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EXPANDING POINT-OF-USE WATER TREATMENT IN RWANDA RESULTS AND LESSONS LEARNED

PROGRAM CONTEXT

Rwanda, a small country with a population of more than 10 million,¹ is located in central East Africa. Extreme levels of poverty, low

education and poor health resulted in a 2009 UNDP Human Development Report ranking of 167 out of 182 countries. Over 80 percent of the population lives in rural areas and 90 percent engages in agriculture, primarily subsistence farming.² Sixty percent of the population still lives below the poverty line, and close to half of all children under age five suffer from chronic malnutrition.³



According to data from the Rwanda 2007–08 Interim Demographic and Health Survey (RIDHS), Rwanda has one of the highest under-five mortality rates in the world: one in 10 children dies before reaching his/her fifth birthday. The RIDHS also reported that 13.7 percent of children under the age of five had diarrhea in the two weeks preceding the survey, compared to 14.1 percent in 2005. After neonatal causes (34 percent), diarrheal diseases are the leading cause of

¹ Ministry of Finance and Economic Planning. 2010. Republic of Rwanda. <http://www.minecofin.gov.rw/>. (accessed June 21, 2010).

² Statistiques-Mondiales. 2010. Republique du Rwanda. <http://www.statistiques-mondiales.com/rwanda.htm>. (accessed June 21, 2010).

³ UNICEF. 2010. Rwanda. http://www.unicef.org/infobycountry/rwanda_statistics.html. (accessed June 21, 2010).



mortality for children (22 percent). Exposure to pathogens that cause diarrheal disease stem from inadequate access to safe water, low levels of hygiene, and poor sanitation. Just 30 percent of the rural population and 43 percent of the urban population have access to an improved water source. Only 3.4 percent of the population has access to piped water in the home, while nearly one-third of households consume unsafe water from unprotected sources and are therefore consistently exposed to the risk of diarrheal disease. Lack of access to sanitary facilities and low levels of hygiene also heighten risk of diarrheal disease.⁴

Inadequate knowledge of water treatment as a means to diarrhea prevention, combined with unhygienic storage and handling of water aggravates the risk of water contamination in the home regardless of quality at the water source. Very few households in Rwanda have access to a flush toilet (0.8 percent), although a combined 96 percent have either a traditional pit latrine or a ventilated improved pit latrine. Nevertheless, epidemics of cholera, bacillary dysentery, and typhus still regularly confront Rwandans; children in Kigali city and South Province appear to be at the highest risk – 15 percent of them reportedly had diarrhea in the two weeks preceding the RDHS survey. Northern province has the lowest prevalence, with 11 percent of children reporting diarrhea within two weeks of the survey.

Rwanda has 150,000 people living with HIV/AIDS (PLWHA), including 19,000 children.⁵ With compromised immune systems, PLWHA are highly vulnerable to

diarrheal diseases and therefore represent a strategic target audience for water treatment programs.

In October 2007, Population Services International (PSI) conducted a baseline household survey with caregivers of children under the age of five, which showed that 32 percent of urban and 42 percent of rural Rwandans treat their drinking water with a chemical product. Additionally, 42.3 percent of households boiled their water.⁶ Even though a culture of water treatment seems to exist, almost 40 percent of households in 2007 did not treat their water in any manner and those who did treat often treated only occasionally or inconsistently.

PROGRAM GOAL, OBJECTIVES, AND OUTCOMES

In November 2007, the United States Agency for International Development's (USAID's) Social Marketing Plus for Diarrheal Disease Control: Point-of-Use Water Disinfection and Zinc Treatment (POUZN) Project was invited to implement its program in Rwanda. Its goal was to reduce morbidity and mortality in children under five by preventing childhood diarrhea in Rwanda. The program, managed by Abt Associates Inc. and implemented by PSI, engaged the private and public sectors in health product marketing and distribution, and communication on the appropriate use of point-of-use (POU) water treatment products to promote behavior change among caregivers of children under five and PLWHA.

The program objectives were:

I. To improve access to and sustain

⁴ Ministry of Health of Rwanda. National Institute of Statistics of Rwanda. ICF Macro. 2009. Rwanda 2007-08 Interim Demographic and Health Survey. Calverton: ICF Macro

⁵ University of California San Francisco. 2009. HIV InSite Rwanda. <http://hivinsite.ucsf.edu>. (accessed June 21, 2010)

⁶ Some households use both methods (chemical products and boiling).

provision of POU water treatment products in both public and private sectors,

2. To **increase correct and consistent use** of the POU water treatment products, and
3. To **improve knowledge** of POU water treatment effectiveness and use, including:
 - ▶ Increase knowledge of diarrhea transmission and prevention, and the risks among children under five;
 - ▶ Increase knowledge of proper hygiene techniques, including hand washing, proper food handling, and proper washing of cooking utensils;
 - ▶ Increase knowledge of proper water storage techniques; and
 - ▶ Increase awareness of *Sûr'Eau* and points of access.

