Consumer and Market Research on Household Water Treatment Products in Vietnam

Background

Waterborne diseases remain an issue of public health concern in Vietnam, and water-related diseases pose a serious threat in areas prone to seasonal flooding. Polluted drinking water sources and swampy conditions substantially increase the risk of diarrhea, cholera, dengue fever, and malaria outbreaks. More than 70 percent of Vietnam’s 85 million people live in rural areas. While a large majority of rural inhabitants have access to improved water sources, there are great disparities in access to clean water. For example, only 13 percent of people have access to clean water in some remote and mountainous provinces where ethnic minorities live. Contamination during collection or storage in the home also poses a problem. One study in Vietnam found that about one-fourth of boiled drinking water was still contaminated with fecal bacteria, perhaps leading one to believe that the stored water was recontaminated.

In response to these problems, Vietnam’s National Center for Rural Water Supply and Sanitation (NCERWASS) recently took the

A woman washing rice with piped water. Households with access to wells usually pump water directly to their home. Well and piped water is often not treated because the water appears clear and people judge whether water is safe for drinking based on clarity, color, smell, and taste. According to many, “clear means clean.”

This is part of a series of project briefs discussing the activities, research findings, and field experiences of PATH’s Safe Water Project.

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lead on drafting a framework for a national action plan on household water treatment and storage (HWTS). Further understanding of knowledge and behaviors regarding HWTS is needed to help develop interventions to improve the quality of drinking water and minimize diarrheal disease in Vietnam.

PATH is implementing an innovative safe water project with the goal of enabling commercial enterprises to produce, distribute, sell, and maintain effective HWTS products for low-income populations in Vietnam and other developing countries. This project brief summarizes the results of three studies—a consumer study, a product scan, and an analysis of distribution channels—which were conducted from April to December 2008. These studies have informed the development and implementation of a safe water pilot project in Vietnam and are also contributing to the larger body of global knowledge gathered by the PATH Safe Water Project team.

Research methods

Investigating potential customers

The consumer study used a rapid assessment process to collect qualitative information at four rural sites located in Son La province in the mountainous northwest, Binh Dinh province along the central coast, and Vinh Long and An Giang provinces in the Mekong delta. Three of the study sites had access to either piped or community water treatment systems and one did not. All four provinces are moderately developed and have a poverty rate of less than 20 percent of all households.

As part of this study, field workers were sent out to:

- Interview key informants at local institutions and retail outlets, including government agencies, commune committees, village heads, health clinics, the Women’s Union, the Farmers’ Union, the Youth Union, local bank branches, pharmacies, and stores.
- Directly observe household water management practices.
- Conduct four focus group discussions (FGDs) and ten in-depth interviews at each study site to explore consumer attitudes and practices regarding water collection, storage, and treatment, and water-related disease.

A total of 160 men and women participated in the FGDs. Another 40 individuals, mostly women, were interviewed individually. All participants were selected from low- to middle-income households (defined as earning US$2 to $6 per day) with children.

Examining product availability

The product scan determined which HWTS products are already available commercially or by donation in Vietnam—including both fast-moving consumer goods (FMCGs) and durables. Field teams visited retail outlets at one urban, one peri-urban, and one rural site in each of eight provinces. The selected provinces were located in different parts of the country, but all had large populations and well-established commercial sectors. Field teams visited a total of 261 outlets, including pharmacies, FMCG outlets, general stores, home appliance stores, stalls selling clay products, supermarkets, and department stores. They observed what HWTS products were sold at each outlet, interviewed retailers, and made informal household visits to observe water storage and treatment practices.

Analyzing distribution channels

To understand existing distribution channels in Vietnam, researchers went out and:

- Interviewed approximately 35 key players at manufacturers, consumer companies with strong rural reach, distributors, social marketing programs, microfinance institutions (MFIs), marketing agencies, and retailers, as well as non-governmental organizations (NGOs) and international organizations that are active in the rural water sector.
- Made field visits and held informal discussions with retailers and wholesalers.
- Conducted secondary research and review.

Information collected on the value chain, key participants, margins, costs, motivations, and strategies was used to assess the suitability of various distribution channels for HWTS products.
Household water management

Water sources

The consumer study confirmed the results of a 2006 baseline survey on water usage, sanitation, and hygiene conducted by the Ministry of Health, which found that rural households use a wide variety of water sources, including drilled wells, dug wells, rainwater, upstream mountain water, and water from rivers, lakes, and ponds. Bottled water is also available and commonly consumed at three out of the four study sites. Three of the study sites had piped water systems, but not all households at these sites were located close enough to these systems to connect to them.

