

# Water and Sanitation Microfinance Operations in India

A Summary of Challenges & Determinants of Success

## Executive Summary

With its flagship WaterCredit program, Water.org has been at the forefront of innovation in water and sanitation microfinance for over a decade. Since 2011, the WaterCredit program in India – supported by PepsiCo Foundation – has expanded to 14 microfinance institutions (MFIs) operating in 12 states. By September 2015, these MFIs had disbursed more than half a million water supply & sanitation (WSS) loans valued at US \$68.3 million, benefitting 2.1 million people. The program has now become one of the most successful WSS microfinance initiatives ever deployed, and confirms the immense reach that can be attained through provision of microcredit to households in need of WSS improvements.

This study draws out key lessons and insights from Water.org’s pioneering program in India by examining the enablers and constraints that have shaped the achievements of WaterCredit partners. Notwithstanding the overall accomplishments, individual partner performance varies considerably across measures of outreach, return on investment, and profitability. One MFI has been a clear standout, disbursing in excess of 276,000 loans in just four years. Conversely, other partners have produced more modest returns, providing fewer than 10,000 loans over the course of the initiative.

A multitude of factors have influenced the sustainability and scalability of WaterCredit portfolios. To start with, the overall success of the program has been founded upon several important building blocks: a well-developed microfinance sector, a complimentary WSS policy agenda at the national level, a rigorous partner selection process, and an external support organisation possessing a wealth of WSS microfinance know-how and experience. The strong social missions of partners and loan targets to which they have committed have also provided important driving forces.



Figure 1 - Total number of WaterCredit loans disbursed in India (cumulative) during PepsiCo-funded Phases I & II (2008-2015)

Yet partners have had to navigate numerous challenges along the way. Insufficient access to capital has hindered the growth of WaterCredit operations for half of the MFIs. High operational costs have impinged upon the profitability of some portfolios. Large loan volumes have complicated efforts to monitor construction quality and loan utilisation. Due to their role in rural water service delivery, ensuring strong rapport and effective coordination with local government is paramount, but this has proved to be a difficult task. Loan volumes have also been affected by the prevalence of piped water supply infrastructure, the strength of sanitation value chains, prevailing sanitation attitudes and behaviours, and local environmental conditions, all of which vary within and across MFI operational areas.

Nevertheless, partners have adopted a range of strategies to combat these challenges. Concerted efforts have been made to build and maintain strong relationships with local government, stimulate demand and strengthen sanitation value chains. Those operating in regions with sparse coverage of piped water supply systems have developed alternative safe water products that have proved popular with clients. In some instances, commercial viability has been bolstered by a strategic ‘light touch’ approach to the provision of technical support, which has promoted capacity building while exerting minimal drag on portfolio growth. Larger MFIs have enjoyed an edge in rolling out WaterCredit to a high number of branches, accessing dedicated loan capital, and leveraging economies of scale. Finally, and perhaps most crucially, strong commitment from MFI senior management has been a precondition for expanding WaterCredit, ensuring it is afforded a high priority by staff and ultimately driving the progression from pilot project to wholesale integration into the microfinance business.

## Background

There is growing recognition of the potential for microfinance to improve access to safe water supplies and sanitation (WSS) among low-income populations. With its well-developed microfinance sector, South Asia has been at the heart of WSS microcredit activities to date. However, despite the increased attention, knowledge gaps remain around the factors that hinder and facilitate the scale and sustainability of WSS microfinance operations.

In the 11 years since Water.org commenced its support for WSS microcredit operations in India, the scale of the organisation’s WaterCredit program has reached a level matched by few others. With financial support from PepsiCo Foundation, Water.org began rolling out its India WaterCredit program in earnest from 2008 in partnership with five microfinance institutions (MFIs). Backed by a second tranche of PepsiCo funding in 2011, the program was subsequently expanded to 14 partners. This second phase has led to rapid growth in the WaterCredit portfolio, yielding more than half a million loans, benefitting 2.1 million people and achieving repayment rates of virtually 100%. In doing so, the program has become one of the largest water and sanitation microcredit initiatives ever implemented.