With POUZN support, PSI expanded its distribution of *Sûr'Eau*, a locally-produced, chlorine-based POU water treatment solution, to private sector channels and developed complementary communication campaigns and educational programs to improve awareness of health issues and encourage adoption of healthy behaviors.

TIMELINE

- ▶ In 2002, in collaboration with the Rwandan Ministry of Health's (MOH) Epidemiology and Disease Prevention Department and UNICEF, PSI introduced a liquid chlorine-based product, *Sûr'Eau*, to tackle Rwanda's water contamination and diarrheal disease problems.
- ▶ Despite significant efforts to raise external funds, the program was put on hold in November 2005 due to a lack of funding.

- ▶ *Sûr'Eau* promotion and distribution resumed in 2006, with World Bank funding, this time targeting PLWHA.
- ▶ In 2007, with USAID funding, the POUZN project re-launched *Sûr'Eau*, now more broadly targeting children under age five and placing greater emphasis on engaging the private sector.
- ▶ In 2008, POUZN received additional USAID funding to expand the program targeting PLWHA.
- ▶ Between December 2008 and August 2009, through POUZN and USAID's Health Systems 20/20 project, PSI implemented a pilot study in Nyagatare and Rubavu, two rural districts known for frequent cholera outbreaks, in order to test whether *Sûr'Eau* could be successfully marketed through community health insurance schemes, called *mutuelles de santé*.
- ▶ A baseline household survey of the national POUZN program was conducted in October 2007, with the follow-up evaluation conducted in May 2010.⁷ An impact evaluation of the mutuelle pilot was conducted separately.

PROGRAM COMPONENTS

PRODUCT: ENSURING EVERY SIP IS SAFE WITH HOUSEHOLD WATER TREATMENT

Sûr'Eau is a locally-produced chlorine-based water treatment product composed of a sodium hypochlorite solution in a plastic bottle with a cap that enables exact dosing for a 20 liter container of water. The POUZN program initially supported PSI's

⁷ Surveys concerned the five provinces of the country (Kigali, North, South, West, and East) and included 4,029 and 4,442 households with women aged 15–49 for the 2007 baseline and the 2010 evaluation. The program components targeting PLWHA were not evaluated as part of the 2007 baseline and therefore endline comparisons regarding PLWHA cannot be made.

distribution of its original 250ml bottles of *Sûr'Eau* from previous stock. As POUZN progressed, PSI collaborated with the U.S. Centers for Disease Control and Prevention (CDC) to identify local supplier Sulfo Industries Rwanda (Sulfo) to redesign and reformulate *Sûr'Eau* by developing a smaller bottle (to match the new “standardized” 150ml regional bottle format) filled with a more concentrated (1.25 percent) sodium hypochlorite solution. At the same time, the product was rebranded with a new logo, label, and tag line (Figure 1).

One challenge that the POUZN team faced was the limited production capacity of Sulfo. In June 2008, the platform received technical assistance from the CDC to analyze the production chain of Sulfo and identify ways to improve its production capacity. Sulfo, the only manufacturer sophisticated enough to produce *Sûr'Eau*, can deliver 4,500 bottles daily on average. The major constraints were the production and stocking of the plastic bottles, non-scheduled large orders of *Sûr'Eau*, and the 30-day lead time necessary to produce large orders. PSI/Rwanda maintains a production schedule with Sulfo, and leverages suppliers from the region to supplement stocks if Sulfo is unable to keep up with heightened demand.

PLACEMENT: IMPROVING ACCESS TO *SÛR'EAU* IN BOTH PUBLIC AND PRIVATE SECTORS

In July 2007, the program team began distribution of the new *Sûr'Eau* by re-engaging the private sector. Several new sales points in both urban and rural settings

FIGURE 1: STANDARDIZED *SÛR'EAU* BOTTLE



were created; nongovernmental organization (NGO) sector entities and private partners started to promote and distribute the new product while the team continued to

work with the public sector. With support from POUZN, PSI/Rwanda registered the new *Sûr'Eau* according to the Rwandan government's regulatory requirements and ensured that the product appeared on the Rwandan essential drugs list, a key strategic move that demonstrated the government's support. Consequently, *Sûr'Eau* regained consumer's trust. The new product was positively received by Rwandan households because it was easier to use (one capful of *Sûr'Eau* treats the traditional Rwandan 20 liter storage bucket) and it also provided safe drinking water for a family of six (approximately 1,000 liters of water) at a low monthly cost.

At the beginning of the POUZN project, *Sûr'Eau* distribution was carried out nationally by a team of PSI/Rwanda sales representatives who sold directly to private retailers and the public sector. In order to

expand access, PSI scaled up distribution through these and other channels. By 2009, *Sûr'Eau* was being distributed through a diverse array of distribution channels.

