



## The Business of Bringing Clean Water to Cambodia

*“Access to clean water and sanitation is a part of human dignity. One child continues dies every 20 seconds due to water-borne diseases”*

*-German representative, United Nations General Assembly*

**The United Nations estimates that** more people die from polluted water every year than from all forms of violence, including war, thus setting the tone for its historic decision this month recognizing access to clean drinking water and sanitation as a fundamental human right. Globally the United Nations estimates that 1 billion people continue to lack access to this basic life necessity.

In Cambodia, the struggle for safe water is a reality for 60 percent of Cambodians, particularly those in rural areas where remoteness, poverty and poor infrastructure have mingled with a dependency on foreign aid and NGO support. Thus there is emerging consensus that the business sector has an important role to play if the country is to successfully shift from aid dependency to self-sufficiency. One such company, Hydrologic, is taking action to distribute and sell affordable water filters across Cambodia using a commercial approach.



To further its ambitions, Hydrologic invited 22 senior government officials attending GIFT's Global Leaders Module (GLM), a special partnership with the Lee Kuan Yew School of Public Policy's Senior Management Programme (SMP), to use their deep experience and knowledge in the region in order to produce a business plan which would enable the company to fulfill its mission of delivering safe water solutions to Cambodia's poor households. The group hailed from Singapore, China, Hong Kong, Thailand, Qatar and Brunei.

## Safe drinking water still remains a challenge

Despite recent economic development, the presence of NGOs and development agencies continues to permeate Cambodia as part of long-term efforts to rebuild the country after years of civil war.

Today the country continues to struggle to provide the basic necessity of clean water to its households, particularly in the rural areas where in absence of piped



*Ms. Sopheap, a small store owner, with her small grandson*

water, many continue to drink untreated water collected from nearby lakes, rivers, and wells and during rainy seasons, which may contain pathogens and other contaminants. Cambodia suffers from epidemics of cholera and other water borne diseases which not only impacts health but has also been the number one cause of death among children under 5 in the country.

## Why aid does not always work

Ms. Sopheap, a bright-eyed woman in her 50s, runs a small retail shop in a little town in Kampong Chhnang province. When she is not greeting local customers who come to her store to buy snacks, stationary and toys, she is busy minding several of her grandchildren and other children in the neighborhood who take shelter from the hot sun in the shade outside her store.

A small tour of her store reveals a ceramic water filter which had been donated by a large NGO that now lies unused with dirty water in its container. Deciding that she was too busy to wash and maintain the filter, her and her grandchildren have gone back to the habit of drinking from a large jar of stored water which has not

been treated and which contain in addition to other germs small visible disease vectors.

Ms. Sopheap's story is familiar across Cambodia. Despite NGO and government campaigns to raise awareness about the need to boil or filter contaminated water, success has been limited.

A partial explanation has been the reluctance of households to change their behavior regarding treating water prior to drinking. Another factor has been the heavy subsidization or giving away of different water filters by NGOs thus creating perceptions about the lower value of these "free items", which in turn has led to its disuse in many households.



*Hydrologic's Managing Director, Olaf Evjen Olsen, with the original CWP at the new production factory*

## The business of household water solutions

As centralized water systems in rural areas remains a distant possibility in the coming decades for rural Cambodians, household water filters such as the ones currently sold by Hydrologic are critical if the incidence of water borne diseases and poor health are to decrease.

Hydrologic, a private company based in Phnom Penh, believes it has a viable and affordable solution to Cambodia's 1.4 million rural households who currently lack access to safe water treatment.



*Because of its unique design, the production of the CWP requires individual attention. A worker seals the filter with colloidal silver.*

As a spin-off from a globally recognized NGO, International Development Enterprises (IDE), Hydrologic is among the first in Cambodia to use a commercial approach in delivering affordable household safe water treatment solutions to low-income families. By creating a strong market demand for its core product – the Ceramic Water Purifier (CWP) - Hydrologic hopes to differentiate itself from NGOs and other players who have long subsidized this product, at times to the detriment of its users.

To support its entrepreneurial spirit, Hydrologic has formed a strategic alliance with financial backing from



WaterSHED, a leading public-private partnership supported by USAID and the University of North Carolina, and PATH, an international NGO that uses appropriate technologies to improve global health. By leveraging WaterSHED and PATH's experience in the region, Hydrologic hopes to bring effective water and sanitation products to markets in Cambodia.

## Tapping into new aspirations



Hydrologic's core product, the Ceramic Water Purifier (CWP), has been consistently shown from research to be among the most effective and affordable types of water filters for low-income households around the world. In its first year of business, Hydrologic has already sold over 22,000 CWPs throughout Cambodia in 2009.

Ambitious in its undertaking, Hydrologic recognizes that if it is to succeed in having its CWP become a common and invaluable household item, it would need to transform the widely-held perception amongst households that the CWP is a "poor man's product" due to its simple look and past NGO efforts to subsidize CWPs.

To tap into the new aspirations of Cambodians who are experiencing improved incomes as a result of recent economic growth in the country, Hydrologic has designed a new next-generation model aptly called the "aspiration model".

Modern in look and function, the aspiration model would enable Hydrologic to compete with its main competitors - mineral pots, which although not as effective as the CWP, have been popularly imported from

Vietnam and other countries and sold in retail stores at a higher price than the USD12 original CWP. Hydrologic is currently in discussions with various plastics manufacturers in Vietnam to start production of this new product with the hopes of launching by the end of 2010.



