



BANGLADESH OBA MICROFINANCE SANITATION PROJECT

Evaluation Report
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WORLD BANK GROUP
Water



GWSP
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PARTNERSHIP



GPRBA
Global Partnership for Results-Based Approaches

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Acronyms

ASA	Association for Social Advancement
BDT	Bangladesh Taka
BRAC	Bangladesh Rural Advancement Committee
BURO	Basic Unit for Resources and Opportunities Bank
CLTS	Community-led total sanitation
DFAT	Australian Department of Foreign Affairs and Trade
GPOBA	Global Program for Output Based Aid
GPRBA	Global Partnership for Results-Based Approaches
GWSP	World Bank's Global Water Security and Sanitation Partnership
IBRD	International Bank for Reconstruction and Development
IDA	International Development Association
IVA	Independent Verification Agent
IVC	Independent Verification Consultant
JMP	Joint Monitoring Program
LEs	Local sanitation entrepreneurs
MDB	Multilateral development banks
MDG	Millennium Development Goals
MFD	Maximizing Finance for Development
MFI	Micro Finance Institutions
MSMW	Small and Medium-Sized Enterprise
NGO	Non-Governmental Organization
NGP	Nirmal Gram Puraskar
OBA	Output-Based Aid
ODF	Open Defecation Free
PLM	Programa de Letrinas Melhoradas
PO	Partner Organization
PPI®	Poverty Probability Index
PRODES	Programa Despoluição de Bacias Hidrográficas
PKSF	Palli Karma-Sahayak Foundation
SDG	Sustainable Development Goals
SDL	Sanitation Development Loan
SP	Service Provider
TA	Technical Assistance
TSC	Total Sanitation Campaign
US\$	United States Dollar
WASH	Water, Sanitation and Hygiene
WB	World Bank
WSP	World Bank's Water and Sanitation Program

Note: the evaluation has used the following exchange rate in all calculation: US\$ 1 = BDT 78

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About GPRBA

The Global Partnership for Results-Based Approaches (GPRBA), formerly known as the Global Partnership on Output-Based Aid (GPOBA) until February 2019, provides innovative financing solutions that link funding to achieved results. GPRBA's results-based financing (RBF) approaches provide access to basic services like water and sanitation, energy, health and education for low-income families and communities that might otherwise go unserved. By bringing together public and private sector funders to maximize resources and designing effective incentives for service providers to reach underserved low-income communities, GPRBA gives people the chance for a better life.

Established in 2003 and housed within the Social, Urban, Rural and Resilience (GSURR) Global Practice at the World Bank, GPRBA amplifies GSURR's goals to help countries build sustainable, inclusive, resilient, and productive communities. With its mandate to explore and apply innovative results-based financing solutions for enabling access to basic services, GPRBA is positioned at the forefront of the World Bank's efforts to end extreme poverty and boost prosperity among the poorest 40 percent in low- and middle-income countries. GPRBA supports RBF approaches in a variety of sectors in 29 countries.

Executive Summary

Bangladesh has made significant progress in improving sanitation coverage over the past two decades, with its open defecation rate reduced to under one percent of the population. However, as of 2015 only 61 percent of Bangladeshis had access to “improved¹” sanitation facilities according to JMP² statistics. In Bangladesh, households primarily invest their own financial resources in the purchase and installation of latrines due to government policies prohibiting hardware subsidies to those other than to the very poorest households.

Microfinance (the provision of financial services to low-income people) has a long and successful history of reducing poverty in Bangladesh. However, it has only recently emerged as a viable avenue to facilitate increased access to finance for water and sanitation products and for the development of small-scale providers of water and sanitation products and services.

In recent years, the Global Water Security and Sanitation Partnership (GWSP)³ of the World Bank has worked in partnership with the Government of Bangladesh to support its sanitation initiatives and encourage greater private sector engagement in the water, sanitation and hygiene (WASH) sector. In 2009, a pilot sanitation marketing initiative was implemented with support from GWSP’s predecessor trust fund Water and Sanitation Program (WSP). This pilot aimed to leverage private sector resources and help poor households in rural areas access affordable, high-quality sanitation facilities from local businesses. In 2016, this project was scaled up with finance from the World Bank and the Global Partnership for Results-Based Approaches (GPRBA), through the Bangladesh OBA Sanitation Microfinance Project.

Output based aid (OBA) is a form of results-based financing in which subsidies are paid to service providers based on verification of pre-agreed project targets defined during project design, thereby offering a strong incentive for the delivery of results. The Bangladesh OBA Sanitation Microfinance Project partnered with two leading microfinance institutions (MFIs): the Association for Social Advancement (ASA), the second largest microcredit lending institution worldwide, and the Palli Karma-Sahayak Foundation (PKSF), the Government of Bangladesh’s wholesale microfinance facility.

PKSF and ASA⁴ contributed their own finance to the project, and GPRBA provided US\$ 3 million in OBA subsidies to partially cover the cost of loans taken out by households to purchase improved latrines. The subsidy both enhanced the attractiveness of borrowing by increasing access to and affordability of higher-quality latrine options for poor households and reduced lending risk for the MFI.

The provision of the OBA subsidy was aimed to help MFIs develop products to finance sanitation and extend their reach to poorer households. Combining OBA subsidies with a microfinance loan helped to reduce households’ cash constraints by spreading repayment over time and made investment in improved sanitation more affordable overall.

PKSF provided wholesale loan financing to retail MFIs (partner organizations) to finance household sanitation loans and ASA provided sanitation loans directly to households. Households use the loans to pay trained and pre-certified local construction firms for hygienic latrine construction. Complementary technical assistance (TA) was provided through financial support from the GWSP. The

¹ Improved latrine is a sanitary facility that ensure hygienic separation of human excreta from human contact. They include flush or pour-flush toilet or latrine to piped sewer system, septic tank, or pit latrine; ventilated improved pit (VIP) latrine; pit latrine with slab; and composting toilet.

² The Joint Monitoring Program for Water and Sanitation (JMP) of the World Health Organization (WHO) and UNICEF, is mandated by the UN to track global progress towards the water and sanitation MDG and SDG targets

³ GWSP has built on the work of its predecessor trust fund the Water and Sanitation Program (WSP)

⁴ ASA operated as a partner organization under PKSF in the project

TA supported demand creation and market promotion through awareness-raising activities. It also provided follow-up support to trained entrepreneurs to guarantee the quality of construction and helped MFIs reach the poorest households.

The project developed and promoted a range of new sanitation products, which offered a higher level of service to those previously promoted. The latrines also responded to changing customer preferences, in which user experiences and the product aesthetic were key motivating factors in customers decision to invest in upgrading their existing sanitation services.

Many existing latrine users had the ability and willingness to invest in building improved sanitation facilities, but they are often cash-constrained. Customers found the upfront costs of a toilet prohibitive, and hence the opportunity to take out a loan removed this barrier. In addition to loans being attractive due to them being marketed as free of interest, customers were motivated by the option of paying in installments and spreading purchase costs over time.

Businesses operating in the rural sanitation sector are very small, which inhibits their ability to develop better-suited latrine models and to access credit. The project provided training to local entrepreneurs (LEs) on the construction and sale of the newly designed latrine models. In addition to capacity development, those LEs engaged in the project were offered loans from the MFIs to support them in covering the cost of initial capital requirement of the increased demand for latrines and expanding their businesses.

The joint promotion and sale of the loans and new sanitation products by the MFIs and LEs helped to create demand for the products. The OBA subsidy was not provided to the MFIs until the latrine construction and quality was verified by a third party. This model created strong incentives for MFIs and LEs to deliver on their loan targets and ensured a high quality of latrine construction.

The project can be considered a success from a number of perspectives. The majority of targets were successfully achieved, and the quality of delivery has been verified as high. The project supported the construction of 170,679 latrines, and in doing so, surpassed its 170,000 target. As of June 2018, US\$ 21.6 million of sanitation loans were disbursed through microfinance lending under the project. In addition, LEs undertaking the works had received US\$ 1.43 million in loans.

Table 1: Summary of key target and results

Indicators	Targets	Results
Number of Households receiving sanitation loans from POs under the project.	170,000	170,679
People provided with access to hygienic sanitation facilities under the project.	850,000	853,395
Number of Local sanitation entrepreneurs (LEs) selling a range of latrine	2,000	1,570
Number of Local sanitation entrepreneurs (LEs) receiving loans	2,000	1,031

From a macro-perspective, the project has significantly contributed to the development of the market for new sanitation and financial products. The capacity of local businesses and microfinance agencies to capitalize on opportunities within the sanitation sector (many of whom were new to the sector) has been significantly increased.

The project created a vibrant and viable market for a new generation of improved on-site sanitation products in rural Bangladesh, through building the capacity of sanitation businesses to respond to changing customer preferences. Service levels delivered by the new latrine models were above those delivered across Bangladesh during the MDG period and provide useful insights into the finance and capacity required to meet SDG targets.

The project also delivered the right enabling environment to demonstrate there is a viable market for sanitation loans for both households and businesses. The use of subsidies, marketed to borrowers as

interest free loans, do not appear to have distorted the market; in fact, it could be argued that they have been a key contributor in creating the right conditions to engage market makers (MFI and LEs) and first movers (customers) and develop a new market for sanitation loans.

The OBA model introduced greater discipline of governance, reporting and transparency into the implementation of this sanitation project. The approach has also increased the transparency of subsidies, which are often hidden and almost never quantified under other approaches.

A significant feature of this project was the ability of the World Bank and GPRBA’s funds to leverage additional commercial finance to support the project objectives (see table 2). The evaluation has estimated that the US\$ 3.9 million investment by the World Bank and GPRBA has leveraged an additional US\$ 23.7 million of investment. This was primarily achieved through the partnership with ASA and PKSF. These two institutions contributed nearly US\$ 17.6 million in direct funds for sanitation loans for both households and LEs. ASA and PKSF had the confidence to invest their resources in this new sector, due to the carefully designed investment of the World Bank and GPRBA, which both reduced risk of their investment and created the right incentives for the stakeholders tasked with delivering results.