In the public sector, PSI works with the government pharmaceutical wholesaler, CAMERWA, to supply the 421 health clinics and their associated community health workers (CHW) (Table 1). The CHWs receive an initial stock of products, which they sell at a small profit, and use the revenue to purchase more product from the health centers and support local cooperatives. PSI also distributed *Sûr'Eau* through 27 health insurance associations, called *mutuelles de santé*, in the pilot districts of Nyagatare and Rubavu. In addition, PSI trained three Rwandan partner organizations (RPOs) supporting PLWHA and mobilized their members to sell *Sûr'Eau*, generate personal income, and educate their members and the surrounding communities on how to prevent diarrhea. After the initial distribution of *Sûr'Eau* to RPOs, the RPOs bought additional stock from the health clinics.

PRIVATE SECTOR DISTRIBUTION

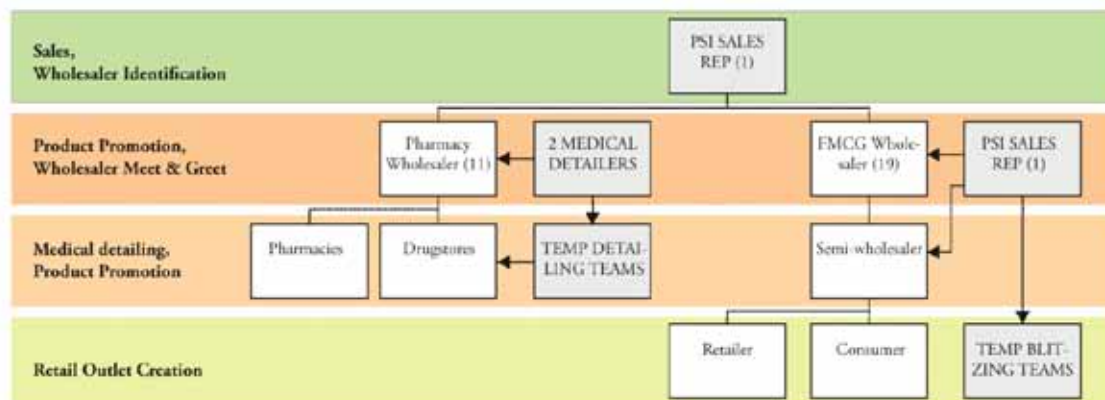
Eight PSI sales representatives ensured that retailers, wholesalers, and semi-wholesalers had *Sûr'Eau* in stock through direct delivery strategies. These eight agents spent up to 4,000 travel days per year selling product to potential sales points (small stores, kiosks, etc.). Although this ensured that vendors had the product, it was neither the most efficient nor the most sustainable way of getting the product to market. This direct delivery method relied on “pushing” the household water treatment on the market, versus having it “pulled” through the wholesaler system by demand. Today, over 4,260 private commercial outlets, supplied by 30 wholesalers distribute *Sûr'Eau* nationally.

To rectify this, PSI sought to understand the sales trends and the market better (Figure 2 on the following page). In 2008, PSI identified the major sellers of PSI products who had distinct customer bases. Thirty out of 70 wholesalers were selected: 11 pharmaceutical wholesalers and 19 commercial wholesalers. Two of these are

TABLE 1: DISTRIBUTION OF *SÛR'EAU*

Channel	Total <i>Sûr'Eau</i> distributed	Time Period
Private outlet	177,082	January 2007–July 2010
Public health facilities	275,655	January 2007–July 2010
Nyagatare region <i>mutuelles de santé</i>	52,656	January 2008–July 2009
Rubavu region <i>mutuelles de santé</i>	33,774	May 2008–July 2009
CHWs (through CAMERWA)	130,032	February 2009–July 2009
PLWHA RPOs	10,000	June to July 2009

FIGURE 2: PRIVATE SECTOR DISTRIBUTION MODEL IMPLEMENTED IN 2008



based in the regions. PSI reduced its sales force from eight to one sales representative and the remaining staff transitioned to other positions. To increase demand, PSI implemented a rapid outlet creation strategy. Using geographic information system (GIS) maps of market centers and trade routes, and lists of market days from district and national authorities, product promoters bought stock from wholesalers to resell at single dispenser quantities to any interested outlet willing to pay the recommended retail dispenser price. Moving quickly through 28 outlet visits per day, the promoters worked through the list of pre-approved wholesalers, letting retailers know that they would have to procure their own new stock. Promoters also collected GIS coordinates, sales data, and captured the name and location of the wholesale or semi-wholesale outlet typically visited to resupply similar fast-moving consumer good (FMCG) items. PSI then stopped its direct provision of products to vendors except the major wholesalers.