GLM participants, Essa Ali Al Mannai, Bernard Phang, and Weng Foo Lee (left to right) on their way to a local village

## The cost of doing business in Cambodia

While Cambodia presents many exciting opportunities for entrepreneurs and businesses, poor roads and infrastructure as well as an insufficient pool of local management talent continues to present challenges for growth of the private sector.

Hydrologic's Managing Director, Olaf Olsen, is all too aware of these day to day concerns. With Hydrologic's headquarters in Phnom Penh and two production plants an hour and a half outside the city, the need to streamline the Hydrologic's current supply chain is critical if the company is to expand. Thus, the participants set out to address these issues by visiting both production plants in Kampong Chhnang province to gain a better understanding of the current production process, costs and other issues of concern such as strengthening quality control, reducing breakage during transport of the CWP's from the plant to different sales points as well as HR issues related to governance and recruitment of additional management staff.

Because of the CWP's unique design, the participants came to appreciate the amount of labor and time as well as use of specialized machinery that is needed for production. Using locally sourced and environmentally friendly material such as clay and rice husks, the clay is molded, heated in a high- temperature kiln and then laid out to dry for 3 to 4 days. To finish, a special colloidal silver lines the porous filter which kills bacteria in the water.

After speaking with senior management, production staff and examining cost data, the group recommended the closing of the old plant in order to maximize capacity at the new plant which can produce up to 8000 CWP's per month. In addition, the group also suggested that Hydrologic move its office to the new plant in order to be closer to its retail and household market as well as to strengthen oversight at the plant.

## The art of selling

In the past, sales of CWP's to NGOs made up a significant portion of Hydrologic's revenue. But realizing that a larger untapped market existed, particularly with regards to the new aspiration model, Hydrologic is shifting its efforts to retailers and direct sales to households.

Currently, Hydrologic has 9 local offices with 400 small retailers across the country. Despite the growing number of retailers who are testing Hydrologic's original CWP in their stores, it has been a challenge for retailers given low consumer awareness about the Hydrologic brand and the preference for more sophisticated water filter models.

Thus, the group conducted intensive market research by visiting and speaking with retailers, households,



*Hydrologic's strategic partner from PATH, Nop Thunvuth, with participants at a wholesale market in Phnom Penh*

wholesale markets and NGOs. It concluded that the creation of a direct sales team of trained Hydoreps in the different provinces supported by showcase rooms to allow for customer and maintenance service would create high consumer awareness about Hydrologic and its new aspiration model. The participants also suggested developing stronger incentives for the Hydoreps such as increasing sales commissions to match those of retailers in addition to performance bonuses to reward those who were able to effectively educate households about basic information related to health and sanitation. The group estimated that under this new model, the enterprise could reach 144,000 households a year.

## Solidifying the findings

After a grueling week, the participants concluded that Hydrologic had the strong potential to be profitable by the end of 2011 and financially independent by 2012 if the following were implemented:



*(Left to right): See Peng Yeo, Lewis Koh, Jackson Lim and Melissa Tang present to an audience in Singapore at the Lew Kuan Yew School of Public Policy*

- Launch of the Aspiration model in January 2011 using strategic marketing via mass media and educational initiatives which engage schools, clinics, pharmacies, village heads etc
- Conversion of Hydrologic's existing sales offices into "all-in-one"shops for showcase, sales, customer service and communication purposes. Creation of a Phnom Penh showroom in a central location
- Expansion of the Hydrorep sales force and widening of Hydrologic's network to retailers and households
- Consolidation of operations and production to new plant to enable management to directly supervise operations in addition to creation.
- Strengthening the management team and structure of Hydrologic

## All eyes on Singapore

At the end of the week, the participants flew from Phnom Penh to Singapore to present their set of recommendations to a diverse audience at the Lew Kuan Yew School of Public Policy. In attendance were representatives from IBM, Siemens, IMC group, Singapore Public Utilities Board, CH2M Hill and Asia Impact Investment Exchange as well as senior management from Hydrologic and its strategic partner, WaterSHED.

Recognizing that access to water is becoming an increasingly global challenge, many in the audience were keen to hear how solutions were being delivered in Cambodia. Four senior government officials from the Singapore Land Authority, Ministry of Defense, Hong Kong Independent Commission against Corruption and Singapore Ministry of Home Affairs shared their experiences as well as a set of strategic steps Hydrologic could take in the short to long term to expand sales of its new model. The group also identified a new business opportunity for



Hydrologic as an educational service provider for private companies and NGOs using their new sales force who will have direct contact with households across the country.

The plan was well received by the audience and Hydrologic. Harnessing the momentum from the programme, GIFT plans to work closely with Hydrologic, IDE and WaterSHED to make the plan a reality. In particular, follow-up would be done to implement critical aspects of the plan such as the creation of Hydorep sales teams, the streamlining of production and headquarters into the new factory as well as the creation of an advisory board and the hiring of a Chief Operation Officer (COO).



If you are interested in the business plan and the opportunity to invest in this unique project, please contact GIFT on [enquiry@global-inst.com](mailto:enquiry@global-inst.com). For further information, please visit our website at: [www.globalinstitutefortomorrow.com](http://www.globalinstitutefortomorrow.com)



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