Making Water Work

Small water enterprises provide communities access to safe drinking water

By Kurt Soderlund & Amy Skoczlas Cole

One in four—that is a recent estimate of how many people are using a source of drinking water that is fecally contaminated. Countless others are accessing water with other types of contaminants. The results are catastrophic: Childhood mortality, chronic illness, lost opportunity for women and girls, and economic under-development prevent communities from thriving. Despite decades of effort with significant progress, the challenge remains.

The new Sustainable Development Goals, adopted by the United Nations in September 2015, target universal and equitable access to safe and affordable water for all by 2030. By accomplishing this, the world can lay a foundation for ending global poverty, promoting the conditions necessary for communities to prosper, and ensuring dignity for everyone. This is the first time the global water sector has united in focusing not just on the number of people with access to water, but the quality dimensions of that access—the safety, accessibility, affordability and reliability of water supply.

It is time to make water work across all of these dimensions in the developing world. Many efforts have failed to account for the long-term sustainability of water projects. India, for example, has the highest number of people in the world without access to safe water. Most of them live on about $4 a day, and would have to spend 17% of their salaries to purchase water from a tanker. Approximately 140,000 children die each year in India from water-related diseases.

In Ghana, a recent government survey revealed 25% or more of water access points in rural areas are not functioning, and only 10% provide an acceptable level of water service. As a result, 40% of the country—10 million people—do not have dependable safe water. Given the size of the problem worldwide, it is clear that traditional solutions—large government infrastructure and small philanthropic efforts such as boreholes and hand pumps—will need to be complemented by other types of solutions.

Small water enterprises are locally owned, so workers must be trained on equipment maintenance.

Business Approach to a Social Problem

There is marked shift in how the water sector is thinking about water supply for the developing world. Increasingly, there is a realization that people in developing countries want what we all want—safe, affordable, reliable water—and that they are willing to pay a reasonable amount to meet that need. The shift from "beneficiaries of aid" to "consumers of water service" is opening new and improved ways of thinking about providing water supply.

Safe Water Network's experience is that small water enterprises—off-grid water treatment facilities owned and operated as local businesses—can provide affordable, safe water for those most in need. For less than 5 cents a day, a consumer can conveniently meet his or her drinking water needs. These small water businesses are owned and operated by entrepreneurs or local communities. They are more cost-effective, faster to deploy, easier to maintain and more flexible than traditional centralized water treatment with piped infrastructure. This is particularly true in the fastest growing areas in the developing world—growing towns, peri-urban areas and informal (slum) urban areas—where the need is greatest. With rigorous but reliable water treatment technology adapted to meet the demands of varying water quality, they also offer an increase in quality and dependability over a traditional bore well and hand pump model.

Most importantly, small water enterprises are designed to be sustainable, operationally and financially. They operate as local businesses selling safe, affordable water. These businesses are professionally managed to meet rigorous operating standards. Safe Water Network-supported stations operate at less than 3% downtime and deliver World Health Organization water quality standard guideline-compliant water. Today, 90% of established stations cover their operating costs, and 85% contribute to long-term maintenance and capital reserves.

Marketing and education programs communicate the benefits of safe water, increasing sales, which, in turn, improves the economics of the businesses and the health of the community. This approach starts a virtuous cycle within a community: Over time, more community members participate, using more water, more frequently. Safe Water Network's experience is that a majority of community members choose to purchase water from the station.

A Platform for Change

To date, Safe Water Network has launched 200 water stations, providing sustainable safe water to more than 600,000 people in India and Ghana. Demand for stations by communities is growing, with new stations being launched monthly at an average capital cost of $15 to $30 per person.

The organization is focused on optimizing the operating platform for small water enterprises for others to use. Two differing operating environments—Ghana and India—were selected to build

Residents line up to purchase water from a station in India.

a flexible, adaptable approach that responds to local conditions. For example, technology is a significant driver of long-term costs, and the model needs to take varying water quality into account. In India, where fluoride contamination is prevalent, stations are designed to use reverse osmosis technology, but in Ghana, they are experimenting with modular slow sand filtration. In partnership with US-AID, Safe Water Network India has launched decision-support tools for station developers, operators and regulators. The work is aimed at consolidating and aggregating experience and knowledge of small water enterprises so they can scale and mainstream.

Moving Forward Together

While the small water enterprise approach is gaining popularity, it has yet to be widely accepted, and work done to date has been fragmented in terms of effort, focus and geography. This lack of attention is due, in large part, to the inherent bias of international financial institutions and governments toward large-scale public works projects. But given estimates that at least 30% of investments in water—or roughly $2 billion per year—are wasted due to failed or suboptimal projects, there is a need to better realize the potential of small water enterprises.

Small water enterprises could serve hundreds of millions of people in ways that are self-sustaining for the long run. That is why Safe Water Network is advancing a Network for Small Water Enterprises, which focuses on making the case to donor agencies, companies, governments and non-governmental organizations that small water enterprises are key to securing universal safe water access.

The work brings together the expertise necessary to help this approach reach scale, such as tools and training for implementers and policy makers, technological advances for increased efficiency, and financing for station expansion. **WQP**

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