Table 2: Project Finance and Leverage Funds

Institution	Investment (US\$)	
World Bank & GPOBA	3,900,000	16%
ASA	13,644,103	47%
PKSF	3,974,359	15%
PKSF's other POs	5,478,456	20%
Customers (additional)	621,270	2%
Total	27,618,188	

The effective blending of concessional and commercial finance through this project represents both a significant innovation in the sector and an enormous opportunity for the future. In line with the objectives and approach of the World Bank’s Maximizing Finance for Development (MFD) agenda, the project proved that carefully designed catalytic funding is able to leverage a significant amount of external resources for the sanitation sector. With the Sustainable Development Goals requiring new ways of doing business to meet the challenging targets set, the combination of output-based approaches with new models to leverage commercial finance offers the sanitation sector a new and proven model to tackle these challenges.

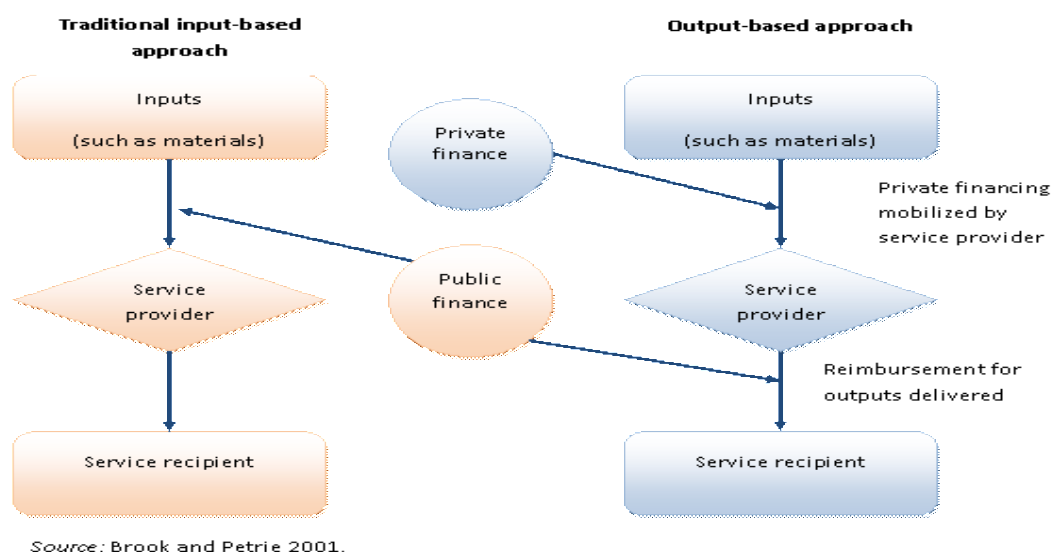
1. Background

1.1. Output Based Aid

Performance contracts have been implemented for several decades as a tool to manage both public and private operators. Similar to these, output-based aid (OBA) schemes aim to tie the disbursement of public funding in the form of “subsidies” to the achievement of clearly specified results that directly support improved access to basic services⁵. OBA schemes are generally more narrowly defined than benchmarks in traditional performance arrangements, which in some cases may be more input oriented. Outputs in effective OBA approaches are aligned closely to the desired outcome or impact as is contractually feasible.

Subsidies have existed for some time in the infrastructure and social service sectors and can be defined as public funding used to fill the gap between the total cost of providing a service to a user and the user fees charged for that service⁶. OBA approaches have refined the targeting of subsidies by bringing them together with performance-based arrangements through the explicit linking of subsidy disbursement to the achievement of agreed outputs. Figure 1 provides a simple contrast of a traditional input-based approach to an output-based approach.

Figure 1: Contrast of a Traditional Input-Based Approach and an Output-Based Approach



Initial OBA projects did not use any formal instruments or forge partnerships with financial institutions, such as MFIs, to enhance access to finance or to address the challenge of pre-financing. Recently, microfinance has also been integrated into OBA schemes to increase household affordability, although financing facilities that support banks and microfinance institutions lending to households have been more prevalent than such facilities to support lending to service providers and small businesses.

⁵ Kumar, Lieberman, and Mumssen, “Access to Finance in Output-Based Aid”, GPOBA-World Bank, 2010

⁶ Kumar, Lieberman, and Mumssen, “Access to Finance in Output-Based Aid”, GPOBA-World Bank, 2010

1.2. Bangladesh Sanitation Sector

As of 2015, less than 1 percent of the population engaged in the once widespread practice of open defecation in Bangladesh (figure 2). This achievement can be credited to the Government of Bangladesh’s Total Sanitation Campaign, which implemented innovations such as community-led total sanitation (CLTS), a sanitation behavior-change intervention pioneered in Bangladesh. The Government of Bangladesh has also promoted a policy that hardware subsidies should only be provided to the poorest households, expecting all other households to self-finance latrine construction. World Bank studies have shown that only 11 percent of households reported receiving free latrine parts⁷ from governmental agencies or NGOs.

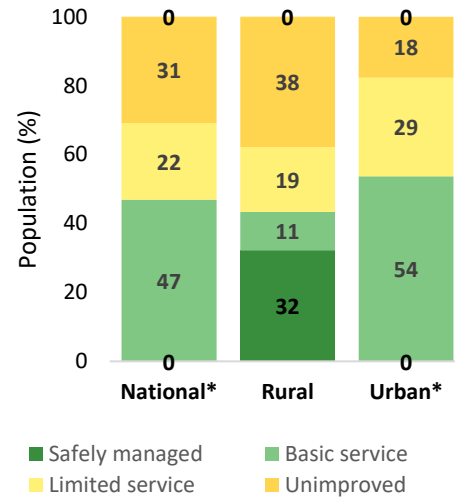
As open defecation has declined, the challenge has emerged as to how to sustain latrine use, with significant percentages of the population using a basic⁸, limited⁹ and unimproved¹⁰ service. The government’s new priority is to replace these “first-generation” latrines (many of which are direct pit latrines) with technologically improved “second-generation” latrines, that are able to safely separate excreta from human contact and provide a more pleasant user experience.

Between 2000 and 2015, those using an improved/basic latrine, regardless of sharing status, increased dramatically from 37 percent to 69 percent. However, Bangladesh failed to achieve the Millennium Development Goals (MDG) sanitation target due to high sharing of improved sanitation facilities between households. The lack of unshared sanitation is more of an issue in urban areas than rural areas, most likely due to space constraints and high population density.

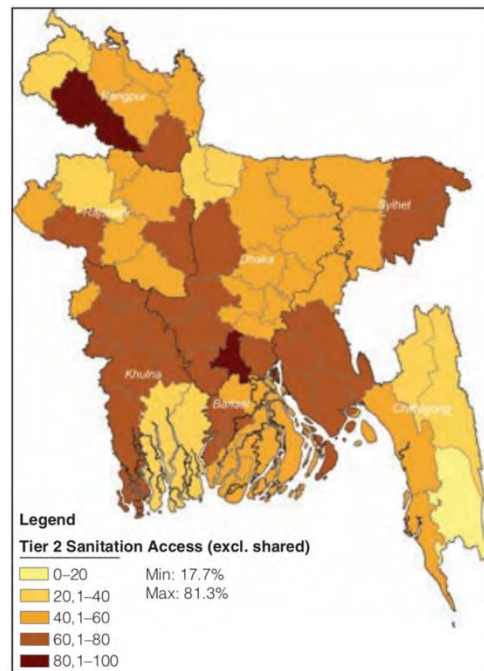
By 2015, over 48 million people, just over a third of the population, remained using unimproved first-generation latrines. While this poses a significant challenge and ongoing public health risk, it also represents a significant market of customers to target with second-generation sanitation products.

The sanitation indicators for the Sustainable Development Goals (SDG) target demand a higher service level than the MDGs. To achieve the new

Figure 2: Bangladesh Sanitation Coverage, 2015



Map 1: Share of Coverage of Access to Improved Sanitation (Excluding Shared), by District, Bangladesh, 2013



*Note: Tier 2 sanitation access refers to Basic Service
 Source: World Bank- WASH Poverty Diagnostic*

⁷ 5 rings for the pit and a slab with a plastic pan

⁸ A basic sanitation service is defined as use of an improved sanitation facility which is not shared with other households

⁹ A limited sanitation service is calculated as the population using improved sanitation facilities which are shared

¹⁰ Unimproved latrine is a sanitary facility that does not ensure hygienic separation of human excreta from human contact. Unimproved facilities include pit latrines without a slab or platform, hanging latrines, and bucket latrines.

standard of “safely managed” access, households will need to safely contain fecal waste in a private improved latrine, and there will need to be evidence that this waste is safely disposed of. As represented in Figure 2, limited data is currently available for safely managed facilities in Bangladesh, and hence, no urban or national estimates have been made.

Disparities in sanitation access levels continue to exist between geographical regions. The Chittagong Hill Tracts in the southeast, Naogaon, Thakurgaon and Panchagarh in the northwest and Sherpur and Jamalpur in the center of the country (map 1) fare worse than the rest of the country in terms of infrastructural access to improved sanitation. A part of the Chittagong Hill Tracts, the mountainous and sparsely populated district of Bandarban ranks as the country’s most poorly served. The Chittagong Hill Tracts region is also home to a number of ethnic minorities and a growing population of Rohingya refugees.

With open defecation almost eradicated in Bangladesh, the Government has adopted new strategies to transition rural households up the sanitation ladder to second-generation latrines, which qualify as safely managed services under the new SDG definitions. These strategies have included strengthening the supply chain for affordable sanitation products, promoting sanitation marketing activities and increasing access to credit.

1.3. Bangladesh Microfinance Sector

Bangladesh also has a large effective network of MFIs that provide both livelihood and social sector financing across the entire country. These institutions are well established and have made significant contributions to Bangladesh’s development, particularly in rural communities. The largest MFIs include Grameen Bank, Bangladesh Rural Advancement Committee (BRAC), Basic Unit for Resources and Opportunities (BURO) Bank, and Association for Social Advancement (ASA). Palli Karma-Sahayak Foundation (PKSF) is the government-backed wholesale public finance institution that supports small-to medium-scale MFIs/NGOs, also known as Partner Organizations (POs), with capital and capacity development (see table 3).

Most local NGOs also have credit wings to provide loans to predominately rural borrowers. It is also believed that the Bangladesh’s Central Bank can also play a positive role in promoting the micro-enterprise sector of the NGO-MFIs, as they are doing now for agricultural development in the country involving the commercial banks.

