

Piloting retail and direct sales models for household water treatment products in Cambodia

PATH partners with Hydrologic and VisionFund to increase household water treatment

BACKGROUND AND PROJECT DESCRIPTION

Safe drinking water is essential to good health and quality of life, but in resource-poor settings like Cambodia, water often comes from unsafe sources and carries deadly pathogens. According to the most recent Cambodian Demographic Health survey, 40 percent of the rural households lack access to an improved water source. This number drops to 20 percent in the rainy season.

Diarrheal disease caused by unsafe drinking water is a major contributor to the high mortality rate for children under five in Cambodia which is 54 per 1000 live births¹—one of the highest under-five mortality rates in the region. To combat disease caused by unsafe drinking water, PATH launched the Safe Water Project in 2006 with funding from the Bill & Melinda Gates Foundation to investigate various market-based distribution models for providing water treatment devices in low-income households across Cambodia and other developing countries.

Market-based solutions offer a number of potential advantages. In general, compared to the public sector, the private sector is more nimble and innovative, has greater resources, is more responsive to consumer preferences, and has the potential for sustainability and scalability without ongoing subsidies. Through the Safe Water Project, PATH has worked to catalyze and facilitate new partnerships and approaches to selling household water treatment and safe storage (HWTS) products to low-income consumers. The goal is for partners to take these initiatives to scale— independent of PATH or other donor resources—so the marketplace can make them sustainable, ultimately leading to a greater overall impact on health.

To work towards the goal of improving access to safe water among low-income households, PATH's activities in Cambodia were diverse and included the following:



Households in Kampong Speu province attended microfinance meetings to learn about purchasing a water filter.

- [Market segmentation](#) studies were done in partnership with IMS Health to understand consumer preferences for water treatment and to identify target populations with a high need for and likelihood to use HWTS devices.
- [Product development](#) efforts in partnership with Hydrologic Social Enterprise—a local ceramic water pot (CWP) manufacturer—were carried out to aesthetically improve the existing and effective Tunsai CWP to increase desirability for the HWTS product.
- Two distribution pilots were initiated which tested three different market-based distribution models to determine promising avenues for uptake of HWTS among low-income households in Cambodia. These included the following:
 - A retail sales pilot in partnership with Hydrologic as the product supplier and distributor.
 - A direct sales pilot with two variations:
 - A door-to-door sales pilot in partnership with Hydrologic as the product manufacturer, distributor, and seller.
 - A microfinance institution (MFI) pilot in partnership with Hydrologic as the product supplier and distributor and VisionFund Cambodia as the MFI seller.

¹ National Institute of Statistics (Cambodia), Ministry of Health (Cambodia) and ICF Macro. Cambodia Demographic and Health Survey 2010-2011. Calverton, United States: ICF Macro, 2011.



The Super Tunsai was made both desirable and affordable after the aesthetic upgrade and with the availability of financing options.

By harnessing the reach of locally present private-sector and nongovernmental organizations (NGOs), PATH was able to test various market distribution methods to determine their capacities to increase awareness, affordability, acceptability, and accessibility of household water treatment in Cambodia.

PILOT DESIGN AND OPERATIONS

In each of the distribution pilots, PATH partnered with Hydrologic to encourage purchase of Hydrologic's CWP as a simple, effective, and affordable household water treatment option. Prior to initiating the pilots, PATH partnered with CAD-Based Solutions—a Seattle-based product developer—to make the exterior of the Tunsai CWP more appealing to low- and middle-income consumers and thus more desirable to purchase. To learn more about the product development process, read Safe Water Project's project brief, [Newly designed ceramic water pot for low-income households](#).

The original Tunsai was sold for US\$12.50 and the new Super Tunsai was sold for \$22 in the distribution pilots. Ultimately, the price difference between the two products was larger than originally targeted. However, the sales results from the pilots indicated that the aspirational appeal of a new design along with locally appropriate product improvements and the availability of financing mechanisms were enough to result in something surprising. Not only did the low-income families purchase a water filter, but they purchased the more costly one more often. Both products were sold side by side in each of the distribution pilots described below, generating useful data on relative uptake and consumer preferences for the product options as well as the purchasing options.

RETAIL SALES MODEL

PATH and Hydrologic partnered with 40 retail shops in rural Kampong Cham province to sell the original Tunsai and Super Tunsai CWPs over a five-month period (from March 2011 to July 2011). The Super Tunsai was sold at

three different price points—\$22, \$17, and \$12.50—with coupons that brought the price from the full \$22 down to the lower prices, simulating the affect of a subsidy. The retail sales pilot covered an area with about 33,000 households. Key questions for this distribution pilot included the following:

- What impact does the introduction of the CWP upgrade (Super Tunsai) have on product uptake?
- What impact do specific promotion and marketing campaigns have on product uptake?
- How sensitive are consumers to changes in Super Tunsai pricing?
- What is the operational viability of a retail coupon program for CWP products?

A total of 391 devices were sold in the retail pilot; 6 percent of which were Tunsai, 94 percent Super Tunsai. Because the objective of this pilot was to test the feasibility of a coupon scheme and compare various price points, typical measures of uptake and cost recovery were not applicable here. What we did learn, however, was that a coupon scheme at retail can be operationally effective. Retailers reported that 99 percent of the coupons that were given out were used, and spot audits of purchasers indicated that the price stated on the coupon was in fact the price paid. In addition, the price test demonstrated that the Super Tunsai was purchased 3 to 1 over the original Tunsai in the retail environment, even at a \$22 price point compared to \$12.50. When offered for the same price, almost all customers preferred the Super Tunsai over the original Tunsai.

