



Angelique Smit

## IDEAS AT WORK<sup>1</sup>

### Impact Statement:

Easy and clean water with rope pumps and extra income for users in rural Cambodia

### Awards Won:

World Bank Development marketplace 2006  
Rabobank business plan competition 2010



Huy Dara

## Basic Data

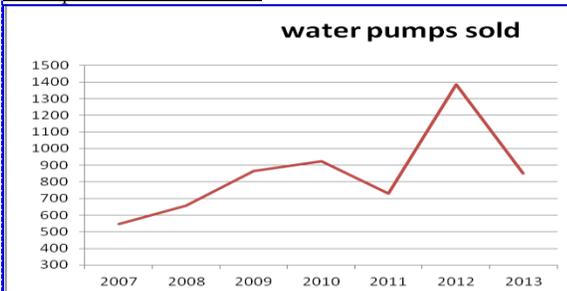
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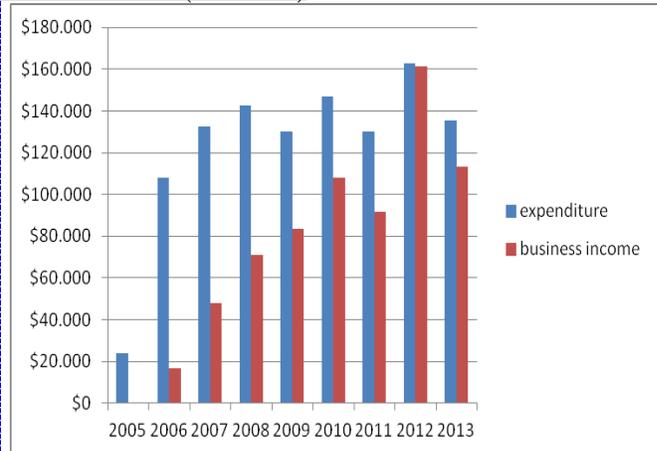
**Geographic Location:** Phnom Penh, CAMBODIA

**Seeking funds/investment:** US\$ 120.000

### Main product sales chart:

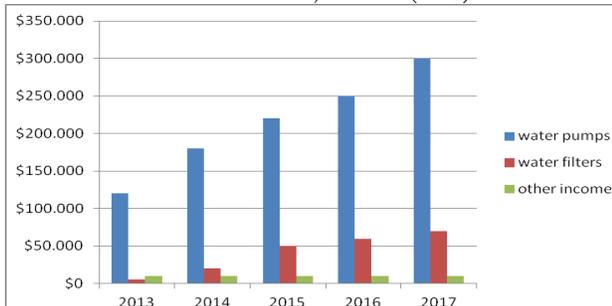


### Revenue Sources (2007-2013)



## Impact of Your Investment

### Financial Projections (US\$)



### Social Impact

50% reduction in water collection time

Rovai Water Pump causes 90% less bacteria in wells

Ease of use for old people and young children (no falling in well)

Up to \$4.40 of additional income generation per day by families with Rovai pump

Already 275,000 people with access to clean and easy water

### Use of Proceeds

Implement a new rural marketing approach

Increase IaW sales capacity to and in villages

Promote microcredit

Enhance product range - filters, rain water collection, irrigation pumps and solar(water) products

### Manufacturing Plant



<sup>1</sup> Winner of Development Marketplace Award, World Bank Institute, 2006 (US\$91,917).

### Testimonial from the Community and Beneficiaries

The Practica Foundation, a well-known Dutch organization that is researching commercially viable possibilities for new technology in water and energy in developing countries, did an independent assessment on the IaW pump and its manufacturing process. They called the Rovai water pump the “Mercedes” of rope pumps because of its high standard of quality.

One of the original rope pump designers in Nicaragua, Henk Holtslag, is using the Cambodian Rovai pump as an example in his presentations all over the world.

### Project Summary

Ideas at Work (IaW) is a Cambodian social enterprise under Dutch/Cambodian management that manufactures and sells rope pumps, marketed under the brand name “Rovai”. The rope pump, based on 1000 year old Chinese design, is a worldwide free design, customized by IaW for the Cambodian market. Some important features of the Rovai pump are:

- (i) it is made from locally available materials;
- (ii) it is the only pump that users can easily maintain and repair by themselves;
- (iii) it is easy to use;
- (iv) it has an estimated lifecycle of 5-10 years under normal conditions;
- (v) it can reduce bacteria in water by 90%;
- (vi) spare parts can easily be sourced at most local markets in Cambodia ;
- (vii) users increase annual income significantly; and
- (viii) the pumps can be used in 95% of the already existing open wells in Cambodia (there are at least 950,000 existing wells that are suitable for the Rovai pump).

