

Plug-and-purify water, on a stick

Nomads are not what they used to be. These most traditional, most conservative and often most noble of people, have for millennia roamed to the beat of the seasons, from rainy season to drought, moving their herds to where there is water. Now, that constancy has been blown away by a wind of climate change that brings in a new openness to novelty.

In western China, millions of herder families use mobile solar panels to light their tents and improve life. In Kenya, settling Masai communities now use satellite radio for music and market price intelligence. And in Mali, nomads have adopted a smart plug-and-purify device that fits in a bottle and makes a water treatment solution. And after millennia of impure water, they are changing their drinking habits.

"The people have no choice. They realise that when they drink this water, they will get sick" says Youssouf Alhaji, a community leader in the village of Tamaya in central Mali. "They can see that the well is dirty and open, with animal excreta falling in."

Now various families – 'early adopters', the marketing gurus call them – are adopting a device costing 30 dollars that converts a litre of water and a 25 gram helping of salt into a litre of active chlorine solution. When measured into containers of water, that litre can disinfect up to 4,000 litres of drinking water.

On the basis of standards set by the World Health Organization, that's enough drinking, cooking and cleansing water for 200 people for a day. The water comes from wells and puddles in the region's variable rainy seasons, the salt – well, nomads always have salt with them – and the money is loaned from

a local micro-finance agency. The device, known as the mini-WATA, comes from a Geneva-based group of innovative scientists and development professionals known as Antenna Technologies who, in their quest to put science at the service of the people, have simply put electrolysis in the hands of the poor.

Sitting in the courtyard of the Amiriguiz FM community radio station in Tamaya, whose electricity comes from an array of solar panels, amongst inquisitive mothers and intrigued husbands – proving again that men always like to see a widget at work – Coralie Goll explains how this 30-centimeter stick works. “It is simple and light, in a plastic casing, with two titanium wires. And here we plug it into an electric current. The process is called electro-chlorination. It’s simple: we take some water, and add some salt. You have to dissolve it really well. When we plug in the device, electrolysis starts. It gradually changes the saline water into a solution with sodium hydrochloride ions. Now, we’ll wait for an hour and our litre of water will have become a litre of active chlorine. Then we pour the chlorine into opaque bottles to keep it properly, and label them with the production date.”

Innovation works in strange ways, and the WATA is no exception. The village of Tamaya grew when Tuareg and Fulani herders bowed to the pressure of drought and climate variability in the 1970s, and settled around its single well. Now on market days, it’s home to 3,000 inhabitants and 25,000 visitors – all with unreliable water quality. Some health workers who had come across Antenna Technologies started trials with the mini-WATA. They based themselves at the radio station, because it had a reliable power supply – and superb outreach to local communities. Now they are training themselves, and chlorine producing families, in production techniques and quality control measures, necessary to monitor the residual levels of chlorine in the treated water.

The next step will be to see how the process can be run as a successful business, with community workers taking on the combined role of salespeople, health educators and technicians – as has happened across the continent in

the Democratic Republic of Congo. There, around the Great Lakes and the town of Goma, dozens of 'Uzima' women are fast becoming an icon in the process of how an innovation can be adopted by a community to meet one of its own most pressing needs. They distribute the solution produced on a Maxi-WATA device, good for the water needs of up to 80,000 people a day. Says Antenna's founder, Denis von der Weid: "We have provided the innovation, now we – or better still, they – have to take up the ownership. That's why we call our solution Watasol – innovation, ownership and safe water."

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Watasol at World Water Forum

The Watasol team will be at World Water Forum, exhibiting Watasol devices. Located all week at the Swiss Pavilion, 1422, it will present a special demonstration at 16:00 on Monday 16 March. It will also hold a competition for a daily draw to win a mini-WATA, at 18h00 at the Swiss Pavilion.

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