the USAID GeoCenter in Washington D.C. Analysis of this imagery that identified housing density, level of settlement formalization and neighborhood age, resulted in the identification of four distinct urban typologies. From these typologies a calculation of total households was used to determine a stratified random sample. Utilizing the same tablet devices and software mobilized in Maputo, the SUWASA team developed a household survey instrument on tablet devices.

Enumerator training proved to be a capacity building initiative as many of the university student enumerators had not previously used a touch screen device. After a two day training, most of which focused on interviewing skills and survey content, enumerators quickly adapted to the technology.

The activity collected a total sample size of 1,054 interviews over the course of 14 days of enumeration. Daily interviews were accessed on a cloud-based database and geospatial supervision of the enumeration was conducted daily to determine interview progress in each urban typology. Enumeration was completed in early October and preliminary results are being analyzed and mapped.



(Continued on page 3)



USAID
FROM THE AMERICAN PEOPLE



Information and Communication Technologies (ICTs) for Water Sector Development in Africa

Ebonyi, Nigeria – October 2013

Similar to the challenges faced in Bauchi State, SUWASA Ebonyi is working with the Ebonyi State Water Corporation (EBSWC) to improve upon the house connections serviced by the utility, which is estimated to provide house connections to only 2% of households in the service area of which only 22% of these households are billed for consumption. As part of the project's work to support expanded water service delivery and build institutional structures, SUWASA Ebonyi is focusing on increasing household connections to water distribution systems and establishing a reliable customer database to improve billing and collection.

To achieve these goals SUWASA Ebonyi will provide support to create an integrated, spatially referenced asset management system that incorporates customer billing, financial management, and equipment/infrastructure management. This integrated system will allow EBSWC staff (customer care, distribution officers,

commercial officers and supervisors) to readily access relevant information and update and upgrade data for efficient service delivery. Development of a user-friendly system is a priority as well as providing capacity development for EBSWC staff as the system is implemented.

The first phase of this project is a data collection exercise that includes both customer enumerations of an estimated 20,000 customers as well as mapping of the existing water distribution network in Abakaliki, Nigeria.

The customer enumeration will be undertaken with a similar ICT approach to that used in Maputo and Juba. Mapping of the water distribution network will be undertaken using spatial data capture software on tablet devices. Robust data collection from the outset will provide a strong foundation for a simple, easy-to-use information management system for EBSWC.

October 31, 2013

USAID is supporting improved access to water and sanitation in nine countries in sub-Saharan Africa through the six-year Sustainable Water and Sanitation in Africa (SUWASA) project.

USAID and SUWASA Contacts:

- Heather Skilling, USAID Senior Water and Sanitation Advisor, hskilling@usaid.gov
- Dennis Mwanza, SUWASA Chief of Party, dmwanza@ard-suwasa.org



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SUWASA Contributes to Learning on Financing for Water Services at the IWA Development Congress

High numbers of unplanned and informal settlements, old infrastructure, weak credit ratings limiting access to finance, high bank interest rates and lack of information are some of the main challenges facing utilities in Africa in their efforts to expand water and sanitation services to growing urban populations.

To draw attention to these challenges and share USAID's experience in supporting utilities to access commercial financing, USAID's Sustainable Water and Sanitation in Africa (SUWASA) program held a workshop on "Accessing Commercial Bank Financing to Deliver Services to All - What Utilities Need to Know and Do" during the IWA Development Congress held at the Kenyatta International Conference Center in Nairobi, Kenya on October 16, 2013.

Over 100 participants representing utilities, development partners, water executives from Kenya's new county governments keenly followed presentations featuring perspectives from two development partners, a utility, a commercial bank and SUWASA.

Key messages

Commercial Banks have a role to play in financing infrastructure development

USAID's Development Credit Authority has signed a loan guarantee with the Housing Finance



A cross section of participants at the SUWASA organized workshop on accessing commercial finance.

Company of Kenya (HFCK) and Kenya Commercial Bank to enhance potential for utilities to borrow from the commercial market and also to promote sector projects to improve water access and quality. To ensure that the water sector benefits from this facility, HFCK has changed its credit policy from collateral backed loans to cash flow backed loans.

HFCK advised that the utilities need to play an active role in identifying and developing projects for commercial financing. HFCK's Business Development Manager, Mr. Kevin Kihara announced that the Bank's Board of Directors had recently approved a loan of USD \$990,000 for Embu Water and Sanitation Company (a water utility in Kenya) to extend coverage to over 55,000 people. This is the largest

loan from a commercial bank to a water utility in Kenya.

Utility benchmarking facilitates decision making and spurs action

The Utility Credit Rating Report released by Kenya's Water Services Regulatory Board (WASREB) in 2011 provided utilities with a diagnostic to identify areas for improvement and was critical in exposing financial institutions to potential lending opportunities in the water sector. When asked about the possibility of classifying utilities according to size in order to eliminate undue advantages enjoyed by smaller operations, the Senior Water and Sanitation Specialist, World Bank, Water and Sanitation

(Continued on page 2)

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For more information on SUWASA News and activities, please contact, Emily Mutai, SUWASA Communications and Outreach Specialist, at info@usaid-suwasa.org

SUWASA Contributes to Learning on Financing for Water Services at the IWA Development Congress

Program, Mr. Patrick Mwangi, was clear “credit rating for utilities are there to inspire, they create excitement and make people stand up”.

Need to provide capacity to utilities to demystify commercial loans

One message that came out clearly from the Banks is the need to demystify the fear of water utilities to apply for loans from commercial banks. This has been achieved through the availability of a USAID credit guarantee for commercial banks. The majority of utilities represented expressed the need for more information and capacity building to better position them for commercial financing to extend coverage to the increasing number of un-served consumers. The Housing Finance Company of Kenya was opening its doors to utilities and expressed readiness to assess financing proposals.

Strong and robust regulatory frameworks are key to grant confidence to banks

Without a strong regulatory framework in Kenya, it would have been a great challenge to make the investments of USD \$371,000 to the utilities in Nakuru and Kisumu. A clear regulatory framework for the water sector provides some levels of confidence and comfort for the Banks. A conducive regulatory environment enhanced the decision by K-Rep Bank to create a medium-

term financing package for KIWASCO. This was further enhanced by the USAID Development Credit Authority that provided a loan guarantee. The loan was used to fund water connections for 1,500 low-income households in Nyamasaria, Kisumu and was the largest loan ever made by K-Rep Bank to finance a water project. HFCK also advised of the need to have a clear regulatory framework as that also played a key role in their decision to make a loan to the Embu Water and Sanitation Company.