Perceived water quality and distance to the source are important factors in selecting water sources, as well as households’ economic status. Seasonal changes in the availability of water also play a major role. During the rainy season, water is abundant, although the quality is uncertain. During the dry season, it is difficult for most households to find sufficient water close by; they are forced to collect water from more distant sources where water remains available.

Water collection and storage

Households with access to wells usually pump water directly to their homes—every two to four days if they have storage tanks and daily if they do not. Households that live at a distance from a well or that rely on surface water carry water home in buckets and cans, either on foot or on a bike or motorbike. A wide variety of containers—such as traditional ceramic jars to plastic buckets—are used to store drinking water in homes. Containers that are covered with lids can better protect the water from insects and contamination.

A wide variety of containers are used to store drinking water at home. Rural households generally use traditional ceramic jars, which range in size from 20 to 200 liters, because they are durable and inexpensive (from US$1.25 to $7.50). Urban and peri-urban households are more likely to store water in plastic buckets; these range in size from 20 to 220 liters and cost $1.50 to $15.60. The containers are covered with lids to protect the water inside from insects and contamination. Women and girls are responsible for collecting, storing, and boiling water in almost all households, as well as for cleaning the water storage containers. According to FGDs and interviews, men regard it as light work and unimportant.

In parts of northern and central Vietnam that experience extended dry periods, households in both peri-urban and rural areas build large brick and cement tanks to collect rainwater during the wet season. These hold three to ten cubic meters of water. Because piped water systems do not necessarily operate all day or every day, some urban households store tap water in 1,000-liter plastic or stainless steel tanks that cost US$60 to $80.

Perceived quality of water

People judge whether water is safe for drinking based on its clarity, color, smell, and taste. Of these, clarity is by far the most important indicator. As one study participant summed it up, “Clear means clean.” Thus, households may treat stream water but not well water, because the former is turbid while the latter...
looks clear. People also judge the effectiveness of water treatment methods based on the clarity of the water they produce. As a result, they believe traditional methods—including settling, cloth filtration, and alum—are highly effective because they reduce visible turbidity, despite the fact that they do not address invisible contaminants such as bacteria.

The source also influences perceptions of water quality, but opinions varied among the study sites as to which sources are safest. For example, households in Son La considered well water the best, but households in Binh Dinh and An Giang reported avoiding well water because of local problems with the ground water. During FGDs in Binh Dinh men complained that well water contained oil and fluoride, while study participants in An Giang said it was brackish and had a foul odor. Perceptions of rainwater also varied widely. While study participants in An Giang considered rainwater cleaner than well or river water, people elsewhere expressed concern that it sweeps up dirt off the roof. People everywhere were cautious about the quality of river water, deeming it to be seriously polluted with waste and toxic agents such as pesticides.

In the three provinces with a piped water supply, most respondents thought tap water was best and trusted it completely. Bottled water is widely used in these same three provinces, but people are uncertain about its quality because it sometimes contains visible particles. Notably, households in these three provinces also buy large quantities of ice to add to their drinking water. Although the ice is a potential source of contamination, there is little concern about the quality of the water used to make the ice or the cleanliness of its transport.

### Motivations for treating water

Households pay attention to the quality of the water they use for cooking and drinking and make some effort to ensure its safety, primarily by boiling. Table 1 describes the main motivations to treat water in Vietnam, along with examples of how the Safe Water Project could leverage these triggers.

Lack of knowledge poses a common barrier to home water treatment. Many people do not know about bacteria and other invisible contaminants, so they mistakenly assume that clear water is clean and that removing visible moss and dirt is sufficient to make water safe. Others do not understand the link between contaminated water and disease, so they do not believe that treating water will prevent illness. Even when people recognize the link between water and health, they may believe that the risk of getting sick is so low that it does not justify the time and energy required to regularly treat the household's drinking water. Other commonly cited barriers to home water treatment are the cost of HWTS products and, for those with piped water, trust in publicly provided water.

### Water-related disease

Most people associate good water with good health, especially for children. They also know that drinking boiled water and preparing food hygienically can prevent diarrheal diseases. However, their knowledge of water-related diseases is neither extensive nor entirely correct. For example, some study participants blamed seasonal weather changes for diarrhea, while others associated dermatological disorders and gynecological diseases with polluted water. Women participating in the consumer study were more knowledgeable than men. Knowledge did not vary by income level.