Increasing demand is a critical part of this new structure. The POUZN team's mobile video unit followed closely behind retail outlet creation efforts with product promotion activities. Re-linking sales and demand creation, the team set up day-

time product promotion shows in market centers and near newly created outlets to promote the product features and benefits, answer any frequently asked questions, and conduct public product demonstrations and sampling.

Treating wholesalers as “true partners in health” remains a key foundation of the new system. The team organized sales targets for each wholesaler, and then supported them with wholesaler radio announcements and a week of “Meet & Greet” support per month. Designed to build the wholesaler business, Meet & Greet activities intercepted large and frequent customers of the wholesalers with product features and benefits, answers to frequently asked questions, and product demonstrations.

PUBLIC SECTOR DISTRIBUTION

Health clinics: Similar to the private sector program, the public sector distribution chain went through a transition during the POUZN program period. Initially, PSI delivered directly to health centers across the country, focusing on those with repeat sales. However, beginning in February 2009, in line with new government policy, the POUZN team supported the government pharmaceutical distributor CAMERWA in

distributing the product from its warehouse to district pharmacies, and from there to health facilities. Using this distribution chain, over 275,000 bottles of *Sûr'Eau* were distributed to the 421 Rwandan public health centers during the program. The POUZN project's close collaboration with the Rwandan MOH helped increase their ownership of the program. *Sûr'Eau* is now systematically promoted to audiences at all major health events, including immunization campaigns, Mother and Child Health Weeks, and hand-washing promotions. In addition to promotion, the government periodically includes free distribution to these targeted populations as part of these campaigns.

Following the outbreaks of cholera in Musanze and Rubavu districts in March 2009, the POUZN team, in close collaboration with the MOH and district authorities, worked to stop the epidemic from spreading further. This joint effort included prevention activities oriented around *Sûr'Eau* demonstration, distribution and behavior change communication activities.

Pharmacy in a health clinic in the outskirts of Kigali.



Source: M. Wilson

Community health workers: As part of the USAID-funded POUZN program, the team worked with national and district authorities to train a portion of the 60,000 locally elected CHWs to promote and distribute *Sûr'Eau* to mothers and caregivers of children under five. As of July 2010, the MOH had covered 22 of the 30 districts with this training.⁸ This training was executed using the national CHW curriculum, to which the POUZN project contributed with water treatment, sanitation, and hygiene messages. After the training, CHWs receive an initial stock of *Sûr'Eau*, which they sell for a small profit within their communities. A percentage of this profit goes to the health worker's cooperative while another percentage goes back to the health center for continued program management and product stock replenishment.

Mutuelles de santé: With funding provided by USAID's Health Systems 20/20 project, also managed by Abt Associates, PSI implemented a pilot program to distribute *Sûr'Eau* through the *mutuelles de santé* channel in Rubavu and Nyagatare districts between April 2008 and July 2009. This pilot aimed to increase access to and use of *Sûr'Eau*, primarily among poor rural communities and reduce mutuelle expenditures on diarrhea treatment for their members. Mutuelle managers and CHWs in those catchment areas were trained to promote and sell *Sûr'Eau* and were offered communication materials. *Sûr'Eau* was sold by CHWs (many of whom are also mutuelle representatives at the community level) to mutuelle members for 200 Rwandan francs (Frw)⁹ in Nyagatare district and at the

⁸ MOH has trained CHWs in 22 districts: including Rubavu, Nyabihu, Musanze, Burera, Rutsiro, Karongi, Nyamasheke, Rusizi, Nyamagabe, Nyaruguru, Gasabo, Kicukiro, Nyarugenge, Gatsibo, Kirehe, Ngoma, Bugesera, Gakenke, Gicumbi, Ngororero, Nyanza, and Gisaga.

⁹ Exchange rate during project was US\$1 = 545 Frw

commercial retail outlet price of 300 Frw in Rubavu. Between April 2008 and July 2009, more than 86,000 bottles of *Sûr'Eau* were sold through this channel.

NGO distribution: In addition, PSI/Rwanda identified, selected, and trained three RPOs that then trained local community organizations to provide palliative care to PLWHA. These local organizations worked with the MOH, U.S. government clinical partners, and the Community HIV/AIDS Mobilization Program to conduct outreach programs and integrate safe water and *Sûr'Eau* information into palliative care materials. PSI finalized agreements with three partner organizations: Réseau Rwandais des Personnes Vivant avec le VIH/SIDA (RRP+), Association des Femmes Rwandaises (ASOFERWA), and Society for Women and AIDS in Africa (SWAA). These organizations conducted training and supervised awareness-raising sessions for PLWHA. After the training, PLWHA were given the opportunity to generate income by selling *Sûr'Eau* in their communities. RPOs trained hundreds of members of PLWHA associations to disseminate POU water treatment information through home-based care of HIV/AIDS patients. Approximately 1,000 PLWHA and their families were reached with safe water messaging.

