In the hills of rural Bolivia, in the municipality of Villa Rivero, there is a community called Linde Botao where Doña Angélica Villarroel Rodríguez lives with her husband. They farm the nearby land, selling enough of their harvest to sustain themselves. Villarroel grew up in Linde Botao and has spent most of her 75 years without access to running water. But everything has changed. Her community now has its own safe water system, and she even has a sink in her house.

“I used to walk up to the Blanco Rancho community an hour away,” Villarroel said. “I carried two jugs of water—one in my hand and the other using my aguayo, a cloth used to shoulder water, for a total of 10 liters.”

The basic act of providing water for the family was always complicated. She and her husband took turns fetching water, and they both had to locate and keep track of functional and safe water sources for their family.

In October 2015, the municipal government completed a drinking water system in the community, and Villarroel was thrilled.

“We are really happy to have safe water in our homes,” she said. “Before, we pleaded to the mayors, but they never paid any attention. Finally, they listened.”

**A Model to End Water Poverty Through Sustainable Service Delivery**

Women in rural communities around the world sometimes must walk long distances to fetch water for daily living. All photographs in this article courtesy of Water For People.

ELEANOR ALLEN AND KIMBERLY S. LEMME
What changed? Collectively, the municipality of Villa Rivero secured the funding and manpower to develop a new water system. The municipality, local families, and Water For People came together to fund the project, with each family contributing 120 bolivianos (just under $20) and six days of in-kind labor to help construct the system.

Villarroel and her husband are thrilled to have running water in their home, and they are happy to pay their water bill each month. This is just one example of how Water For People, an international nonprofit organization, and its Everyone Forever model is creating sustainable water and sanitation services across the world.

**BRINGING TOGETHER COMMUNITY, GOVERNMENT, AND TECHNICAL PLAYERS**

The Everyone Forever model is focused on building an infrastructure to provide water services to everyone—every family, clinic, and school. The Everyone Forever model brings together four forces—community, government, private sector, and technical players—to create sustainable systems that provide water and sanitation services to everyone (even the hardest to reach) for generations to come.

Water For People works closely with municipal governments to ensure that water keeps flowing and is supported by the technical expertise, management know-how and monitoring, and the financial mechanisms (e.g., rates) that are needed to create a sustainable water system. The overarching goal of Water For People’s Everyone Forever model is to build an infrastructure, provide support and education, and eventually leave a municipality once its water and sanitation services have been established, allowing the municipality to demonstrate sustained success with the support of local institutions (e.g., water committees).

In 2011, when Water For People began speaking about full coverage for everyone in a municipality, most people found the notion outrageous. Others said it was impossible. Historically, the international development approach to the water sector in developing economies has been executed and planned on a project-by-project basis. This means installing an infrastructure in a village and then moving on to another village—with little to no strategy around reaching full coverage in any one district. Without the necessary support, training, and ongoing resources to operate and maintain the infrastructure effectively, many of these systems eventually fall into disrepair, littering the landscape with broken and dysfunctional infrastructure.

However, with the ongoing support of the North American water sector and many generous individuals, corporations, and private foundations, Water For People is changing the way the water systems are approached in developing countries. The organization is currently working in 30 districts across nine countries: Honduras, Guatemala, Nicaragua, Bolivia, Peru, Malawi, Rwanda, Uganda, and India. Within these countries, Water For People is working toward providing sustainable access to safe water and sanitation services to four million people.

Additionally, the organization is helping communities build and sustain their own infrastructure. Armed with the knowledge and best practices put forth by Water For People, these districts are demonstrating how they can achieve system-wide change and reliable services.