Study participants generally believed that diarrhea was not a serious problem and could be easily cured, including by self-treatment with rice broth, guava leaf broth, or other traditional practices. To treat diarrhea and other minor disorders, including abdominal pain, people also buy medicine over the counter. When self-treatment fails, people go to the Commune Health Station or a private clinic, typically paying about VND 50,000 (US$2.90) for each visit. Some low-income households receive free health care services.
Treatment practices and preferences

Households in all four study sites use a variety of water treatment methods; some of the most common are described below in Table 2. However, not all of these practices are effective. The first problem is that many households are only concerned about reducing turbidity and rely solely on settlement, cloth filters, or alum to clean the water. None of these methods destroy or eliminate all microorganisms. A second problem is that households do not treat water consistently, mainly because of time constraints but also, in the case of boiling, because of a preference for cool water and the cost of fuel. A third problem is that households do not always treat water correctly; they may not boil water long enough, add the right amount of disinfectant, or replace filter parts as frequently as manufacturers recommend; as a result, the treated water may not be safe to drink.

The consumer study also found that rural households connected to piped water systems operated by the government do not use and are not interested in HWTS products. People do not question the quality of their tap water because it comes from a public source, looks clear, and has a chlorine odor, which is interpreted as an indicator of safety. Cost is also an issue; after paying connection and usage fees to a piped system, people feel they should not have to pay for home water treatment as well.

Alum

Alum is popular in the Mekong delta provinces, where it is used to treat turbid river water for all household uses, including drinking. The coagulant is stirred into water stored in 200-liter containers. The fact that alum “instantly” makes the water clear reinforces the belief in its effectiveness. After learning that alum does not kill germs, some people have started to boil their drinking water in addition to treating it with alum; others have switched to combination chemical flocculants-disinfectants instead of alum.

Boiling

The Vietnamese government strongly promotes boiling, and it is the most popular water treatment method in the country. Boiling is often used in combination with filters, disinfectants, or traditional methods. Although the majority of the population claims to boil water before drinking, in reality boiling is performed inconsistently. The problem is that boiling is time-consuming and inconvenient and produces warm water, which is not considered refreshing. It is not

<table>
<thead>
<tr>
<th>Motivation</th>
<th>How to leverage this trigger</th>
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<tbody>
<tr>
<td>Water looks turbid</td>
<td>Launch products where water quality is visibly poor</td>
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<tr>
<td>Imitating and impressing the neighbors</td>
<td>Work to achieve critical mass and a buzz around HWTS products through advertising</td>
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<td>Preventing disease during periods of high risk, such as the rainy season</td>
<td>Leverage existing knowledge regarding disease incidence and causation to educate the public further</td>
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<tr>
<td>Preventing disease among young children</td>
<td>Appeal to children’s health and welfare in messages promoting water treatment</td>
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<td>Advice of health care providers</td>
<td>Involve medical institutions and personnel in promotion and distribution</td>
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<td>Communication by local government</td>
<td>Partner with local government on education and promotion</td>
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<td>Children learn about need for water treatment at school</td>
<td>Involve children in the education effort so they can help convince their parents</td>
</tr>
<tr>
<td>Established habits based on parents’ and grandparents’ example</td>
<td>Mount long-term effort to build on positive behaviors, such as boiling</td>
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Table 1. Common motivations for treating water and their implications for the project
known whether people boil water long enough and at a high enough temperature to kill microorganisms.

**Chemical disinfectants**

Chemical disinfectants are known and accepted in some areas of southern Vietnam, where the product scan found four different brands for sale.

The most successful example occurs in Vinh Long province, where there is a relatively strong market for locally manufactured water treatment powders (WTPs); these contain a flocculent to reduce turbidity as well as a disinfectant to kill biological contaminants. The product scan found three brands for sale in four urban and rural pharmacies in Vinh Long province. One brand, Thanh Mai, gained people's trust after it was distributed for free by the local government during floods. A month's supply for a family costs around VND 10,000-15,000 (US$0.60 - $0.90). Users choose WTPs over alum to treat river water because it can kill bacteria. The main objection to WTPs is the chlorine taste; people either let treated water settle overnight or boil it before drinking in order to get rid of the chlorine taste. Further understanding of these products' safety and efficacy may be needed.

*Population Services International (PSI) actively promoted SafeWat,* a...
sodium hypochlorite solution, in five Mekong delta provinces from 2005 to 2008. A 150-ml bottle sells for VND 4,000 (US$0.25) and treats enough water for a family of six for over a month. The product scan found SafeWat for sale at two pharmacies in Vinh Long and one pharmacy in An Giang. Another five pharmacies reported that they stopped stocking the product due to slow sales. Sales were higher when PSI was actively promoting the product, using donor-funded social marketing approaches.

