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One of PATH's objectives is to make safe water solutions more affordable to low- and middle-income consumers

PATH III: Addressing Affordability Issues

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Globally, 884 million people lack access to a safe supply of water.¹ As a result, more than 3.5 million people die every year from water-related diseases.² Diarrhea, which is commonly caused by contaminated water, remains the second leading cause of death among children under five, accounting for nearly 20 percent of child deaths per year. It kills more young people than AIDS, malaria, and measles combined.³ Numerous organizations are focused on bringing household water treatment and safe storage (HWTS) solutions to middle- and low-income populations in developing countries. However, established approaches reach only a fraction of those in need.

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ABOUT PATH AND THE SAFE WATER PROJECT

PATH is a Seattle-based nonprofit organization committed to delivering high-impact, low-cost solutions to global health challenges. The organization's mission is to act as a catalyst for innovations with the potential to improve the health of vulnerable populations around the world.⁴

In late 2006, the PATH Safe Water Project received a \$17 million grant from the global development unit of the Bill and Melinda Gates Foundation. Its purpose was to evaluate how market-based approaches could help accelerate the widespread adoption and sustained use of HWTS products among the world's poor. Traditionally, this sector had been dominated by government and philanthropic solutions. Through a portfolio of field-based pilots, PATH intended to experiment with different commercial models for addressing this dire need.

Over the course of six years, PATH's multidisciplinary Safe Water Project team conducted more than 10 studies in India, Vietnam, Cambodia, and Kenya. One of the overarching objectives of the pilots was to employ a user-centered design approach to understand how safe water projects could be made more desirable—or aspirational—as well as better suited to the needs of their target customers. Another focus was on exploring the affordability of the products so they would be within reach of middle- and low-income consumers. The final objective was to evaluate ways to market, sell, and distribute safe water technologies so that target users in rural locations could more readily access them.



Photo: PATH/Gabe Bienczycki

This family was one of the first to take out a microloan to buy a water filter as part of the PATH pilot in India

for free while others were offered the product at half price (PATH underwrote the cost of these subsidies to the manufacturer). Through this experiment, the team learned that more than 60 percent of those who received a filter at no charge ended up reselling or regifting the product. “It’s kind of a common thing,” said Claudia Harner-Jay, senior commercialization officer. “If you get it free, you don’t associate it with a lot of value.”¹ Moreover, according to Tim Elliott, senior business officer, the team’s end-line surveys showed that “there were actually more people using the product if you got them to pay for it.” In a field such as safe water, where correct and consistent use is paramount to achieving positive health outcomes, these results were eye-opening.

ONE CHALLENGE: ADDRESSING AFFORDABILITY ISSUES

PATH undertook multiple field-based experiments to evaluate the affordability of HWTS products. Activities in these pilots ranged from charging market rates, offering payment terms, and giving away the products for free. These efforts confirmed that many existing safe water products are out of reach for poor and low-income consumers when offered at market prices. However, even more importantly, PATH amassed certain insights about the effect that giveaways can have on consumer behavior.

As part of one pilot, based in India, some consumers were given a durable water filter

PATH's interest in using commercial approaches to address safe water needs led the team to conduct market research in Cambodia, where it was planning additional pilots. In this environment, team members uncovered other detrimental effects of giveaways, particularly when they occurred without a long-term plan for supporting real behavior change in the community. Not only could this sort of short-term-focused subsidy undermine the commercial market for safe water products, it could tarnish people's perceptions and/or encourage them to sustain unsafe behaviors while they awaited the next handout. Elliott explained: "I talked to the owner of a little shop in rural Cambodia who told me he used to sell roughly 20 [water filters] a month, but now he was selling one or two. When I asked him what happened he said, 'An NGO [nongovernmental organization] came in a few months ago and gave a bunch away. Then they left. But now people are just waiting for them to come back. No one wants to buy [a filter] because they hope they get their own free, or now they think that it's a product for the poor and they don't want to be thought of as poor.'"

In a retail sales pilot in Cambodia, PATH experimented with using coupons to provide subsidies to low-income consumers without invoking some of the negative effects of short-term giveaways. The program was successful in terms of discounting the water filter product to make it more affordable to the target market. "We distributed the coupons and sold lots of filters with them. We had good completion and accuracy rates," said Ben Mandell, a PATH MBA consultant. "But it was costly." The team discovered that the operational time and resources needed to administrate the coupon program were significant. "It was a cumbersome process," he noted.

The team was committed to finding other alternatives for addressing the affordability of safe water products.