**After seven years of operation, over 6,100 pumps have already been sold and installed, providing easy access to cleaner water for over 275,000 people every day.** IaW has achieved break-even in 2012 and it now intends to expand its operations. The product line is comprised of:

- (i) community or standard pump for up to 20 families, with a selling price of US\$119;
- (ii) family pump for 1-3 families, with a selling price of US\$95;
- (iii) pond pump, diagonal water lifting, with a selling price of US\$179; and
- (iv) double handed pump for schools, with a selling price of US\$140.

The average number of pumps sold per month was 92 in 2010, 70 in 2008, 48 in 2007 and reached over 100 per month in 2012. IaW is also offering water filters to customers. Currently its customer distribution is 85% NGO sales and 15% direct sales. At the end of 2009 IaW started a trial which provided credit terms to customers for buying the pumps, which resulted in an increase of their direct sales figures by 100% in the first 6 months of 2010. **This approach we want to use on a larger scale, for we need investment.**

The project addresses the need for clean water in Cambodia, where (i) there are approximately 1 million open wells that do not have a pump; and (ii) 80% of its inhabitants are living in rural areas and rarely have easy access to clean water. IaW’s ultimate goal is to install 20,000 pumps by 2020, representing 2% of the total wells in Cambodia, meaning that over a million Cambodians will gain access to clean water.

### Business Model

The rope pumps are made locally in Cambodia with local materials. With the current manufacturing staff, 100 pumps are manufactured per month; however, the factory space capacity would allow IaW to increase production from 100 pumps to 200 pumps per month. On average, IaW keeps 100 pumps in stock, enough to service customers immediately, but this consumes a substantial part of its working capital. The human capacity in the factory is enough to reach 1,200 pumps per year but in 2012 extra staff and overtime was needed to keep up with the demands. The quality of the pumps is very good, with only around 0.2% breakdowns, which can mostly be repaired at the village. Since 2013 the pump is galvanized, adding at least 5 extra years of extra life (10y now).

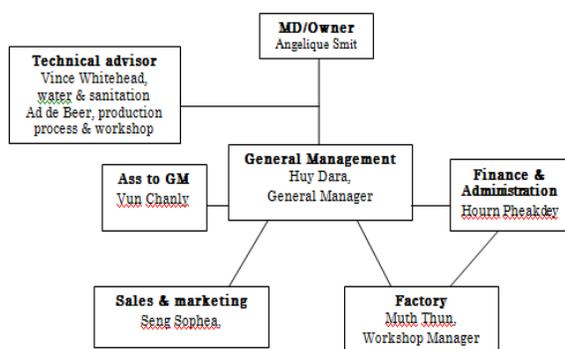
In order to broaden the distribution channels, IaW held 4 open days, achieved a solid partnership with 21 NGOs and their construction companies (the NGOs’ channel), and established direct contact with 123 villages in Cambodia (the rural area channel).

Additionally, IaW organizes events in provincial villages for potential individual buyers, which include demonstration models, installation of demo pumps, and handing out of leaflets. Distribution methods vary in each channel: (i) NGO customers normally work with construction companies that pick up the pumps at IaW's factory and, for an extra fee, IaW also trains its workers in installation and transferring maintenance skills to the users: IaW can also provide the service of transport and installation at cost; (ii) for the individual buyer, most of the installation and distribution is done immediately by IaW sub contractors, and is included in the selling price.

For 2014 IaW wants to trial a new Rural Marketing approach based on the wish of rural people to own their own water well & pump and the experiences of the credit trial in 2010. Research<sup>2</sup> shows that rural people want to be risk free and receive a holistic solution. On offer will be (i) pump+filter \$140 or (ii) well+pump+filter \$600 or (iii) rainwatercollection tank \$100-3000 (depending on size 1m<sup>3</sup>-50m<sup>3</sup>) or pond+pump+filter \$500 including all works and transport, all with the possibility to buy on credit and add monthly maintenance.

