In Africa, transmitters send an alert when a water pump is broken

Access to clean water is a perennial challenge in many parts of the world, but for those affected by the drought in east Africa, it's particularly acute. Compounding the problem is the fact that roughly a third of all hand pumps in the region are typically broken at any given time, often taking weeks or months to get fixed. Enter mw4d, a new effort that's using mobile technology to help get pumps fixed more quickly.

Short for “mobile/water for development,” Oxford University-based mw4d last August launched a pilot program in Kenya to outfit the region's hand pumps with new, low-cost data transmitters that work much the way mobile phones do. The resulting “Smart Hand Pumps” quietly monitor the movement of their handles and calculate the amount of water extracted from the pump, regularly updating district and national water managers via text message as to water usage. When a problem arises and usage drops, managers can then immediately know when and where a pump needs fixing. “This should enable problems to be addressed more quickly and transparently than they are at the moment, so people don’t have to go without safe water – with all the resulting health problems that can cause,” explains lead researcher Patrick Thomson. A research paper in the Journal of Hydroinformatics explains the open source project further.

With funding from the UK Department of International Development and partners including UNICEF and African governments, trials in Kenya and Zambia have already generated promising results. Social entrepreneurs: one to get involved in?

Website: www.oxwater.co.uk/#/smart-handpumps/4559322273
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