After hearing about chemical disinfectants, nonusers in other provinces were interested in their convenience and affordability. They believed they could get used to the chlorine taste if they were assured of the product’s quality—but they were afraid of fakes and imitations. Lack of knowledge about where to find disinfectants and how to use them also poses a barrier to use. Participants in the consumer study described the ideal disinfectant as a tablet or sachet that treats either 20 or 200 liters of water at a time, has minimal chlorine taste, and costs less than VND 15,000 (US$0.90) for one month’s supply. The ideal product would also make the water clearer, as WTPs do. Study participants say that disinfectants should be available in small quantities for daily or weekly use and that clear instructions on how to use them should be available at the point of sale before a purchase is made.

**Filters**

Virtually everyone in Vietnam is familiar with water filters, although few rural households own one. Home visits revealed chronic maintenance problems. Sellers do not discuss proper use and maintenance guidelines (probably so as not to discourage customers from buying filters), and consumers do not bother reading the manufacturer’s instructions. As a result, owners do not regularly clean or replace the filter parts as recommended by the manufacturer. Instead they wait—often for many years—until a part breaks before replacing it, which compromises the filter’s performance. In addition, the efficacy of filters varies widely.

Mineral pots, which contain a ceramic filter, cartridge filter, and mineral stone, are the most widely sold type of water filter. The product scan found 69 different brands on sale in urban and peri-urban areas of all eight provinces scanned. Most outlets—which included supermarkets, market stalls, and home appliance shops—sold eight to ten units a month, generally to middle-income households. Mineral pots are often labeled or promoted with a trademark from Japan or Korea, because Vietnamese consumers think the quality of products from developed countries is better. The filters generally cost approximately US$17 to $23 (range: US$10 to $42), depending on the size, brand, and outlet. Replacement parts cost US$1 to $4 for the ceramic filter, US$2 to $6 for the cartridge filter, and US$4 to $7 for the mineral stone.

The product scan also found seven different ceramic candle filters sold under four brand names. Three were made in Vietnam and priced at US$7 to $18, depending on size and materials. While not widely sold, ceramic candle filters are accepted by local people.

The consumer study found a strong preference for water filters over disinfectants because of their attractive design, ease of use, and perceived quality. Indeed, filters are social status symbols that are placed in the living room for guests to...
admire. Although every household would like to own a filter, many consider them unaffordable. This agrees with retailers' reports that buyers tended to be of middle-income status (versus lower-income). In the villages studied in Son La province, however, ownership had become so trendy that even lower-income households were considering buying a filter soon.

The consumer study revealed some confusion in people's judgments regarding filters and disinfectants. People who do not own filters think they are more convenient than disinfectants, but people who own and use them disagree: they point to filters' limited speed and capacity and the perceived need to boil water before filtering it. Consumers also mistakenly perceive filters to be less expensive than disinfectants because they are a one-time purchase, rather than a recurring monthly expense. Once they are informed of the need to replace costly parts twice a year, their opinion changes. Finally, there seems to be a double standard in judging product quality; consumers are afraid of fake disinfectants but trust the quality of water filters, despite their ignorance of the manufacturer, brand, or product's origin.

According to participants in the consumer study, the ideal water filter should cost no more than VND 250,000 (US$15) for middle-income consumers and VND 200,000 (US$12) for lower-income consumers, have a capacity of 20 liters, be able to improve the clarity of the water, and look attractive. After-sales service is desirable. People want to know that a filter has a warranty and that they can get it fixed if it breaks.

### Ability and willingness to pay

#### Consumer purchasing power

Despite the short-term effects of inflation, incomes in rural Vietnam are rising and households are increasingly purchasing durables and household appliances. When asked what they would do with an extra VND 500,000 (US$29), most low-income study participants said they would buy food and clothes or improve their house. Financial priorities for others included their children's education, appliances such as an electric cooker or washing machine, or savings in case of illness. HWTS products are not a priority.

Affordability is a barrier to water treatment according to some study participants, and consumers have proven to be price-sensitive with regard to water. For example, households connected to piped water systems will use as little tap water as possible to lower their monthly fees. Nevertheless, the research suggests that consumers have the necessary purchasing power to invest in HWTS products—so long as they perceive the need to be great. For example, some low-income households in Binh Dinh reported paying for bottled water or a connection to a piped water system because they felt strongly about their children's health, the need for clean water, or having a more convenient source. In other provinces, some of the study participants who rejected HWTS as too expensive did not know how much the products actually cost, already had enough savings to buy a filter, or were spending VND 30,000 – 60,000 (US$1.80 - $3.60) a month on ice to add to their drinking water.

