

WaterCredit: Catalyzing access to safe drinking water and sanitation in Bangladesh

Program evaluation

Key insights

Evidence of latent demand for WSS financing: MFI stakeholders reported an increased demand for loans for water and sanitation improvements. Evidence suggests WSS financing is beneficial to the households, MFIs, and SDGs and sub-national goals.

WSS financing can leverage development funding for greater impact: At the end of the evaluation, Water.org had expended \$4M and leveraged \$19.6M in capital for WSS improvements, a multiplier effect of more than four.

WSS portfolios are progressing towards sustainability: The program led to a considerable increase in the WSS loan portfolio size and distribution among the partner MFIs. All partners are on track to achieve operational sustainability, with one partner already meeting that milestone.

Importance of advocacy: Although it has been demonstrated that there is a role for private WSS financing in meeting the SDGs, there is benefit in advancing country strategy efforts for advocacy and forming coalitions with public and private stakeholders.

Evidence of increased household income: Households that availed loans to improve their water facility witnessed a statistically significant increase of 10% in household income compared to non-borrowers.

With support from the IKEA Foundation, Water.org implemented a multiyear program (July 2014 — September 2018) in partnership with four local microfinance institutions to develop sustainable financial products for the poor to invest in their water and sanitation needs. At the time of the evaluation in February 2018, the program had mobilized more than \$19.6 million in commercial capital to finance microloans for safe water and/or sanitation and improved the lives of an estimated 428,000 people.

An end of program evaluation was conducted jointly by Micro-Credit Ratings International Limited (M-CRIL) and A2F Consulting to assess program effectiveness, evaluate impacts, and synthesize lessons for future improvements¹. The evaluation utilized a mixed-methods approach and evaluated the program on the following aspects:

- **Grant performance:** program achievement with respect to key targets
- **Impact on households:** impact on hygiene behavior, quality of life, and socio-economic outcomes
- **Impact on microfinance institutions:** progress and sustainability of water and sanitation loan portfolios
- **System level influence:** degree to which affordable capital has been increased and resulting ecosystems



¹ Data collection for this evaluation was conducted between November 2017 – January 2018. The program did not officially end until September 2018.