Panelists

- Dennis Mwanza – Chief of Party, SUWASA
- Patrick Mwangi - Senior Water and Sanitation Specialist, WSP World Bank
- Kevin Kihara - General Manager Business Growth and Development, Housing Finance Company, Kenya (HFCK)
- David Onyango - Managing Director, Kisumu Water and

Sewerage Company (KIWASCO), Kenya

- Gyongshim An, - Senior Urban Development Specialist, Asian Development Bank
- Eric Adams, Team Leader, SUWASA Kenya

Moderators

- Zael Sanz - Water and Sanitation Specialist, WSP/World Bank, Bolivia, South America
- Sam Huston- Deputy Chief of Party, SUWASA.

The 3rd IWA Development Congress and Exhibition provided a unique opportunity to share best practices, applied research and enabling policies to meet the water and sanitation challenges of today. USAID's SUWASA program was a Strategic Partner, making significant contributions to the knowledge base and practical debate with presentations and poster sessions.



SUWASA Chief of Party, Dennis Mwanza speaks to a delegate at the Expo.

As a strategic partner, SUWASA was a key exhibitor at the Expo. Our booth featured our work across the continent

Photo by SUWASA

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SNAPSHOT

An innovator in the Kenyan water sector leads the way on commercial financing

USAID supports demand driven solutions to improve access to safe, reliable, affordable water for the urban poor in Kenya



Photo Credit: SUWASA Kenya

MD Karugendo shows Housing Finance Director of Business Operations, Tim Gitonga, the map of the project area and pipeline investment that will allow EWASCO to bring water to 75,000 people.

USAID's SUWASA Kenya project helps the Embu Water and Sanitation Company access a loan from Housing Finance to implement the largest commercially-financed water project in history in Kenya.

Telling Our Story

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Throughout his tenure at EWASCO, Managing Director (MD) Harim Karugendo has always looked for innovative ways to extend water and sanitation services in Embu. He introduced the company to supplier financing, whereby pipe manufacturing companies provided materials to EWASCO on credit. This idea enabled EWASCO to expand services throughout the town and increase revenues. Since the MD started working with EWASCO, water production capacity has increased from 2,000 m³ to 28,000 m³ per day.

MD Karugendo now leads Embu Water into an innovative financing arrangement with Housing Finance providing KSH 79.6 million (~USD 926,000) to extend 23 kilometers of pipeline to serve more than 75,000 people. The project which is also the largest commercially-financed project in the Kenyan water sector is backed by a USAID Development Credit Authority guarantee as well as an Aid on Delivery grant from the Government of Kenya Water Services Trust Fund (WSTF) supported by KfW. USAID's Sustainable Water and Sanitation in Africa (SUWASA) has facilitated this groundbreaking deal.

When SUWASA presented the idea of commercial financing for a large pipeline investment, MD Karugendo was open to the idea. In fact, he believes that "the concept was straight-forward and enticing. The commercial financing unlocks our capacity to expand services and the Aid on Delivery subsidy from WSTF allows us to do twice as much as would have been possible before. The fact that this is a loan also makes us more prudent in managing the company's resources."

MD Karugendo notes that the business planning and financial expertise that SUWASA brought was key to making this deal happen. "If it wasn't for SUWASA, we would have never known this type of financing was available. SUWASA was vital in linking us to financing partners, assessing market demand, and increasing our visibility." But while the financing is critical, the MD points out that for him, "the measure of success for EWASCO is not how much profit is made, but rather how many people have access to water and sanitation in Embu."

Innovative projects like these led the Tana Water Service Board to recently name EWASCO as the most innovative water company in the region.



USAID
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Can Water Meters Ease Kenya's Supply Woes?

For Jane Maina, being a landlord comes with its own special set of headaches, many of them related to water supply for about 150 tenants. High water bills that at times dwarf the meager income she earns renting her property forced her to implement a tight water-rationing system, whereby the taps were only opened three times a week, for four hours in the early morning.

"People used to fight over water, and struggle to get to the taps at the designated time," she said, trying to explain the system that limited tenants to a weekly ration of 240 liters. "I used to get all sorts of abuse because my tenants were unhappy with the water rationing. It was like I was the enemy."

It's a familiar tale heard all over Nakuru's low-income settlements and one of East Africa's fastest growing cities: Water supplies are expensive, landlords limit access and residents pay a premium for ad hoc deliveries of water of questionable quality.



Emily Mutai, SUWASA

It is estimated that by 2030 more than half of Africans will live in urban areas, but the percentage of urban residents with household water connections is actually falling. Urban utilities face aging infrastructure, growing demand and the challenges of reaching low-income populations, often in unplanned areas. The result is an increasing reliance on uncertain and unsafe supplies.

Nakuru sits at the base of the Rift Valley and holds great agricultural and tourism potential. However, more than 40 percent of its population still lives below the poverty line, and economic pressures increase with the growing population.

More than two-thirds of Nakuru's residents—around 250,000 people—live in large-scale informal settlements, relying on vendors to bring them 20-liter jerry cans of water for an average 6.3 Kenyan shillings, or roughly 7 cents. This amount of water typically lasts a person in the developing world two days—and has to cover drinking, washing and cooking. By contrast, the average North American uses 400 liters of water a day. For an average household of five



A Jane Maina has to worry about water supplies for her 150 tenants. All her tenants immediately signed up for the token that gives them access to clean and affordable water.

Emily Mutai, SUWASA

in Kenya, the weekly water routine involves buying and carrying more than 17 cans of water; each of those cans weighs up to 40 pounds.

USAID, through its Sustainable Water and Sanitation in Africa project, has been working since November 2010 to overcome these challenges in a way that is both profitable for the utility and affordable for the population. To make this happen, the Agency is partnering with the national Water Services Trust Fund (WSTF), the local utility Nakuru Water and Sanitation Services Company (NAWASSCO) and Family Bank.

With financing worth about \$210,000—just over half provided by USAID—the pilot project is installing 95 public meters in compounds

(Continued on page 2)

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USAID
FROM THE AMERICAN PEOPLE



Can Water Meters Ease Kenya's Supply Woes?

owned by landlords like Maina, providing service to six low-income areas. The meters, locally sourced and maintained, are located within each housing compound, providing a safe and secure water point. They use simple but sophisticated technology, allowing people to take as much water as they are able to pay for in advance, on a time schedule that is convenient for them.