#### Consumer credit

Small loans from micro lenders or installment plans offered by retailers could help consumers pay for water filters, which may require up to a month's salary for a low-income household. However, there is little precedent for this in Vietnam. While most rural households in Vietnam have access to credit, formal loans from banks and MFIs are used almost entirely for business purposes. Some households have taken out loans, however, to connect to piped water systems or build latrines.

Very few study participants have had any experience using consumer credit or installment plans at home appliance stores to buy durable goods. The few retailers that offer credit to customers are high-end organized retail outlets, not local

“At first I thought that the filter was rather expensive [220,000 VND or US$13] but then I changed my mind as it’s quite durable; I haven’t replaced any spare parts in the three years I have it.”

–Middle-income man, Son La province
durable goods stores. Low- to middle-income consumers either save money up front or borrow from moneylenders, family, and friends to purchase expensive items like motorbikes or televisions.

Thus, it is not surprising that study participants said they would be reluctant to use credit to buy HWTS products. Some were afraid of being in debt and unable to repay the loan. However, others said water filters cost too little to bother with a loan.

**Sources of credit**

With few exceptions, MFIs in Vietnam are small, localized, cash-starved, and have unclear legal status. They tend to be informally organized and act more as local lending programs than true banks. These factors limit their usefulness as a source of credit for consumers or businesses. The state-owned Vietnam Bank for Social Policies (VBSP) may have some potential for the water sector because it has exceptional reach, focuses on the poor, and already has a water and sanitation loan product targeted at piped water connections and latrines. It is unclear to what extent VBSP would engage in consumer financing of HWTS. Consumer interest also seemed weak, as expressed in the quote above. Some study participants were reluctant to deal with loan paperwork and processes for such a relatively small amount, while others said they preferred to save up for a cash purchase. Another way for the VBSP to encourage a retail trade in HWTS products would be to offer inventory loans to distributors, wholesalers, and other entrepreneurs so that they could afford to stock promising new products.

**The supply chain**

Most businesses in Vietnam follow a conventional commercial distribution model, with products traveling from manufacturers and importers through distributors and wholesalers before reaching retailers (see Figure 1). Alternative channels focused on low-income consumers are few. Channels are long, and most products pass through one to three levels of distribution. Lines between small distributors, wholesalers, and large retailers are blurred, and channels are not always transparent: many manufacturers and distributors do not track where their products end up.

Distributors, wholesalers, and retailers consider high volumes to be the key to generating profits. Unless the brand owner can create enough sales volume for a product, they will tend not to carry it, even despite higher margins—especially since

![Figure 1: Comprehensive Channel Map of Channel Players and Outlets](image-url)
they are not accustomed or equipped to promote products themselves. With few exceptions, players at every level of the supply chain are passive, prefer quick turnover, and make decisions based on demand from players further down the chain.

**Distributors and wholesalers**

Distribution is generally decentralized and fragmented. Few distributors have nationwide coverage, and those that do generally operate from large cities and subcontract locally to work deeper into the provinces. On the plus side, distributors are ubiquitous, easy to find and partner with, and work quickly and responsively. Most distributors have evolved from and act like large wholesalers, serving mainly as a warehousing, inventory, and transportation service. Except for a few of the largest national firms in each sector, distributors have rudimentary technical capacity and do not actively push products. They try to carry as many products as possible to generate high profits and rarely sign exclusive contracts with manufacturers.

The challenge for HWTS manufacturers is convincing a distributor that there is sufficient demand to make a product worth their while. Sales representatives play a critical role in creating demand among wholesalers and retailers. Manufacturers can choose to use distributors’ sales representatives, but they tend to focus on easy-to-sell products to meet sales quotas and may require extra training or other incentives to focus on HWTS products. Alternatively, manufacturers can hire their own sales representatives. While more expensive, this approach ensures that sales representatives will give a new HWTS product their undivided attention.

**Retailers**

Overall, 39 percent of the retail outlets visited during the product scan stocked HWTS products. While one in two urban outlets and one in three peri-urban outlets carried HWTS products, only one in seven rural outlets did so. Market stalls accounted for just over half of the outlets with water treatment products, but many home appliance shops and supermarket also carried them, along with smaller numbers of pharmacies and FMCG stores. In urban areas, some filter brands are creating special showrooms for their products because the average retailer lacks the training and experience to explain water filters and convince customers to make such a large purchase.

Family-operated shops, ranging from roadside stands in villages to large city showrooms, dominate the retail sector in Vietnam. While sales representatives make visits and offer promotions to larger retailers, small rural retailers must buy their wares from district or provincial markets and transport them back to the village. Shop space and turnover are critical considerations. Retailers consumers also travel directly to district or provincial towns to make large purchases, because they value the greater choice and selection found there. In contrast, consumers buy FMCGs locally.