The typical institutional model adopted for the delivery of WaterCredit in India centres on an MFI-NGO partnership, whereby an MFI sources capital and administers the loans and its NGO wing focuses on demand generation and technical support (Figure 2). Partner organisations are initially subject to a rigorous selection and accreditation process. To foster the development

MFI and NGO Partners	Legal status	Delivery model	WaterCredit branches
Activists for Social Alternatives (ASA)	Trust	JLG	30
Grama Vidiyal Microfinance Ltd (GVFL)	NBFC		
Adhikar	Society	JLG	38
Adhikar Microfinance Pvt Ltd	NBFC		
Asomi	Society	SHG	9
Asomi Finance Pvt Ltd (AFPL)	NBFC		
Bandhan Konnagar	Society	JLG	43
Bandhan	NBFC		
Bullockcart Workers Development Association (BWDA)	Society	SHG	26
BWDA Finance Limited (BFL)	NBFC		
Development of Humane Action (DHAN) Foundation	Trust	SHG	31
Evangelical Social Action Forum (ESAF)	Society	JLG	32
ESAF Microfinance and Investments Pvt Ltd (EMFIL)	NBFC		
Gram Utthan	Society	SHG	20
Gram Utthan Financial Services Pvt Ltd (GUFSP)	NBFC		
Gramalaya	Trust	JLG	8
Gramalaya Urban and Rural Development Initiatives and Network (GUARDIAN)	Sn 8 Co.		
Hand in Hand	Society	SHG	37
Navya Disha	Trust	JLG	220
Grameen Koota Financial Services Pvt Ltd	NBFC		
People’s Forum	Society	SHG	140
Annapurna Microfinance Pvt Ltd (AMPL)	NBFC		
Sanghamithra	Sn 8 Co.	SHG	47
Shri Kshetra Dharmasthala Rural Development Project (SKDRDP)	Trust	SHG	100

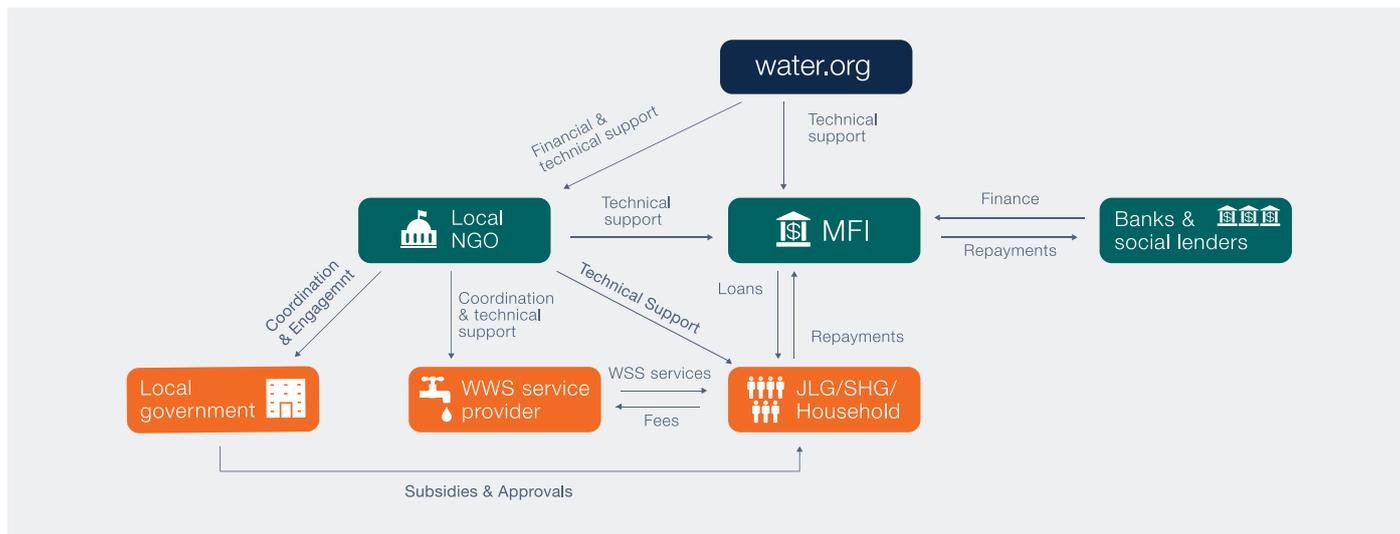
Table 1 - WaterCredit partners in India

of WaterCredit portfolios, Water.org provides partner organisations with ‘smart’ subsidies. These funds are targeted towards specific activities, such as baseline and market assessments, product development, awareness generation, community mobilization and monitoring and evaluation. The MFI is then expected to source its own loan capital, usually at market rates.