Table 3: Distribution of Loans under Wholesale Lending Program

Institutions	Number of NGOs-MFIs Financed During		Loan disbursed during		Loans outstanding as of June		Number of NGOs with outstanding loans as of June 2017	% of recovery
	2016-17	2015-16	2016-17	2015-16	2017	2016		
Commercial Banks	450	265	56,462.05	30,085.84	54,235.81	29,541.55	568	91.83
PKSF	169	168	31,136.40	29,851.53	44,518.87	42,202.28	218	98.93
Total	619	433	87,598.45	59,937.37	98,754.68	71,743.83	786	95.38

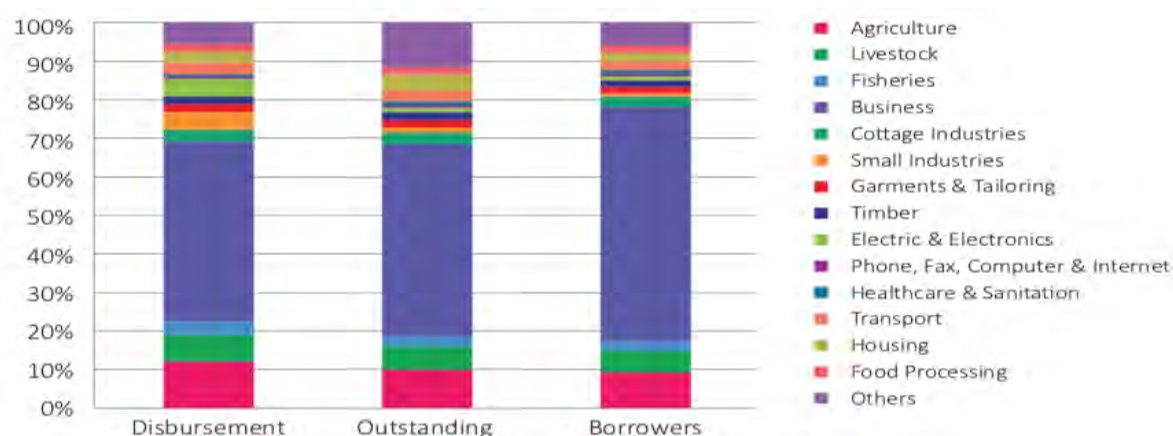
(Tk in million)

The microfinance sector in Bangladesh continues to deepen both horizontally and vertically. 2016-17 data reveals that NGO-MFIs continue to procure their funds from different sources both internal and external, with grant and concessionary donor funds for microfinance remaining negligible. This is due to the fact that MFIs are now capable of mobilizing funds from their members and have significant access to funds through PKSF, banks and other financial institutions. This is resulting in NGO-MFIs activity becoming increasingly more commercially sustainable.

During the year 2016-17, BDT 361,096 million was disbursed as micro-enterprise loans. The highest financing has taken place in trade, business and commerce (46.7 percent) and agriculture (22.6 percent), with a range of other enterprises, such as small industries, machinery, welding & workshops (4.5 percent), electric, electronics & solar energy (4.4 percent), cottage industries (3.3 percent), housing (3.1 percent), transport (2.5 percent) and food and food processing (2.25 percent). Healthcare and Sanitation businesses, as seen in Figure 3, account for less than 1 percent of lending.

Accurate data on the use of general purpose loans for households is hard to come by but is dominated by income generating activities. Microfinance loans for non-income generating activities are estimated to be less than 5 percent of household loans. This figure is most likely to be underestimated, as most data does not take into account a percentage of income generating loans that households divert for other uses.

Figure 3: Distribution, Outstanding and Borrowers of Micro-Enterprise Loans



Source: Bangladesh Microfinance Statistics 2016-17

1.4. Output Based Aid in Sanitation Sector

The Global Partnership for Results-Based Approaches (GPRBA) has initiated a number of sanitation projects prior to the sanitation microfinance project in Bangladesh, including an onsite sanitation project in Senegal and a water and sanitation project in Morocco. In addition, a few governments have adopted output-based approaches for sanitation. For example, the PLM (Programa de Letrinas Melhoradas), which started in Mozambique in the late 1980s, helped develop a network of latrine-building workshops in the country's main cities via subsidies based on latrine sales. In India, the Nirmal Gram Puraskar (NGP) awards was a national total sanitation campaign prior to the ongoing Swachh Bharat Mission. NGP introduced incentive-based subsidies to poor households who build their own latrines and rewards to communities for convincing their members to stop open defecation.¹¹

Trémolet and Evans¹² noted that the main focus of any OBA based sanitation intervention is determined by identifying which funding gaps need to be filled, i.e. if households have on-site sanitation facilities but the pit waste is being indiscriminately dumped, the focus may be on transport and safe disposal. They also proposed that the design of individual OBA schemes will depend on the most appropriate way to package the provision of sustainable sanitation services, so that each OBA scheme is likely to include a combination of results-based subsidies.

The further down the chain the subsidy is provided, the more likely it will be possible to implicitly subsidize previous steps of the chain. For example, in Sri Lanka, GPRBA created incentives for better

¹¹ Trémolet, Kolsky and Perez. "Financing On- Site Sanitation for the Poor: A Six Country Comparative Review and Analysis." Technical Paper. Water and Sanitation Program, Washington, DC. 2010.

¹² Trémolet and Evans, "Output-Based Aid and Sustainable Sanitation", GPOBA- World Bank, 2010

operation of on-site sanitation by combining a payment for operation of on-site systems with a subsidy for rehabilitation and construction of new facilities. This created incentives for contractors to enter the market as “sanitation operators” in charge of not only building latrines but also maintenance and operation.

A common challenge is that sanitation service providers may be unable to mobilize pre-financing (a common precondition for OBA) to invest in the services prior to receiving the subsidies upon delivery of pre-identified outputs. This challenge can be addressed by combining OBA schemes with micro lending or by splitting the service providers’ remuneration between an upfront payment (“block grant”) and a performance-based payment. Packaging services to the poor with other revenue-generating services, such as solid waste, may also help generate cash-flow for the service providers to enable them to pre-finance the investments.

1.5. Microfinance for Sanitation

Traditionally, funding for the WASH sector has come from three main sources: from households (via tariff revenues or direct investments into self-provided infrastructure), from domestic taxpayers (in the form of government subsidies) or from voluntary transfers (from external donors or philanthropic foundations, in the form of grants). Due to the WASH sector being very capital intensive, it is necessary for WASH sector actors to mobilize financing, which can be repaid over time, once the infrastructure has been built, delivers services, and ideally, generates a revenue stream to repay the financiers.

In relation to sanitation, the effectiveness of approaches such as CLTS and sanitation marketing has been limited by inadequate access to finance. Many households in rural Bangladesh do not have sufficient cash on hand to upgrade their sanitation facilities. Despite the impressive achievements of microfinance in Bangladesh, MFIs engagement in sanitation has been relatively small. Until recently, Grameen Bank was the only MFI that offered a specific sanitation loan product for toilet construction, but this was discontinued in 2012. BRAC has also provided loans to local entrepreneurs and consumers for improving sanitation facilities, and other MFIs have offered loans for water and sanitation facilities under the auspices of their other loan products, such as housing loans and disaster loans.

World Bank research on household on-site sanitation¹³ suggests well-targeted subsidies can provide a critical safety net for the poor. The most effective subsidies have proven to be provided after demand creation, and on an output basis. While access to loans from MFIs increases affordability of the hygienic latrines, subsidies can provide further incentive to poor households where affordability is still an issue.

There remains a belief that certain segments of the population, including those living in remote areas, char¹⁴ areas and along coastal belt areas of the country, would benefit from interest free loans and low-cost funds. Higher-cost loans in these areas have not proved effective in supporting poverty eradication or promotion of social development in these areas. There is an increased feeling that provisions should be created so that different need-based savings products can be launched among the people in the rural areas and current restriction of savings mobilization should be relaxed.

¹³ Financing Household On-Site Sanitation for the Poor. WSP 2011.

¹⁴ Char a tract of land surrounded by the waters of an ocean, sea, lake, or stream; it usually means, any accretion in a river course or estuary

2. Research Objectives and Methodology

2.1. Objectives

This evaluation aims to review the impact of the sanitation microfinance initiative on market development in rural Bangladesh and assess the extent of additional finance leveraged as a result of these activities. The project's theory of change will be used as a basis of reviewing the inputs, outputs and outcomes of the project.

The research aims to provide a comprehensive perspective of the approach implemented by considering the role, engagement and impact on all the project's stakeholders, including consumers, construction firms, and MFIs. This will include understanding the development of the market for sanitation and financial products, as well as patterns of demand and the contribution of the project in promoting the Maximizing Finance for Development (MFD) agenda. The following hypotheses will be explored through this evaluation:

- GPRBA finance de-risked sanitation loans and incentivised MFIs to promote loans for sanitation products.
- Access to microfinance loans enabled households to construct improved latrines, previously beyond their financial capacity.
- The output-based approach deployed created positive incentives for sanitation promotion and construction amongst MFIs and LEs.
- Promotion of microfinance for sanitation products leveraged household and private finance, thus reducing the financial burden on development actors.
- The sanitation and financial products promoted were accessible to the poorest households.

2.2. Methodology

The project's strong monitoring system was a significant strength and has provided a range of verified data across a number of parameters. Due to the resources available to this evaluation and in order not to duplicate effort, the methodology of this evaluation has, wherever possible, drawn on available secondary data. While quantitative data was collected during the project period, a lot has not been thoroughly analyzed; therefore, data mining and analysis tools were used to extract meaning from this data.

Analysis of existing data. Data from reports developed by World Bank, PKSF, IVC, MFIs and construction firms were analyzed. Specific attention has been placed on the data gathered by the IVC as part of their verification role. Of the 170,679 reported latrines installed with the support of the loans, 10,511 were verified by the IVC. This is a sample size of 6.2 percent, which provides a confidence level of 99 percent, and a margin of error of just +/-1. This data included comprehensive data on loans provided and repayment status. In addition, a survey of 300 local entrepreneurs was completed during the project, and data from this study has also been used.

The verification process also used the Poverty Probability Index (PPI®) (see Annex 4 for more details) to review the relative wealth of households who took out loans. This has been analyzed to provide insights into the targeting and pro-poor focus of the project.