The actual mechanism of getting products to rural areas is not complicated as long as demand exists; there is an efficient system to deliver products from the district wholesale market to commune vendors. The cost is in the sales force; manufacturers must either budget for their own sales representatives or find a distributor with exceptional coverage.
are reluctant to carry new products without some kind of trial or proven demand. Well-trained sales representatives, well-timed local marketing, and/or merchandising support can help convince retailers to carry a product and display it prominently. With the exception of pharmacies, retail stores do not actively recommend products to customers and focus instead on selling what consumers want.

**Potential channels for HWTS products**

**Disinfectants.** Vietnam’s 30,000 pharmacies are among the best outlets for chemical disinfectants and WTPs because consumers consider these to be health products. Pharmacies are a household’s first point of contact in case of sickness, especially diarrhea, and consumers look to them for informal health advice. Pharmacies hold one other advantage for distribution: large pharmaceutical distributors have access to most pharmacies in Vietnam through their sales representatives and provincial pharmaceutical companies reach all rural pharmacies. However, brand owners must convince each individual pharmacy to stock the products. FMCG stores are a potential alternative to pharmacies because they have very high penetration in rural areas and customers value their close proximity. However, consumers do not trust these outlets to sell health-related products (partly for fear of counterfeit goods, a major issue for health-related products), so they are not a good sales location, at least initially, for disinfectants and WTPs. At a later stage, when consumers are familiar with the product category and the various brands, selling through FMCG stores could make the products even more convenient and accessible.

**Filters.** Home appliance stores are the best sales outlet for water filters. They are located everywhere, even in the most remote areas of rural Vietnam. Once there is established demand for a product, these retailers will find a way to source it and bring it to rural populations. However, they are reluctant to carry new products in the absence of established demand, so manufacturers must be prepared to generate demand for the filters. Given that filters are very effective as commonly used in Vietnam, manufacturers will also need to train and motivate store owners to provide clear instructions to buyers on how to properly operate and maintain the filters.

Promoting the effective use of water filters also calls for easy and convenient access to replacement parts. Direct sales, while expensive, is uniquely positioned for this because it has excellent reach in rural areas and can provide an opportunity for one-on-one education on maintenance issues. Direct vendors can also remind filter owners when it is time to replace parts, which is an important issue in Vietnam. While consumers’ distrust of door-to-door salesmen and mobile vendors hampers their potential, they could fill an important gap for replacement parts. Direct sales in concert with trusted local organizations may enable direct sales of disinfectants or filters, as discussed below.

**Alternative outlets.** The health and development sectors present alternative distribution channels that offer consumers both convenience and credibility. Nearly every commune in Vietnam has a government health clinic that serves as the main source of medical advice and referrals in rural areas. These commune health stations also act as pharmacies, ordering and selling medicines from state-owned provincial pharmaceutical companies. Given their extensive reach, experience in health education and promotion, existing involvement in drug distribution, and trusted reputation, commune health stations seem like a natural sales location for chemical disinfectants and WTPs. If organized to work in concert with trusted local organizations such as health stations, a direct sales channel could be of promise for selling water treatment products. Direct sales has several advantages including the ability to demonstrate and explain products, although it can be a relatively expensive option.

Another option is the Women’s Union, which has 11 million members in 10,000 communes and a history of partnering with NGOs and government agencies on pro-social projects. Women’s Union members provide good outreach cheaply since they work largely on a volunteer basis. However, they have not proven effective as a sales force for infant formula, micro-insurance, and other products. Given the high level of trust the Women’s Union enjoys, the organization may be of greater value for promotional activities than distribution.
Promoting HWTS products

Marketing is always critical to the success of new and unfamiliar products. Given the passive nature of distribution in Vietnam, promotion to retailers and to consumers takes on even greater importance; HWTS manufacturers need to create “pull” in channels that do not have much “push.” Retailers, wholesalers, even distributors will not carry new products that the public has not yet expressed a desire for, nor will they shoulder the burden of educating the public about them.

This leaves the challenge of generating demand for and creating a sustainable market in HWTS products to the manufacturer or brand owner. It requires a three-pronged effort: behavior change communication to educate consumers on the need for safe water and encourage them to incorporate water treatment into their daily household routines; the introduction of unfamiliar new product categories, such as chemical disinfectants; and standard commercial advertising to promote specific brands and products. To change people’s habits, marketers must be prepared to work on all three fronts in concert and to sustain promotion over time.