The current stable of WaterCredit partners – all of whom articulate strong social missions – is diverse in size, legal status and delivery model (Table 1). Based on total number of active borrowers, they account for more than a third of the microfinance market in India. Five partners have gross loan portfolios in excess of 10 billion INR (US \$152 million)<sup>1</sup>, and three are among India’s top 10 largest non-banking financial companies (NBFCs). There is considerable variation in the WSS loan terms offered. Interest rates lie between 15% and 26% per annum, repayment frequencies are weekly, fortnightly or monthly,

<sup>1</sup> An exchange rate of USD 1 USD to 66 INR is used throughout

Figure 2 - Typical institutional model for WaterCredit program



and loan tenures range from 5 to 36 months. The average loan principal is 8,842 (US \$134), and interest repayments amount to 1,674 INR (US \$25) per loan. Loans are generally disbursed within 10 to 30 days from the time of application, and the construction phase is expected to last no longer than a month.

Forming the policy backdrop to WaterCredit in India is an ambitious national sanitation campaign, known as Swachh Bharat Mission (SBM). SBM aims to eliminate open defecation across India by 2019, with plans to invest approximately US \$30 billion over a five year period. The strategy lays out a suite of interventions which are complementary to WaterCredit, including education and behaviour change campaigns, and market development activities.

WaterCredit operations in India are therefore founded upon several important building blocks: a well-developed microfinance sector, a complimentary WSS policy agenda at the national level, and an external support organisation possessing a wealth of WSS microfinance know-how and experience. However, individual partner performance varies considerably, pointing to other factors at play beyond these commonalities. To understand these influences, this study assesses the enablers and constraints that have shaped the scale and sustainability of individual WaterCredit portfolios. The evaluation draws on a review of program documentation, analysis of program data, and 22 interviews with stakeholders from Water.org and implementing partners.

Table 2 - WaterCredit partner performance, Sep 2011 to Sep 2015

Partner	Number of Loans				Amount disbursed (US\$, 000's)	Borrowers below poverty line (%) <sup>b</sup>	Subsidy per loan (US\$)	Loan: subsidy ratio <sup>c</sup>	Repayment rate
	Water	Sanitation	Total	Total per month <sup>a</sup>					
MFI 1	4,556	2,086	6,642	214	981	57.1	37.39	3.9	100.0
MFI 2	10,659	107	10,766	224	943	3.3	21.83	4.0	100.0
MFI 3	10,647	2,975	13,622	454	1,151	23.8	9.36	9.0	100.0
MFI 4	4,100	9,097	13,197	347	1,868	77.1	21.87	6.5	99.9
MFI 5	287	4,060	4,347	174	984	5.3	57.33	3.9	100.0
MFI 6	12,343	6,170	18,513	386	2,433	38.2	17.51	7.5	100.0
MFI 7	4,747	276	5,023	117	404	42.7	36.62	2.3	100.0
MFI 8	95,314	181,211	276,525	5,643	36,648	90.0	1.29	102.8	100.0
MFI 9	19,255	2,968	22,223	463	2,045	32.3	19.93	4.6	100.0
MFI 10	30,715	21,194	51,909	961	7,366	51.4	7.18	16.4	100.0
MFI 11	17,580	6,120	23,700	484	2,263	32.5	9.75	9.8	100.0
MFI 12	5,551	10,832	16,383	546	3,510	37.0	16.61	12.9	100.0
MFI 13	5,935	9,914	15,849	330	2,640	32.5	15.99	10.8	100.0
MFI 14	2,890	9,520	12,410	295	1,618	5.1	21.68	6.0	100.0
MFI 15	10,056	13,121	23,177	626	3,487	1.2	15.27	9.9	99.5
Total	234,635	279,651	514,286	11,264	68,341	64.3	7.85	16.7	100.0

<sup>a</sup>Defined as the average number of loans disbursed per month since the receipt of the first allocation of smart subsidies

<sup>b</sup>Defined as earning less than US \$1.90 per person per day (2011, PPP)

<sup>c</sup>Calculated as the total value of the WaterCredit loans disbursed divided by the total amount of smart subsidies provided.

# Scale & Sustainability

## Outreach

Between September 2011 and September 2015, WaterCredit partners disbursed 514,286 WSS loans, totaling 4.5 billion INR (US\$68.3 million) (Table 2). Importantly, all partners enjoyed repayment rates above 99%. The performance of one MFI clearly stands out, having provided 276,525 loans at an average of 5,643 per month. Conversely, other partners have provided fewer than 10,000 loans over the course of the initiative. For the 11 partners with available data, the WSS products amounted to 5.5% of total loans disbursed in FY 2014-15, with individual partner shares ranging from 0.04% to 8.6%. Around two-thirds of borrowers were living below the poverty line at the time the loan was taken out.