PRICE: PRICING *SÛR'EAU* APPROPRIATELY FOR MAXIMUM UPTAKE IN BOTH PUBLIC AND PRIVATE SECTORS

In 2007, the baseline survey showed that the average Rwandan household was willing to pay 379 Frw for one bottle of *Sûr'Eau*. As a result, the wholesale price for the 150ml bottle was set at Frw 200, or about \$0.37, for both the private and public channels

(CHWs, health clinics, and *mutuelles de santé* in the Rubavu district). The consumer price through either public or private channel was 300 FRW. The only exception was for *mutuelles* in Nyagatare district, where the wholesale price was discounted to 150 Frw and the retail price to *mutuelle* members was 200 Frw.

PROMOTION: IMPROVING CAREGIVER KNOWLEDGE AND USE OF *SÛR'EAU*

The baseline household survey in 2007 found that the largest barriers to use were social norms and lack of availability. The POUZN team developed a multifaceted approach to address these factors and increase consistent use of *Sûr'Eau*.

Mass media: Under POUZN, PSI focused efforts on strengthening its commercial distribution and on raising awareness of the product in the private sector through a mass media campaign designed to:

- ▶ Rapidly build awareness and knowledge among the target group,
- ▶ Promote availability at wholesalers and semi wholesalers, and
- ▶ Improve point-of-sale presence and visibility.

The program also established strong partnerships with local leaders, and community- and faith-based organizations to further build social support for *Sûr'Eau*.

The “Good Life” campaign, targeting caregivers of children under five, positioned *Sûr'Eau* as a water treatment product that offers a caregiver comfort and peace of mind from knowing that she is doing the right thing to ensure the well-being of her children. The campaign, which was launched in June 2007, worked to rapidly

build awareness and knowledge among the caregivers of children under five through billboards, banners, television and radio spots, and shows to promote water treatment and hygiene practices. Over the program period, approximately seven radio spots per week were aired. The team participated in various weekly radio programs to reinforce messaging on household water treatment and hygiene.

Community: To complement the mass media campaign, through support of the POUZN project, PSI produced and disseminated communications materials and developed interpersonal communication (IPC) tools (brochures, flipcharts) to promote water treatment. PSI also conducted a variety of community education activities through various channels including IPC at clinics and secondary schools, education by CHWs and women's associations, and leveraging national events sponsored by the government of Rwanda.

The clinic-based gatherings featured product demonstrations to show the importance of hand washing, POU water treatment, and improved hygiene together. As part of their work, the CHWs educated community members on diarrhea prevention through water treatment, hand washing, and use of latrines. Informal follow-up evaluations show that CHWs are well positioned to promote safe water practices and distribute *Sûr'Eau* because they are already close to the community and understand the need for disease prevention. Under POUZN, PSI also worked with women's associations and the National Women's Council to educate and inform these target audiences about safe water and hygiene. POUZN also supported the efforts of the government of Rwanda and UNICEF to highlight Global

Handwashing Day in November 2008 and World Water Day in March 2009.

Reaching out to people living with AIDS:

In accordance with the government of Rwanda's National HIV/AIDS Plan 2005–2009 and the United States President's Emergency Plan for AIDS Relief (PEPFAR), USAID identified the provision of POU water treatment for PLWHAs as an essential element in the provision of care. In response, the POUZN team developed an integrated HIV/Safe Water treatment module. Representatives from health facilities, including people in charge of voluntary counseling and testing (VCT) services, benefitted from workshops conducted by the POUZN team and district authorities. The training covered water treatment techniques and hygiene information such as hand washing, household water treatment, water storage, and sanitation. The goal of the training was to relay correct information about *Sûr'Eau* in preventing diarrheal disease among PLWHA and to deliver corresponding communications messages. VCT service providers were taught to incorporate hygiene messages into pre- and post-test counseling. This resulted in the integration of health facilities and services, including VCT, into the public sector distribution system; safe water messages were integrated with existing HIV/AIDS communications materials. Furthermore, health facilities and VCT sites were provided with communication materials including flipcharts and brochures to enable providers to continue communicating with the target audience. Reports from the field show that promoting *Sûr'Eau* through VCT sites increased safe water and hygiene awareness among this target group.

PROGRAM RESULTS

I. IMPROVING ACCESS TO AND SUSTAINED PROVISION OF SÛR'EAU IN BOTH PUBLIC AND PRIVATE SECTORS

Expanding *Sûr'Eau* availability through multiple channels contributed to improvements in the target audience's access to the product, which correspondingly increased product use. In the spring of 2010, a retail audit of more than 1,500 outlets was conducted to evaluate *Sûr'Eau* coverage in conjunction with the household survey. Sampling was conducted within geographical units called cells.¹⁰ Survey results confirm that the more women know about where and how to purchase *Sûr'Eau*, the more they are likely to treat their water at home, as outlined below.

