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**SUSTAINABLE WATER AND SANITATION SERVICES
FOR ALL IN A FAST CHANGING WORLD**

***HappyTap: Aspirational handwashing device
commercialization in Vietnam***

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In many developing countries, handwashing with soap offers huge potential for improved public health due to its unique effectiveness as a barrier against a variety of important diseases such as diarrheal disease, respiratory infections, trachoma, and others. Based loosely on the lessons from the sanitation marketing approach, the HappyTap commercialization project leverages the private sector to manufacture, distribute, and activate household demand for an aspirational handwashing device. This briefing paper shares early lessons and experiences from a pioneering program to develop and market a handwashing device for rural households in Vietnam. Initial experience is promising and suggests potential for mass scale uptake of aspirational devices.

Background

“Washing hands with soap ... is frequently referred to as among the most effective and inexpensive ways to avert child deaths. It has been called the “do-it-yourself” vaccine, yet despite its low cost and proven benefits, rates of handwashing with soap are very low throughout the world.”

- World Bank Water & Sanitation Programme (2012)

Achieving a sustainable and scalable market-driven solution to enable consistent handwashing would be significant: handwashing is one of the most cost-effective tools for alleviating the disease burden on the poor, especially children under five. Handwashing is an especially effective barrier against diarrheal disease, which is responsible for more child deaths worldwide than HIV/AIDS, Tuberculosis, and Malaria combined. A systematic review of observational and experimental studies cited reductions in diarrhea of 48 percent for handwashing with soap (Cairncross, et al., 2010).

Despite its effectiveness, consistent practice of handwashing is poor. Self-reported rates often overstate actual practice, yet only 36% of people in Vietnam report washing hands after defecation; 23% before eating; and 19% before preparing food (MOH, 2010). Vietnam has a high rate of child malnutrition in part because of intestinal worms, which along with emergent threats such as H5N1 and EV-71, can be mitigated and prevented by handwashing. The transmission of hygiene-related ailments, primarily from caretakers to children, carries an estimated economic cost in Vietnam of USD \$262 million annually (Hutton, 2008) yet most rural mothers do not practice HWWS before cooking or after using the toilet.

Cementing the gains of behaviour change campaigns

Efforts to change handwashing behaviour on a large scale have had little sustained impact (Biran et al., 2009; Galiani et al., 2012). In Vietnam, recent hygiene awareness interventions implemented by the World Bank’s Water and Sanitation Program (WSP) and the Vietnam Women’s Union reached over 16 million people across 790 communes, but little or no significant change was found in terms of the actual practice of handwashing (Chase and Do, 2012). Numerous studies have decoupled knowledge and practice for hygiene (Biran et al., 2014). A meta-analysis across health sectors of whether health beliefs could predict behaviour found that “the relationship between susceptibility beliefs and behaviour was almost always near zero” (Carpenter, 2010).

Even so, hygiene campaigns implemented in Vietnam have cumulatively resulted in a high level of knowledge and awareness about the importance of handwashing. While hygiene promotion may be insufficient to change behaviour, evidence suggests that the presence of dedicated handwashing equipment is associated with the practice of handwashing, and that convenient access to soap and water at critical times may be a key determining factor in the consistent practice of handwashing. (Biran et al., 2005; Luby et al., 2008; Luby et al. 2009).

WaterSHED and others have hypothesized that as awareness and knowledge rise (software), a fundamental remaining barrier to handwashing with soap is the absence of a fixed place with convenient, dedicated handwashing equipment (hardware) that also serves as a physical reminder to reinforce behavior. The launch of a purpose-built handwashing device, available for purchase by households, is a distinct approach that serves to build on the awareness and knowledge raising efforts of previous campaigns.

From concept to prototype to market

Before the *HappyTap*, no purpose-built handwashing device was available on the market in Vietnam. The device was developed over three iterative rounds of user-centred design and testing. IDEO, an American human-centred design firm, implemented the first round in 2009 which emphasized user-centred design, rapid prototyping and adequate field testing (Devine, 2010). In talking to rural women, the design team realised that the target market aspired to own products with high aesthetic value; they did not want to project the image that they were poor. The main alternative handwashing device promoted by NGOs was the Tippy-Tap – a makeshift handwashing solution made using an old container (e.g. can or jug) suspended above the ground (Watt, 1988). Such devices had not been widely adopted in Vietnam, in large part because they are perceived as unattractive.

Concurrently in 2009, WaterSHED conducted formative research in Cambodia on handwashing knowledge, attitudes, and practices, and conducted an in-home trial of various handwashing equipment (such as bags, bottles, and buckets with spouts and hoses). The study identified a need for handwashing enabling equipment in order to reduce barriers to routine handwashing with soap in rural Cambodian households, and found significant interest in using dedicated handwashing equipment with specific features (Jenkins et al., 2013).