Quantitative and qualitative data collection. Based on the high level of confidence in the IVC data set, primary quantitative data collection focused on verifying existing data trends and, where necessary, filling gaps within this data set. In addition, some additional validation of the data was undertaken; however, the sample size was significantly lower than the IVC dataset. Primary qualitative

data was collected to gain a deeper understanding of key stakeholders' experiences with the project, including their motivations, levels of satisfaction and quality of processes and outputs.

Critical to the evaluation of the effectiveness of the project's approach and its impacts was dialogue with key stakeholders in the project. Stakeholder meetings took the form of semi-structured, one-to-one interviews, group discussions, and workshops. These interactions took place both in Dhaka and in the field and included interactions with the following stakeholders:

- Credit group members targeted under the project;
- Local construction firms/entrepreneurs (LEs);
- MFIs engaged as Partner Organisations (POs) – see Annex 1 for full list;
- Palli Karma-Sahayak Foundation (PKSF);
- The independent team engaged to verify the project (IVC);
- Microfinance organisations engaged in the WASH sector;
- Development partners engaged in sanitation marketing and/or OBA focused projects;
- Department for Public Health Engineering; and
- World Bank project staff.

Field work and data collection tools: Field work took place on a sample-basis, with the selection of the POs and districts based on IVC verification reports, to gain a sample of high and low performing POs. The field work covered 34 credit groups, with a total number of 757 households registered as members. During discussions with the credit groups, 525 members were present (69%).

Semi-structured interview questionnaires were developed for credit groups, LEs and POs (included as Annex 5, 6 and 7). Field tools were tested prior to visiting other districts. Annex 2 also included a list of the key data points that were reviewed under the evaluation.

2.3. Limitations

A number of limitations in the methodology were identified. While the developed baseline provides some insights, limited data on sanitation coverage or behaviors within communities targeted was gathered prior to or after the intervention. The evaluation gathered a small sample of sanitation coverage prior to and after the intervention; however, primarily the evaluation has relied on national survey data for analysis to provide insights into coverage and targeting.

The resources available to this evaluation are limited and time constrained, hampering the level of field work possible, making primary field work limited and not representative (see Annex 9 for summary of results). However, general trends will be able to be observed based on available data and primary data gathered. It should also be noted that field sites for all POs were not visited during the field work. A list of the field sites visited is included in Annex 8.

Much of the data collected was self-reported; therefore, it may contain several potential sources of bias, including selective memory, telescoping, attribution and exaggeration. The team took measures to cross-verify and triangulate data where ever possible. In addition, LEs and MFIs were reluctant to share data on profitability, and hence profit data has had to be extrapolated from available sales and cost figures.

3. Summary of Project

3.1. Pilot Phase

Between 2010 and 2015, the World Bank’s Water and Sanitation Program (WSP) piloted a sanitation marketing approach¹⁵ in collaboration with MFIs and local level sanitation entrepreneurs. The program was designed to assist consumers to improve their sanitation status from low quality, basic latrines to better quality, user-friendly hygienic latrines. WSP’s pilot project worked with the Association for Social Advancement (ASA), to introduce a specialized loan product for low-income rural households to finance the purchase of hygienic sanitation facilities. In addition, the World Bank trained entrepreneurs on hygienic latrine construction, and small business loans were provided to local construction firms to help them grow and expand their businesses for construction and installation of the new hygienic latrine technologies.

The pilot introduced a household sanitation loan product, which linked the borrower to local entrepreneurs trained in installing a range of improved “second-generation” latrines. The pilot demonstrated that households were willing to take out loans for latrine construction, and access to small loans increased affordability of the hygienic latrines. It was also noted that subsidizing interest rates or modifying repayment terms could remove further financial barriers and provided increased incentives for poor households to take loans for sanitation, where affordability was still an issue.

Association for Social Advancement

The Association for Social Advancement (ASA) was established in 1978 with an original focus on empowering rural landless villagers. As of June 2017, the total number of active ASA members was 7,843,960, which is 20% of sector members. It employs 24,000 employees across 2,651 branches, engaged in disbursing and collecting loans and savings deposits.

Originally established with donor funding, ASA has since become a self-sufficient microfinance institution, relying exclusively on client deposits and retained earnings. Services offered include micro-credit, small business credit, regular weekly savings, voluntary savings, and life insurance. But the signature ASA product remains the low-value, 12-month weekly-repayment loan, backed by borrower saving accounts.

Under the WSP pilot project, ASA benefited from assistance on social marketing and monitoring and, in exchange, provided loans from its own capital and took full responsibility for loan disbursements and collections. Based on the social impact of the sanitation finance product and its commercial viability, ASA proposed to continue and scale up promotion of the product.

While this project provided some valuable lessons in relation to product development, demand creation and innovative financing, a critical contribution of this initiative was to strengthen the enabling environment for such an intervention. The initiative created an incentive for institutions, not previously engaged in the sanitation sector to explore new products, both technical and financial, by lowering risk and covering initial startup and capacity development costs. These engagements resulted in structured policy dialogue with market makers over an extended period and supported the stimulation of a new market.

¹⁵ Domestic Private Sector for Sanitation Marketing in Rural Bangladesh - P50617

3.2. Project Structure & Fund Flows

Based on the enhanced enabling environment and lessons learnt during the WSP pilot, the World Bank under the Global Partnership for Output Based Aid (GPRBA) designed an initiative to scale up the sanitation microfinance initiative in rural areas between 2015 and 2018. The project was implemented in 237 Upazilas (sub-districts) under 42 districts, which were selected considering geographical context, previous working experience in sanitation projects and local implementing capacity. The new initiative combined output-based project finance¹⁶ and funding for technical assistance¹⁷ activities to a total of around US\$ 4 million, with the aim of mobilizing US\$ 22 million from microfinance organizations.

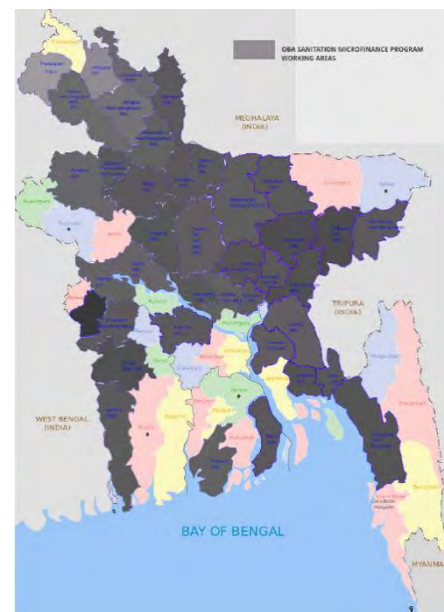
GPRBA contributed a US\$ 3 million output-based grant and brought a results-based approach to the initiative which was not part of the original pilot project. This was only GPRBA's fourth on-site sanitation project¹⁸, and the first involving a blended finance approach combining commercial financing (through MFIs) and output-based subsidies to reach poor households. Funds were provided through GPRBA by the Australian Department of Foreign Affairs and Trade (DFAT), and the resource for the technical assistance element of the program from the World Bank's Global Water Security and Sanitation Partnership (GWSP) trust fund¹⁹.

The World Bank was keen to engage the Government of Bangladesh in the implementation of the scale up of the pilot project. Due to the evidence base built up during the pilot project, in addition to continuing the partnership with ASA, the World Bank was also able to partner with Palli Karma Sahayak Foundation (PKSF). Despite ASA's role in the pilot project, PKSF was selected as the lead partner in the project, due to the fact that World Bank funds provided to the Ministry of Finance could be channeled to PKSF as a government entity (see Figure 4). As a result, ASA operated as a PO under PKSF in the project, and PKSF signed implementation agreements with a further 20 MFIs (Partner Organizations/POs) to provide household sanitation loans.

Due to the fact this was the first time PKSF had offered their POs the opportunity to promote loans for sanitation, PKSF agreed to provide the wholesale loans to their POs at a zero percent interest rate. This was a significant incentive for POs to engage in the project, as it reduced their risk of engaging in a new product area. ASA was the only PO not to take wholesale finance from PKSF, investing their own financial capital for loans in the range of US\$ 10 million.

Figure 4: Implementation Framework and Fund Flows

Map 2: Project Target Districts

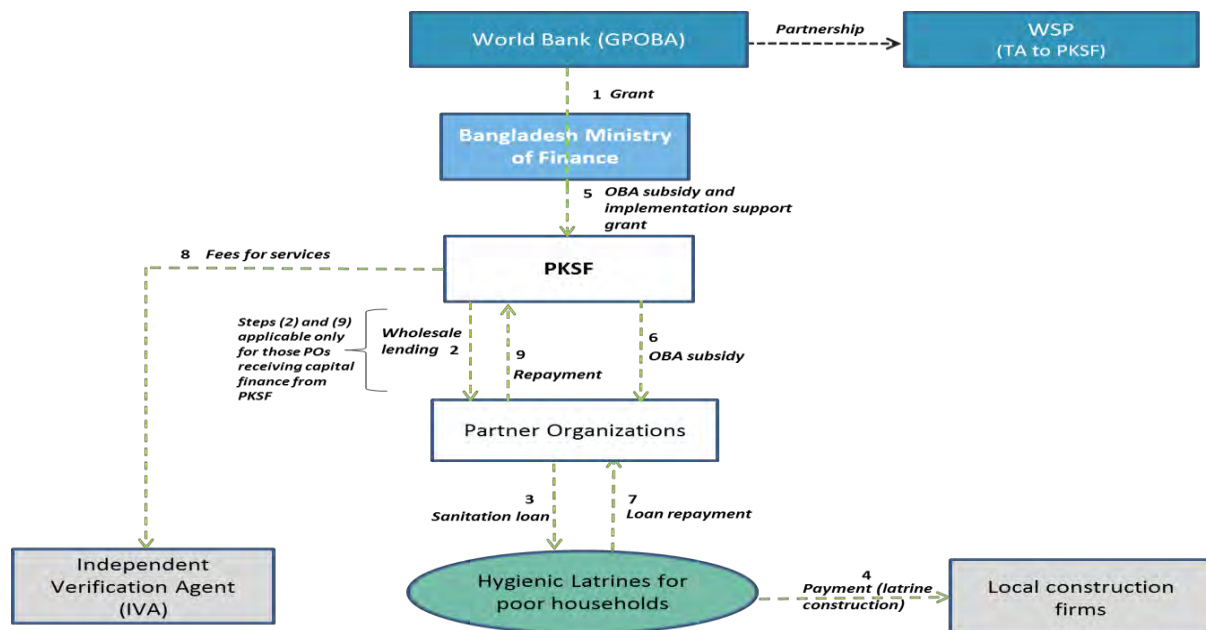


¹⁶ OBA Sanitation Microfinance Program (P157958) – US\$ 3 million

¹⁷ Scaling Up Microfinance Institutions Lending for Improved Rural Sanitation in Bangladesh (P156017) – US\$ 1.2 million

¹⁸ On-site sanitation GPOBA projects have been piloted in Senegal (closed 2011), Sri Lanka (on-going) and Ghana (closed June 2018).