The meter is like a water ATM. Consumers pre-pay for water, then receive a token that records the total balance. To access water, the consumer inserts the token in the meter and water flows. A digital display on the meter lets the consumer know how much water they have received and tracks the remaining credit. When the consumer removes the token, water stops flowing.

Cheaper, Safer Water

Currently, 8,000 Nakuru residents are using the meters to access water at a cost of about 2 cents per 20-liter jerry can—70 percent less than they had been paying before. The utility will recover its costs within two years.

"At the end of the day, NAWASSCO gets upfront payment, and the urban poor have access to better and cheaper water," says NAWASSCO Managing Director John Cheruiyot.

The utility is now arranging financing to expand the number of meters to serve 30,000 residents within the year.

"Taking out this loan has given us confidence to now go out on our own without having to wait for the government to come up with funds for the projects that we want to do," says Cheruiyot.

Encouraged by early results from the pilot project and eager to expand the water meters to other communities, WSTF is investing an additional \$40,000 from its own coffers in the project. Jacqueline Musyoki, chief executive officer of the Kenyan state corporation, says her group is developing a comprehensive toolkit to replicate the project throughout the country.

In the meantime, Maina and her tenants are very happy. Frederick Kiberenge, a night guard and father of four living in Maina's compound, says, "Now, I don't worry about water all the time. I can fetch water at any time and the endless quarrels in our compound have stopped. I also spend more money on food for family instead of buying expensive water from vendors."

The other tenants are also managing their own water bills and paying for the amount of water they consume. "Now I don't have to wake up in the morning to open the taps and monitor how people fetch water," says Maina. "There are also no more fights over water."

Credit for Water

USAID can also help entrepreneurs and businesses secure financing to expand water services to those in need. Through its Development Credit Authority, USAID shares risk, or "guarantees" loans from commercial banks like Kenya's K-Rep Bank to other utilities similar to NAWASSCO. For example, in 2012, USAID helped the Kisumu Water and Sewerage Co. in Western Kenya obtain a \$240,000 loan from K-Rep Bank to fund water connections for 1,500 low-income households in Nyamasaria. The USAID-backed effort was the largest loan ever made by the bank to finance a water project.

USAID is also encouraging other banks in Kenya to lend to the water sector. In October 2012, Kenya Commercial Bank, the largest bank in East Africa, signed a new loan guarantee with USAID to promote more private-sector projects to improve water access and quality, and is currently reviewing potential loans that could total \$5.5 million over a 10-year activity.



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SNAPSHOT

New Power Connection Enhances Operational Efficiency at Maridi Urban Water Station

USAID supports utility-level reforms to increase efficiency and customer orientation of utilities

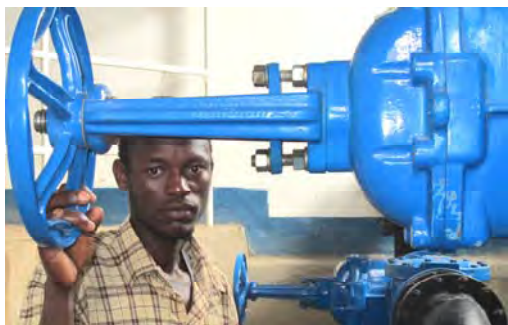


Photo Credit: SUWASA

Yoasa Tito Malish, Electro- Mechanical Technician
at the Maridi Water Treatment Plant.

With almost 30% savings in the cost of energy, the utility has been able to reduce its operating costs significantly, and become more efficient in its operations

Commissioned in 2010, the Maridi water treatment plant has been a key source of potable water for Maridi town in West Equatoria State of South Sudan.

However, the treatment plant has faced a number of challenges, including low operational capacity and poor efficiency. Despite its designed production capacity of 3,000 m³ per day, the treatment plant has been operating at only 10% capacity, this due largely to high operating costs and a poorly developed distribution network. It has been using an estimated 120 liters of diesel fuel per day, resulting in an energy bill of approximately \$5,800 per month. The situation is aggravated by the rising cost of fuel and diminishing government subsidies.

The United States Agency for International Development (USAID), through the Sustainable Water and Sanitation in Africa (SUWASA) program, has put in place mechanisms to enable the water utility to achieve increased operational efficiency and sustainability in its operations. One such measure was to connect the city electric utility to the water treatment plant that was completed on August 19, 2013.

According to Mr. Kennedy Aguta, Acting Area Manager, the utility now uses about 240 Kwh of electricity on a normal, full working day, which costs about \$252.

'If we were running on diesel, it would cost us between \$310-348 per day, so we are now saving between \$58-96 per day.'

With almost 30% savings in the energy cost, the utility has been able to reduce its operating cost significantly, and has become more efficient in its operations, with the operations and maintenance cost recovery from user fees having improved by 10% over the 62% baseline prior to the new power connection.

This increased efficiency is resulting in improved service delivery to the residents of Maridi town, and will be complemented with hundreds of new consumer connections to the piped water system provided by USAID. The utility hopes to take advantage of its improved financial position and the prospects of fiscal viability to continue to expand its water coverage over time and attain full sustainable financial autonomy.

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SNAPSHOT

New Committee for Water Utility Addresses Gender Issues at Work

USAID is building the capacity of Kenyan utilities to mainstream gender in service delivery and institutional operations



Photo Credit: Emily Mutai, SUWASA

Nancy works on a pipe connection in Embu after she was reinstated with the intervention of the utility's Gender Committee

SUWASA has developed a toolkit for utilities to address barriers to gender mainstreaming and is sharing this with utility partners receiving commercial financing facilitated by USAID's Development Credit Authority.

Telling Our Story

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Nancy is a qualified and experienced plumber and pipe fitter. She dropped out of school at the age of 13 because her parents were unable to pay her secondary school fees. Her desire to support her family led her to manual jobs where she discovered that she enjoyed plumbing assignments at construction sites. From these jobs, she raised enough money to pay for training in plumbing.

Since she completed the course, her greatest challenge has been convincing employers that she is capable of doing plumbing work, as this is commonly seen as a man's job.

When she approached the Embu Water and Sanitation Company (EWASCO) for a job as a pipe fitter, she was offered a low level position, even though she had presented her credentials to prove her qualifications. She refused to take the option offered and insisted she was a qualified plumber and pipe fitter. The supervisor reluctantly agreed to hire her on a probationary basis. Although she proved herself, Nancy and another female colleague had to endure taunting from male colleagues and were eventually laid off under unclear circumstances.