Marketing mix

The mass media are an effective way both to raise awareness of safe water issues and to promote specific products and brands. The availability of subsidized government media in Vietnam makes these channels even more appealing. According to recent reviews of media advertising in Vietnam:\textsuperscript{5,6}

- Television has nearly universal penetration in both rural and urban areas of Vietnam, and there are dozens of local as well as national television stations. Rural consumers watch and trust the educational programming they see on television. Government-sponsored air time is available for spots promoting health messages.
- Print advertising has exploded in Vietnam and is second to television. Literacy rates are high, and there has been a surge in new publications, with over 700 newspaper and magazine titles.
- Radio offers a relatively cheap way to reach listeners via almost ...

The role of government

Government plays an active role in social initiatives and business in Vietnam; HWTS initiatives should carefully consider how they might gain from partnering with government agencies. Depending on their capabilities and responsibilities, Vietnamese government agencies may play the role of:

1. Regulator: Government licensing is a basic requirement for any pharmaceutical or health product. Most direct marketing and consumer research also requires approval from local authorities. Government agencies are responsible for water quality testing.

2. Partner: Government plays a role in most donor-funded community outreach or research programs, often as a precondition of government approval. Government staff may serve in a research or coordination function.

3. Health educator: Government is a common partner for outreach and education campaigns because it has excellent networks and reach, including the school system, the community loudspeaker system, and clinic-based health education. Government agencies sometimes subsidize special messages. Product endorsements by the right agencies—such as the Ministry of Health (MOH)—can build trust with rural consumers.

4. Distributor: State-owned enterprises represent about two-fifths of the Vietnamese economy. They include distribution companies in every province that supply government hospitals and clinics and have close ties to local officials.
300 state-owned radio stations. Although radio is not widely used to promote products, radio advertising is growing rapidly.

- Outdoor advertising is ubiquitous. Local authorities and health institutions often use billboards in heavily trafficked locations to disseminate pro-social messages such as HIV prevention or collecting rainwater.

In addition to these commercial advertising channels, almost every commune has a network of loudspeakers that broadcasts messages on a weekly or daily basis, often including public service announcements. The system reaches half or more of rural households and is a highly trusted source of information, because it comes from local government authorities and health institutions.

Non-media promotions that target consumers directly are critical for behavior change and may also encourage local retailers to carry products.

- Merchandising displays in retail outlets are a relatively inexpensive and proven way to raise brand awareness. Manufacturers may hire brand ambassadors to improve product displays in small, crowded stores and conduct store-level promotions.

- Events, such as road shows and community theater, are a common component of both commercial and social marketing initiatives because they create a memorable experience and can combine general education with product promotions.

- Activation activities let customers interact directly with sales people. Product demonstrations have special impact because they let consumers see for themselves how well HWTS products work and also provide instructions on how to use a product. A different kind of demonstration—testing a household’s water source for invisible contaminants—can dispel the misconception that clear water does not need treatment and helps drive behavior change.

- Price promotions, free samples, and trial offers help overcome financial barriers to purchases and encourage interested but undecided consumers to try new products.

Involving local leaders and institutions

Rural consumers in Vietnam look to local opinion leaders and institutions, such as the Women’s Union and commune health stations, for guidance on health matters and also for assurance of product quality and safety. They are more trusted than any outside sources, including the mass media, and also have exceptional reach in rural areas. For HWTS, the most credible and convincing voices come from:

- Mass organizations, notably the Women’s Union, which has experience with outreach and education on health and family issues.

- Government institutions and leaders, especially the village head, who already engages in communication efforts by holding meetings in the village.

- Health authorities, especially the medical staff at commune health stations, who promote boiling and other health messages via posters, billboards, meetings, and loudspeakers.

The involvement of local opinion leaders and institutions in promotional activities and product endorsements could help overcome the many barriers to home water treatment.

Audience and messages

Since women and men often espouse different views concerning water treatment practices and product purchases, HWTS marketing communication should be targeted to both genders. Women take the lead on FMCG product purchases and on household water treatment more generally. As for durable products, a husband and wife usually discuss the purchase together, although men typically make the final decision.

Many barriers to treatment derive from consumer misconceptions

“Promotion should be done through the commune. A meeting should be held in which product demonstration is necessary so that people have a chance to see how the product works. The evidence of one’s own eyes is much better.”

– Middle income-man, An Giang province
regarding the cleanliness of their water and associated health risks (see Table 4). Thus, it is important to educate consumers on the need for water treatment with messages that explain that:

- Clear-looking water does not mean that it is clean and safe to drink.
- Consistently treating drinking water with an effective product can prevent waterborne diseases.
- Treating water with alum or cloth filters is not sufficient to make water safe because it does not kill invisible germs.