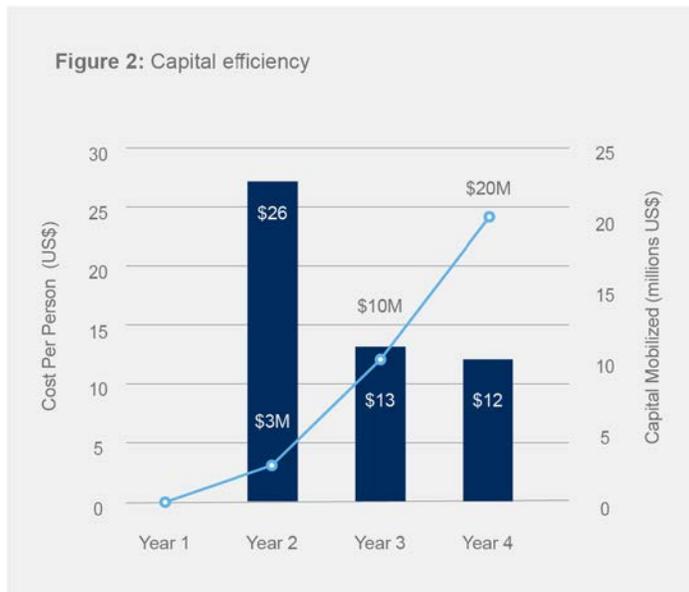
Results

Grant performance

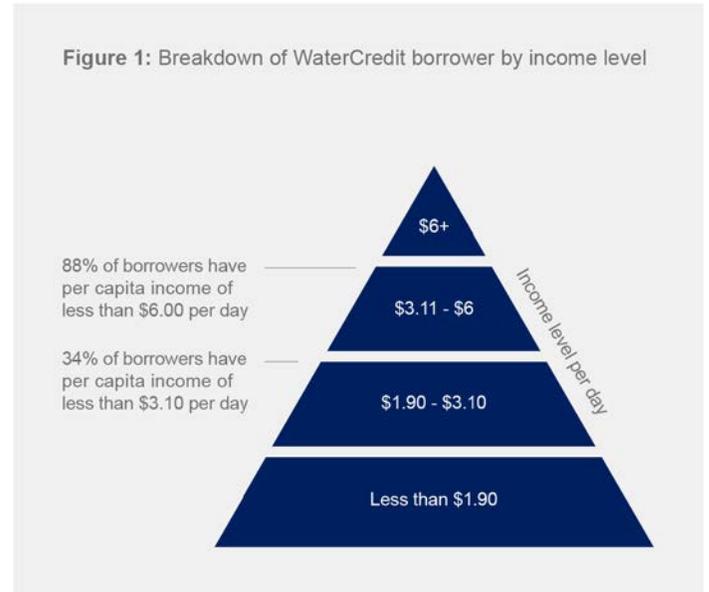
Over the course of the program the four MFI partners mobilized and disbursed more than \$22 million in 95,608 microloans for water and sanitation improvements to the poor households, of which over 95% are women borrowers. These improvements have touched the lives of more than 428,000 people. This is quite an achievement given the nascent state of household water and sanitation lending in Bangladesh at the beginning of the program.

Water.org provided grant support and technical assistance to the MFIs through their programs. At the beginning, Water.org worked with the MFIs to design their programs. This included conducting market and baseline research and the development of work and budget plans. All four MFIs achieved all their program targets, which is reflected in the high program performance score in the MFI assessment. This indicates that program activities stayed on track and partners met or exceeded deliverables. The program is a testament to the MFIs' commitment to including WSS loans in their long-term planning and aligning with their organizational missions to improve the lives of the poor.

The program has demonstrated a high demand for WSS financing in Bangladesh and the ability to multiply the impact of a traditional subsidy by leveraging capital for loans from the private sector, thus reducing the cost per person compared to a traditional subsidy driven approach (Figure 2). At the time of the evaluation, Water.org's \$4M investment had leveraged \$19.6M in capital for WSS improvements, a multiplier effect of more than four times. The multiplier effect is expected to increase as WSS loans continue to scale and become sustainable, signaling the power of loans to mobilize local capital markets.



However, we must note that the WaterCredit model is intended to reach those at the base of the economic pyramid that have disposable income available for loan repayment. The absolute base of the pyramid will always need to be served by traditional philanthropy. Currently 88% of the WaterCredit clients in Bangladesh have a per capita income of less than \$6.00 per day (PPP) (Figure 1).



Household level impact

The evaluation assessed the impacts of the program on households' hygiene behaviors, quality of life, and socio-economic conditions. The evaluation also examined the sustainability of WSS facilities created from the loans and households' experiences with loan disbursement.

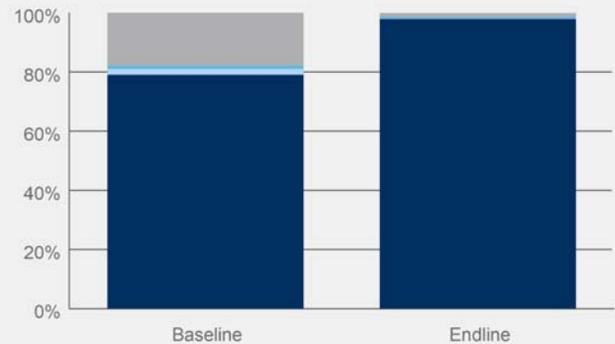
Of the total availed loans, 42% of the sampled households availed loans for water connections and 58% for sanitation improvements. A high percentage of WSS improvements were found to be functional during the visit. Around 91% of water infrastructure improvements and 94% of the sanitation facility improvements were found to be in good condition and functional. This is due in part to the MFI monitoring efforts. Nearly 100% of the loans disbursed were used for intended purposes. Over 96% of borrowers reported being satisfied with the water and sanitation loans.

