Piped water sector in Cambodia: An innovative finance model

November 2019

Executive summary

- The Stone Family Foundation is a UK charitable foundation and impact investor dedicated to supporting financially sustainable water and sanitation enterprises. In 2018, the Foundation began exploring new ways of supporting the piped water sector in Cambodia.
- Cambodia has a thriving private sector providing piped water in areas outside the reach of utilities, however operators generally cover ~60% of their license area.
- Many operators want to extend services, however accessing finance can be challenging as interest rates and collateral requirements are difficult to meet – in part due to the seasonal nature of operator revenues.
- Over the last 12 months, and after extensive market research, the Foundation partnered with GRET/iSEA and the Bank for Investment and Development of Cambodia (BIDC) to develop a new lending facility with wrap-around support, tailored specifically to the needs of operators.
- The key element of this approach is to provide patient, flexible capital through 'revenue finance' – i.e. linking repayments to revenues (and therefore performance) rather a fixed interest rate. The loan is repaid monthly by receiving a percentage of water sales and so repayments adjust to seasonal variations.
- This is combined with technical, financial and marketing support to the operators to ensure households—including the poorer ones—connect to the network, to achieve both social impact and increase revenues.
- By the end of 2019, the Foundation will have facilitated seven investments in piped water businesses, with a further three under review. It is considering how to scale up the initiative while ensuring close alignment and coordination with other players in the sector.

Introduction

The Stone Family Foundation is a UK charitable foundation and impact investor dedicated to supporting financially sustainable water and sanitation enterprises delivering affordable, high quality, and reliable services that have a transformational impact on households in Africa and Asia.

The Foundation has long been an engaged supporter of the WASH sector in Cambodia, where it has provided over $11m to rural sanitation programmes since 2011.

The piped water sector in Cambodia: Background analysis & SFF engagement

In 2018 the Foundation began exploring new ways of supporting the piped water sector in Cambodia. This sector is unique in having a thriving private sector providing piped water in areas outside the reach of utilities: there are currently close to 300 licenced private water operators in Cambodia, and another 100 or so unlicensed operators.

In order to understand the market better and the role the Foundation could play within it, a set of initial meetings were organised with key players and stakeholders including the Cambodian Water Supply Association (CWA), the World Bank, and 3i. The aim was to understand current priorities and plans as well as support provided to operators under on-going programmes.

The Foundation then commissioned GRET/iSEA to carry out a detailed market assessment which mapped existing sources of finance, identified gaps and needs within businesses, and explored what role the Foundation could play—with a strong focus on:

- Being ***additional—***given the number of players in this sector, the Foundation wanted to ensure that any support provided would not compete with other sources of finance available and distort the market;
- Having ***social impact—***by increasing the number of households (including poor households) with a piped connection in their home.

Specific findings from the market research:

- For many licenced operators, the network covers around 60% of their licenced area. Operators generally do not reach outlying, often poorer, less dense areas, where the cost to serve is higher and the margins tighter.
- Moreover, not all households covered by the piped network are connecting to the network, due to limited sales and marketing of connections and poor customer service.
- While many operators seem keen to expand their networks—to make a positive contribution to their communities and because it is an obligation under the terms of operators' licences—accessing the necessary finance can be challenging.
- The research also mapped out current sources of finance:

Type of finance available	Feature	Pain points for operators
Bank Loan	**Interest rate:** 7% to 15%	Interest rate bears no relationship to the revenue generated by the capital deployed, making cash flow hard to manage.
	Length: 3-5 years, some 10-year loans	Forecasted cash flows can be unattractive to banks, due to long payback periods and strong seasonal variations in revenues.
	Collateral requirement: 100% to 200% value of land and property	Operators do not have the collateral to raise sufficient capital for network extensions.
Equity	**Minority or majority stakes** taken in operators by investment firms and holding companies	Concept of equity unfamiliar to many operators and goes against their wish to have a family business to pass on to their children. Deal size is also often too small to be considered by investment firms.
Grants	**Development aid funding** for new networks and treatments plants	Focus in more on new infrastructure rather than extension of existing networks; Grants cover only up to 60% of capital costs so require complementary funding.

Our approach: a package of revenue finance with complementary technical & marketing support

In response to this, the Foundation partnered with GRET/iSEA, and the Bank for Investment and Development of Cambodia (BIDC), to develop a package of innovative finance for private water operators with wrap-around support, to encourage them to expand networks to cover 100% of accessible households. This has been tested and refined over the last 12 months and seven operators have now accessed finance from BIDC.

