

HOUSEHOLD WATER SECURITY: LESSONS LEARNED

Mobilizing Madagascar households to disinfect their drinking water

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Despite abundant rainfall, only 27% of Madagascar's population has access to clean water. Frequent cyclones and flooding increase the vulnerability to diarrhoeal disease, one of the three leading causes of sickness and death among Malagasy children under five.

From March 1999 to June 2001, cholera epidemics swept through the country, affecting 35,000 people and causing 2,300 deaths. In October 1999, the US Centers for Disease Control and Prevention (CDC) joined forces with CARE and with Population Services International (PSI) to develop a safe water system for the capital, Antananarivo, based on three components:

- Development of a sodium hypochlorite solution for use by households
- Provision to households of safe water storage containers



Safe water in the home improves the quality of life

- Hygiene education through community mobilization and social marketing.

The result was Sûr'Eau, a solution of 0.4% sodium hypochlorite marketed in a 500 ml bottle. A Malagasy family – six people on average – can produce safe drinking water for a month from one bottle, using a 5 ml capful per 20 litres of water.

After successful testing in the capital, UNICEF, the US Agency for International Development and other partners provided substantial funding to PSI to scale up the manufacture of Sûr'Eau for wholesaling nationwide, while additional funding was provided to various non-governmental organizations (NGOs) to link up with the wholesalers to promote Sûr'Eau within communities. The NGOs involved include CARE, Action Santé Organisation Secours, John Snow, Inc., and Catholic Relief Services. By the end of December 2002, over a million bottles of Sûr'Eau had been distributed to communities throughout Madagascar, reaching even the most remote villages for potential treatment of 2.2 billion cubic metres of drinking water.

Use of Sûr'Eau has been found to be significantly higher in areas where community development activities are under way, which indicates the importance of hygiene education and community mobilization to encourage households to treat their drinking water. The incidence of water-borne diseases decreases markedly when household water disinfection is coupled with other hygiene measures, especially handwashing at critical times with soap or ash, transporting and storing water safely, and

safe disposal of excreta. Promoting Sûr'Eau to Madagascar's communities has become an important component of UNICEF's national programme for child health, nutrition, and integrated childhood development.

Sûr'Eau is fully adapted for easy use in the home, unlike other methods of disinfection which are more specialized, expensive and time-consuming, such as cleaning and chlorinating wells. To keep the price within the ability of villagers to pay, Sûr'Eau costs 2,000 Malagasy francs (34 cents) per month. But since the sales are not yet covering the production costs, the financial partners including UNICEF are continuing to subsidize the promotional phase. The price is of course minimal when compared with the cost of periodically and systematically disinfecting water distribution networks, wells and boreholes – a cost which Madagascar's rural communities could not possibly afford to pay.

Enlisting community entrepreneurs to promote Sûr'Eau

A pilot project was initiated in August 2001 in a remote rural area to the east where villagers have virtually no access to the commercial infrastructure and communications media, not even radio, that are usually fundamental to the social marketing approach.

The following methods were used for implementation:

- Liaison with the commune and *fokontany* authorities (the *fokontany* districts that make up a commune each comprise a cluster of villages totalling some 8,000 to 10,000 people)

- Formative research in the target communities
- Selection of community-based sales agents – village entrepreneurs who promote and sell the safe water components in their *fokontany*
- Training of the community sales agents on diarrhoeal diseases, the use of Sûr'Eau for preventing diarrhoea, and techniques for motivational interviewing and sales
- Launch of Sûr'Eau in the villages by the community sales agents, supported by NGOs
- Monitoring of the community sales agents by the commune and *fokontany* authorities and by NGO staff.

At the end of 2002, when the project had been going for over a year, progress was evaluated by CDC and CARE to assess the communities' knowledge and use of Sûr'Eau, and its impact on the incidence of diarrhoeal disease. The evaluators summed up their findings as consistently positive.

“The self-reported use of Sûr'Eau in this rural population was the highest of any safe water system project to date. Observed utilization rates, as determined by the presence of total or free chlorine residuals in stored water measured during surprise visits, ... were similarly high, ranging from 43% to 75%. Observed utilization rates in previous field trials, where the safe water

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system components were given away for free, ranged from 19% (Bolivia) to 73% (Uzbekistan). The overall rate of use of Sûr'Eau did not vary by socio-economic status, as estimated by rice consumption or literacy of the female head of the household. This finding suggests that even the poorest of rural families can afford the disinfectant solution and are placing a high priority on safe water...

“The high rate of Sûr'Eau utilization suggests that many households recognize the need to treat unboiled drinking water and that Sûr'Eau is the treatment method of choice...

“The high rates of use of Sûr'Eau suggest that the rural community mobilization approach, which largely depends on community-based sales agents, was successful in educating this rural population about the product and motivating them to use it. The overwhelming majority of survey respondents had heard of Sûr'Eau, and there was a high degree of recognition that the purpose of Sûr'Eau was to prevent

diarrhoea... The high rate of adoption of Sûr'Eau suggests that the community-based sales agent can be a highly effective behaviour change agent. In light of the nearly universal lack of access to mass media, such as radio, in these villages, the village-based sales agent offers a mechanism for implementing the safe water system in a rapid and effective way in remote regions.”

In order to increase sustainability and scale up nationwide distribution, production of Sûr'Eau has been transferred to a local enterprise, Société de Fabrication de l'Océan Indien, with the intention of privatizing and strengthening the distribution network through decentralized community structures such as local associations, local sanitation services and religious institutions. The medium-term goal is to reach 10% of the population of Madagascar. Current production capacity, at 300,000 bottles a month, is sufficient to meet this goal.

The introduction of Sûr'Eau in Madagascar has revolutionized water treatment, creating awareness among the population that most locally available water is unsafe and that households can disinfect their drinking water at little cost. The use of Sûr'Eau has also significantly reduced the risk of cholera epidemics, particularly in the provinces most prone to cyclones and flooding. 