



Smart water dispenser – the Grundfos AQTap

Smart and prepaid water systems make their way in rural Ghana

Ghana's economy has been steadily growing over the past 20 years, with a corresponding improvement in the standard of living for many Ghanaians, but the majority of the population still live in rural areas and eight million people do not have access to clean water. Grundfos has set 2025 as the target date for its Ghana Water Initiative to provide an additional one million people with clean water. This year will be a year of scaling-up progress.

“We strongly believe that our innovative and data-driven business model approach can provide water services that will continue delivering far into the future.”

Xorlali Yao-Kuma Kpodo
Engagement Manager, Ghana Water Initiative

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Possibility in every drop



Community in Ghana

The situation

Ghana is one of the fastest-growing economies in Africa and has made significant progress over the past two decades. However, access to safe water is still a major challenge because most of the country's 32 million people live in rural areas, where they rely on unsafe surface-water sources. These are often polluted, a problem made worse by inadequate sanitation and hygiene. And during the dry season, many areas suffer from water scarcity.

Another major threat to water supplies are the illegal operations of small-scale gold miners, which disrupt ecosystems and generate long-term pollution such as heavy metal residues.

Government data show that the proportion of the population with basic drinking water services — which includes being able to collect water from a communal tap not more than 15 minutes away — declined from 47 per cent in 2015 to 45 per cent in 2020.

On the other hand, the data show, the percentage of the population, both urban and rural, with access to safely managed drinking water — in other words water that is accessible on site, available when needed and free from faecal contamination — rose from 33 per cent in 2015 to 41 per cent in 2022.

The solution

To help more Ghanaians get access to clean water, Grundfos, as part of its SafeWater business unit, launched the Ghana Water Initiative in 2018. Together with local partners, it is developing commercially viable, sustainable and innovative solutions for the vast population of underserved citizens. “First of all, we want to provide equal access to affordable water to the many underserved people in Ghana, using smart technology,” says Xorlali Yao-Kuma Kpodo, Engagement Manager, Ghana Water Initiative.

“We strongly believe that our innovative and data-driven business model approach can provide water services that will continue delivering far into the future. We want to empower local business' and entrepreneurs and build local capacity through training and maintaining a local presence, which will reduce dependence on donations.”

“This is a key differentiator for us. For instance, we want to obtain maintenance, service, financing and technical expertise locally to make sure our water systems are reliable and function well all the time,” Xorlali Yao-Kuma Kpodo says. Three water service models will be piloted and tested in different communities in the Atiwa West and Ayensuano Districts of Eastern Ghana. All these models, once refined, can then be scaled quickly at other sites.

**In 2018
Grundfos
SafeWater
Business Unit
launched the
Ghana Water
Initiative**

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All the models include the [AQTap](#), a smart solar-driven, self-service water ATM with an easy-to-use prepaid payment system. In Abomosu, a community of about 8,000 people, these ATM's have been installed at seven sites and have been operating for 18 months. Households are also being directly connected to running water.

2

The second model combines AQTaps with water bottling stations using 19,5-liter re-filling water containers. A contract was recently signed for work to begin in Teacher Mante, a community of about 6,000 people.

3

And the third model, in Otuatse, which has a population of about 3,000, combines AQTaps, the 19,5 litres re-fill bottling stations and direct water connections for households. The infrastructure is now being installed and should be operating shortly.

“This prepaid system means that the customer pays for water in advance, so we do not need to collect the money afterwards. This is new in Ghana.”

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Engagement Manager, Ghana Water Initiative



Beneficiary collecting 20 liters of water via the AQTap

Challenges and achievements

Xorlali Yao-Kuma Kpodo says the work is both challenging and rewarding; no clear process has emerged yet because there are many “local dynamics in place”, as he puts it.

“For instance, we always need to have the local chiefs and the community on board. At one site, we would like to treat and utilise water from the local spring, which residents are using even though it is not safe.”

“But we cannot implement our plan because the locals believe it will disturb their gods. Of course, we need to respect this and find an alternative solution.”

Xorlali Yao-Kuma Kpodo lists the challenges facing the Ghana Water Initiative as the changeability of the regulatory environment, access to land, leakages in pipes caused by illegal miners, and the need to educate communities to secure their buy-in.

“On the other hand, I am very proud that, with our partners, we have managed to deploy smart water meters in about 100 households so far. Illiteracy rates are high; many people are not used to mobile-phone payment systems and prefer cash. This prepaid system means that the customer pays for water in advance, so we do not need to collect the money afterwards. This is new in Ghana.”

The outcome

The Ghana Water Initiative has set the ambition of reaching one million people throughout Ghana with safe water by 2025. After the initial phase of educating communities and inculcating awareness of the issues, a key milestone will be the signing of contracts for 12 additional water systems in 12 communities by the end of 2022. Three contracts have already been signed.

Facts

The Ghana Water Initiative works closely with local partners, such as the state Community Water Sanitation Agency, which are responsible for rural water supply.