**DELIVERING SUSTAINABLE WATER SERVICES IN A DEVELOPING COUNTRY**

For the 193 countries that have adopted the United Nations Sustainable Development Goals (SDGs), significant investments are...
needed to meet SDG 6, a goal intended to “ensure availability and sustainable management of water and sanitation for all” by 2030 (UN 2016). Achieving SDG 6 will mean improvements in health, education, and economic productivity. These changes will ultimately lead to the following:

- **Improved health**—access to clean water and adequate sanitation could significantly reduce diarrheal diseases by up to 70% (WHO 2014a).
- **Improved quality of life**—time saved carrying water means more time for school or work and less sick time due to better water quality.
- **Increased economic benefits**—the World Health Organization (WHO) estimates a global economic return of $4.30 per dollar invested in improving water and sanitation services (WHO 2012).
- **Cleaner environment**—reduced contamination of water resources and better management of fecal sludge improve the environment.

Water For People’s goals are aligned with the United Nation’s SDGs, and the organization is on its way to demonstrating a model of how these goals can be achieved. The following are some factors and lessons that Water For People has encountered over the past 25 years of development work within the water and sanitation sector.

**Financial investments.** Many national governments make promises to increase investments in water and sanitation, but these best-laid plans often never come to fruition. According to the United Nations Water Global Analysis and Assessment of Sanitation and Drinking Water (GLAAS), more than $10 billion of global external support (73% in water and 27% in sanitation) is invested in water and sanitation every year (WHO 2014b). As a result, nearly 100 million people have better drinking water, and more than 125 million people experience improved sanitation each year.

In 2016, 1.8 billion people (25% of the global population) still need improved drinking water. At the current rate, 95% of the global population will have access to clean drinking water by 2019 (99% by 2028) if the projections shown in Figure 1 are achieved.

Sanitation is an even more challenging issue: 2.4 billion people, or 33% of the global population, still need access to sanitation. According to Figure 1, it will take until 2043 to reach 95% coverage (99% by 2063). These projections are assuming that the global population continues to

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FIGURE 1 Projections for global water and sanitation coverage

<table>
<thead>
<tr>
<th>Year</th>
<th>Without water at 100 million/year gaining access</th>
<th>Without water at 125 million/year gaining access</th>
<th>Without sanitation at 250 million/year gaining access</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
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<td>30.0</td>
<td>25.0</td>
</tr>
<tr>
<td>2020</td>
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<td>10.0</td>
<td>5.0</td>
</tr>
<tr>
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<td>1.25</td>
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<tr>
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</tbody>
</table>

Schoolgirls wash their hands at a school toilet facility in Guatemala.
grow at 1.2% per year (PRB 2008). However, if the annual investment in sanitation is doubled from $6.45 billion to $12.9 billion/year and also double the coverage rate for sanitation, it may be possible to reach 95% coverage by 2030 (and 99% by 2041).

**Planning and forecasting.** In addition to addressing initial investment needs, understanding ongoing life-cycle costs and projecting future capital investments for a system is a necessity. It is important to ensure operational and financial planning includes projected inflationary or deflationary pressures, estimated population growth rates, and consumption patterns. Many of the systems with which Water For People works are based in rural areas. As a result, the demand is increased by the water needs of agriculture- and livestock-based livelihoods. Water For People and several development colleagues working in water, sanitation, and hygiene services (WASH) use a life-cycle costing tool called At What Cost to help facilitate capital expense and operational expense planning and forecasting.

**Quality of construction and infrastructure.** In any global context, systems with low-quality construction will fail. As part of the organization’s work with local governments, Water For People spends time establishing norms and quality-control processes to ensure that vendors are thoroughly vetted and that there is proper oversight of all construction. Additionally, the organization helps communities and municipalities understand the importance of high-quality work and how to manage their own oversight.

**Management.** Good leadership is a key factor in the success of establishing effective and sustainable water and sanitation services in these developing countries. Water For People invests time and energy in making the management and oversight of water systems more functional and successful through locally focused workshops. These workshops include training with private-sector service providers and government staff to establish good management practices and clear roles for all stakeholders interested in service delivery.

**Water resources management.** Changes in global climate and its effects on weather patterns, rainfall, and groundwater recharge often have a large impact on developing countries. These issues can be magnified as a result of overuse, overpopulation, and the lack of infrastructure and finances to properly manage water resources in these developing countries (Alavian et al. 2009).