Overall, *Sûr'Eau* was available in 99 percent of cells in urban areas. Almost half (49 percent) of respondents live in cells that have at least one outlet selling *Sûr'Eau*. Therefore, national coverage reaches about one in two households on average. Significantly more respondents had heard of,

¹⁰ A cell is comparable to a county designation within the United States, although cells are much smaller.

bought, and used *Sûr'Eau* if they lived in a cell where at least one outlet sold the product at the time of the survey.

Results showed that *Sûr'Eau* coverage tends to vary among regions. In Kigali, 95 percent of respondents lived in a cell with at least one outlet selling *Sûr'Eau*. However, in the Eastern Region only 30 percent of the population did so (Figure 3).

2. INCREASING CONSISTENT USE OF THE POU WATER TREATMENT SOLUTION SÛR'EAU

Overall, 19 percent of survey respondents in 2010 had used *Sûr'Eau* in the last 24 hours to treat their water. Almost 37 percent of those surveyed had ever used *Sûr'Eau*. This compares with 20 percent ever use in 2007. Actual use depended heavily on the caregiver's perceived ability to access the product. If the respondent felt *Sûr'Eau* was accessible, she was more likely to buy it and use it. Of respondents who have purchased *Sûr'Eau*, 72 percent of them found it affordable. More than half (53 percent) of surveyed caregivers knew where they could purchase *Sûr'Eau*, compared to 19 percent in 2007.

FIGURE 3: PERCENTAGE OF CELLS WITH AT LEAST ONE SÛR'EAU OUTLET

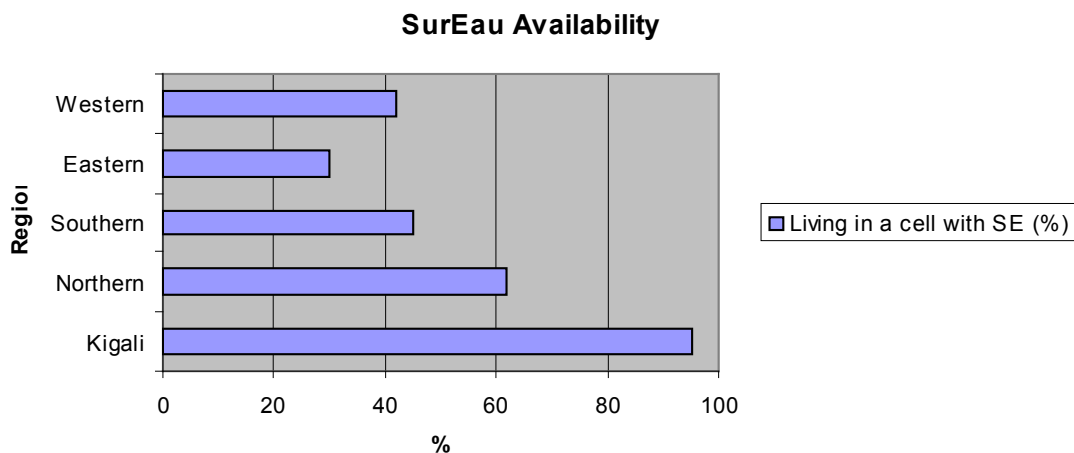


FIGURE 4: SÛR'EAU USAGE BY EXPOSURE TO COMMUNICATION MESSAGES

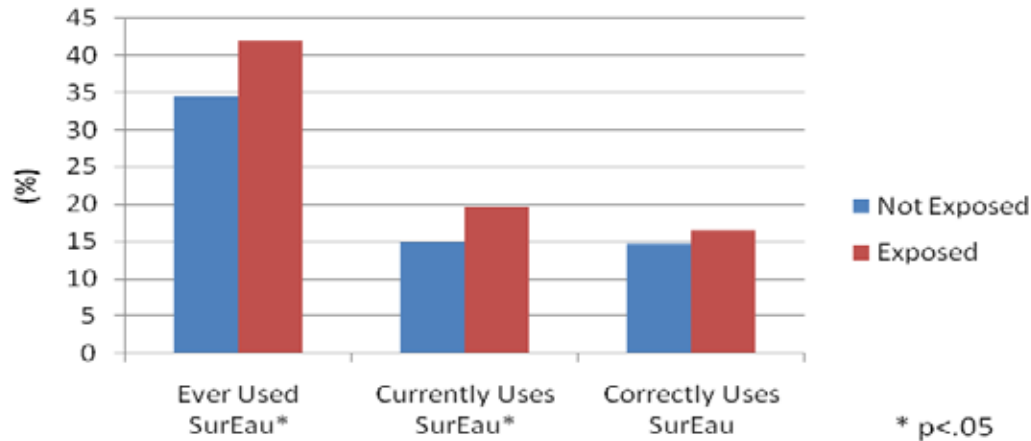


Figure 4 illustrates the importance of exposure to media in encouraging both trial and use of the product. Respondents who had been exposed to a message about *Sûr'Eau* were more likely to have tried the product, to be currently using, and to have used it correctly.