THE SOLUTION: USING CONSUMER FINANCING TO MAKE PRODUCTS MORE ACCESSIBLE

Another avenue the Safe Water Project explored was using microcredit loans to make HWTS solutions more accessible in low-income communities. "We had a particular interest in testing consumer financing for products. It just didn't exist in great abundance," said Elliott. As Sidhartha Vermani, the commercialization officer who was hired to lead the project, further explained, "The cheapest HWTS products that are efficacious were available in the market for between \$40-45 USD at that point in time. But for the people who need them, \$40-45 is expensive for an up-front expenditure." "For a poor household living on \$1, \$2, \$3, or \$4 [USD] a day, cash flow is a major issue," added Greg Zwisler, senior commercialization associate. "It's a huge risk for somebody to take that amount of money to buy a product they've never used before. If they're able to spread out that payment into smaller chunks, it makes the purchase more realistic."

PATH conducted its first consumer financing pilot in India because the microfinance industry was mature, with many well-established players. "Microfinance was booming," Zwisler recalled. "And we were starting to see signs of experimentation in the industry, with MFI organizations offering loans for products like solar lanterns. People were grasping at ways to go about it, but no one had made the model work yet. It felt like an opportunity that hadn't been realized."

Choosing the right MFI partner was essential. The PATH team wanted to collaborate with an organization that was profitable and growing. "We needed to know they had

nailed their core business,” said Zwisler. Because the margins on water filter loans was likely to be lower than the other loans the organization was making, the partner needed to be commercially minded, but “thinking about doing something socially relevant for its customers,” Vermani stated. Finally, PATH wanted a forward-thinking company that understood how water filter loans could help it diversify and expand its customer base. After screening numerous companies, PATH decided to collaborate with Spandana Sphoorty Financial Limited, a local MFI with a pan-Indian presence.

For a manufacturing partner, the team chose Hindustan Unilever Limited (HUL). HUL was interested in participating to see if it could expand the market for its PureIt water filter to low- and middle-income consumers in rural areas. At the price of roughly \$44 USD, the device was cost prohibitive for this target segment. Moreover, HUL had learned that its direct sales model was expensive and inefficient for reaching prospective customers outside dense urban areas. If HUL could tap into the MFI/group sales model in rural areas, and its prospective customers were offered loans to make PureIt feel more affordable, this new approach could provide a more cost effective rural sales strategy.

“They had done their math and felt that if this model scales up it would be hugely profitable for them,” recalled Vermani.

Putting [PureIt] on installments, spreading out those payments, made the product much more affordable and greatly helped boost demand.

In terms of roles, HUL agreed to produce the product, promote/sell it in collaboration with representatives from Spandana, install and troubleshoot the device, and manage after-sales support. Spandana would collate orders and pass them to HUL, as well as provide financing. Spandana and HUL directly negotiated the terms of their collaboration and did not disclose the details. However, the basic idea was that Spandana would set its interest rate to cover the cost of issuing and servicing the loans.

In addition, HUL would pay Spandana a portion of the gross margin on all PureIt sales made through the MFI channel, which would make the loans profitable. In turn, HUL would no longer have to maintain a large rural sales force in the areas where the pilots were taking place, so it could afford to share its margins with Spandana. “This model cost them much less than the cost to do direct sales,” said Zwisler. “So it’s designed to be a win-win model,” added project coordinator, JVG Krishnanurthy.

Over the course of the nine-month pilot, consumers were either offered repayments rates of roughly \$2 USD per week over 25 weeks or about \$1 USD per week over 50 weeks. PATH discovered that families overwhelmingly preferred lower payments over a longer duration for water filter purchases. From a sales perspective, Zwisler summarized, “Putting it on installments, spreading out those payments, made the product much more affordable and greatly helped boost demand.” Sales were somewhat uneven from month to month, but PATH confirmed that the MFI model could be profitable for the partners and have a positive effect on the uptake of HWST products among the target audience.

PATH planned another pilot in Cambodia to test a door-to-door sales model in parallel with selling water filters on credit provided by a local MFI organization. Unfortunately, it proved more difficult to identify a willing MFI partner in this environment. The micro-finance industry had been in operation for 10-15 years in the country, and it was generally well regarded by consumers. The problem was that several high-profile MFIs had experimented with offering small loans for solar-powered products, but these pilots had not gone well. “Their previous partnerships hadn’t produced anything, so the MFIs were skeptical that people would want to take a loan to buy a product like a water filter,” explained Man-

dell. They also found it difficult to make ends meet offering these small loans because “there wasn’t a lot of thought put into the processes and approach,” he added.