The household impact evaluation assessed outcomes based on the intended program benefits. The methodology used a quasi-experimental difference-in-difference estimation with household fixed effects to evaluate the impacts of availing a loan for water or sanitation improvements. To evaluate the impact of hygiene education, a pre-post approach was adopted. The evaluation found the following:

- Household income and savings:** Households that availed loans to improve their water facility witnessed a statistically significant increase of 10% in household income compared to non-borrowers. The observed income increase could be attributed to increased productivity associated with time saved. Several households reported engaging in household activities and a few in business activities and farming in the time saved due to improved facilities. Households which availed water loans also witnessed a 29% increase in their reported savings. This could be attributed to an increase in income that allowed households to save more.
- Hygiene behaviors:** The evaluation found prevalence of good hygiene behaviors, reduction in the number of households' drinking surface water and reduced medical expenditures. Health and hygiene education campaigns carried out by the MFIs had a statistically significant impact on handwashing practices and increase in menstrual hygiene amenities within a sanitation facility among surveyed households.
- Personal safety:** Availing a loan for improving a sanitation facility led to a statistically significant increase in perceived personal safety among loan clients. Women, in particular, reported feeling safer when accessing a sanitation facility.
- Water quality:** Availing a loan for a water facility improvement led to a statistically significant improvement in borrowers' water quality (as perceived by them) as compared to non-borrowers.

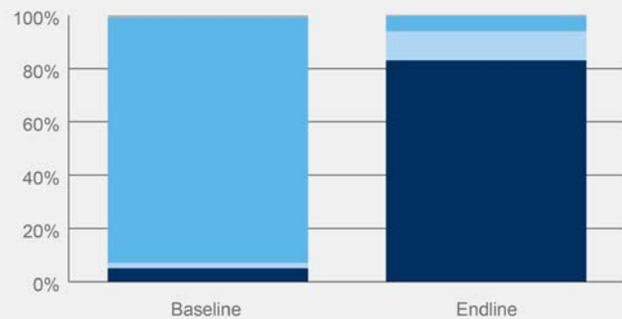
Joint Monitoring Program (JMP) ladder²: The program resulted in major positive shifts along the water and sanitation ladders for households which availed loans. On the water ladder (Figure 3.1), over 98% of the households had access to an improved water source and it took them less than 30 minutes to collect water compared to 79% at the baseline. On the sanitation ladder (Figure 3.2), there was a dramatic shift in households accessing an improved toilet and not sharing it with other households (Basic/Safely Managed). At the endline, over 83% of the household fell in the Basic/Safely Managed category, a significant jump from 5% at the baseline.

Figure 3.1: JMP Water Ladder



■ Surface water	18%	1.5%
■ Unimproved	1%	0%
■ Limited	2%	0.5%
■ Basic/safely managed	79%	98%

Figure 3.2: JMP Sanitation Ladder



■ Open Defecation	1%	0.5%
■ Unimproved	92%	5.5%
■ Limited	2%	11%
■ Basic/safely managed	5%	83%

² The Basic and Safely Managed categories were merged as a single category. This was done due to lack of adequate household level data to classify them into two separate categories.

Figure 4: Key milestones towards operational and financial viability of WSS portfolios



MFI sustainability

The evaluation aimed to assess organizational operations and impacts among the MFI partners and sought to explore if the program was effective at increasing the share of water and sanitation loans in the MFI's loan portfolios and to what degree have the WaterCredit MFI partners progressed toward a financially and operationally sustainable water and sanitation portfolio.

The partner MFIs' ability to manage operationally and financially viable WSS portfolios after Water.org exits was evaluated on four key milestones (Figure 4). It was found that all MFIs are on the path to operating a sustainable WSS portfolio while one MFI has already achieved this milestone. The program led to a considerable increase in the WSS loan portfolio size and distribution among the partner MFIs. It is found that MFI partners were able to increase the WSS portfolio as a percentage of the total loan portfolio nearly 2.5% in three years period (Figure 5) which implies the potential sustainability of the program in the fact that a significant increase of WSS portfolio allows MFIs to gain economies of scale to secure sustainable product. Using a compound annual growth rate (CAGR), it was found that over the course of the grant there was a strong increase in WSS portfolio growth, ranging from 35% to 103%.

The profitability analysis showed that one MFI partner was operating a profitable WSS portfolio in Milestone 4 while the other three MFI portfolios were heading in the same direction and were within Milestone 3. It is likely that the MFI operating a profitable WSS portfolio is doing so due to a larger scale of operations.

Figure 5: Average WSS Portfolio of MFI Partners, by % of portfolio



Outreach, including the percent of WSS active clients and percent of branches offering WSS loans, was found to be a key factor in a MFI's ability to operate a profitable portfolio. The other three MFI partners have shown progression in terms of becoming profitable, including having high repayment rates, a declining operating expense ratio, and increased operational self-sufficiency over the past two years.