The pilot program in target *mutuelle* districts of Rubavu and Nyagatare also offered some interesting results. The pilot was associated with a 41 percentage point increase in ever use. At endline, the proportion of households reporting ever use of *Sûr'Eau* reached 60 percent in the pilot districts, but remained at just over 11 percent in the control district. The pilot was also associated with a 22 percent increase in consistent self-reported use of *Sûr'Eau*, which reached 21 percent in pilot districts and remained at 2 percent in the control district. This result carried over to current use in which the pilot was associated with an 9 percentage point increase. A similar result was found with use in the last 24 hours verified by chlorine residual.¹¹ There was a 4 percentage point increase in this indicator in program districts but remained at 1 percent in the control

¹¹ This indicator is defined as self-report of *Sûr'Eau* use on the day of interview or previous day and presence of free chlorine residual of at least 0.2 mg/liter.

district. At endline, the most common source of *Sûr'Eau* in the pilot districts was CHWs, from whom about two-thirds of ever-users purchased *Sûr'Eau*. In the control district, half of users purchased it from retail outlets and pharmacies with only 14 percent purchasing from CHWs. In the three districts included in this impact evaluation, the most frequently cited reasons among non-users of the product for never trying it were not knowing where to buy it and financial constraints.

The evaluation of the *mutuelles de santé* pilot project in 2010 revealed that respondents who received IPC on *Sûr'Eau* in the past six months were more likely to have ever used or currently be using *Sûr'Eau*. IPC, especially through *mutuelles de santé*, had consistent and significant effect on use. Exposure to IPC on *Sûr'Eau* (particularly from CHWs and *mutuelle* staff), and hearing about the product at community meetings and health centers was associated with a significant increase in use. Given the short time frame, the endline evaluation could not determine whether distribution of *Sûr'Eau* through *mutuelles* had any type of correlated cost savings to the *mutuelles*.

3. IMPROVING KNOWLEDGE OF SÛR'EAU EFFECTIVENESS AND USE

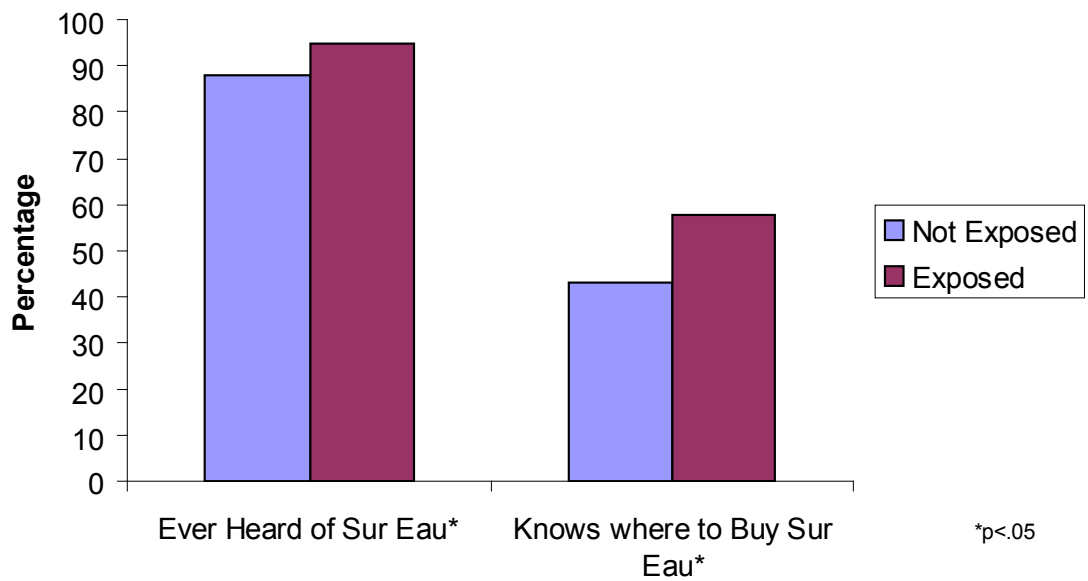
The national program endline evaluation survey showed that knowledge of the main causes of diarrhea improved among all households. In 2010, 64 percent of households surveyed had been exposed to messaging on diarrhea prevention in the last six months. The baseline survey in 2007 did not gather data on the impact of exposure to messaging.

The percentage of households having ever used *Sûr'Eau* also increased over time, and it increased even more if one was exposed to messages on safe water and diarrhea prevention being disseminated by the POUZN program. Of the households that were exposed to messaging about *Sûr'Eau* and diarrhea prevention, 20 percent were currently using *Sûr'Eau* at the time of the

survey. Of the households that did not receive the same messaging, only 15 percent were using *Sûr'Eau* at the time of the survey.

