



*Paul Isagara, Iganga Area Manager for the Uganda National Water and Sewerage Corporation, speaking at a customer engagement workshop. Photo credit: USAID/East Africa*

## Being PREPARED: Improving Water Supplies and Sanitation Services in East Africa

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**P**roximity to Lake Victoria — the second largest freshwater body in the world — has not eased the water-related stress of the five East African Community (EAC) Partner States that surround it. Burundi, Kenya, Rwanda, Tanzania, and Uganda have all experienced rapid, unplanned expansion of secondary towns, which has increased competition for water. Urban water distribution systems are inefficient and suffer from excessive systemic water losses. These factors have left the region struggling to increase the resiliency and sustainability of its water and sanitation services.

Recognizing these challenges, the EAC Partner States established the Lake Victoria Basin Commission in 2004 to help improve water and sanitation service delivery in urban areas across the region. USAID's Planning for Resilience in East Africa through

Policy, Adaptation, Research and Economic Development (PREPARED) Project works to strengthen the East African institutions that provide sustainable access to clean water and sanitation services.

To test best practices that may be applicable across the EAC, PREPARED, a five-year, \$24 million project undertaken in 2013, is working with Uganda's National Water and Sewerage Corporation (NWSC) to reduce the loss of water from supply and distribution pipelines in two urban areas in Uganda near the northern shores of Lake Victoria.

## **Reducing Non-revenue Water Losses**

Water can be lost from a distribution system in many ways, but in all cases it is labelled "non-revenue water" (NRW) because no end users are paying for it. Uganda has been testing ways to reduce NRW losses in the town of Jinja (about 50 miles east of Kampala, the country's capital) and in neighboring Iganga. The two towns and nearby areas served by the local water system have a total population of about 350,000, and Jinja boasts the second largest economy in the country with heavy demand for water to support local businesses, including large-scale sugar, beverage, and steel industries.

Both towns have long struggled with large NRW losses — among the highest in East Africa. By early 2015, almost half (45 percent) of the water pumped from Lake Victoria and passing through the local water system disappeared — lost to leakage, dysfunctional metering, nonpayment of bills, or illegal connections, which reduces NWSC revenues for maintaining, improving, and expanding local water infrastructure and services.

That began to change when PREPARED collaborated with NWSC to combat water losses in Jinja and Iganga. PREPARED partnered with Itron Inc., a private engineering firm recognized for technologies and services that reduce water inefficiencies, and with the Uganda Coalition for Sustainable Development (UCSD), a national NGO, to create the NRW Reduction Partnership. The group supports NWSC's ambitious goal of quickly reducing water losses in eastern Uganda to 30 percent, and in so doing, generate significant revenue to reinvest in its services.

Over the past 18 months, however, the NRW Reduction Partnership has succeeded in reducing NRW losses in Jinja and Iganga to 24 percent.

"This is a globally significant achievement," says Scott McCormick, PREPARED's Chief of Party. "The World Bank recommends that globally, for developing countries, if you can reduce non-revenue water losses to 25 percent, you're doing really well. NWSC has been able to hit that target by drawing on the expertise and technologies of its NRW partners."

This success translated into additional revenue and savings of about \$650,000 over the first 12 months of the initiative, money that is enabling NWSC to expand its distribution network and improve services. About 30 percent of all new water connections in Jinja and Iganga over this same period were made possible by the additional funds generated by the reduction in water losses.

## **Strengthening Service Delivery**

To build NWSC's capacity to deliver quality service to its customers, PREPARED introduced a service improvement program for the utility that focused on strengthening engagement, communication, and accountability with customers.

“The training provided to our staff was extremely valuable,” says Paul Isagara, NWSC area manager in Iganga. “It opened our eyes to the fact that dealing with non-revenue water losses requires more than new pipes and better meters. It requires better service from our staff and working with the public to increase awareness about how important this issue is, not just for NWSC, but also for our customers.”

## **Improving Customer Relations**

When UCSD joined the NRW Reduction Partnership, it worked with NWSC to improve its customer engagement. A strategy was developed involving extensive community outreach. NWSC staff organized more than 60 community meetings and made over 130 visits to places of worship to hear and discuss the concerns of local residents and what the Corporation was doing to improve service delivery. A 15-week radio campaign extended that outreach, promoting NWSC's improving efficiency and faster response times, and how these improvements led to savings that were being reinvested in expanding the water supply system and serving more people.

To facilitate communication between NWSC and district governments, and ensure that water and sanitation needs are met, the partnership established 15 Water Community Communication Clubs (WACOCOs) — 10 in Jinja and five in Iganga. WACOCO members include elected community and district leaders who report leakages, burst pipes and sewage overflows, solicit feedback on NWSC services and, if needed, pass on the information to NWSC for action. Together, these activities have increased community awareness about NWSC operations and help keep district-level plans for expanding water and sanitation services in line with available NWSC resources.

## **Enhancing Water Monitoring**

Over the last year NWSC worked with Itron to identify key water districts for metering flows and installed 100 modern radio frequency units in the system, along with 25 Itron “WaterMind Analyzers” to capture real-time measurements of water flows.

“This district metering allows us to know where in the system we are losing water,” says Charles Okuonzi, NWSC Team Leader in Jinja, “and then we can make direct interventions to fix the problems. The new hardware and ICT [information and communications technology] tools enable NWSC to better understand and regulate flow patterns, periods of peak demand and pressure zones across the system.”

To get the most from these improvements, NWSC developed (and PREPARED supported) a customer relationship management system that allows NWSC customers and employees to see in real time all the information related to their water and sanitation accounts, billings, complaints, and notices. The system facilitates NWSC communication with customers and enables staff to reduce response times for making repairs.

## **Expanding Beyond Uganda**

“This successful pilot initiative is opening up opportunities across the East African Community,” says Brad Arsenault, USAID/Kenya and East Africa’s Deputy Director for the Environment Office, “and the Lake Victoria Basin Commission has agreed to become a Center of Excellence for reducing NRW losses, making connections between stakeholders, supporting training, and facilitating dissemination of NRW best practices throughout the region.”

“We’re very pleased with the non-revenue water initiative in Uganda and how NWSC has improved its service delivery and customer engagement,” says McCormick. “We’re convinced our approach works, and we’re talking with similar organizations in Rwanda and Tanzania about expanding the NRW Reduction Partnership to those countries. The success of the NWSC pilot gives us a lot to discuss with them!”

*By Tiffin Harris*



### **Additional Resources:**

- [USAID/Uganda](#)
- [USAID/East Africa](#)

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