Since their children’s future and the family’s welfare are top priorities guiding household spending, safe water campaigns should also focus messages on these themes; for example, “Taking the time to treat your water will help protect your children’s health and development.” Other messages will need to focus on the perceived strengths and shortcomings of specific products. For example, messages introducing disinfectant products can explain how they are used; stress their advantages, in terms of cost and convenience, over boiling and filters; defuse safety concerns; and point consumers to local outlets selling the products. Likewise, messages about water filters can explain the importance (and cost) of regularly changing replacement parts to maintain their effectiveness, while acknowledging their ease of use and good looks.

### Implications for Safe Water Project

Creating a sustainable market for HWTS products in Vietnam requires simultaneously addressing supply and demand. On the one hand, manufacturers must supply the right products (that is, quality products that meet consumer preferences) at affordable prices, distributed through appropriate retail outlets. On the other hand, marketers must generate demand for HWTS by engaging in behavior change communication, with a focus on educating consumers on the health effects of unsafe water and effective treatment practices; promoting and advertising specific brands and products; and leveraging the influence of key opinion leaders. Specific lessons learned are listed below.

### Product

- A competitive market already exists in areas of the Mekong delta for locally made disinfectant products that fulfill consumer preferences for clear water. The market for these WTPs could be expanded to the rest of the country if brand owners (a) can effectively demonstrate product safety, (b) build on the link between chlorine taste and safety established by piped water systems, and (c) solicit endorsements by government and health institutions to overcome
concerns about quality and imitation products.

- Consumers have a strong desire to own water filters, but none of the products currently on the market are priced for lower-income households. The challenge for manufacturers is to design a less expensive filter that is consistently effective and still attractive enough to appeal to consumers’ social aspirations.

- Poor dissemination of instructions has impeded effective use of water filters. To ensure that filter owners regularly clean and replace parts, brand owners should consider demonstrating products, training retailers to inform buyers about maintenance schedules, and enhancing current channels for more convenient distribution of replacement parts.

**Price**

- While many households in Vietnam have sufficient purchasing power to acquire water filters, they are only willing to buy expensive durable goods if they perceive the need to be great. Hence, marketing is as important as pricing.

- Consumer credit—whether in the form of bank loans or retail installment plans—is limited, but people do borrow from moneylenders, family, and friends for large purchases, such as motorcycles and televisions.

- To help persuade distributors, wholesalers, and retailers to carry new and unproven HWTS products, manufacturers should reduce their financial risk by building in healthy margins, assuming the cost of social and commercial marketing, and offering retailers merchandising support.

**Place**

- Households judge the quality of water and the need for treatment based on the color, smell, taste, and especially the clarity of the water source. Therefore, it will be far easier to introduce HWTS products in areas where the water looks, smells, and/or tastes bad.

- Initially, the most appropriate retail channels for HWTS products are pharmacies and commune health stations for disinfectants; household appliance stores for water filters; and direct sales for filter replacement parts. Partnering with trustworthy organizations could broaden the potential for direct sales.

**Promotion**

- All levels in the supply chain are passive, where players focus relatively more on sales volumes than margins for profits. HWTS manufacturers must be prepared to engage and educate a sales force and invest heavily in marketing to generate demand for their products. Only then will
distributors, wholesalers, and retailers be prepared to carry the product.

• Commercial marketing in Vietnam is strong but expensive. Marketers can economize by supplementing it with established low-cost communication channels that have good penetration in rural areas. These include the Women's Union, government subsidized media such as community loudspeakers and televised public service announcements, and related educational campaigns promoting hand-washing and hygiene.

• Because government is deeply involved in business and social initiatives in Vietnam and trusted by consumers, safe water initiatives should seek out government partners to help promote and endorse HWTS products.

• Rural Vietnamese place more trust in local leaders and institutions than in any outside information source. Therefore, marketers should involve the Women's Union, village heads, and commune health stations in promoting HWTS.

The way forward
Building upon the findings summarized in this brief, PATH and its partners are currently pursuing several activities in Vietnam. Of particular note is an ongoing pilot in An Giang province in which PATH is providing support and technical assistance for the direct sales of branded chemical disinfectants by partnering with commune health stations and utilizing commune health workers. In addition to increasing awareness of the branded product, this project also employs social events to educate local households on safe water storage and treatment practices. Other planned projects include a value chain analysis to understand and learn from the relative success of mineral pots, as well as quantitative consumer research to help identify consumer segments and inform targeted product and marketing strategies. When complete, results of these activities will be made available.

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