Eventually, the team connected with VisionFund, a self-described “Christian MFI” with a strong social mission.⁶ “The social value was attractive to them to a higher degree than to other MFIs,” Mandell noted. Even still, PATH had to agree to offset \$25,000 of administrative costs in exchange for its participation in the pilot since VisionFund was unconvinced that it would earn a return on making water filter loans. Hydrologic, a Cambodian social enterprise, signed on as the manufacturing partner.

In this pilot, customers in one area were approached by door-to-door sales people and given the opportunity to purchase the filter using cash. Another group was offered cash or credit sales through an MFI sales model that involved offering the product at VisionFund’s group meetings. Consumers and the sales team strongly preferred credit sales via the MFI model over cash sales through the door-to-door alternative. In fact, even though the MFI model offered a lower commission rate (\$1.50 USD versus \$2 USD per unit), the sales people wanted to dedicate themselves exclusively to this approach within two months of its launch. As Elliott explained, “Instead of visiting 4 houses to get a ‘yes,’ the salespeople could get a group of 20 people together and, in the same amount of time, make 8 or 9 sales. That’s a much more rewarding way to work.”

Although the MFI model was popular with Hydrologic’s sales people and with consumers alike, PATH uncovered a variety of operational issues that had to be addressed during the pilot. Not only did these challenges negatively impact credit sales in the near term, they had the potential to negatively affect the affordability (profitability) of the loan model to VisionFund in the longer term. “Their loan processes weren’t appropriate for a \$22 [USD] loan,” said Mandell. Their normal loan was \$200 [USD]. So they based their process, their risk analysis and decision process on a \$200 amount, which didn’t make sense for the lower amount. It was very slow and cumbersome for the kind of capital we’re talking about and, hence, unprofitable for the MFI.”

PATH worked with VisionFund to improve the process, reduce paperwork, and streamline the signature re-

quirements. “We really had to dig into their process because they weren’t focused or didn’t have the resources to understand their own process deeply and look for improvement opportunities,” Mandell noted. In addition, PATH convinced VisionFund that it needed to dedicate loan officers to making water filter loans in order for the model to work efficiently. The MFI partner initially tried to support these loans by having its regular loan officers spend 10 percent of their time on this activity on a rotating basis. However, this staffing model led to a backlog of loan applications and water filter orders. By implementing a batch processing approach that was administered by dedicated water filter loan officers, VisionFund was able to reduce loan processing times from three weeks to a maximum of three days from the time a customer signed up at a sales meeting. As Elliott pointed out, having dedicated loan officers was more expensive. “But if you make enough loans, it pays for itself; or if you have a high enough social mission, it pays for itself; or if you’re borrowing at a cost of capital that’s super low, it



Photo: PATH/ Elizabeth Blanton

PATH conducted extensive market research in all of its target geographies, including Cambodia



Women learn about safe water solutions at a microfinance group meeting

pays for itself. So, there's lots of ways you can solve that overhead challenge." Ultimately, VisionFund found water filter loans to be a cost effective customer acquisition tool.

With these operational issues addressed, VisionFund and Hydrologic decided to continue working together beyond the scope of the pilot to make water filters available to consumers on credit. As of early 2013, they had extended the program to eight new provinces throughout Cambodia. "Very few times does this ever happen—when the donor pulls out, the market truly takes over—so that shows how wildly successful this pilot was," summarized Elliott. "There's no doubt there are still challenges, but it's continuing, and it's growing."

Based on these results from India and Cambodia, PATH was enthusiastic about the role of consumer finance in making safe water solutions more affordable and accessible to low-income consumers. The key was figuring out a way to make these small loans profitable, despite their low total monetary values and relatively short repayment terms. As Vermani put it, "For private sector companies to participate, they have to be able to make a profit. It might be a slightly lower profit, but they should have some incentive to serve the market." ♦

NOTES

- 1 Progress on Drinking Water and Sanitation: Special Focus on Sanitation," UNICEF and the World Health Organization, 2008, http://www.who.int/water_sanitation_health/monitoring/jmp2008/en/index.html (October 18, 2012).
- 2 "Safer Water, Better Health: Costs, Benefits, and Sustainability of Interventions to Protect and Promote Health," World Health Organization. 2008, http://www.who.int/water_sanitation_health/publications/safer_water/en/ (October 18, 2012).
- 3 "Diarrhoea: Why Children Are Still Dying and What Can Be Done," UNICEF and the World Health Organization, 2009, http://www.who.int/maternal_child_adolescent/documents/9789241598415/en/index.html (October 18, 2012).
- 4 About, PATH, <http://www.path.org/about/index.php> (October 18, 2012).
- 5 All quotations are from interviews conducted by the author, unless otherwise cited.
- 6 "Who We Are," VisionFund, <http://www.visionfund.com.kh/about-us/who-we-are> (June 26, 2012).