*Because of the efforts of Water For People, a woman in Bolivia can access water at her home.*

Proper planning at the watershed and micro-watershed levels is one area where the organization establishes awareness and action at the local level. Understanding the nature of their water supply and the impact other activities can have on water resources is critical for municipalities and communities to understand in their maintenance of sustainable water supply and services.

**Governance and politics.** Water For People’s work focuses on both local and national institutions. There is promise in building local capacity; however, like any other organization that works with government and private-sector partners, Water For People is somewhat vulnerable to changes in political priorities. Water For People focuses on building a level of insulation from major political shocks and agendas that could derail its progress. In Rwanda, Uganda, Bolivia, and Honduras, for example, there is a national priority in delivering water and sanitation services to their respective populations. In this context, Water For People was able to influence national-level policies and conversations around WASH. In countries where water and sanitation are not top priorities, Water For People must continue to improve service delivery at the municipal level in order to prove that the model is a viable solution that should be replicated.

**Water quality.** It is one challenge to build a water distribution system; it is another to ensure that water flowing through the system is treated and safe. Water For People works to deliver high-quality water without the need for further in-home treatment. Because of the lack of well-equipped and properly resourced water quality testing labs, the organization trains water committees to use mobile water quality testing...
equipment at the system level and developing supply chains for disinfection chemicals (e.g., chlorine tablets).

**Aid dependency.** Specifically in Africa, the history of colonialism and the patterns of aid dependency are real challenges the organization faces as it progresses toward full coverage with water services (Valerio 2014). Some communities expect handouts. For example, a well-intentioned school, church, or nongovernmental organization may come to a village and deem a new hand pump is a necessity. The well is drilled, and the village chief oversees a big celebration of flowing water. However, without ownership and hard-earned cash contributions from the water users (not to mention management and capacity building), the hand pump will eventually fall into disrepair, and the villagers will return to the old contaminated sources they used previously.

Because Water For People insists on capital co-investment by the community and the local government as well as the development of an ongoing rate-paying culture, this mindset shifts away from aid dependency and handouts. Success in the communities where Water For People works means aid independence.

**Human resources.** In order to implement sustainable water and sanitation systems, there must be a strong pool of educated and skilled candidates who will ensure its sustainability. Water For People has skilled, knowledgeable employees in its country program offices. Local governments and businesses must also find similarly qualified and experienced teams to continue the technical, engineering, and social-change work.

The organization generally works in rural areas, and urban migration is often an additional challenge. Success is based on building local capabilities and strong training programs to ensure success planning and the continuous development of new water and sanitation professionals.

**Current results.** The goal of Water For People is to reach full-coverage water service in all 30 districts by approximately 2020. Each year, new districts declare full coverage for everyone. As of January 2016, Water For People had reached full coverage for drinking water in the districts of Cuchumuela (Bolivia) and Chinda (Honduras) and was nearly finished in San Pedro (Bolivia), with just two schools left to complete. Meanwhile, the organization continues to make progress across all of its programs and is within 10% of reaching everyone in these seven districts: Cochabamba, San Benito, Arani, Tiraque, and Villa Rivero in Bolivia, as well as Patharpratima and Sagar in India. Additionally, Water For People is aiming to reach everyone across four more districts by the end of 2016.

**CONCLUSION**

Water For People’s focus is to provide sustainable and lasting water and sanitation services to communities in some of the most difficult-to-serve places. The organization’s work is done in a complex and challenging landscape, and those people implementing the plans are often faced with obstacles that can delay or slow down progress.

Thankfully, Water For People has strong supporters like AWWA that have joined the mission to end global water poverty. Water For People is also fortunate to be surrounded by fellow practitioners, researchers, and advocates in the water development sector as the organization advances toward the Agenda for Change (Water For People 2015) to create systemic change faster.

As the organization continues to see progress in places like Linde Botao with community members like Doña Angélica Villarroel Rodríguez, Water For People is inspired and driven to continue implementing services that change entire communities and last for generations to come.

**ABOUT THE AUTHORS**

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Entrepreneurs use fecal sludge to produce coal briquettes, a cleaner and longer-burning fuel source used commercially and in households in Uganda.
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