DIRECT SALES MODEL: DOOR-TO-DOOR SALES AND MICROFINANCE INSTITUTION SALES

In Kampong Speu province, PATH tested a direct sales approach selling the original Tunsai and Super Tunsai CWPs door to door over five months (from December 2010 to April 2011). Hydrologic invested in training ten local salespeople known as Clean Water Experts (CWEs). The CWEs sold water filters by using a pictorial sales flip book to first explain the need to treat water against waterborne pathogens and subsequently explain how to use the CWP for household water treatment.

About 16,000 households were within the door-to-door sales pilot area. An important challenge to the success of this early direct sales pilot, however, was the fact that many Cambodians lack access to regular income sources.

Because MFIs give the country's poor the opportunity and ability to purchase necessary household and lifestyle items on installment, PATH elected to enhance the direct sales model by incorporating an MFI component.

Working with Hydrologic to supply CWPs and VisionFund Cambodia to develop appropriate loan options, PATH utilized the MFI model to offer CWPs in Kampong Speu in a catchment area of about 6,700 households over 11 months (from February 2011 to December 2011).

Hydrologic's CWEs sold the products during group sales meetings in the pilot sales area, using a flip book created by PATH to help sales staff guide conversations with potential customers. VisionFund credit service officers then interacted with customers regarding the loans to purchase the filters and processed the loans immediately after the meeting.

Key questions for the direct sales distribution pilots included the following:

- What was the impact of selling CWPs through direct sales on uptake of the CWP?
- What was the impact of offering Super Tunsai on total uptake of CWP (Super Tunsai and Original Tunsai versus Original Tunsai only)?
- What impact did the marketing message and medium have on uptake?

A total of 5,031 CWPs were sold in the direct sales pilots (combined door-to-door and MFI purchases), comprising a total uptake by 16 percent of households in the door-to-door sales area and 21 percent among households in the MFI sales area. While the door-to-door sales approach successfully resulted in sales of CWPs to households, those sales numbers were overshadowed four times over when sales numbers from the MFI pilot were collected. Once the MFI model was introduced, CWEs no longer wanted to conduct door-to-door sales, despite receiving a lower commission rate for MFI sales, due to the vast increase in sales through MFIs. The combination of utilizing the MFI channel with the new Super Tunsai filter increased average sales per CWE by 500 percent.

In addition to high sales from the direct sales pilot, Hydrologic saw a 59 percent increase in sales of CWPs from the year prior to pilot activities, indicating that the introduction of the new Super Tunsai and the effects of advertising surrounding the pilot had an impact on total uptake of the CWP—an encouraging result of a market-based approach. The success of this pilot also went beyond sales into consistent use. After purchasing the CWP, high rates of regular use were observed in both direct sales areas at rates of 74 percent in the door-to-door sales area and 84 percent in the MFI sales area.

Not only were uptake and consistent use notable for this model, but loan repayment was an impressive 100 percent.

This data also indicates that the increase in price for the Super Tunsai versus the Tunsai is offset when the households have the ability to pay for the product over time. The MFI pilot ultimately proved to be fully cost recoverable for all parties involved—Hydrologic, the CWEs, and VisionFund—indicating potential for 100 percent commercial viability if the model were to be scaled up.

SUCCESSSES AND NEXT STEPS

The intersection of the redesigned product, marketing, sales, and financing options resulted in tremendous uptake of the CWP in Cambodia. PATH's efforts have increased choice for household water treatment devices in Cambodia. When households can invest in a product that they desire, the expectation is that they will value it; use it correctly; use it longer; replace parts when appropriate; and in this case, ultimately practice household water treatment consistently to reduce diarrheal disease.

The increased awareness and choice that resulted from these efforts calls for scale-up across Cambodia and beyond. The successful partnership between a private-sector manufacturer and a nongovernmental institution that resulted in appropriate financing options for HWTS products for low-income households also shows potential for introduction into other vital health products.



The ultimate goal of PATH's Safe Water Project is to reduce diarrheal disease by increasing access to safe drinking water for households.

SCALING UP THE MICROFINANCE INSTITUTION MODEL

In June 2011, the CWP sales from PATH's MFI pilot represented 46 percent of Hydrologic total private sales/non-NGO sales in Cambodia. PATH's work has facilitated the local enthusiasm and scale-up of the pilot, ensuring a sustainable option for Cambodians to access HWTS products. Motivated by the pilot's success with the indicator that the MFI channel provided the best opportunity

for private (non-NGO) sales for water filters, Hydrologic and VisionFund scaled-up the MFI model in three additional provinces starting in January 2012.

REPRODUCING THE MODEL FOR SANITATION

Within Cambodia, this innovative project enabled commercial enterprises to produce, distribute, sell, and maintain good-quality HWTS products for low-income populations. Globally, the distribution pilots helped PATH understand more about the role that culture, market maturity, and choice can have on uptake and use of commercial products among low-income households. Lessons learned from this model are currently being applied to sanitation products in Cambodia where PATH is applying its experience in water to sell latrines through microfinance loan options.

Photos: PATH/Sara Watson, PATH/Elizabeth Blanton



PATH is an international nonprofit organization that transforms global health through innovation. We take an entrepreneurial approach to developing and delivering high-impact, low-cost solutions, from lifesaving vaccines and devices to collaborative programs with communities. Through our work in more than 70 countries, PATH and our partners empower people to achieve their full potential.

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