IaW will be the guarantor of the collateral and might use donations to subsidize the price for the poorest.

### People



Angelique Smit, MBA is the owner and managing director of Ideas at Work. She is an alumna of GSBI, Santa Clara University, USA and Business School Netherland/NII University The Netherlands.

Huy Dara is the General Manager. He has been working with IaW since 2007 and became the general manager in 2009. He is responsible for implementation of the agreed strategy.

Muth Thun has been working in the factory since the beginning, and took control of factory workshop end of 2010.

### History

IaW was founded in 2005 as a social enterprise under charity license in Cambodia by Angelique Smit (Dutch) and Michael Stimpson (British). Both founding members had been living and working in Cambodia for 4 years. Their common focus was to remove from women and children much of the burden of lifting water, and to address the development issue of lack of clean water with a stronger business approach. The solution was to introduce the rope pump. The rope pump was originally used in China more than a thousand years ago, and the first steps towards re-introducing rope pumps were made in rural Nicaragua during the 1980s. Vincent Whitehead was designer who made the first Cambodian version.

The Nicaraguan team proved that on average US\$225 more household income can be generated by purchasing a rope pump via taking up domestic vegetable gardening and animal raising with little effort. Based on the successful Nicaraguan experience due to simple technology, easy construction, low maintenance and use of local materials, IaW decided to introduce the rope pump to rural Cambodia.

### Performance Measurement

The 2007 World Health Organization publication 'Combating water borne disease at the household level' indicates that the use of water pumps and filters can have benefits up to 60 dollars for each dollar invested. Besides the saving in time and healthcare costs, dirty water takes a longer time to boil, needing more fuel or wood. Fuel and wood are expensive and collecting wood is time consuming. Studies from UNDP show that up to 4 hours per day are spent in Cambodia to collect enough daily firewood. IaW is also promoting water filters to bring water up to drinking water quality so that no fire wood or fuel is needed.

<sup>2</sup> *Marketing Innovative Devices for the Base of the Pyramid: lessons learned – by Hystra 2013*

### Social Impact

IaW has installed so far 6,100 Rovai water pumps in Cambodia, meaning direct access to clean water for 275,000 people. The social benefits associated with the use of water pumps can be summarized as follows:

- (i) time saving (estimated at 50%);
- (ii) increase in safety because the well is covered once the pump is installed, which eliminates the risk of people falling into the well when drawing water;
- (iii) economic improvement up to \$4.40 per day extra income, since many people have started to grow vegetable gardens and raise more animals (2011)<sup>3</sup>;
- (iv) health improvements, since the Rovai pump reduces bacteria in water by 90%; and
- (v) cost savings.

### Financial Performance

In USD	2007	2008	2009	2010	2011	2012
Sales Revenue	48.003	71.171	83.438	108.059	91.890	161.037
Grants	103.107	86.458	51.293	36.177	31.968	7.200
<b>Total Revenue</b>	<b>151.110</b>	<b>157.629</b>	<b>134.731</b>	<b>144.236</b>	<b>123.858</b>	<b>168.237</b>
Production Expense	86.539	105.788	97.081	106.588	106.509	98.100
Sales Expense	27.147	21.525	33.289	30.378	10.353	53.346
General Expense	18.762	15.395	5.695	8.361	13.083	12.399
<b>Total Expense</b>	<b>132.448</b>	<b>142.708</b>	<b>136.065</b>	<b>145.327</b>	<b>129.945</b>	<b>163.845</b>
<b>Net Income</b>	<b>18.662</b>	<b>14.921</b>	<b>-1.334</b>	<b>-1.091</b>	<b>-6.087</b>	<b>4.392</b>

### Risks and Issues

- Risks of instability exist in the political situation in Cambodia. However, since 1998 when Pol Pot died, Cambodia has been relatively quiet and over the last 12 years business has been thriving. The elections of 2013 have shown that democracy is not respected and Prime Minister Hun Sen stays in power for at least another 5 years.
- Potential for economic crisis, which might reduce the budgets of NGOs for water projects. Therefore, IaW will continue developing its distribution channel directly to the people, and continue to assist them in making a water pump purchase by exploring avenues of microfinance.
- Staff risks: as with any small enterprise, the business is dependent on its managers. Angelique Smit and Huy Dara are working to become interchangeable if needed.



<sup>3</sup> *Pari Project: IaW Case Studies report 2011*