

## Pay as you drink: A better way to provide drinking water in rural Africa

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An innovative cure for broken pumps

IN THE mid-2000s Playpumps International, a charity, hit on a photogenic way of providing clean water to African villages: a pump powered by children playing on a merry-go-round. Donors and celebrities pledged more than \$16m. But the system was costlier than alternatives, and needed so much “playing” that it started to look like thinly disguised child labour. It became a byword for wasteful Western aid—but far from the only example.

At any time around a third of the water infrastructure in rural sub-Saharan Africa, from hand pumps to solar-powered systems, is broken. Even after spending billions of dollars, most donors still cannot ensure the pumps they pay for are maintained (just 5% of rural Africans have access to piped water). Many of the village committees responsible for collecting the fees that should cover repairs are corrupt.

More often, though, villagers simply struggle to gather money, find a mechanic and obtain spare parts, says Johanna Koehler of Oxford University. Kerr Lien, a village in central Gambia, reverted to using a manual well for nine years after the inhabitants were unable to fix a fault in their solar-powered pump. There are “lots of white elephants everywhere”, says Alison Wedgwood, a founder of eWATER, a British startup that aims to solve many of these problems. Its solar-powered taps, 110 of which have been installed in Kerr Lien and six other Gambian villages, dispense water in response to electronic tags. The tags are topped up by shopkeepers using smartphones; 20 litres of water cost 0.50 dalasi (1 cent), and 85% of the payment is set aside to cover future repairs. The taps are connected to the mobile network, so they can transmit usage data to alert mechanics to problems. eWATER hopes to have 500 taps serving 50,000 people in Gambia and Tanzania by the end of 2017.

Since they are paying for it, the women and girls who collect the water also take more care now not to spill any, leaving fewer puddles in which mosquitos can breed. Most important, though, is to fix broken pumps quickly. In Kenya Ms Koehler found villagers were prepared to pay five times as much for water so long as their pumps were fixed within three days, compared with the previous average of 27.

Startups like these could transform rural water provision in Africa, just as they are doing with solar-powered electricity. Twelve-year-old Isatou Jallow will still wash her family’s clothes with well water every week. But there will soon be a drinking tap just outside her house. That means more time studying, instead of spending afternoons laboriously fetching water from far away. It also means loftier ambitions. “I want to be a government minister,” she says.

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