## Profitability

In 2013-14, analysis was conducted by independent third parties (MCRIL and Deloitte) to assess the financial performance of five WaterCredit portfolios. For the time periods assessed, the analysis found most WSS product lines were not profitable on a standalone basis, however all but one of the five partners were operating WaterCredit on a commercially viable basis once factoring in the financial support provided by Water.org. There were promising profitability signs for two of the partners scrutinized. One partner averaged an operational self-sufficiency (OSS)<sup>2</sup> of 80.2 (peaking at 89.7), and was therefore on the cusp of attaining a commercially viable status. By 2013-14, another MFI had exceeded an OSS of 100% for their WSS portfolio.

It is important to note that profitability is not seen as the be-all and end-all. Partners place great value on social returns, and these societal benefits generally trump commercial objectives as the chief motivator for offering water and sanitation loan products. Furthermore, there is a widely held view that WaterCredit offers MFIs additional, indirect commercial benefits, particularly stemming from client time savings and health improvements, as well as reputational gains (Figure 3).

## The typical WaterCredit borrower in India:

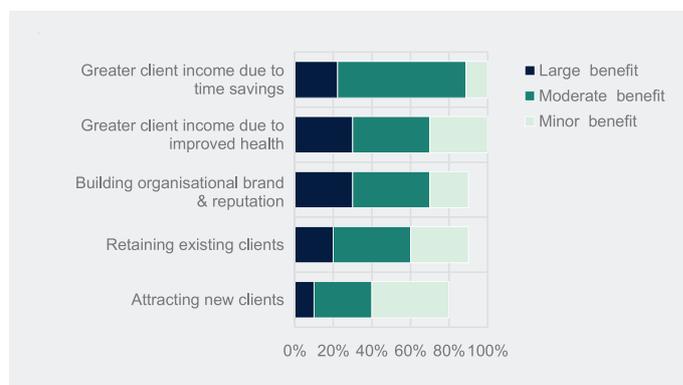
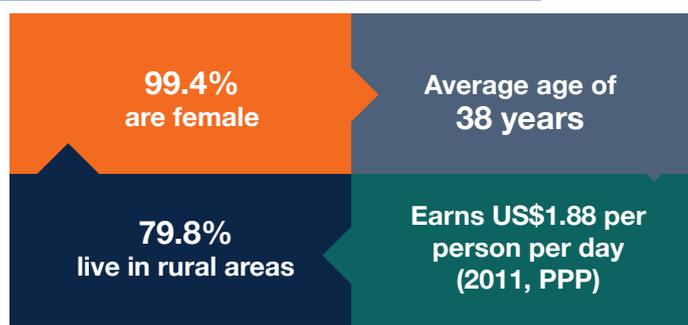


Figure 3 – Partner perceptions of indirect commercial benefits arising from WaterCredit

## Return on investment

On average, each loan has drawn on 518 INR (US \$7.85) worth of smart subsidy, and every dollar invested by Water.org has generated US \$16.66 in loan disbursements. As intended, the return on investment for all partners has improved over time as start-up costs have been spread over a growing number of loans. In the four years of operation from 2011, individual partner loan-to-subsidy ratios ranged from 2.3 to 103.

# Enablers & Constraints

## Access to capital

Access to loan capital is considered a major constraint by half of the WaterCredit partners. Those affected tend to be smaller MFIs: the six partners who have encountered financing bottlenecks also happen to be the smallest MFIs in terms of loan portfolio size. Financing shortages are viewed as symptomatic of a reluctance among commercial banks to provide dedicated capital for WSS portfolios. Much of this unwillingness has been linked to Reserve Bank of India (RBI) regulations which require a minimum proportion of a bank's lending to be considered Priority Sector Lending (PSL).<sup>3</sup> Up until recently, WSS has not been classified a PSL category, meaning banks have been hesitant to provide capital specified for this purpose. However, the RBI's decision in April 2015 to recognise WSS as PSL has now made the prospect of providing capital for WSS portfolios substantially more attractive for banks.<sup>4</sup>

<sup>2</sup> OSS is defined as the ratio of total income to total costs, and in this case indicates whether the MFI can meet its WaterCredit operating expenses from its operating incomes.