Overall, messaging during the POUZN project had a positive impact on knowledge and awareness of *Sûr'Eau*, as well as brand appeal and self-efficacy. Compared to the 2007 baseline survey, significantly more people could identify *Sûr'Eau*, its uses, and the main causes of diarrhea just three years later. Additionally, the proportion of people who always wash their hands before preparing food and after using the toilet increased significantly over the three years from 1 percent to 22 percent. Over half (54 percent) of caregivers properly store their water in a separate container with a cover. Comparatively, 22 percent of caregivers said that they do not store water at all.

FIGURE 5: KNOWLEDGE OF SÛR'EAU



The survey also indicates that 83 percent of caregivers who said they use *Sûr'Eau* know where to buy it, while 46 percent of those not using *Sûr'Eau* know where to buy it (Figure 5). The notion that non-users knew where to purchase the product proves that mass media campaigns were reaching their intended audience. Although social norms, beliefs, and certain outcome expectations (what the consumer anticipated the product to do, i.e., “prevent diarrhea”) about water treatment did fall over the three years between surveys, the decrease was not as drastic among respondents who were exposed to safe water and diarrhea prevention messaging in the previous six months.

CONCLUSION

By using all available public and private channels, PSI, with support of the POUZN project, was able to scale up household water treatment in Rwanda to achieve almost universal coverage in urban areas and coverage in around half of all rural areas. This high level of availability led to a 19 percent household water treatment use rate in the last 24 hours. This use rate is similar to countries with long-standing PSI household water treatment programs, such as Madagascar (13 percent) and Kenya (20 percent). The major determinants of use were consistent with those found in other countries such as availability, exposure to communication messages, social norms, and perceived risk of diarrhea.

The increase in household water treatment use was achieved by leveraging both the private and public channels. Rwanda is unique in that the public sector played a strong role in achieving high coverage rates for *Sûr'Eau*. The public sector helped ensure coverage in rural areas and expanded community-based distribution and education through its cadre of CHWs. CHWs were a crucial factor in the promotion of self-confidence among potential *Sûr'Eau* users. During the program period (2007-2010), private sector distribution was limited due to the transition from the direct delivery to wholesaler strategy. Over time, as the new wholesaler or “pull” strategy becomes the norm, private sector sales should rise.

LESSONS LEARNED:

Below are key lessons learned from the POUZN project in Rwanda.

Government leadership helps ensure program success: As reported earlier, the bulk of *Sûr'Eau* distribution in Rwanda was achieved through government channels. The government’s commitment and ownership of the program contributed largely to the increase in use of the POU water treatment product, *Sûr'Eau*. The Minister of Health not only chaired the *Sûr'Eau* re-launch event, but the MOH worked to make the product available at the ministry clinics and to ensure it was distributed by MOH-affiliated CHWs. Training CHWs to promote water purification while disseminating correct messaging built a sense of trust in the product and caregivers rapidly resumed using it to treat their water at home.

Integration into the health system helps increase coverage and use rates:

The integration of community-based distribution through the *mutuelles de santé* system piloted with USAID's Health Systems 20/20 project was among the most effective initiatives within the POUZN program. Correct use of the product in the catchment districts also improved dramatically. In addition, partnerships with other community- and faith-based organizations built social support for the product and created strong demand. CHWs played a crucial role by reaching out to caregivers personally. They demonstrated correct use, answered questions, and ensured caregivers felt confident about using *Sûr'Eau* for their families.

Public-private collaboration is important for scale-up: In Rwanda, the use of both public and private sectors, along with community distribution channels, proved effective. The 4 Ps of marketing (product,

price, placement and promotion) were especially useful as structuring principles and giving strategic guidance to the creation of extensive private sales points. These sales points were crucial in providing households with *Sûr'Eau*.

Understand your target audience: Social marketing is not just about where, when, and how the target audience can be reached (IPC, community mobilization events, etc.). Effective product marketing is also about building and maintaining a strong and positive relationship between the brand and the consumer. PSI/Rwanda learned that effective brand management was key to ensuring that *Sûr'Eau* held a unique and strong position in the lifestyle of consumers over time. Water treatment programs need to strive for a balanced combination of persuasive mechanisms to build and maintain positive brand associations, thereby fostering the relationship between the brand and the consumer.



POUZN programs reach target audiences with appropriate educational materials

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ABOUT POUZN

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For more information about POUZN or current publications (available for download) please contact:
POUZN

Abt Associates Inc.
4550 Montgomery Avenue,
Suite 800 North
Bethesda, MD 20814 USA
Tel: 301.347.5000
Fax: 301.913.9061
<http://www.pouzn.com>

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