Continued focus on outreach, exploration of further product diversification, and strengthening the advocacy work for the partner MFIs to tap into public resources for water and sanitation promotion will bolster their progression towards having a sustainable WSS portfolio.

System level influence

While the MFI-led WaterCredit approach is a new undertaking in Bangladesh, the evaluation sought a better understanding on whether the model can increase capital for water and sanitation and the influence this may have on the WSS sector at large.

Although it is difficult to pin-point the exact degree of influence that Water.org's WaterCredit program has had on the increased WSS household level financing activities in the country, the evaluation found that WSS financing is beneficial to the households, MFIs, and SDGs and sub-national goals. The program has spurred significant interest among WSS stakeholders in Bangladesh including the World Bank, UN agencies, local governments, non-governmental organizations and financial institutions. Water.org played a pivotal role in generating and sharing robust evidence on the model through exposure visits and ongoing discussions with stakeholders.

Although the evaluation did not extensively examine changes to local economies that may be impacted due to the increase in WSS improvements, impacts have most likely extended to the supply side of the market. Interviews with WSS entrepreneurs in the program areas revealed that the program has had a positive impact on sales, revenue and employment. According to these merchants, the continuation of the WSS loan program will be beneficial to business, and they are optimistic that more people will realize the importance of household water and sanitation improvements.

Discussion and recommendations

Market based approaches for WSS financing at the household level, or entities directly serving the households, have important implications for NGOs, MFIs, development partners, multilaterals, and policy makers. While not a cure-all solution, market-based approaches like WaterCredit can play a critical role in helping bridge the \$114B gap needed each year from 2016 to 2030 to achieve SDG 6 and meeting sub-national goals.

Widespread access to formal credit markets for investments in water and sanitation improvements has not typically been made available to the poor in Bangladesh. However, results from this program suggest that there is a large latent demand for WSS financing. WSS loan profiles have comparable risks to other loans as MFI clients choose to take out loans for water and sanitation improvements and the evaluation indicates high repayment rates on these loans.

Utilizing insights from the evaluation we can consider the extent to which the program can make improvements and be further scaled efficiently. While the four MFIs made significant progress in terms of developing a WSS portfolio, recommendations from the sustainability and profitability analysis should be incorporated into future programmatic efforts to increase outreach and likelihood of the WSS lending continuing once Water.org's grant and technical support stop.

Attempts should be made to reduce operational expenses on awareness building, client orientation, and program staff cost through efficient allocation of resources, optimizing cross-cutting activities and developing synergies. Continued efforts should be made to scale-up and expand the WSS portfolio, while optimizing staff training, demand generation, and hygiene education activities. This can be achieved by further integration of management of information systems, reutilizing Information, Education, and Communication materials and use of training of trainer models with spot checks for quality from main offices.



While the program has demonstrated that there is a role for private WSS financing in meeting the SDGs, Water.org should advance country strategy efforts for advocacy and form coalitions with public and private stakeholders including new MFI partners, water and sanitation ministries, World Bank, WaterAid, and other organizations in the WSS and finance sectors. Learnings need to be disseminated further through materials, communication and media campaigns, and knowledge sharing sessions to increase influence and uptake of WSS financing.



The WaterCredit experiences in Bangladesh demonstrate a latent demand for water and sanitation loans, which MFIs are well positioned to meet. The portfolio analysis found that water and sanitation financing can be viable for poor households. Offering water and sanitation loans at scale can also help make these WSS portfolios viable and sustainable. Flexible lending products and hygiene education campaigns that are designed to meet the needs of the poor encourage greater uptake of WSS loans.

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Photo references All photographs are property of Water.org.

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With support from the IKEA Foundation, Water.org is greatly expanding its WaterCredit model in India, Indonesia, and Bangladesh helping families have access to small, affordable loans so they can get safe water and sanitation.



Water.org is an international nonprofit organization that has positively transformed more than 16 million lives around the world through access to safe water and sanitation. Founded by Gary White and Matt Damon, Water.org pioneers market-driven financial solutions to the global water crisis. For more than 25 years, they've been providing families with hope, health and the opportunity to break the cycle of poverty.