¹⁹ In 2016, the World Bank launched a trust fund, the Global Water Security & Sanitation Partnership (GWSP). GWSP replaced and built on the previous work of Water and Sanitation Program (WSP), and the Water Partnership Program (WPP).



Palli Karma-Sahayak Foundation (PKSF)

The Palli Karma-Sahayak Foundation (translated—the Rural Employment Support Foundation), was established in 1990 by the Government of Bangladesh. PKSF functions as an apex microcredit funder and is an influential stakeholder in the microfinance sector, dominating the wholesale microfinance funding market. PKSF aims to provide financial assistance and institutional development support to appropriate organizations for implementing sustainable and inclusive financial programs. PKSF also focuses on reducing poverty through creating productive employment opportunities for the moderate- and ultra-poor, small and marginal farmers and micro-entrepreneurs. PKSF also seeks to create sustainable employment opportunities for the poor and provide them education, health, training for enhancing their capacity and risk reduction services.

PKSF receives most of its microfinance wholesale funds from the government and multilateral and bilateral development partners—including the World Bank and Asian Development Bank. Microcredit allocations made by the government in its annual development budget are usually channeled to PKSF for on-lending to MFI partner organizations (POs) and to the broader MFI market. During 2016-17, PKSF financed 169 POs and provided US\$ 399 million of lending to these partners. PKSF reached over 12 million borrowers, 90.91% of whom are women.

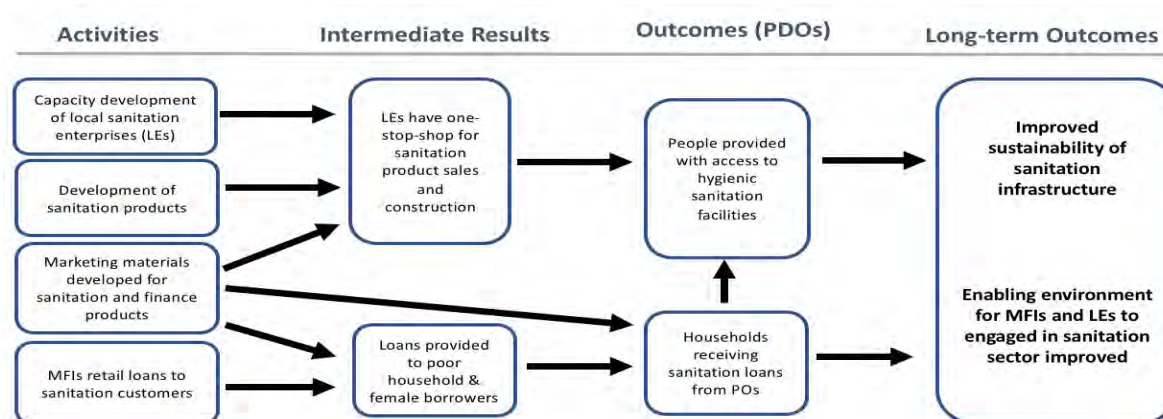
POs of PKSF are implementing across the country by providing financial and non-financial services to its organized members and borrowers. PKSF provides loans to small MFIs at rates ranging between 1 percent and 5 percent per annum and to larger ones at 7.5 percent per annum. The typical rate on commercial borrowing in Bangladesh, by comparison, is between 10 and 15 percent per annum, although MFIs are able to access agriculture loans from commercial banks at 7 percent.

As a result, PKSF's wholesale finance is much in demand, and a large number of medium- and small-sized MFIs are waiting to access PKSF's low-cost funds. Those agencies wanting to access PKSF's fund are put through rigorous requirements before their applications for funding are accepted. Although PKSF has counted several of the larger MFIs (such as ASA, BRAC, and PROSHIKA) as its partners since its inception, the amounts lent to them have steadily decreased to an extent that a negligible amount of loans are outstanding to them.

3.3. Objectives, Indicators and Targets

The objective of the project was to increase access to hygienic sanitation facilities for low-income households in rural areas of Bangladesh through commercial sanitation loans. It aimed to achieve this by providing credit support to rural consumers, for the purchase of materials and the construction of completed hygienic latrines, and small-scale local sanitation entrepreneurs, to provide products and construction services. A summary of the theory of change is set out in the below schematic.

Figure 5: Schematic Overview of the Theory of Change



The table below contains the indicators and targets set out in the design documents for the OBA Sanitation Microfinance Project and World Bank TA.

Table 4: Indicators and Target

Indicators	Targets
Number of households receiving sanitation loans from POs under the project.	170,000
People provided with access to hygienic sanitation facilities under the project.	850,000
Number of hygienic latrines constructed in rural areas under the project	170,000
Number of households receiving sanitation loans under the project which are identified as poor	80%
Loans provided to female borrowers	90%
Households satisfied with latrine installation process and functionality	90%
Number of local sanitation entrepreneurs (LEs) selling a range of latrine materials and components	2,000
Number of local sanitation entrepreneurs (LEs) receiving loans under the project	2,000
Number of MFIs capable of marketing sanitation loan products	10

3.4. Baseline

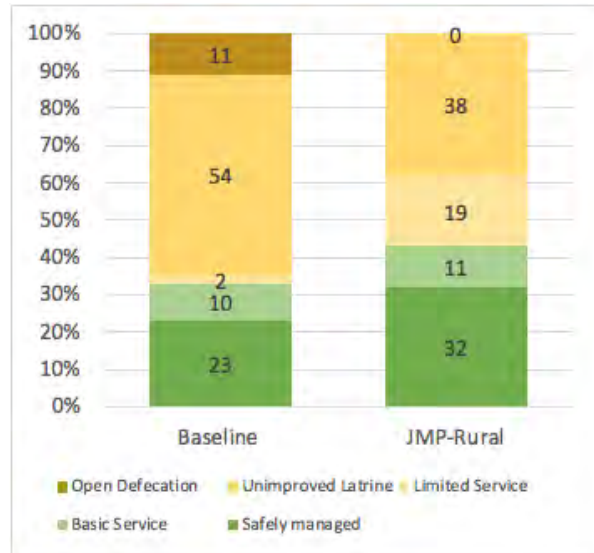
In December 2016, the project engaged NGO Forum to undertake a baseline on the sanitation situation amongst credit group members in target areas. Of the sample of 12,439 households, 89 per cent had access to a latrine. The remaining 11 per cent practiced open defecation, which is considerably more than the reported 0.5 per cent by the JMP. 54 per cent of the households were found to be using a direct pit latrine considered as an unimproved latrine.

A further 12 per cent of households had access to a limited or basic service. Around 23 per cent were using hygienic off-set latrines, which could be considered as a safely managed service, below the 32

percent estimated by the JMP to have this level of service. In addition, the baseline survey concluded that 71 percent of latrines had a superstructure, and only 25 percent had a well finished floor. Just over 10 percent of latrines were found to have access to water in or near the latrine.

Based on interactions with their customers, POs also made an estimate of the sanitation coverage of the 3.12 million credit members targeted with the sanitation loans under project. Based on this data, it was estimated that 41 percent had an improved latrine, 57 percent had an unimproved latrine and only 2 percent were practicing open defecation. While the baseline data and POs data provided some useful insights, due to the size and scope of the baseline, the evaluation has also relied on JMP data for coverage data comparisons.

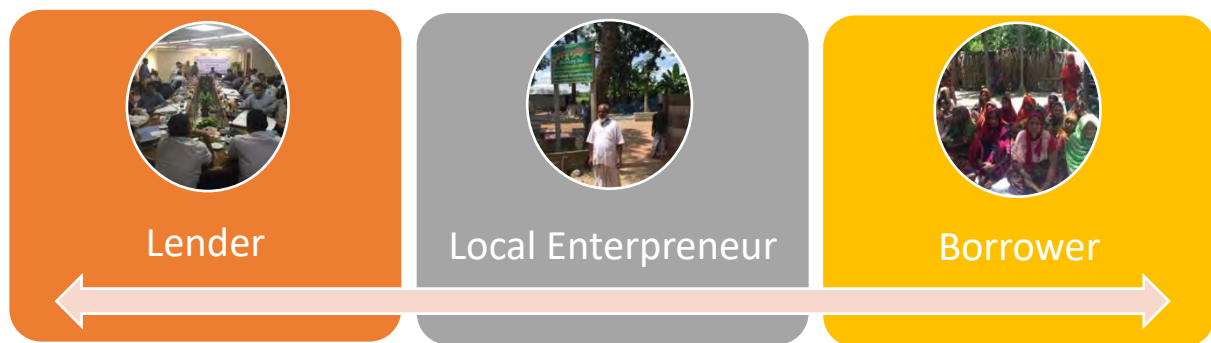
Figure 6: Baseline Survey Data compared to latest JMP data.



3.5. Implementation Modality

The project’s modality was built on the relationship between three stakeholders; the lender, the local entrepreneur and the borrower. The lenders marketed and provided finance to both the local entrepreneur and the borrower. The local entrepreneur was tasked with marketing, selling and constructing latrines financed by the lender. Finally, the borrower was the customer for both the latrine and finance products on offer, and therefore had contractual relationships with both the lender and local entrepreneur. The interrelated and interdependent relationships between these three parties facilitated the necessary transactions required to finance and construct the latrines. The project design aimed to ensure the incentives were right for all parties to fulfil their roles.

