

## Hydrologic

www.hydrologichealth.com



### Ceramic water purifiers in Cambodia

**History of organization:** Hydrologic Social Enterprise is registered as a limited company in Cambodia. It has its roots in a ceramic water filter project implemented since 2001 by iDE, an international development organization based in the US, Canada, and the UK. iDE Cambodia introduced the clay-pot water filter technology to Cambodia from Central America with the help of the NGO, Potters for Peace. Adopting the brand name “Tunsai” (meaning “rabbit” in the Khmer language), iDE started producing/distributing the filter at a small scale in 2001. In Feb 2009, iDE began spinning off the market-based filter project as a separate commercial entity. Legal registration was completed in Dec 2010.

While iDE started with a basic ceramic water purifier, it introduced an upscale version (for about double the price) in January 2011 with financial and technical assistance from PATH, another NGO. Hydrologic is now present in 10 provinces (7 through retailers, and 3 through direct sales and 1 with both retail and direct sales).<sup>9</sup>

#### Product/service offering and value proposition:

- **Product:** Hydrologic offers two ‘clay pot’ ceramic water purifiers (the basic Tunsai, and an aspirational version, the Super Tunsai). The filters can remain effective for four years but, under conditions of rural household use, last two years on average, after which they need to be partly or fully replaced. The device effectively filters bacteria, protozoa, and turbidity but is less effective at removing viruses. The basic Tunsai (~3L per hour flow rate, 10L filter unit, 12L storage container, basic design) is sold at \$13-14, and the Super Tunsai (~3L per hour flow rate, 10L filter unit, 14L storage container, attractive design) at \$23-25. In terms of spare parts, the ceramic pot is sold at \$6.5 and the spigot at \$2.5.
- **Value proposition:** A Tunsai filter is an effective and convenient water treatment (alternative to boiling) for better health. It is accessible, affordable, and desirable (the basic Tunsai puts more emphasis on affordability and the Super Tunsai puts more emphasis on desirability).

**Value chain:** Hydrologic has almost fully integrated the supply chain, including production, distribution, marketing and sales.

On the production side, Hydrologic is now producing from a new factory (established with support from the USAID WaterSHED project) where it produces the ceramic pots and assembles them with a plastic bucket (sourced locally) and the spigot (imported from China). This factory has a capacity of 8,000 filters per month.

For the distribution and sales, Hydrologic also built 3 distinctive sales channels:

- iDE first started by selling its production to other (in-country) NGOs in Jul 2002. While the share of this channel has decreased over time, it still represented ~60% of the volume sales as of end 2011. Through this channel, it is exclusively the basic Tunsai version that is sold, as NGO programs typically aim to serve the poorest households. Sales to NGOs are typically discounted (to try match competition from filters produced by RDIC and CRC – two local NGOs that also produce similar ceramic filters). The products sold to NGOs are not monitored and Hydrologic has no control on where and how the products are distributed. A substantial portion of those are likely given away for free
- iDE began to promote the filters through a retail network in Feb 2003, first by having its own sales reps, and then shifting its approach to paying commissions and transportation costs only. This channel represented about 20% of volume sales as of end 2011 and has remained relatively constant over time. This channel is mostly targeting urban and semi-urban customers (~70%) and sells a mix of Tunsai (75%) and Super Tunsai (25%)

<sup>9</sup> Retail: Siem Reap, Battambang, Banteay Mean Chey, Prey Veng, Phnom Penh, SvayRieng, Kampong Cham. Direct sales: Kampong Cham (where there is also retail operations), as well as Takeo, Kandal, and Kampong Speu.

- After an initial pilot in 2011 in one province, Hydrologic began to scale-up a direct sales channel in three other provinces in early 2012. In this channel, Hydrologic sales agents work in tandem with MFI loan officers to sell the product directly to households during village sales meetings. 99% of sales are made with a loan package. When given the choice between the basic Tunsai and the Super Tunsai in combination with credit, customers overwhelmingly (99%) choose the more aspirational Super Tunsai. This channel is growing rapidly (-20% of sales already as of end 2011).

In future, Hydrologic plans to reduce the share of sales to NGOs by putting its effort toward expanding the direct sales channel. There are a number of reasons for aiming to reduce the proportion of NGO sales:

- a) image – in a number of areas, water filters are perceived as a NGO product given to the poor,
- b) cannibalization of sales – Hydrologic cannot sell in areas where there is/has been an NGO distributing subsidized/free filters (i.e., about 2-3% of Cambodian villages), and
- c) lower margins on NGO sales.

**Results:** Total number of beneficiaries: iDE produced about 110,000 filters in 2001-2009, before shifting its operations to Hydrologic. From 2010 through mid-2012, Hydrologic sold an additional 120,000 filters, of which approximately 8,000 were Super Tunsai (actively promoted since Feb 2011). Sales increased from an average of less than 3,000 filters/month in 2010 to more than 4,000 filters/month at the end of 2011 with a target to reach the factory capacity of 8,000 filters/month by mid-2012.

**Exchange rate:** 1 USD= KHR4,000

**Sources:**

Field visit on 27-29 June 2012 (interviews with the management and sales & marketing team, visits of sales agents and retailers in Prey Veng province)

[www.hydrologichealth.com](http://www.hydrologichealth.com)

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