



Community Owned Water Supply Organization treasurer for Melela Village, Morogoro, Tanzania, Rehema Abdul Minyasi (right), fetches water from one of 28 water distribution points built at Melela Water Scheme. Photo credit: WARIDI

Building Local Capacity to Protect and Manage Water Resources in Tanzania

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Around the world, competition for water resources is growing. Population growth and shifting rainfall patterns mean far more demand for increasingly unreliable sources. Meanwhile, too many well-intentioned water supply systems sit unused because communities are not prepared to manage or maintain them. Even those water schemes that remain functional struggle to equitably allocate water resources, and many small-scale users who live far from water sources have been left out.

“What those projects didn’t do was to embrace the management side of it...that the water sources were going to be protected, replenished, and the water infrastructure operated and maintained correctly. That’s what sets WARIDI apart,” says Brad Carr, WARIDI project manager for Tetra Tech. “It develops the local capacity to do that.” WARIDI is USAID/Tanzania’s five-year, \$48 million Water Resources Integration Development Initiative. It works in 20 local government authorities in the Rufiji and Wami-Ruvu river basins to increase access to water, sanitation, and hygiene services

and strengthen the ability of local institutions to manage water resources. In implementing its activities, WARIDI identifies opportunities to improve livelihoods and advance gender equality.

A critical first step in developing an effective water use plan is to determine what is called the “water balance” for a given basin.

“If they know how much water they have, they will be able to provide for themselves into the future,” explains Carr. “And the second part of that is knowing how much water they are going to need.”

Strengthening Tanzanian Water Management Capacity at all Levels

WARIDI is helping institutions that manage water resources in the two river basins collect and process that information and provide it to water users.

The lead institution in each basin is the Water Basin Board. These professionally staffed bodies were given the legal mandate in 2009 to protect and manage all the water resources in their respective basins. The boards have the power to approve permits for all new water use projects.

“We’ve been supporting some important activities to ensure that the boards have improved data and information management systems to enable them to make accurate projections and decisions,” says WARIDI Project Director Bigambo Nandiga.

WARIDI has also supported the process to develop and implement basin-wide water resource plans for Rufiji and Wami-Ruvu. This includes organizing stakeholder workshops and bringing in outside consultants when needed.

Across Tanzania, Water Basin Boards manage water at the basin level, but committees and associations manage these resources at the catchment, sub-catchment, and community level. WARIDI has been working with volunteer community water user associations (WUAs), helping them develop and learn to manage the systems to collect water user fees, participate in water allocation, and manage water users such as irrigators, livestock keepers, and industry.

So far, WARIDI has assessed the current management abilities of 10 WUAs in the Wami-Ruvu and Rufiji river basins. It is now in the process of helping members of those WUAs, both men and women, expand their management skills.

“At the community level, they know their needs,” says Yussuf Kajenje WARIDI communications specialist. “We just give them the tools to manage.”

Also at the community level are COWSOs — community-owned water supply organizations. These gender-diverse, all-volunteer groups provide local management of the water infrastructure, such as pumping systems and pipelines, and keep the systems operational.

COWSOs also have a mandate to collect revenues for the use of infrastructure.

WARIDI has trained 182 COWSOs, which provide direct services to more than 1 million people, on financial management, customer care, and record keeping. In addition, WARIDI has provided guidance in maintenance and water conservation activities like planting trees as riparian buffers. WARIDI has also trained and mentored 204 heads of departments (134 men and 70 women) from local government authorities on strategies to elevate participation of women and youth in water planning and budgeting.

WARIDI has not, however, independently decided what projects a community should receive. “These projects are not WARIDI projects,” explains Kajenje. “WARIDI is just facilitating and supporting the community’s own initiative.”

Smart Meters Simplify Water Access



WARIDI is piloting a new tool for community-owned water supply organizations to collect user fees at water points. More than 80 eWATER pay meters will be installed in four communities near Morogoro. These meters dispense water after a pre-paid ID card is swiped over their sensor, reducing the need for employees to carry out this task. Users can top up their payment cards at mobile phone kiosks just as they do for mobile phone minutes.

The meters automatically record use. “This makes managing the resource easy because everything is automatic, and it is done in a way that nobody can cheat,” says Kajenje. The meters also send notifications if the water system needs maintenance.

Preparing a New Generation

Creating learning opportunities for young professionals is another valuable way that WARIDI is fostering sustainability. Through an internship program that started in 2017, 16 recently graduated engineers (four women and 12 men) have gained the mentorship of more senior professionals. They receive valuable hands-on experience supervising water systems, such as constructing pump houses or storage tanks, drilling boreholes, and supplying electricity, water meters, and treatment units.

“Our interns are given an amazing opportunity to develop their theoretical experience practically in the field, and they are trained on how to use state-of-the-art tablets to submit daily progress and evaluation reports for the construction sites they oversee,” says Muganyizi Ndyamukama, WARIDI’s lead engineer. “The project benefits greatly by having a site engineer monitoring day-to-day progress.”

Whether training the next generation of water professionals or putting systems in place to ensure water management organizations at every level function effectively, WARIDI’s ultimate goal is sustainability, which, Nandiga says, is well underway.

“We hear from government officials in the areas where we have been working that

WARIDI has established a unique but very crucial working system that is likely to ensure sustainability of the projects that we are supporting,” he says. “We hear it from the basin boards also, saying that WARIDI has done a great job that will leave a big mark in the two basins where we are working.”

By Christine Chumbler



Additional Resources:

- Water Resources Integration Development Initiative (WARIDI)
- USAID/Tanzania
- USAID Water Office
- Globalwaters.org:Tanzania

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