Figure 7: Implementation Modality Key Stakeholders



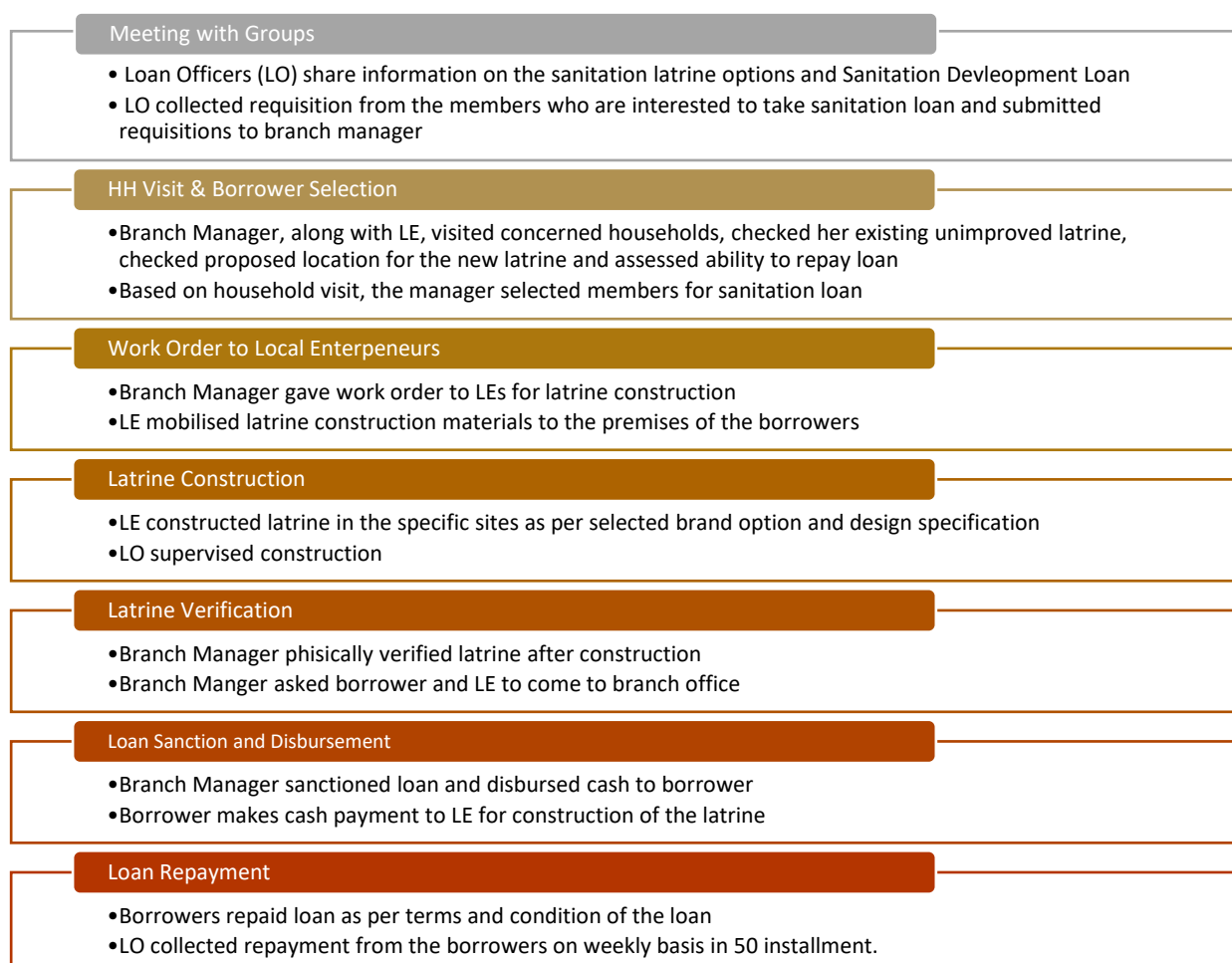
As mentioned above, PKSf acted as the lead partner and channeled funds to the Lenders, both ASA and POs, who were mostly NGOs with microfinance and WASH sector experience. Through 1,388 branch offices of 21 POs, these lenders worked to identify clusters of poor consumers in rural areas interested in accessing sanitation loans. Due to their previous experience and size, ASA had significantly more capacity than the other POs and agreed to provide loans to 100,000 of the 170,000 targeted households.

Pre-qualified local construction firms were identified through a competitive process to act as the local entrepreneur (LEs). Once selected, they were provided with training to support them to market, sell and construct the latrine products being promoted under the project. Building on the lessons from the pilot project, latrine options were developed and promoted that represented a higher level of service than previously promoted in Bangladesh.

The latrine models promoted placed emphasis on ensuring hygienic standards were met, through the installation of a water-seal latrine. However, they also focused on the authentic quality of the superstructure, offering customers an attractive and desirable product. The latrine options offered under the project had a set price, but the differential price points (between US\$ 45 and US\$ 220), offered customers choice based on their preferences and purchasing power. Details of the three latrine options are included in Annex 3.

To support households to finance the construction of new latrines, the project designed a new financial product, the Sanitation Development Loan (SDL), which was promoted by POs (see figure 8). Households then chose from the selection of trained and qualified LEs to construct hygienic latrines. In accordance with the loan agreement, households were required to choose from the selection of World Bank-designed hygienic toilets for installation. The project subsidized the purchase of the latrine by covering a proportion of the capital cost of the latrine. Following the output-based approach, these subsidy payments were disbursed to the POs based on the actual number of loans provided and corresponding latrines constructed.

Figure 8: Household Sanitation Loan Process



The POs which received capital money from PKSF received 10 percent subsidy against the total value of the loan disbursed (loan and interest) to the households. ASA, who invested their own capital, received a 12.5 percent subsidy. Loans had a minimum size of 3,500 BDT (US\$ 45) and a maximum size of 10,000 BDT (US\$ 128); therefore, the unit cost of the subsidy ranged between US\$ 5 and 16. Borrowers were responsible for repayment of the total amount of the loan, minus the subsidy, to the lending MFI, and it was structured so customers paid off their loan in weekly installments over a period of 55 weeks.

While the subsidy was designed to partially cover the total capital cost of the latrine, the subsidy was equal to the interest amount of the loan provided. The POs used this fact to market the loans as an “interest free loan” to their customers, as this was perceived as an attractive proposition that was easily understood by customers and LEs.

Upon completion of works, a team of Independent Verification Consultants (IVC) checked that the works had been completed to the required standard and that consumers had access to hygienic sanitation facilities. Most OBA projects use independent consultants to undertake the verification in order to enhance transparency, and in this case an independent team was engaged by PKSF. The IVC adopted a sampling methodology and visited households to verify latrines on a quarterly basis. Based on this verification, the OBA subsidy was released by the World Bank to PKSF and onto the POs.

In addition to the household sanitation loans, loans were also made available to the LEs that had undertaken the training and engaged in the project. These loans were to support the LEs to expand their businesses to address demand from the project, as well as to cover working capacity and cashflow in the short term. The entrepreneurs’ loans ranged from US\$ 500 to US\$ 2,500 and were provided at a flat interest rate of 12.5 percent and delivered as per the policies of POs. Unlike the household loans, the LEs loans were not subsidized by the project.

Through the technical assistance activities supported under the project, demand creation and market promotion were undertaken, including handwashing promotion and behavior change activities. In addition, follow up support to trained entrepreneurs was provided to ensure quality of construction, involvement of community leaders and local government, and support to POs to reach the poorest households. By raising awareness of the need to shift from unimproved to hygienic sanitation facilities, local government agencies and NGOs helped build demand for the loan.

3.6. Results

As of June 2018, US\$ 21.6 million of sanitation loans were disbursed through microfinance lending under the project. In addition, LEs undertaking the works had received US\$ 1.43 million in loans. The project supported the construction of 170,679 latrines, in doing so meeting its 170,000 target. This was a significant achievement considering the time period of the project implementation. Promotion of the new latrine and financial products was due to commence in March 2017; however, due to heavy monsoon rains, these activities did not fully commence until October 2017. Therefore, these latrines were promoted and constructed in the 9-month period to end of June 2018. In comparison, the recently completed Government of Bangladesh’s Rural Water Supply and Sanitation Project implemented by DPHE promoted and constructed 55,000 latrines over a 3-year period.

Table 5: Project Outputs related with latrine installation and loan disbursement

Number of latrines installed	Number of beneficiaries reached	Number of latrines verified	Loan disbursed	
			BDT Million	US\$ Million
170,679	853,395	10,511 (6.2%)	1,682	21.6

The ability of this project to implement at such speed is due to a number of factors. The fact that project's concept had been proven and the enabling environment for this approach had been developed through the pilot phase and ongoing policy dialogues within the sector provided a strong platform to implement. In addition, while latrine promotion did not commence until October 2017, prior to this a series of training activities for POs and LEs had taken place to ensure sufficient capacity was on the ground.

As mentioned previously, ASA had already been engaged in the pilot, and PKSf was able to select POs with experience in the WASH sector. The combination of this WASH and microfinance experience was a significant benefit to the project. It should also be noted that ASA and the PKSf POs had significant capacity and outreach within their focused geographic areas. As a result, they were able to mobilize multiple branches or field offices to promote the latrine and financial products. For each of the individual ASA branches and PKSf POs, the targets were relatively small compared with their total number of credit group members.

While PKSf POs were all initially provided the same target of 3,500 sanitation loans, POs strong management systems enabled them to modify targets allocated based on performance. Those POs who were slow to sign and disburse loans with members had their target reduced, with these being reallocated to those POs moving at a faster pace. This was a clear benefit of the output-based approach implemented under this project.

A total 1,659 LEs received training through this project, and in addition to this, 735 LEs who received training earlier from the pilot project were included. As a result, in total 2,394 LEs received training in the project areas. As expected, not all the LEs engaged in the project activities; up to June 2018, 1,570 trained LEs were active and producing latrine materials as per project design and delivery services. Of those that were active, all were offered loans. However, only 1,031 LEs took up this opportunity and received loans from respective MFIs to expand their sanitation business

Table 6: Summary of the Project Target and Results

Indicators	Targets	Results
Number of households receiving sanitation loans from POs under the project.	170,000	170,679
People provided with access to hygienic sanitation facilities under the project.	850,000	853,395
Number of hygienic latrines constructed in rural areas under the project	170,000	170,679
Number of households receiving sanitation loans under the project which are identified as poor	80%	89%
Loans provided to female borrowers	90%	96%
Households satisfied with latrine installation process and functionality	90%	N/A
Number of local sanitation entrepreneurs (LEs) selling a range of latrine materials and components	2,000	1,570
Number of local sanitation entrepreneurs (LEs) receiving loans under the project	2,000	1,031
Number of MFIs capable of marketing sanitation loan products	10	21

4. Evaluation Findings

4.1. A New Generation of Latrines

The latrine models promoted through the project were developed based on the experience of the pilot and aimed to offer the customer an improved service at an affordable price. The new latrine models were widely accepted due to them balancing the needs of both consumers and retailers. This is demonstrated by their uptake and the high level of consumer satisfaction with the products. However, as with any new product, there was also some level of caution and misgiving of the design compared to what households were used to.