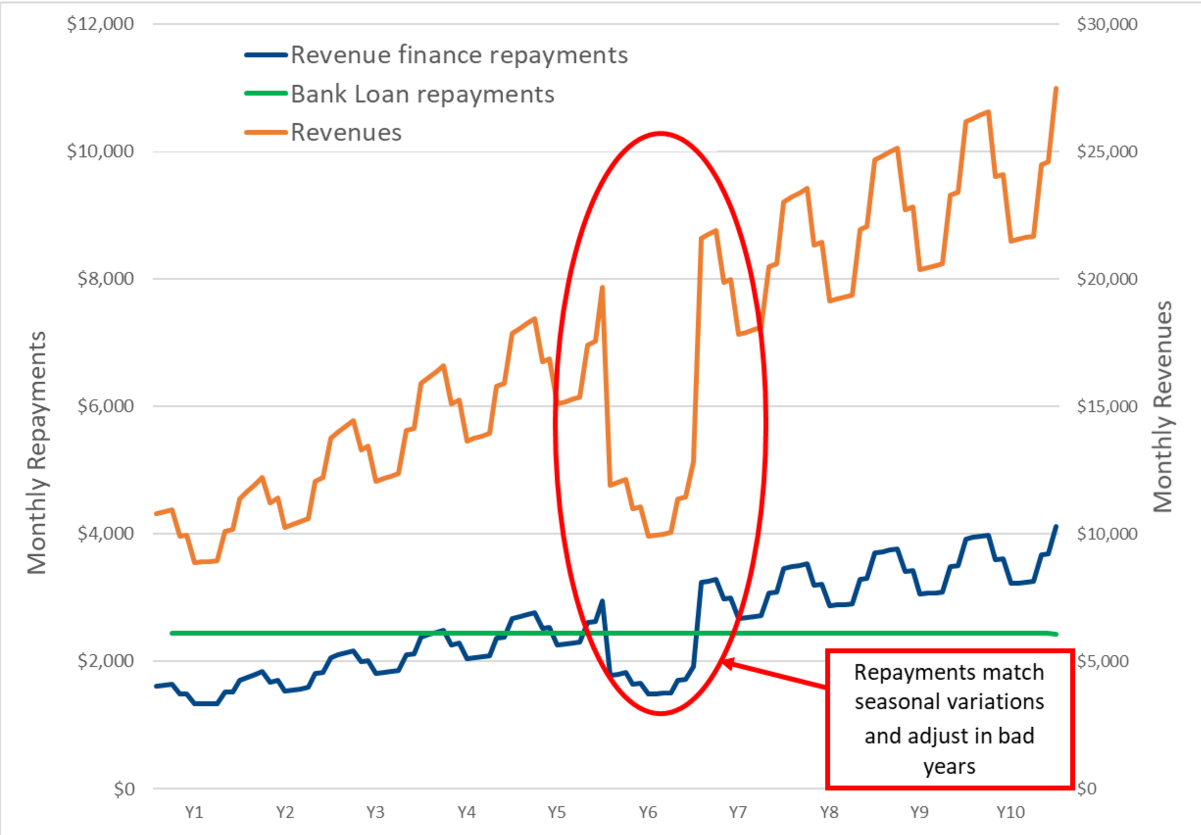
1. Revenue finance to support capex investments and connections

The initiative provides patient, flexible capital to support investment in capital expenditure including new water treatment plants, network extensions and network upgrades.

Using a detailed business plan to guide the investment, a loan is provided to the operator and is repaid to the bank as a percentage of water sales (~13% to 25%) over a period of time (an estimated 9 to 15 years). The goal of the investment is to achieve a multiple of the principle sum provided, which ranges between x 1.3 and 1.6—rather than using a standard fixed interest rate.

Linking repayments to a percentage of the revenues makes the finance flexible, as the real value of repayments rises and falls with revenues. This is critical given the highly seasonal nature of operations, which can see a 50% variance in revenues between the wet and dry seasons. If an operator has a good year, it will repay the investment quicker; but crucially if the business has a bad year (perhaps due to drought), the repayments are lower, and the payback period extends.

The graph below visualises how this type finance works compared to a traditional bank loan:



In addition to investment finance, the Foundation is also facilitating working capital loans to operators to support the growth of household connections, as the upfront connection fee can be a barrier to a household connecting.

Using working capital provided by the Foundation, the operator provides loans of 85% of the value of the connection fee to customers for a 12-month period, with phased repayments added to monthly bills—typically $2.50 per month. To access this opportunity, the customer needs to make a deposit of $10.

In addition, a small pool of subsidies can also be provided to operators to ensure equitable access to all customers (if no other sources of subsidy are available from other players such as 3i). This uses the ID Poor I and II system and the Foundation splits the connection fee cost with the operator once a $1 deposit has been made.