<sup>3</sup> Specifically, 40% of Adjusted Net Bank Credit (ANBC) of domestic scheduled commercial banks and foreign banks with more than 20 branches should be towards PSL. In order to be defined as PSL, lending from a bank to an MFI must meet two criteria: (1) the purpose of the funds must fall within one of the PSL categories, and (2) the MFI must have met the qualifying asset criteria, which mandates a certain proportion of the MFIs lending must be for income generation loans (IGLs).

<sup>4</sup> In April 2015, the IGL threshold for an MFI to meet the qualifying asset criteria (and therefore attain PSL status) was also lowered from 70% to 50%, providing greater scope for MFIs to grow their non-income generation loan portfolios such as WSS.

## Loan targets

The seeds for partner performance were initially planted at the outset of the program by way of loan targets and commensurate subsidy allocations. Feedback indicates targets have played a critical role in propelling the growth of loan portfolios. This is evidenced by the ‘surges’ that several partners have activated when interim target deadlines have been imminent. Importantly, these targets have been dynamic in nature, commonly being revised upward over time to mitigate against complacency.

branches – 84 more than any other partner. Importantly, additional branches to which WaterCredit was expanded after the first year accounted for 40% of the MFI’s WaterCredit growth. The non-recurring nature of WSS loans makes such geographical expansion critical to the sustainment of growth in the long term, as disbursements will likely slow once operational areas approach saturation point.

## Motivated field officers

The successful roll-out of WSS loan products is contingent on frontline MFI staff being motivated and willing to prioritise WSS loan products. An approach widely adopted by partners to further this aim was to establish targets for individual branches and loan officers, and in some instances financial incentives. The uptick in loan disbursements that corresponded with the introduction of financial incentives for one particular MFI is instructive. When faced with a looming loan target deadline, the MFI temporarily offered their field officers an incentive of 20 INR (US \$0.30) for each WSS loan disbursed. This resulted in the disbursal of 12,488 WSS loans in a single month, more than the previous six months combined.

## Costs and revenues

Both sides of the profit equation have posed commercial challenges for WaterCredit partners. There is a widely-held belief that WSS loan provision incurs higher operational costs and generates lower revenues compared with conventional loan products such as income generation loans (IGLs). Operational costs associated with WaterCredit are amplified by the need to invest more time and effort on demand stimulation, technical support and monitoring, as compared with traditional loan products (Figure 4). At the same time, revenue derived from WSS loan products is limited by their comparatively small size, non-recurring nature, and relatively low interest rates. Partner MFIs set their own interest rates, and some have elected to apply them in line with other commercial loan products, while others have preferred to offer lower rates either to increase uptake or to remain on good terms with local authorities.

The financial performance of at least one WaterCredit partner indicates that unit operational costs can be reduced as operations are enlarged. As the size of this MFI’s loan portfolio and geographical footprint swelled between 2010 and 2014, the operational self-sufficiency (OSS) rose from 24% to 107%. Among the numerous factors which enabled the MFI to exploit economies of scale and progress towards profitability, three stand out. First, the NGO wing shifted its technical support to a strategic, ‘light touch’ approach meaning operational costs were kept at bay while loan disbursements ramped up. Second, the MFI’s senior management had a deep-seated commitment to WaterCredit, which led the MFI to embark on an ambitious growth phase before commercial viability had been proven. Third, in accordance with its strong social mission, the MFI channelled 5% of profits after tax back into its NGO wing for WSS mobilisation and behaviour change activities.

## Existing branch network

A large operational footprint has proved advantageous for maximising the outreach of WaterCredit. The two partners with the highest monthly rate of loan disbursements are compelling examples of how an expansive network of branches or federations can be leveraged to rapidly grow WSS loan portfolios. At the time of writing, the most successful MFI partner operated WaterCredit in 220

## Relationships with local government

Establishing and maintaining strong working relationships with local authorities (usually the Gram Panchayat) is universally recognised as a fundamental but challenging component of a high performing WaterCredit program (Figure 5). Building rapport with local authorities has been particularly important to gain the necessary pre-approval to disburse water connection loans, and partners have sought regular engagement and open lines of communication. However, even where local government relationships have been productive, other issues have at times thwarted water connection applications, such as limitations in water supply system capacity, periods of water scarcity, unpaid property taxes, and lack of proper title deeds.