These efforts resulted in a design concept for a handwashing device that prioritised being affordable and attractive to rural households in the Mekong Delta region. In 2010, WaterSHED and IDEO carried forward the second round of testing which resulted in the first real prototype of the handwashing device followed by preliminary field testing with users and potential manufacturers.

Enter *HappyTap*

Dubbed the *HappyTap*, the prototype was designed to be an aspirational product that gives households a way to incorporate handwashing with soap into daily routines, thus bridging the gap between knowing and doing. Ideally it would reflect the right mix of aesthetic appeal, functionality, durability, and affordability.

Proof of concept

With support from USAID's Development Innovation Ventures scheme, WaterSHED embarked on the third round of design and testing. Limited-scale test-marketing in two provinces of southern Vietnam validated assumptions about the product price, distribution strategy, and ultimately the marketability of the device. During that round, 95 percent of consumers said they would wash their hands more frequently with a *HappyTap*, and 79 percent said they would buy one if it was available in the market.

The methodology used by WaterSHED needed to be rigorous enough to generate meaningful data about the marketability of the device, but importantly it also had to be extremely time- and cost-effective. A simple *HappyTap* prototype was used in test-selling events in rural Vietnam as a proof of concept. Women at organized group events were shown various presentations about the *HappyTap*, and their feedback on various aspects was recorded and analysed. In particular, the research team focused on collecting data that could inform price setting, promotional messages development, product attributes, and effective distribution channels (aka the 4 Ps).



Photograph 1. TippyTap

Source: <http://carinvagabond.wordpress.com>



Photograph 2. HappyTap (Tien Loi)

Source: WaterSHED

After one full year of test-marketing and fine-tuning the product design a localized brand including product name, colour, and packaging were introduced (Photograph 2) in 2013. The *HappyTap* brand name in Vietnam, *Tien Loi*, translates as ‘convenience’ and the slogan on the product decal (Figure 1) breaks down the name *Tien Loi* into phrases that means ‘convenient for handwashing’ and ‘beneficial for health’. While less structured than most research conducted for academic purposes, this testing approach is more common in the sphere of private enterprise. The team sought to optimize its limited resources by only gathering what it believed was necessary to inform key business decisions going forward.

Marketing messages

A priority was to develop an understanding of the consumer response to a variety of potential marketing concepts and messages. WaterSHED drew on a wide range of sources to develop a long list of messages as well as potential tools to communicate them. A subset of tested messages is shown in Table 1, categorized by theme. Messages were tested in a group setting to mimic the planned sales event venue, and the research demonstrated a significant variance in stated willingness to pay based on the messages used and the quality of the presentation (between USD 2.5 to 25). Group sales events also revealed a strong effect of momentum in thinking – if the meeting began on a positive note and initial feedback was also positive, the overall consumer response was positive. The inverse scenario was also possible.

Table 1. HappyTap – Sample marketing messages		
Theme	Concept	Message
<i>Convenience</i>	Avoid inconvenient conditions	Elderly people do not have to go outside at night Caretakers need not go outside in the rain
	Washing hands easily anytime and anywhere	HappyTap can be placed anywhere in / outside of the house Alternatives for handwashing can be inconvenient
<i>Protect family health</i>	Avoid disease	Handwashing can prevent dangerous diseases such as diarrhea; EV-71; H5N1; and respiratory infections
	Nurture children for future success	Start out children with HappyTap as a step towards better health, education, and successful life

Save water & money	Use less water	Fast running water is wasteful Children washing hands make stored drinking water dirty or soapy
	Good value	Avoid costs of disease treatment Compare product price with other household products
A fancy product	A nice product in your house	Be proud to own the HappyTap [not explicitly stated] A healthy family enjoy more happiness
	Prosperous family	A healthy family can invest more time, money, and energy in improving their education, business, leisure, etc.



Figure 1. *Tien Loi* Product Decal

Source: WaterSHED

Push then pull

With a few and limited exceptions, manufacturers and distributors of plastic housewares in Vietnam are inexperienced in the development and introduction of new products, let alone new product categories. WaterSHED’s research indicated that key supply chain actors are demand-responsive, meaning they react to market signals rather than innovate proactively. In order to foster a sustainable market for handwashing in this environment, WaterSHED is implementing a two-pronged strategy: i) leading a limited-time, mass promotional campaign that leverages existing hygiene promotion and behavior change campaigns and that reaches the audience primarily through group sales events; and ii) directing all demand generated to the growing network of retailers and distributors in order to stimulate their supply response. This marketing strategy of ‘priming the pump’ requires the concurrent development of the supply chain to ensure that product supply will meet growing demand, and also to encourage further product development, innovation, and brand marketing.