Luckily for Nancy and her colleague, USAID's Sustainable Water and Sanitation in Africa (SUWASA) has been building the capacity of Kenyan utilities to mainstream gender in service delivery and institutional operations. In August, the project provided support to EWASCO to form a Gender Committee to address gender in the organization.

With the intervention of the EWASCO Gender Committee, Nancy was reinstated to her position. The Gender Committee, which has seven members (3 men and 4 women) representing all departments, was formed after a workshop for 30 EWASCO departmental heads on institutionalizing gender considerations in the workplace. SUWASA also held focus group discussions with staff to raise awareness and identify gender issues. The training also helped mobilize staff to participate in developing a new gender policy for EWASCO.

A gender analysis report commissioned by the project found that women were underrepresented in water supply institutions. The report also found low participation of women in leadership and decision-making roles. SUWASA has developed a toolkit to help address barriers to gender mainstreaming in the water sector.

Two months after the Gender Committee intervened; Nancy continues to work as a plumber and is currently working on a large scale pipeline project financed through USAID's Development Credit Authority and a local Kenyan bank. The project will bring water to up to 75,000 people.

SNAPSHOT

Technology Helps Mozambique Map Private Water Operators for Urban Water Planning

A database and widely accessible maps on the operations of private water operators will support sector planning



Photo Credit: Nick Thomas, Tetra Tech

SUWASA trained 16 university students on survey techniques and dispatched two-member enumeration teams equipped with tablets.

816 private water operators serve 191,000 households in Maputo, Matola and Marracuene

Thanks to a new inventory that details the exact scale of services provided by private water operators (FPAs), the Government of Mozambique is now better able to plan and deliver improved services in the urban centers of Maputo, Matola and Marracuene.

The inventory, developed using a tool called electronic Project Observation, Reporting and Tracking methodology (ePORT) provides details on technical specifications of the water systems, level of service, water tariffs, water treatment and storage, and monthly operating costs.

Private water operators in Mozambique operate mainly in urban centers where the Municipal utility has failed to provide continual, or any, service. While the FPAs have been in place for many years, serving many customers, the Government has struggled to develop a strategy for licensing and regulating them to ensure that the water supply activities of FPAs are consistent with the investment plans of the Government, and to optimize the provision of water supply services to the population. The lack of updated information on the actual number of FPAs, their coverage, quality of water supplied, and tariffs charged, made it difficult for the Government to implement its water coverage expansion plans.

Since October 2011, USAID's Sustainable Water and Sanitation in Africa program (SUWASA) has been providing technical assistance to the Government through the National Directorate of Water (DNA) to design a clear regulatory and licensing framework for urban water services. The inventory of FPAs is of great significance for future planning, especially as the Government implements major water infrastructure investment to cover areas that are not currently served, including those served by the FPAs.

Using the ePORT tool and the latest technology, comprising Google Maps and tablet devices, the project was able to address the challenges often experienced by mapping activities that rely on paper – which can lead to problems associated with data transfer, quality time, and subsequently efficient resource use.

An added benefit of this application is the data storage model it uses. All information is stored automatically on iCloud – an Internet-based database that allows access anywhere in the world, and near-real time assessment of survey progress, through simple review of the location of data points in a spatial database viewed using a geographic information system (GIS).

The inventory exercise succeeded in mapping 816 FPAs, providing detailed information that will help the Government to license and regulate the operations of FPAs and plan effectively for piped water supply expansion in Maputo, Matola and Marracuene.

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SUWASA NEWS

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CONTACTS

Dennis Mwanza
Chief of Party
dmwanza@ard-suwasa.org

Heather Skilling
Senior Water and Sanitation
Advisor
hskilling@usaid.gov

Regulatory Authority Endorsed by Ugandan Water Sector Officials

A proposal to establish an autonomous water and sewerage regulatory authority in Uganda received enthusiastic support at a recent meeting of high-level officials.

The meeting, held March 4, 2014 in Kampala, was attended by 75 water and sanitation sector officials including Betty Bigombe, Uganda's Minister of State for Water, USAID's Uganda Mission Director Leslie Reed, and Axel Klaphake, the country director for German development agency GIZ.

The proposal was developed by the

Ugandan government, the U.S. Agency for International Development (USAID) and GIZ. It called for the establishment of the Uganda Water and Sewerage Regulatory Authority, an autonomous organization aimed at ensuring the sustainability of the country's water and sewerage sector.

In her remarks opening the meeting, Reed said the new regulatory framework would result in transparent and predictable processes. She underscored the need to move the

(Continued on page 6)



Strength in Collaboration:
From left - Axel Klaphake, Country Director for GIZ, Hon Betty Bigombe, Uganda's Minister of State for Water, Leslie Reed, USAID's Uganda Mission Director and Dennis Mwanza, SUWASA Chief of Party, in Kampala, Uganda

Photo by: SUWASA

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Hawassa Residents Celebrate Greater Access to Safe and Affordable Water

A regional partnership facilitated by USAID enabled the Water Services Trust Fund of Kenya to work hand-in-hand with its water sector colleagues in Ethiopia to implement an innovative kiosk design that engages local private sector participation in facility management.

On March 25, 2014, USAID's Sustainable Water and Sanitation in Africa (SUWASA) officially handed over 14 new water facilities to the residents and the administration of Hawassa, the capital city of the Southern Nations Nationalities and Peoples Region of Ethiopia. The new facilities, completed in February 2014, have already brought significant health benefits to 12,600 residents of Addis Katema, Tulu and Tabor, three low-income settlements in Hawassa.

The new facilities include water kiosks that provide easy and inexpensive access to water for residents including Meselech Yoseph. The new kiosk near her home in Tulu offers her family and neighbors access to clean water supplied by Hawassa's water utility. It is a reason to celebrate, she said.

"For the past 10 years, we have been fetching more than 20 liters of

water a day from Lake Hawassa," she said. "The water was not clean. Therefore we suffered from waterborne diseases such as diarrhea caused by worms. Pregnant women also had to carry out this difficult task."

The kiosks model is based on an innovative design developed and promoted by the Water Services Trust Fund of Kenya. They were installed as part of a regional partnership facilitated by the U.S. Agency for International Development (USAID), which worked hand-in-hand with the water sector in Ethiopia. The kiosk model encourages local private sector management and ensures that the community is fully involved in selecting the kiosk manager and providing security for the systems.