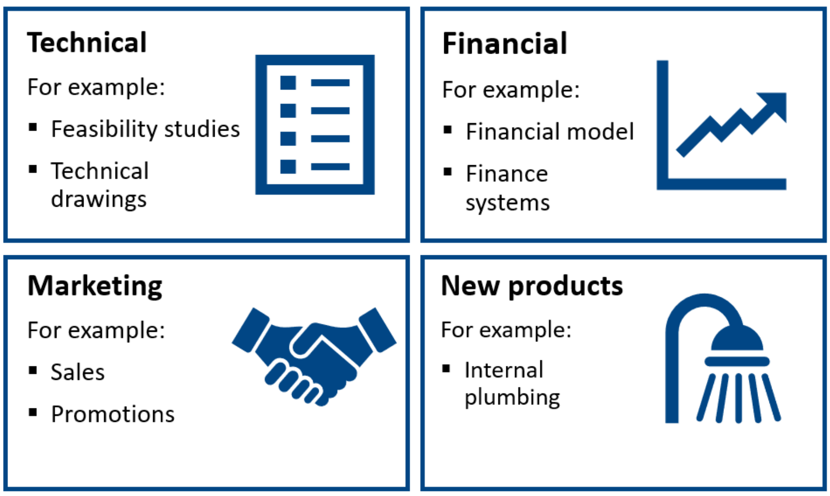
The goal of this additional funding is to support the operator to increase connections as quickly as possible—more connections mean more revenue which will shorten the period of repayment for the operator.

2. Broader package of business support

In addition to the finance provided, the Foundation's package of support also includes support in four key business areas, which are set-out in the diagram below.

The Foundation provides support in these key areas to add value to the investment facilitated by BIDC and to support the operator to become stronger and more financially viable, while also moving towards universal coverage in the license area.

One specific area where the Foundation believes it is adding significant value is the



provision of sales and marketing support. This is provided by Hydrologic, a local social enterprise specialising in social marketing.

Hydrologic's activities include the development of marketing and sales plans; creation of sales aids to promote the advantages of connections; door-to-door sales and village sales events.

One additional concept being tested is a village 'show-home' which incorporates an upgraded bathroom and kitchen including showers and sinks—showcasing "modern" living the household can enjoy once it has a connection. The concept is to ensure that households can realise the full benefit of having piped water into the home.

The revenue finance model in practice

Below is an example of how the revenue finance model plays out in practice for an operator:

Operator A profile

- Operator A has a license area covering 20 villages. The network only covers 15 of these villages. Coverage rate within the license area is 65%, equating to 2,200 customers.
- The operator has plans to connect unconnected households in the existing network area and to expand the network to the remaining five villages. This requires a new treatment plant and 30km of new piped network.
- Around 10% of the households in the area are categorised as poor according to national standards.

The package provided to Operator A is the following:

1. Revenue finance loan

Revenue Finance terms	
- Investment required for water treatment plant and piped network	$285,000
- % water sales captured	14%
- Estimated repayment term	12 years
- Expected multiple	1.5
- Expected repayment amount	$427,500
- Estimated equivalent interest rate	7.25%

2. Additional business support

- Support with the development of a business plan and financial model;
- Technical support for the design of water treatment plants and extension;
- Business training to improve operational and financial management, as well as HR systems;
- Marketing and sales support including training on basic selling techniques; development of sales aids; support with door to door sales; and setting-up of a show home with internal plumbing package.

The expected impact on coverage rates in the license area is as follows:

	2018	2019	2020	2021	2022	2023	2024	Total
New connections	0	370	380	230	140	35	20	1,235
Including – ID poor	0	30	30	18	11	3	2	105
Total connections	2,200	2,570	2,950	3,180	3,320	3,355	3,375	3,375
Coverage rate	*65%*	*78%*	*89%*	*95%*	*97%*	*97%*	*97%*	*97%*

Next steps

By the end of 2019 the Foundation will have facilitated seven investments in piped water businesses, with a further three under review.

Following this initial 12-month set up and trial phase, we now believe that the revenue finance package is a product that is well aligned with operators' needs, complements other existing sources of finance well, and is ready for roll-out on a bigger scale.

The Foundation is therefore considering ways to scale-up the initiative in 2020 by:

- Streamlining and accelerating the process of identifying new operators and providing support;
- Identifying further opportunities for collaboration with other players in the sector, to maximise impact and generate economies of scale.

As we do this, we will continue to coordinate with partners and players in the sector, to ensure alignment and complementarity with other existing finance and programmes.