

Scalable Solutions for Clean Water Access in Cambodia

Karen Moik 02 June 2018

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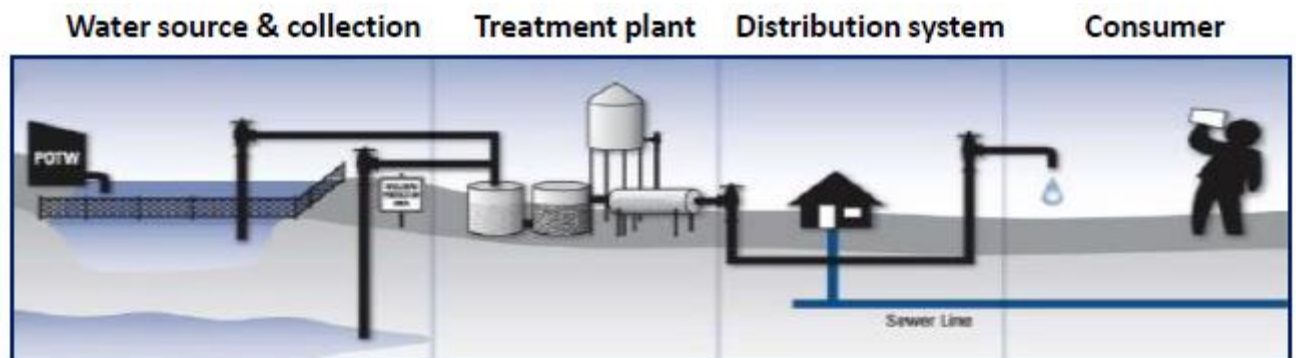


Diagram of a KWSH piped water system

Executive Summary

In rural regions of Cambodia, the majority of households lack access to clean and safe water sources. The use of untreated water puts families at serious risk of contracting dangerous waterborne diseases. Khmer Water Supply Holding (KWSH) works to address this issue by providing clean drinking water directly to households in-need throughout rural and semi-rural regions of Cambodia in a scalable and efficient manner. The company operates a consolidated portfolio of small-scale piped water systems (PWS), which are micro-networks that cover the entire water value chain from source to consumer household. Each individual network consists of a filtration system,

ground well and water tower for storage, and underground piping that connects to end user households. The service arrives at a lower cost to consumers than alternative water sources, with significant convenience and improved status. KWSH's consolidated business model allows the company to implement high operational standards across its PWS, leverage commercial debt, and scale each PWS to reach more households. The company currently owns and operates three piped water stations serving ten thousand households in Cambodia.

Social Issue

Contaminated drinking water is one of the most pressing health-related concerns in Cambodia. Health risks related to substandard drinking water include diarrhea, dysentery, typhoid, cholera, hepatitis, parasites, arsenic poisoning, and malnutrition. In Cambodia, approximately 29 percent of the population lacks access to an improved water source making them vulnerable to contracting waterborne diseases. This percentage increases to an appalling 70 percent in rural areas.

The existing market of scattered individual piped water operators throughout Cambodia is failing to adequately provide clean water needed, especially in rural areas. Although impact investors, donors, and development agencies have strong interest in supporting the piped water sector, single operators struggle to attract adequate funding needed to improve their operations, due to their

small individual size, inadequate capitalization, and lack of proper governance.

KWSH's Solution

KWSH acquires, standardizes, expands, and operates a portfolio of small-scale piped water systems that distribute affordable and safe drinking water directly to households in rural communities of Cambodia. This model of building a portfolio of piped water systems, allows KWSH to implement best practices across all stations and gain access to additional sources of capital. As a result, the company's PWSs will benefit from improved operational efficiency and additional capital to purchase and install pipelines to connect more households. Social impact is measured by tracking the number of new households, in rural and semi-rural regions of Cambodia, the company is able to connect to its piped water network.

Competition & Competitive Advantage

KWSH's business model is more strategic, in terms of social impact, scalability, and financial returns, when compared to a single water operator model. Extensive data shows the underperformance of existing single PWSs due to weak operations, significant leakage, and the inability to finance expansion of their networks. Sector consolidation through merger and acquisition has proven to allow:

- Mobilization of commercial funding at the holding company level: KWSH is currently in discussions with several local banks.
- Access to public subsidies and sector focused subsidized funding: KWSH has received a grant from a Development Finance Institution (DFI) and its program designed to expand the delivery of key infrastructure services.
- Significant economies of scale: KWSH has developed a system to rapidly and effectively improve single operator's operations, scale, and output quality.

In addition to single PWS operators, KWSH also effectively competes with alternative water product/service providers in Cambodia.

Consumer preference for sourcing water lies with direct distribution to the household, and within this category PWS remains price competitive amongst treated water sources. From a price perspective, PWS operators compete with ceramic filters and chlorination, however market experience has proven consumers' unwillingness to pay for these products on a large scale as they are not distributed directly to the households. Additionally, chlorination alters the taste of water making it unappealing to consumers. PuR Sachets and Biosand filters require a smaller upfront investment, however the overall cost/cubic meter is significantly higher for PuR Sachets and Biosand filters are inconveniently time consuming to use. Both of these options are also not

conveniently distributed to individual households.

Funding

KWSH will finance its expansion through the use of grants, convertible debt, debt, and equity. The company uses capital raised to acquire piped water stations that present an attractive investment opportunity, demonstrated by its potential to scale its outreach. Funding will also be used to expand the network of KWSH's existing water stations to reach households in harder-to-reach, rural areas.

Insitor Seed Fund is a majority owner of KWSH due to its equity investment during the company's initial capital raise. Insitor's Investment Director is also a member of KWSH's Board of Directors.

Expansion Strategy and Scaling Impact

As part of KWSH's growth strategy, the Company plans to acquire underperforming water stations, implement improved water treatment facilities, expand piped networks, and further consolidate the sector. KWSH currently has the capacity to acquire a new station every six months and will expand its capacity to be able to make acquisitions on a quarterly basis. The company will likely acquire a majority stake of each station, while the existing station operator will hold the remaining ownership stake. The Company will help these newly acquired PWSs

expand their capacity by implementing standard operational, financial, and technical policies and disciplines that have been developed at KWSH's first acquired station. In addition, KWSH plans to continue new household connections at its existing three stations to reach their full potential of serving more than 20,000 households.

Author bio

Karen Moik works as an Analyst on Insitor Management's investment team in Phnom Penh. Prior to moving to Cambodia in 2016, she worked as an Associate on the Corporate Finance and Capital Markets division at Citizens Financial Group in Boston and New York City. She holds dual bachelor's degrees in Mathematics and Economic Development from the College of the Holy Cross in Massachusetts.