With the 14 new facilities, residents now only need five minutes to fetch water, a major improvement over the 30 minutes required before the project. Also, the cost for 20 liters of water is only 25 cents in Ethiopian birr, about US\$0.013. This rate is five times lower than the amount residents used to pay private vendors for the same amount of water.



Residents of Tulu celebrate the completion of water facilities close to their homes.

Photo by : SUWASA

The new water facilities are an important component of USAID's two-year partnership with the Hawassa Town Water Supply and Sewerage Services Enterprise, the Regional Water Resources Bureau and Hawassa's city administration. The collaboration aimed to help introduce commercial practices to Hawassa's utility, allowing it to provide efficient and sustainable water service.

The partnership, established in February 2011, led to new accounting and financial reporting practices that increased the Hawassa utility's efficiency and improved record keeping. The efforts also led to new tariffs that have provided the basis for the utility's financial health.

These changes are expected to transform the performance of the utility and benefit Meselech and her fellow residents by offering improved, sustained and affordable water services.

Contact: Robert Hanjahanja at rhanja-hanja@ard-suwasa.org



Breaking Tradition: From Mortgage Lending to Water Financing

It's an uncharted journey from the mortgage to the water sector.

But Housing Finance, a traditional mortgage lender in Kenya, successfully made the trip.

"The move was a natural transition," said Kevin Kihara, Housing Finance's general manager for business development.

The transition was part of Housing Finance's strategy to diversify its building construction and housing finance portfolios. A guarantee of US\$3 million from the U.S. Agency for International Development's (USAID) Development Credit Authority (DCA) also played a pivotal role.

"The guarantee gave the bank the confidence to enter the water sector and begin building a sizable portfolio without the inherent high risks of lending to utilities," Kihara said.

USAID's Sustainable Water and Sanitation in Africa (SUWASA) was instrumental in facilitating the bank's move. SUWASA helped Housing

Finance develop a loan product for water utilities and identify viable projects. The program also offered the bank technical assistance and worked with utilities to develop business plans and manage the bank's expectations.

In particular, SUWASA helped establish a relationship between Embu Water and Sanitation Company (EWASCO) that led to financing for a US\$945,000 pipe extension project. SUWASA also worked with Housing Finance to create a utility financing toolkit and to train corporate banking and credit staff.

To accommodate the water sector, Housing Finance revised its credit policy to allow for cash flow lending, which opens financing opportunities to utilities with limited assets.

In addition, Housing Finance has a full-service project administration department, allowing it to validate infrastructure work before releasing deliverables-based disbursements.



Kevin Kihara, Housing Finance's General Manager, Business Development makes a presentation to water sector professionals at the 3rd IWA Congress in Nairobi, Kenya.

Photo by: SUWASA

Over the next three years, Housing Finance plans to continue building its utility portfolio through a branch-based system whereby credit officers have the tools and knowledge to assess and approve loans for water utilities throughout Kenya.

Contact: Eric Adams at
eadams@developinnovations.com

Upcoming Events

5th Africa Water Week
Dakar, Senegal
May 26-30, 2014

Link: <http://www.africanwaterfacility.org/news-resources/events/event/5th-africa-water-week-5/>

IWA Water Loss 2014 Conference
Vienna, Austria
March 30– April 2, 2014

Link: <http://www.iwahq.org/1y8/events/iwa-events/2014/water-loss-2014.html>

Upcoming Events

WISA Biennial Conference– Water Innovations
Mbombela, Mpumalanga, South Africa
May 25-29, 2014

Link: http://www.wisa.org.za/Content_page.aspx

Africa Utility Week
Cape Town, South Africa
May 13-14, 2014

Link: <http://www.african-utility-week.com/>

Post Your Event Here

Please share your upcoming events in the water and sanitation sector and we will post them here to reach a wider audience

SUWASA cannot guarantee the accuracy of the information provided on these events. Kindly contact the organizers for more information

Customer Count - Ebonyi Prepares for a New Flow of Water Services

The Ebonyi State Water Corporation (EBSWC) in southeast Nigeria is expecting an increase in water production as a result of significant infrastructure investments. To prepare, EBSWC is taking a count of its current customers in an effort to update its records, improve billing and increase collections.

EBSWC, with the support of SUWASA initiated a three-month project that sent enumerators into residential areas of the state of Ebonyi, including the capital, Abakaliki, to gather data. The information will be used to create an up-to-date database of EBSWC's estimated 20,000 customers.

At a kick-off event, Ebonyi State Commissioner for Public Utilities Ben Okah encouraged area residents to participate in the survey by providing information including their names, the number of people in their households and buildings, their addresses, and contact information.

"Please cooperate with the enumerators when they get to your house and give them all needed assistance to make their job easy and fruitful because the success of the exercise will help our Ebonyi State Water Corporation to serve you better in the future," he said.

The exercise is part of an effort by USAID's Sustainable Water and Sanitation in Africa (SUWASA) to work with EBSWC to expand and improve water service delivery in the area.

The project includes efforts to create an integrated asset management system that incorporates customer billing, financial, equipment and infrastructure management. The integrated system aims to provide



Enumerators interview household members about water usage, family size and contact details

Photos by: SUWASA

EBSWC staff members with easy-to-use ways to access information.

Improvement to the customer database coincides with significant investment in the region's water and sanitation infrastructure. The work underway includes the addition of two new water treatment plants and 52 kilometers of pipes that will connect one of the plants to Abakaliki.

The expanded water supply will allow EBSWC to reach new customers in unserved and underserved areas. The new customer database will allow EBSWC to improve its relationship with current customers and provide a platform on which it can extend services to new clients.

The state of Ebonyi has a growing population. However only 2 percent

of households in Abakaliki have piped water connections. Only 22 percent of those households are billed for consumption based on a flat-rate tariff. Indeed, this tariff does not reflect the cost of providing service.

Once the survey is complete, EBSWC will have an updated customer roster and soon will be able to send out bills.

But EBSWC will also have a strong foundation for a simple, easy-to-use information management system that will allow it to handle the expected flow of new customers.

Contact: Sam Huston at shuston@ard-suwasa.org

Staff Members at Nigerian Utilities Commit to Action Plans to Accelerate Reforms

Staff members from eight water utilities have signed up to take action on plans that would enable transformational change and ensure that the country's water and sanitation sector meets its mandate to deliver safe, affordable and sustainable service.

The action plans were created by 40 utility managers and human resources personnel at a five-day training in December 2013. The training, *Human Resources and Organizational Development in Reforming Utilities*, included representatives from the Bauchi, Ebonyi, Ekiti, Cross River, Lagos, Kaduna, Ogun and Rivers, state utilities. At the end of the workshop, utility representatives stated their commitment to the action plans.