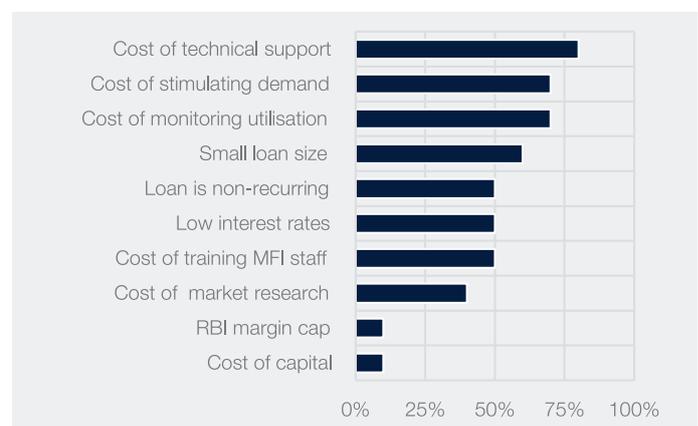


Figure 4 - Main impediments to WaterCredit profitability as reported by partners

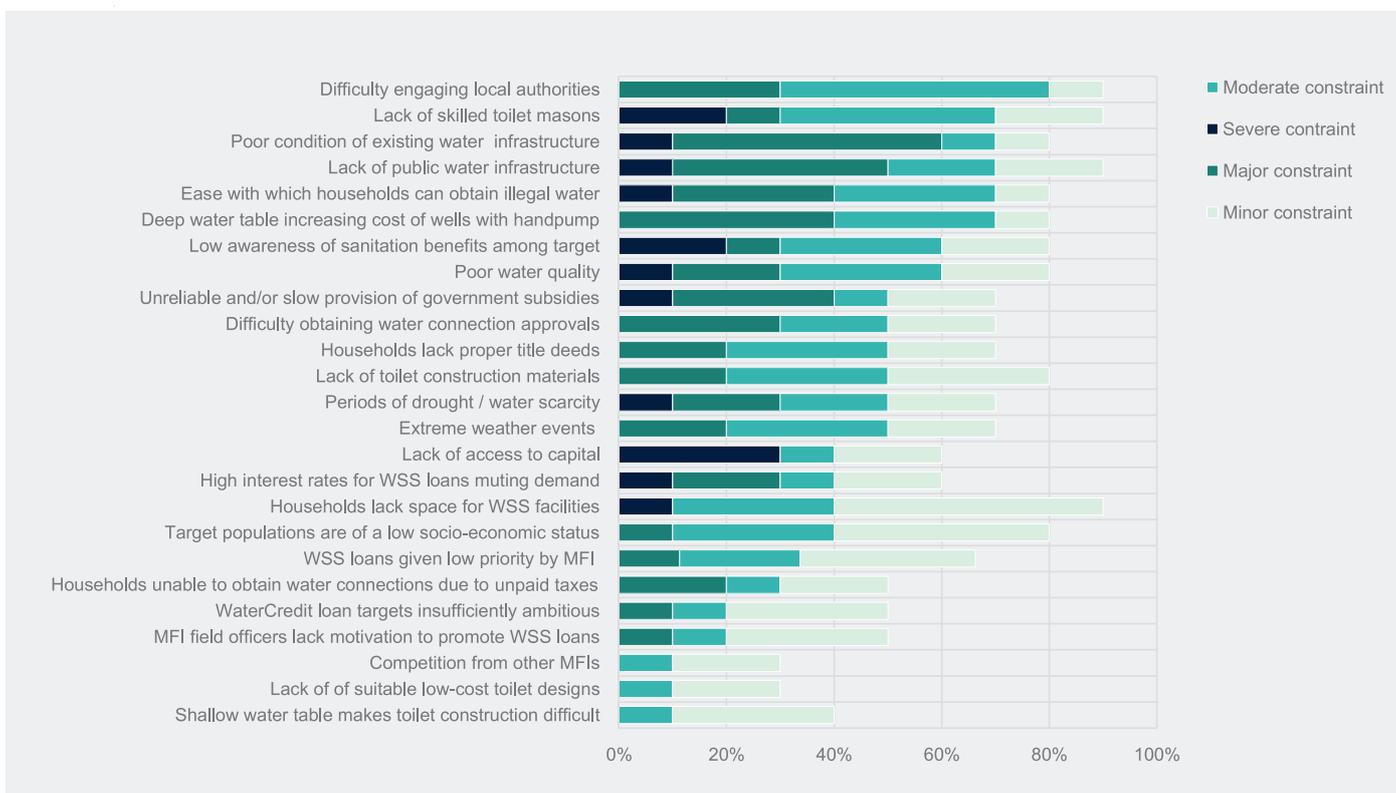


Figure 5 - Factors constraining WaterCredit loan disbursements as reported by partners

## Presence of piped water supply infrastructure

The prevalence of piped water supply infrastructure has emerged as a key determinant of water connection loan volumes. MFIs with WaterCredit operations in Tamil Nadu and Karnataka, states endowed with relatively widespread piped water infrastructure, have tended to disburse the highest number of water connection loans. In contrast, the infrastructure landscape is less conducive in states such as Assam, Odisha, West Bengal and Chhattisgarh, and these regions have been associated with more modest returns. Additional issues noted to affect demand for water connection loans include the condition of available water supply infrastructure, and the ease with which an illegal connection can be arranged.