In some areas, particularly in Tangail, households had the practice of constructing latrines with very deep pits (8-12 rings), with the misconception that the pit will fill up quickly, if not deep enough. Similarly, traditional latrines had included a ventilation pipe, and households had been informed that if not included, a bad smell would pollute the latrine and the environment. Due to these prevailing misconceptions, progress was slower in some areas and additional product marketing was needed to educate consumers of the benefits and functionality of the new latrine models.

It should be noted that the new latrine models did not overcome the ongoing challenges of lack of space for construction and proximity to water sources, which are a widespread problem across Bangladesh. These are the main reasons for the high levels of latrine sharing, and the latrine models promoted in this project did not offer any new solutions to these challenges.

Due to their skills and knowledge, traditional latrine manufacturing businesses in Bangladesh had only sold latrine components such as cement slabs and rings. Very few sold a complete latrine product package (sub-structure, slab and superstructure), and they had also not offered transportation and construction services to their customers. This project's inclusion of additional products and services added significant value to consumers, who recognized the time and cost saved in a having a complete latrine delivered to and built at their home.

Figure 9: Latrine Options Promoted



In the project, three types of latrines were promoted: (i) Aram Plus, (ii) Bilas Box and (iii) Bilas (brickwork platform). Under the pilot project, an additional model "Aram" latrine was offered; field

experience shows that none of the users liked this option, so it was dropped. The latrine models have provided the sector with new options for increasing the quality of rural on-site sanitation in Bangladesh and solutions for achieving the higher standards set out under the SDG safely managed definition. However, consumers were found not to be interested in the technical specification of development targets. Instead, they are driven by personal preferences and financial implications when making decisions about the use of their income and scarce resources.

This was confirmed through discussions with credit group members, who revealed that households did not have a clear understanding of the concepts of what constituted a “hygienic” or “improved” latrine. Some groups perceived only latrines with brick walls, an offset pit and a cemented platform as an improved latrine, while other groups believed that a direct pit with slab qualified as an improved latrine. Many households who had not taken up the offer of a sanitation loan articulated that they did not need to take a loan for a new latrine as their existing latrine was of adequate quality. However, physical verification during this evaluation demonstrated that many of these old latrines perceived as “improved” were found with poor quality superstructures or slabs and were not hygienic.

With latrine use now widespread across Bangladesh, consumers confirmed that a driving motivation of a second-generation latrine came from its status value, specifically coming from the quality of the superstructure and its visually pleasing nature. The attractiveness of the latrine design and superstructure were significant motivating factors in taking a loan. Owning a latrine that provided an enhanced user experience (including less smell, increased privacy from more a robust superstructure, easier to clean, and less chance of breaking) was also key motivating factors in customers’ decision to take the loan and upgrade their existing latrine.

Consumer preferences were also influenced by the LEs own preferences and marketing approach. It was to the LEs advantage to promote less choice to consumers, for ease of stock and material management, as well as to promote the model they were confident to construct and offered them the most financial returns. Hence LEs own sales approach often promoted one model over others. Once a few households chose a single model, consumers were more likely to replicate this choice, as explained by behavior economics consumer herd mentality. This was amplified by the demonstration effect, as the new models of latrines “opened their eyes” to the health and environmental cleanliness benefits, as well as social dignity and status.

The project data shows that the vast majority (63 percent) of households chose the Bilas Box and Bilas (brickwork platform) models. These models met consumer preferences for a second-generation latrine, but the project design and financial considerations also drove the high demand for the Bilas designs. The most likely driver of the choice of this model was the alignment of this model with the available credit. Priced at BDT 10,000, the Bilas offered households the largest loans and maximum advantage of the interest free offer (subsidy), without having to use their own resources.

While the project fixed the price of the latrines promoted, the technical design and associated price were calculated to ensure LEs could make sufficient profit to incentivize their engagement in promoting and selling the products. The fixed price also aimed to ensure the latrines remained affordable, aligned with the loan product, and to stop LEs from inflating the price of products. However, this meant that as the cost of materials fluctuated in different areas, and over time, it was the LEs margins that were affected. There was flexibility, however, on the cost of the transportation of materials, as this varied depending on the location of the village in relation to the LEs production and sales centers.

The latrine pricing policy had to be modified during the initial stage of the project due to increases in the cost of materials and labor. The details of this are set out in Annex 3. The additional cost charged by LEs was negotiated with POs in order to avoid unnecessary price inflation. In these cases, the customers had to cover the additional cost, and this was paid upfront by the borrowers to the LEs.

As the increases in cost was not covered by additional loan financing, in some cases customers had to make the choice as to whether to purchase a lower cost latrine to cover short fall or to cover the additional transport cost with their own finance. Final figures show that 39 percent of customers made additional investment over and above the loan amount. The total additional investment from customers was roughly US\$ 620,000, with an average additional investment of BDT 735 (US\$ 9.42). The project data suggests that a significant number of customers were able to absorb this additional cost. However, the data does not allow analysis of to what degree it excluded poorer households.

4.2. Household Borrowing and Loan Products

While loans for non-income generating activities, such as education, medical support or house repairs, are not uncommon, the majority of microfinance loans are taken for income-generating activities. This trend is driven by both the lender and borrower, as both parties prefer to be able to see a direct relationship between the return on the loan and its repayments.

For most POs, this was the first time they had been offered the opportunity to access resources to offer sanitation loans, and hence, sanitation loans were only a small percentage of their overall lending portfolio. During the project period, sanitation loans accounted for just 0.5 percent of the POs overall loan portfolio, noting a marked difference between ASA (0.3 percent) and the other POs (1.9 percent).

POs were motivated to promote sanitation loans for a range of different reasons. The offer of interest free credit from PKSf, would have been a significant initial motivating factor for all the POs, with the exception of ASA who used their own financial resources. Interest-free credit offered the opportunities for POs to make greater returns on the loans they made with this finance, as well as reduced the risk of entering a new market, especially one focused around non-income generating activities. Section 4.5. discusses some of the additional costs associated with this model that offset this benefit.

Many of the POs conduct a range of social and development interventions in addition to their microfinance activities. Through these activities, they had direct or indirect experience in sanitation and were aware of the challenges posed by poor sanitation in the communities they worked. POs with strong links to local communities saw this project as a good opportunity to promote sanitation through an innovative approach and, in doing so, offer their customers a much-needed basic service.

As the sanitation development loans (SDL) was not an income generating loan, the POs saw the SDL as a secondary loan product, which they were reluctant to provide to borrowers who did not have a track record of repaying loans or a clear source of income generation. Hence, POs targeted the SDL at their existing customers. Despite this approach, POs reported that just under 13 percent of borrowers were new customers who had not previously borrowed from them. Latrine loans were provided on a first come, first served basis, with those perceived as most capable of repaying the loans prioritized.

Feedback from customers and POs confirmed that marketing the SDL as an “interest free” loan was a significant motivating factor in the decision to take out the loans, as it made the prospect of the sanitation loan more financially appealing. Most customers had not been exposed to such an offer, and hence the offer acted as an effective marketing tool to attract customers. Another significant

enabling factor in household purchasing the new latrines was the ability for the loan to be repaid in installments. Households reported not having the required BDT 10,000 available in cash to make a onetime payment, but the ability to spread the repayment over a year enabled them to make the purchase.

These findings strongly support the project design and the role access to credit and an effective subsidy played in creating a market for both sanitation loans and second-generation latrines, as well as to reward first movers. There was no market distortion because at the time, there was no existing market for rural sanitation loans to distort.

Those households who did not take out sanitation loans did so for a range of reasons, including their existing sanitation status. It was also clear that some borrowers were not willing or able to take out loans for a non-income generating activity due to the additional burden that these repayments would make on their existing household finances.

Based on data gathered by POs from the 3.12 million credit members targeted, the overall uptake rate of loans amongst members with an unimproved latrine or no latrine was 9.1 percent. It is worth noting that there is a significant disparity in the uptake rate between ASA customers (6.1 percent) and PKSF other POs' customers (30.3 percent). This is primarily due to ASA significant size and the fact they promoted the product to 2.7 of the 3.12 million credit group members targeted. Uptake rates of 30 percent are very encouraging and demonstrate what could be achieved in a single community with enough finance and time.

Data collected during the field work showed that the majority of those taking out loans were those who had a basic latrine already. Data also showed that households still practicing open defecation were less likely to take out loans. The fact that those practicing open defecation are likely to be in the lowest poverty quintile means that this group was as hampered from taking a loan by their economic status as their sanitation behaviors.

Sanitation Loans Break Open Defecation Habit

Noor Aysha, aged 68, comes from a poor day labourer farmer's family from the south Holudia village of Satkania upazilla under Chittagong district. Due to poverty, she never got the chance to go to school. She was married to a day labourer, Syed Hossain, when she was 12 years old. She had 7 children but got tortured by her husband and other family members for claiming a dowry, and eventually her



husband left her. Noor Aysha went back to her father's house and, with the help of her father and brothers, constructed a small hut to live in. She earned her livelihood by working as domestic worker, as well as cutting and selling wood from the forest. There was no latrine in her small hut and she practiced open defecation. The surrounding environment was polluted by bad smell.