The training was organized by USAID's Sustainable Water and Sanitation in Africa (SUWASA) and included financial support from the World Bank and the Nigerian government. It complemented SUWASA's work with utilities to bring about improvements to urban water service in the Bauchi, Ebonyi and Rivers states.

The main focus of the training was to address the human resources and organizational development challenges that arise at a reformed water utility. During the workshop, participants learned how to develop an organizational plan. They also learned skills including:

- How to redefine roles and responsibilities in an organization;
- How to reduce interdepartmental conflicts;

- How to transition employees into a new organizational structure;
- How to motivate employees;
- How to develop enforceable performance contracts, performance evaluations and compensation plans.

Christiana Okoro of the Ebonyi State Water Corporation said the training showed her methods for handling personnel issues and ways to better relate to her staff and the organization as a whole, she said.

"My attitude has now changed and I now see the corporation as a government-owned commercial entity and not one of those bureaucratic civil service offices," she said. "I have realized that if I put in my best, it will bring increase in the revenue of the corporation, which will bring increase in my pay package."



Participants of the human resource training course in Abuja, Nigeria

Photo by : SUWASA

Corruption was also a theme at the training workshop.

In his remarks at the opening ceremony, SUWASA Chief of Party, Dennis Mwanza called corruption a "big disease" that undermines service. He also stressed the need for personal integrity as a way to reduce or eradicate corruption.

Corruption would be minimized in the water and sanitation sector with increased automation, strong systems and processes, better auditing and accountability, and the reorientation of staff members, said Patricia Simon Hart, commissioner of the Ministry of Water Resources and Rural Development in the Rivers state.

"If these actions are put in place, there will be less incentive to become corrupt and fewer avenues for corruption," she said.

Contact: Dennis Mwanza at dmwanza@ard-suwasa.org

Kenya Water Sector Innovator Leads the Way with Commercial Financing

An innovative financing deal, facilitated by USAID's Sustainable Water and Sanitation in Africa (SUWASA), is enabling a local water utility to access finance to install 23 kilometers of pipeline and provide water to more than 75,000 low-income residents in Embu, Kenya.

Embu Water and Sanitation Company (EWASCO), under the leadership of its Managing Director Harim Karugendo, secured US\$945,000 in commercial financing from Housing Finance for the work.

The bank is backed by a guarantee from the U.S. Agency for International Development's (USAID) Development Credit Authority, and the project is supported by an Aid on Delivery grant from the Kenyan Water Services Trust Fund (WSTF), funded by the German development bank KfW.

"The commercial financing unlocks our capacity to expand services, and

the Aid on Delivery subsidy from WSTF allows us to do twice as much as would have been possible before," Karugendo said.

"SUWASA was vital in linking us to financing partners, assessing market demand and increasing our visibility," he added.

The project is just one of EWASCO's innovative approaches to improving water and sanitation services. Karugendo has also introduced supplier financing, allowing the company to expand services and increase revenues. Additionally, EWASCO worked with the Japan International Cooperation Agency (JICA) to build a new water treatment facility and partnered with Kenya's K-Rep Bank to construct household water connections in low-income areas.

Since Karugendo started work with EWASCO, the company's water production has grown from 2,000 cubic meters per day to 28,000.



Harim Karugendo, Managing Director of EWASCO, shows the map of the pipeline investment project that will bring water to 75,000 residents of Embu, Kenya.

Photo by SUWASA

Recently, the Tana Water Services Board named EWASCO the most innovative water company in the region.

However, for Karugendo, financing is not the only goal.

"The measure of success for EWASCO is not how much profit is made, but rather how many people have access to water and sanitation in Embu," he said.

Contact: Eric Adams at eadams@developinnovations.com

Regulatory Agency Endorsed in Uganda

legislative process to establish the regulatory authority forward. Reed said that USAID would remain supportive of the agenda.

As proposed, the new authority would establish a clear and open process for setting tariffs. It would also allow for better consumer protection and would improve the ability to monitor and report on the sector's progress. The new regulatory framework would encourage participation from a variety of players including private water companies. It would also promote competition between providers and ensure adherence to national water and sanitation policy.

In her keynote address at the meeting,

Bigombe called the authority a critical step toward achieving the Millennium Development Goal (MDG) of access to water for all. She pledged to support a bill in the Ugandan parliament and to continue her support as the framework is implemented by the Ministry of Water.

Johnson Amayo, chief manager for planning and capital development at the National Water and Sewerage Corporation (NWSC) said NWSC was ready to put its support behind the proposal.

"NWSC is in line with the formation of a national regulatory authority," he said. "We will be in a position to

monitor mechanisms to enforce performance."

Klaphake said GIZ would also remain engaged in establishing the regulatory authority.

The proposal in Kampala comes at the conclusion of a USAID effort in which its Sustainable Water and Sanitation in Africa (SUWASA) project provided technical assistance for the development of the regulatory framework. GIZ is expected to continue to provide support to the government as it works to establish the regulatory authority.

Contact George Acolor at gacolor@ard-suwasa.org



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SUWASA NEWS

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SUWASA CONTACTS

Dennis Mwanza
Chief of Party
dmwanza@ard-suwasa.org
+254 20 262 7312

Heather Skilling
USAID Senior Water and Sanitation
Advisor
+1 202-712-1607

www.usaid-suwasa.org

New Committee for Water Utility Addresses Gender Issues at Work



Nancy works on a pipe connection.

Photo by: Emily Mutai, SUWASA

Nancy is a qualified and experienced plumber and pipe fitter. She dropped out of school at the tender age of 13 because her parents were unable to pay her secondary school fees. Her desire to support her family led her to manual jobs where she discovered that she enjoyed plumbing assignments at construction sites. From these jobs, she raised enough money to pay for training in plumbing.

Since she completed the course, her greatest challenge has been convincing employers that she is capable of doing plumbing work, as

this is commonly seen as a man's job.

When she approached the Embu Water and Sanitation Company (EWASCO) for a job as a pipe fitter, she was offered a low level position, even though she had presented her credentials to prove her qualifications. She refused to take the option offered and insisted she was a qualified plumber and pipe fitter. The supervisor reluctantly agreed to hire her on a probationary basis. Although she proved herself, Nancy and another female colleague had to endure taunting from male

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SUWASA is a USAID program implemented by Tetra Tech. The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

For more information on SUWASA News and activities, please contact, Emily Mutai, SUWASA Communications and Outreach Specialist, at info@usaid-suwasa.org

A Coalition for a Citywide Approach to Sanitation in Juba

Three years after independence, South Sudan is building its urban sanitation services. In Juba, the country's capital, a coalition of stakeholders has come together to create a working group that is defining the city's sanitation challenges and proposing solutions.