Where coverage of reliable piped water supply infrastructure has been lacking, partners have pursued a number of mitigation strategies. First, close engagement with local authorities has been maintained so that when systems are expanded or rehabilitated, the MFIs are ready to capitalise on the opportunity to disburse loans to clients. Second, water connection loans have been promoted to clients in towns if the requisite infrastructure has been absent from rural areas. Third, partners have developed alternative safe water products for clients residing beyond the reach of piped systems, such as water filters and household handpumps. One MFI, for example, has disbursed almost 8,000 loans for borehole wells fitted with handpumps.

## Sanitation value chain

Areas with well-developed sanitation value chains have provided fertile ground for the disbursement of toilet loans. Conversely, value chains in some operational areas have been weak, with a paucity of skilled toilet masons hindering the growth of WaterCredit portfolios. In order to address weak links in the sanitation value chain, two in three partners provide toilet construction training to local masons. For a couple of partners, this has been deemed unnecessary as clients themselves carry out the bulk of construction. Beyond building the capacity of masons, some partners have intervened in the sanitation market in other ways (Figure 6). Around half actively connect masons with clients, and a smaller fraction broker agreements on price. Partners are generally satisfied with the availability of affordable and appropriate toilet designs, although this has not obviated the challenge pertaining to a lack of physical space which at times has prevented the provision of toilet loans in densely populated areas.

## Quality control & loan utilisation

Loan utilisation and construction quality are prominent concerns for partners, and all carry out feasibility assessments prior to construction, as well as verification visits upon completion (Figure 6). A variety of other forms of technical support are also provided to borrowers. A key point of difference for some partners is that technical specialists focus more on building the capacity of field officers to discharge client-facing technical responsibilities. This perhaps points to a more scalable model whereby technical specialists provide ‘light touch’ support, and place greater emphasis on transferring skills, tools and know-how to frontline MFI staff. To cope with large loan volumes, some partners have also chosen to randomize quality control inspections.



Figure 6 - Proportion of partners providing technical support activities to toilet loan clients

Some interviewees expressed concern that a heavy focus on loan quantities could come at the expense of construction quality and correct loan utilisation. This is linked to a belief that MFI staff are not always interested in carrying out verification activities to ensure loans are utilised properly, construction quality adheres to appropriate standards, and facilities are ultimately completed. This highlights the importance of monitoring processes that encompass multiple levels, including borrowers, loan officers, branches, and head offices. Interestingly, data collected during follow-up inspections at 377 toilet facilities suggest there need not be a trade-off between quantity and quality: those financed by the two most prolific WaterCredit partners were more likely to be functional and in good condition compared with other partners.

## Hydrogeology & climate

Both the depth and quality of groundwater have had a material impact on WaterCredit operations, though the causal mechanisms have been location-specific. Provision of household handpumps has been constrained in various areas due to high levels of salinity and iodine in the groundwater. Areas with shallow groundwater (e.g. Assam) have proved very conducive to household

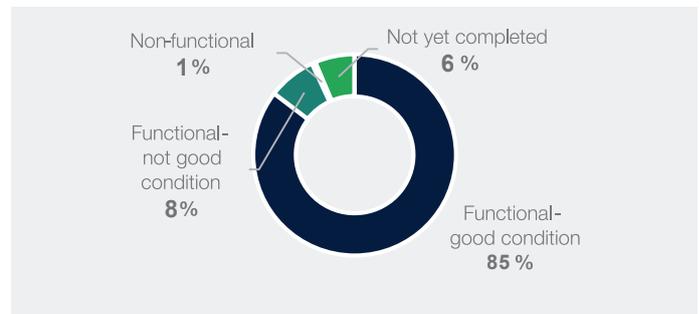


Figure 7 - Functionality and condition of toilets for households more than 3 months after loan disbursement (n=377)

handpump loans, whereas deeper groundwater in other areas has driven up the cost to prohibitive levels. Conversely, it is shallow groundwater that has obstructed efforts to offer suitable toilet loan products in Assam.