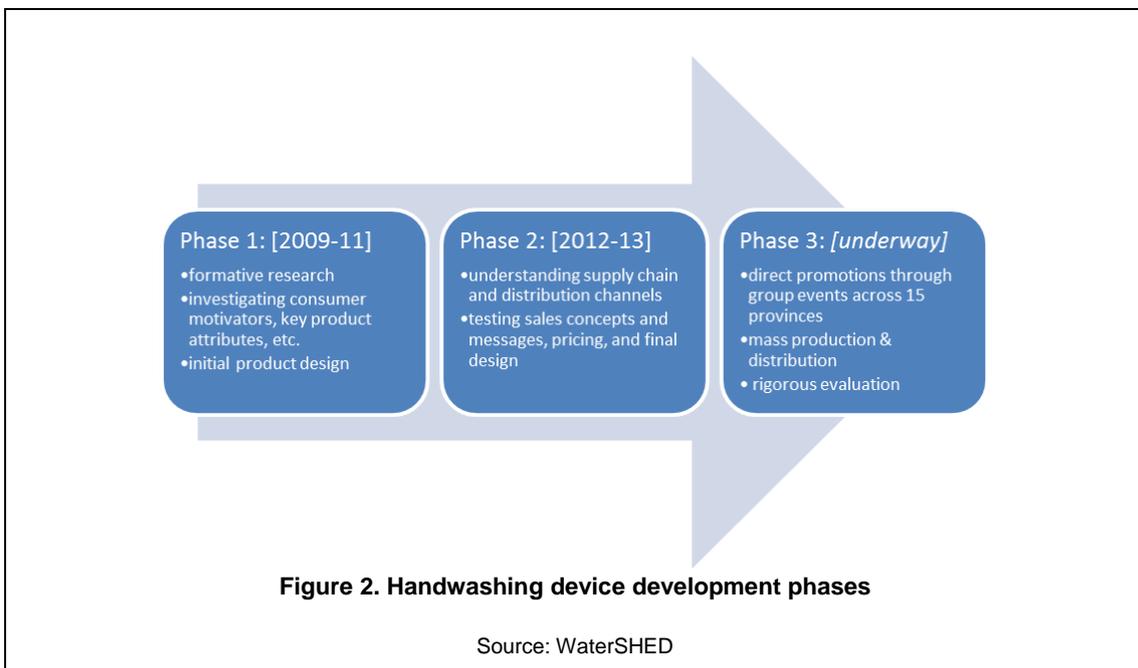
Scaling the model

The *HappyTap* marketing strategy is based on WaterSHED’s pioneering sanitation marketing program in which the promotion of unsubsidized market transactions requires that NGO facilitators progressively exit the market as their roles are succeeded by the private and public sectors (Pedi et al. 2011).

The long run aim of the *HappyTap* commercialization project is to create a dynamic commercial market in Vietnam for handwashing devices in which businesses can earn an attractive return, consumers are empowered, and in which the gains from large scale behaviour change programs are cemented with consistent, practiced behaviour. In order to set the stage for the private sector, WaterSHED is currently working under Phase 3 (Figure 2) to develop a commercial marketing campaign for nationwide dissemination; to train sales agents and promoters within the direct sales channel; and to facilitate the recruitment of domestic and international distribution partners.

Learning points

- **A commercial marketing approach requires an entrepreneurial team.** Compared to career-NGO staff, a team that has experience in entrepreneurship, distribution operations, brand marketing, and that has existing business networks can generate faster and better results.
- **Listening to customers is critical**, but initial feedback can sometimes mask true motivations and barriers. Many target consumers cite rational (and often noble) aims as factoring strongly into their purchase decision process. Rather than being taken at face value, these should be probed more deeply to understand if there are more powerful, emotional, and/or unconscious drivers that lie behind product adoption and handwashing behaviour change (e.g. convenience or pride).
- **Design and promotion of new products was not the competency** of existing manufacturers and distributors. As such, WaterSHED’s market development strategy included the use of human centred design processes to develop products and marketing mechanisms to kick-start demand with the goal of enabling sustainable market growth over the long-term.
- **Enabling environment remains important.** Despite the fact that the commercialization of *HappyTap* is led by the private sector, the role of government can significantly help – or hinder – a successful mass roll-out. Engaging government early and being clear about the alignment of business and public health goals has helped produce clear expectations and a good partnership.
- **Expected public health impact is highest when market penetration is maximized.** Rather than targeting a narrow segment of rural households (e.g. the poorest), the *HappyTap* is designed to be aspirational for the majority. Successful behaviour change requires a critical mass of people to consistently practice the desired action, thus leading to a change in the social norm. Targeting the majority should not only bring about the largest public health gain, but is also necessary to achieve a scale of volume that is economically viable, while at the same time letting those who can purchase the product without subsidy reinforce its perceived value.



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