The goal of the coalition and its working group is to provide a forum for detailed technical discussions and to build consensus about viable solutions among the policy makers. The coalition also aims to meaningfully contribute to establishing a long-term, citywide solution to sanitation that can be owned by all relevant actors in Juba.

One of the working group's first tasks was to review SUWASA's sanitation studies and define the city's sanitation problems. The problems include:

- Inadequate access to household toilets that are adaptable to mechanized emptying;
- Inadequate construction and management of public toilets;
- Inadequate regulation of sewerage exhauster tankers;
- Inadequate operation and maintenance of the Roton public wastewater lagoon including a lack of clarity on how to reinvest revenue generated by private sector exhauster tankers;
- Lack of clarity on an institutional home for urban sanitation and the limited technical capacities of sanitation workers.

To tackle these problems, the working group has adopted a series of proposals that are part of the Juba City Sanitation Investment Plan



A private exhauster at work (right) and a roofless toilet in Juba (left)

Photos by: SUWASA

(2015-2030) prepared in collaboration with SUWASA. The proposals include:

- Promotion of household toilets through a demand-driven approach that also focuses on good hygiene;
- Construction and proper management of public toilets;
- Strengthening of the fecal sludge transportation system with an increase in the number of tankers, refinement of the regulatory system, and, later in the process, construction and promotion of a sewer network;
- Improved treatment of fecal sludge by refining institutional arrangements and ring-fencing revenues generated by exhauster tankers.

The working group also seeks to attract funding and has proposed streamlining institutional arrangements so that the best placed institutions take responsibility for relevant aspects of Juba's new investment plan. The proposal calls for the Juba City Council to promote

household toilets and to construct and manage public toilets; for the water service provider to construct and manage piped sewer networks and wastewater treatment; for the Juba City Council to centralize regulation of exhauster tankers under its jurisdiction.

The coalition involved in the working group includes members from the Ministry of Housing, Lands and Physical Planning (MLHPP), Ministry of Electricity, Dams, Irrigation and Water Resources (MEDIWR), national and state ministries of health, the Ministry of Finance, Ministry of Gender, South Sudan Urban Water Corporation (SSUWC), Juba County Government, the city and payam councils in Juba, the University of Juba, the Local Government Board, UNICEF, the United Nations Environment Programme (UNEP), the German Development Agency (GIZ), OXFAM, PSI and SUWASA.

Contact : Barbara Senkwe, Urban Sanitation Development Specialist
bsenkwe@ard-suwasa.org

Senegal: Using Technology to Optimize Dakar's Sludge Market

In Dakar, Senegal, a city of three million people, the majority of households are not connected to the city's main sewer system.

Most people use pit latrines or toilets with septic tanks. For a fee, small vacuum truck companies empty septic tanks and latrines.

But vacuum truck companies face significant income loss because of difficulties monitoring the daily activities of their drivers. The drivers operate independently and sometimes hide a significant part of the money they collect from customers. In addition, high fuel costs from pumping and driving increase expenses. High prices and income losses impact the average cost of services and result in higher prices for consumers, especially poor households.

To address the challenge of keeping prices affordable, USAID's Sustainable Water and Sanitation in Africa (SUWASA) collaborated with the Senegal National Office of Sanitation (ONAS) and Manobi, a local software development company, to help fecal sludge vacuum truck owners better manage their businesses.

SUWASA and ONAS took an innovative online geospatial mapping and vehicle tracking system that regulates private sector sludge haulers in Dakar and built on it so it could assist truck owners.

Truck owners were provided access to mFleet, a simple smartphone application connected to GPS tracking devices that allows owners to track their trucks in real time.

How the system works

The mFleet application can be loaded onto an affordable mobile phone and is linked to GPS devices



installed on sludge trucks which track vehicle movements in real time. Truck managers and owners can access an internet dashboard via the application that synthesizes the vehicle movement information gathered by the application using a 3G connected smart phone or a laptop connected to the internet.

Beyond location tracking, the device requires truck drivers to provide information such as proof of expenditures, revenues, receipt photos, voice reports and activity duration reports.

As a result of the mFleet application, managers can anticipate financial turnover, identify anomalies in real-time and access detailed incident reports. These capabilities allow truck owners to regain control and

improve management of their businesses.

Additionally, data generated by mFleet can be analyzed to benchmark performance. Performance can then be compared within different service providers, areas or market categories.

In the truck

In the truck cabin, the smart phone is activated by the central system when a significant stop is identified. The application asks in the local language, Wolof, "Why have you stopped?"

The truck operator is prompted to document the stop, with visual choices for activities including desludging operation, truck

(Continued on page 6)

Improvements to Safe Water Access in Robertsport undeterred by Ebola

In 2013, the Liberia Municipal Water Project (LMWP) partnered with the Liberia Water and Sewer Corporation (LWSC) to rehabilitate a water treatment facility in the picturesque seaside city of Robertsport.

The cooperative effort marked the end of two decades in which Robertsport residents lacked access to piped drinking water. It also ushered in the first phase of plans to re-establish a piped water system in the city and bolster the institutions and systems necessary to ensure its sustainability. The plans are supported by the U.S. Agency for International Development (USAID),

Despite the threat posed by the outbreak of the Ebola virus in Liberia, USAID and LWSC are working together to keep construction underway.

The next phase of construction – outlined in a water master plan created by LMWP and LWSC – includes a two-kilometer pipeline and three water kiosks.

The materials required for the work were delivered in August 2014. Construction began in September under a joint venture between two Liberian firms: Pump and Tank Maintenance Company and Atlantic Engineering and Construction Company. LMWP and LWSC are providing supervisory and technical support services and USAID's Sustainable Water and Sanitation in Africa (SUWASA) is providing funding.

Drinking water is currently sold from a rehabilitated treatment plant



Activities in October 2014: Pipe Installation along Monrovia Road towards the first kiosk (left) and First hydrant installation (right)

Photos by: Liberia Municipal Water Project (LMWP)

operated by LWSC and located on the outskirts of the city (2 km).