Drought and seasonal dry periods were frequently mentioned as phenomena which inhibited water connection loan disbursements. During such times, local authorities have been more reluctant to approve water connection loans as water resources have dwindled and system capacities have been pushed to their limit. To a lesser extent, other extreme weather events – such as cyclones and flooding – have also disrupted the timely construction of facilities.

## Sanitation attitudes and practices

Changing attitudes and behaviours towards open defecation is widely seen as an indispensable ingredient for success. Partners have deployed a raft of measures to shift mindsets and practices. Community meetings, general education sessions, cultural events, school visits and street plays have been the most common strategies for promoting sanitation loan products and mobilizing potential borrowers (Figure 8). There are, however, certain regions – particularly in Odisha and Chhattisgarh states – where mindsets and practices have been especially difficult to sway

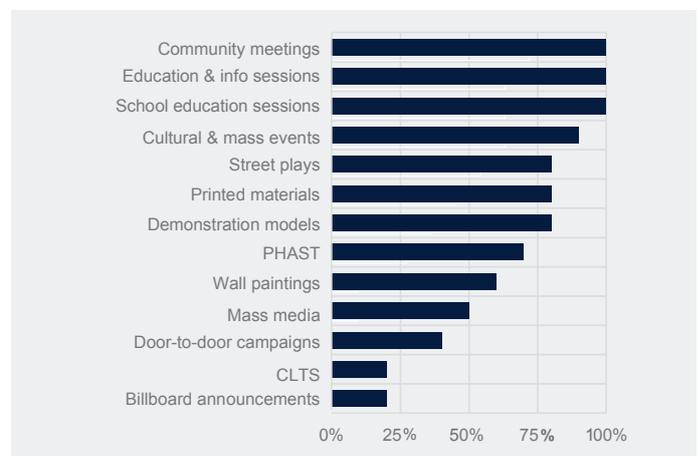


Figure 8 - Most commonly applied methods for mobilizing borrowers and driving changes in sanitation behaviours

# Concluding Remarks

The sums of money needed to achieve the Sustainable Development Goal of universal access to safe water and sanitation are undoubtedly vast, and reliance on government and donor financing alone will limit the pace at which the required investments can be made. Mobilizing funds through microcredit repaid by water users presents an important financing source to augment scarce public resources. In reaching more than half a million households in just four years at a unit cost significantly lower than traditional WSS programs, the WaterCredit initiative in India demonstrates microfinance can significantly amplify the reach and impact of investments in the WSS sector. In addition, the program provides salient lessons and insights into the enablers and barriers to scaling and sustaining WSS microfinance operations. Although the challenges are diverse, the experiences of Water.org and its partners in India illustrate these issues can be overcome and WSS loan portfolios can prosper.

## Key findings

- Microcredit can unleash considerable amounts of finance for WSS improvements and amplify the reach and impact of donor funds and government policies
- Access to loan capital for WSS products is a key challenge, particularly for smaller MFIs. Advocacy is needed to ensure banks are aware that WSS portfolios qualify as PSL and are characterised by high repayment rates. Complementary strategies to make additional capital available to these smaller MFIs should also be explored.
- WSS loan products tend to incur higher costs and generate lower revenues compared with commercial loan products. However, MFIs are often still willing to grow their portfolios given their combined financial and social returns. Moreover, WSS loan portfolios can be commercially viable on a standalone basis, especially if economies of scale can be exploited.
- WSS loan portfolios can grow to a large scale with the aid of light touch technical support, however monitoring processes are needed to ensure loans are utilised correctly and construction standards are adequate.
- WSS microfinance programs appear most likely to thrive in areas with more widespread piped water supply infrastructure, better developed sanitation value chains, lower tolerance of open defecation, and supportive local government leaders.
- Buy-in and support from senior MFI management are vital to create the organisational willingness to expand WSS portfolios to many branches, ensure they are afforded a high priority by staff, and fully integrate them into the microfinance business



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Water.org is an international nonprofit organization that has positively transformed more than four million lives around the world through access to safe water and sanitation. Founded by Matt Damon and Gary White, Water.org works with local partners to deliver innovative solutions for long-term success.



Established in 1962, the PepsiCo Foundation is the philanthropic anchor of PepsiCo, responsible for providing charitable contributions to eligible non-profit organizations. The Foundation is committed to developing sustainable partnerships and programs in underserved regions that provide opportunities for improved health, environment and education.

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