During periods of peak demand, the facility sells about 10,000 liters of water a day, mostly to vendors who resell it to residents and businesses throughout the city.

When complete, the pipeline extension and the kiosks will make access to water more convenient and affordable to hundreds of households in densely populated areas of Robertsport. The new service is expected to reduce reliance on water resellers, increase consumption and sales contributing to the long-term sustainability of the system. The system will also advance public health and local economic development. The expansion is expected to be operational before the end of 2014.

With the outbreak of Ebola, water, sanitation and hygiene are more critical than ever. The Robertsport pipeline extension will expand access to clean water at this important time.

LMWP and LWSC are committed to working with the local steering committees established by the project and the local governments in Robertsport, Sanniquellie, and Voinjama, cities that are part of the project.

In collaboration, the partners will contribute to efforts to curb the spread of Ebola by creating communication and outreach campaigns on the importance of safe water, sanitation and good hygiene practices.

Contact George Acolor, Regional Project Coordinator at gacolor@ard-suwasa.org

Towards Stakeholder Led Management of Urban Water Stations in South Sudan

In Wau and Maridi, urban water utilities have faced difficulties that stem from institutional obstacles in the way operational and maintenance funds are released to run the water stations. The revenue practices have led to a lack of fuel at the water stations, which, in turn, has resulted in sporadic water service.

As part of an effort to encourage local oversight of city water stations, workshops were recently held in Maridi and Wau in South Sudan to develop a framework for local government and wider stakeholder contribution to the management of the local water utilities.

The two workshops were organized by USAID's Sustainable Water and Sanitation in Africa (SUWASA) in collaboration with the South Sudan Urban Water Corporation (SSUWC) and South Sudan's Ministry of Electricity, Dams, Irrigation and Water Resources (MEDIWR). The workshops, held in September and October 2014, drew participants from MEDIWR, SSUWC, state and county governments and local stakeholders from the business community, community-based organizations and nongovernmental organizations (NGOs).

In each city, workshop participants toured the local water treatment plant and distribution network to assess the challenges that face their urban water supply. Participants said they were excited about being exposed to the water treatment process. They also said they gained an appreciation for the costs associated with water service delivery and saw firsthand the need for residents to understand why they pay for water.



Stakeholders tour the Wau Water Treatment Plant (WTP)

Photo by: SUWASA

"The facility is beautiful and the equipment complex – this requires well-trained personnel for operation and maintenance," a participant in the Maridi workshop said.

Since its inception in 2011, SUWASA has steadily worked to address these challenges by advocating for revenue ring-fencing for the Maridi and Wau water stations to ensure financial sustainability of operations.

After continuous advocacy and efforts to provide technical advice about the benefits, SSUWC's board of directors passed a resolution at the end of 2013 that allowed the two stations to utilize locally-collected revenue for operation expenses.

However, sustainable revenue ring-fencing requires national support from SSUWC and committed stakeholders including local authorities, NGOs and customers willing to pay for services.

The two-day workshops aimed to create frameworks for local government participation in

management of the water stations. The workshops provided guidance that would allow local government to support the operations of the water stations and ensure a steady supply of clean water to the cities' inhabitants.

In each town, workshop participants examined some of the local issues facing the water stations. In Maridi, finalization of plot demarcation and surveying was discussed as an important step toward the goal of extending water pipelines in unserved areas. In Wau, participants called for the extension of the water network to ensure availability of treated water to all local residents.

Participants in both workshops said they were glad to take part in the management of their stations and were interested in sensitizing their communities to the need to pay their water bills.

Contact Japheth Mbuvi, Institutional Development Specialist at jmbuvi@ard-suwasa.org

New Committee for Water Utility Addresses Gender Barriers at Work

(Continued from page 1)

colleagues and were eventually laid off under unclear circumstances.

Despite a high-level commitment to gender mainstreaming by the Government of Kenya (GoK), a gender analysis report commissioned by USAID found that women were underrepresented in water supply institutions. The report also found low participation of women in leadership and decision-making roles at the institutional level.

Luckily for Nancy and her colleague, USAID's Sustainable Water and Sanitation in Africa (SUWASA) has been building the capacity of Kenyan utilities to mainstream gender in service delivery and institutional operations. In August, the project provided support to EWASCO to

form a Gender Committee to address gender in the organization.

With the intervention of the EWASCO Gender Committee, Nancy was reinstated to her position. The Gender Committee, which has seven members (3 men and 4 women) representing all departments, was formed after a training workshop for 30 EWASCO departmental heads on institutionalizing gender considerations in the workplace. As part of its work, SUWASA held focus group discussions and interviews with EWASCO staff to raise awareness and identify gender issues. The training also helped mobilize staff to participate in developing a new gender policy for EWASCO.

SUWASA has also developed recommendations for utilities to address barriers to gender mainstreaming and is sharing these in a toolkit for utility partners.

Two months after the Gender Committee intervened, Nancy continues to work as a plumber and is currently working on a large scale pipeline project supported by SUWASA that will bring water to up to 75,000 people.

Download Gender Toolkit for Utilities

Contact Eric Adams, Team Leader at eadams@developmentinnovations.org

Senegal: Using Technology to Optimize Dakar's Sludge Market

(Continued from page 3)

emptying, traffic-jam, gas refueling, lunch break and end-of-day parking.

Depending on the reason for the stop, the operator may have to add detailed information such as a:

- Financial amount (expenditure or revenue)
- Photo (mostly used to prove an event, or an amount, or to document a situation)

This information is available to the manager who can see the location of the truck and identify significant business-related challenges and make decisions related to improving truck performance.

By September 2014, 83 GPS tracking devices had been installed in trucks owned by 27 different companies. Representatives of the companies were trained and given private access to the web application.

The mFleet system is expected to help make services more affordable and accessible through increased operational efficiency of private sector fecal sludge hauling services.

Contact George Acolor, Regional Projects Coordinator at gacolor@ard-suwasa.org

Upcoming Events

7th World Water Forum

Daegu-Gyeongbuk, South Korea
April 12 –17, 2015

Link: <http://www.worldwatercouncil.org/nc/events/upcoming-events/category/www/>

Post Your Event Here

Please share your upcoming events in the water and sanitation sector and we will post them here to reach a wider audience.

SUWASA cannot guarantee the accuracy of the information provided on these events. Kindly contact the organizers for more information.

U.S. Agency for International Development

1300 Pennsylvania Avenue, NW

Washington, DC 20523

Tel: (202) 712-0000

Fax: (202) 216-3524

www.usaid.gov