In December 2017, the field officer of Prottiyashi was discussing issues of safe water and sanitation in a meeting with Utshab Women Society. The meeting was taking place near the hut of Noor Aysha, and out of curiosity she joined the meeting. As a result, she came to know about the interest-free

sanitation loan provided by Protyashi with support from PKSF and the World Bank. She became interested in getting such a latrine, became a member of the credit group and applied for the sanitation loan. Protyashi field officer and the local entrepreneur, Rafique, visited Aysha's hut and found some space for the latrine construction. It was difficult to mobilize latrine materials on the steep hill side, but the LE and Protyashi field officer, with assistance from the other group members, managed to construct her latrine. Noor Aysha was amazed to see the colorful latrine and was so happy. Protyashi field officer demonstrated how to use the latrine and keep it clean. She and her family members now use the latrine and practice regular hand washing. As a result, she got relieved from diarrheal incidences and other infectious diseases for which she often became sick and could not work. She was grateful for the new solution to her sanitation problem and to be able to live a dignified life with an improved latrine. Noor Ayesha repays her loan installments regularly from her income from wood cutting. She now realized that a *"safe latrine means prosperous life"*.

As mentioned in the previous section, there were also those households who were happy with their latrines and therefore did not see the need to take out an additional loan. Loan for latrine upgrading was offered in the initial stage of the project. However, this was difficult to manage and verify under the OBA structure of the project, and hence these loans were stopped. Following this, loans were only offered for the construction of complete latrine structures.

There were also households who were willing and able to build a latrine to a higher standard than those on offer, such as with a bathroom attached. For these consumers, the project's fixed loan ceiling of BDT 10,000 for latrine construction was a barrier. A more flexible sanitation and finance product offering could have supported those households who felt their existing latrine was adequate but might have wanted to upgrade some element of it.

Data from the field work showed that previous latrines had been self-financed, as well as supported, through subsidies provided in the form of latrine components. Interestingly, due to the poor quality of subsidized materials provided previously and the bad experience customers had had with those latrines, customers' previous access to subsidies did not impact their willingness to take out loans for the new latrine products. The general perception from consumers was that they were willing to take out a loan for a good quality product and service if they needed it and could afford it. A majority of credit group members expressed that they had not previously been exposed to such a good quality, attractive latrine, and hence previously lacked any motivation to invest in a shift from their unimproved latrine to an improved latrine.

Many customers with an unimproved latrine who did not take out a loan shared that this was not due to a lack of interest in the loan product or the new latrines, but the barrier was due to the timing of the offer. Some borrowers had existing loans and were not in a position to take out an additional loan. This issue impacted poorer households more than relatively wealthy households, who could manage multiple loans simultaneously, and is discussed further on the section 4.6 on pro-poor targeting.

The project's short timeframe further exacerbated this issue, with the majority of the loans being agreed in the early months of the project. Those who were not first movers found themselves unable to access loans in the later stages of the project due to a lack of available funding with the POs. This delayed demand was as a result of consumers not initially understanding the benefit and facility of having such a good latrine or wanting to see other latrines before deciding. Some consumers shared that they will soon construct their own building, where they planned to construct an attached latrine.

Both these issues suggest the project could have reached more consumers if time and finance had allowed and demonstrates some level of latent demand that could be capitalized on in future projects.

Recovery rate of microfinance loans in Bangladesh are remarkably high, with MFIs claiming between 95 and 98 percent of loans are fully repaid. This figure is slightly lower in the agreed loan repayment timeframe but increases due to flexibility in repayment period granted to defaulting customers. Comprehensive analysis of the repayment rate in the project is not possible until all the loans repayment periods expire, and final analysis of funds written off can be captured. However, up until June 2018, 41% of sanitation loans had been repaid, with a small variation between ASA (39 percent) and PKSF's other POs (44 percent). Out of these customers, less than 1 percent (0.83 percent) have overdue loans as of June 2018, which accounts for 1.21 percent of the total loans granted. Based on this, repayments appear to be on track, and in line with MFI averages for other products. A number of POs reported that the SDL was one of their best performing loans in terms of repayment; however, comparative analysis for this is not yet available.

Shurma Eco Women's Society Seek Loans for Sanitation

Shurma Eco Women's Society is a credit group of ESDO (a partner organization) in Palli-biduyt Daspara village of No. 8 Rahimanpur Union under Sadar Upazilla of Thakurgaon District. The Society has 25 women members led by Smriti Rani.

Of 25 members, six belonging to ultra-poor group (Buniad) implemented the cow fattening project with a loan of BDT 450,000; four members operate fishing businesses with a loan of BDT 75,000 taka; and two members do bamboo work with a loan of BDT 25,000.

Analyzing the sanitation situation of the credit groups members, it was found that only 6 members had an improved latrine, 10 had an unimproved latrine and 9 members were still practicing open defecation. ESDO initiated the sanitation microfinance program by undertaking motivational work about construction of improved latrines. As a result of this awareness building, 13 members took loans and established Bilas Box latrines.

The members who took loans repay the total loan amount of BDT 10,000 over 50 weeks in installments of BDT 200 without any interest. So far, there is no case of default in loan repayment in this credit group. The remaining members of the group who do not have any latrine have also become interested to take a loan for latrine establishment. However, the project has now closed and they are exploring other options to take a sanitation loan with interest.

The credit group believes that by constructing the new models of improved latrines, the reputation and social dignity of the members have substantially increased and the health risk due to unhygienic practices has reduced.



4.3. Supply Side Strengthening and Business Models

The market for small businesses who manufacture and construct latrines in rural Bangladesh is more robust than in many countries. A number of government and NGO programs over the past two

decades have supported the establishment of businesses producing concrete rings and slabs for the construction of “first generation” direct pits. While most of these have been established to support projects, many have continued to operate beyond the project period. However, as sanitation promotion activities stopped and demand for sanitation products waned, many of these businesses have diversified into other concrete products, such as pillars for house construction.

The pilot project demonstrated that the careful selection of entrepreneurs and businesses to invest in capacity-building activities is critical to their long-term viability as businesses. Even with strong selection criteria, the pilot also revealed that following training, around 40 percent of LEs would not go on to engage in latrine construction activities. This is due to perceived low profit margins and some LEs’ lack of interest to provide additional services beyond the manufacture and sale of products. As a result, 2,372 LEs were trained during the pilot and project periods, and as expected, 1,570 (65 percent) went on to actively engage in the manufacture, sale and construction of latrines under the project.

The availability of enough active LEs was a problem in some areas, and hence the engagement and proactivity of the LEs guided the areas where POs were able to promote loans. Evidence suggests that some LEs were willing to cover larger areas, and thus serve more than one credit group, and in some cases, more than one PO working area. LEs that were able to serve these larger areas increased their market share, and were able to reduce costs through economies of scale. Such advantages had a positive impact on the long-term viability of their business as margins were tight, especially as the project fixed the sale price of the latrine products and material costs rose during the project period.

While the size of the LEs varied depending on their existing capacity and ambition within the project, most LEs expanded their workforce to meet the demand and, on average, employed 5 masons and 3 laborers during the project period. Some LEs found it difficult to find additional masons and laborers during the harvest season (October-December). This hampered their capacity to meet demand, and it also suggests a potential barrier for future expansion of their activities without additional capacity building activities.

LEs reported to have seen the purchasing power of their customers increase in recent years, while the demand for their traditional sanitation products subsided. Hence for those LEs aware of the market, the new latrine designs provided a great opportunity to refresh their product offering and meet the changing preferences of their customers. The training LEs received through the project enabled them to learn new skills and new products to market.

The most significant shift in the LEs business models, which impacted the market as a whole, was the provision of products and services across the latrine supply chain (figure 10), rather than remaining as suppliers of a limited number of products. Previously, LEs had sold rings and slabs at their site. Through the new approach promoted by the project, they were required to provide other services, such as transportation of materials and construction at the location of their customers. By expanding their product offering, including latrine options and supplementary hygiene products, and using their skills to construct latrines on behalf of households, the LEs became a “one-stop-shop” for latrine construction, serving the whole supply chain.

Figure 10: Supply Chain for Latrine Construction and Maintenance

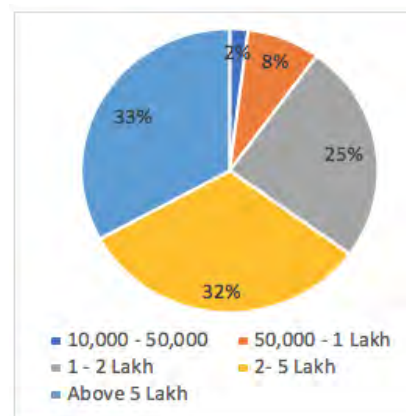


These services offered additional value to customers and provided an opportunity for LEs to charge for these new services, thus increasing their returns. Customers reflected that the “one-stop-shop” approach was also a significant motivating factor in their interest in the latrines, as it reduced additional transaction costs of sourcing masons and transportation of products. Customers reported the quality of service and construction from LEs was good, and the incentives for this are discussed in section 4.5.

While the project funding did not provide any additional finance or subsidy, PKSF offered the LEs business loans, using their normal terms and conditions, to support their engagement within the project. The provision of these business loans addressed the challenge of LEs being unable to pre-finance service provision prior to receiving payment.

While not all of the LEs required finance, a total of 1,031 LEs (43 percent of those engaged in the project) took loans from POs to support with the purchase of materials and equipment to enable the expansion of their business. In total, PKSF loaned BDT 112 million (US\$ 1.43 million) to LEs, with an average loan size of roughly US\$ 1,392. However, it should be noted that there was a considerable range in the size of loans provided to LEs, from as a little as US\$ 128 to as much as US\$ 12,820 (figure 11).

Figure 11: LE Loan Size



As would be expected, analysis of the LEs showed a significant increase in their sanitation business during the project period (see Table 7). On average, LEs saw an increase in monthly sales of nearly 250 percent, but this only translated into an increase in profits of 115 percent. While the LEs saw sale volumes increase, the margins on the products and services offered under the project were below those previously achieved by the business. However, higher volumes driven by the availability of credit for their customers meant the LEs benefited significantly from the sale of the new products.

Table 7: Overview of LEs Sale and Profit before and after Project²⁰

	Average Monthly Sale		Monthly Capital Amount (US\$)	Monthly Profit (US\$)	Profit Margins
	Units	Value (US\$)			
Year prior to project	22	918	1,737	170	19%
During the project	37	3,181	3,859	365	11%

The LEs tried to align the price of materials and construction with the loan ceiling of BDT 10,000. This was not always possible as in some places, prices had to be set 10-20% higher due to increases in material, labor and transportation costs. The cost of latrine materials increased in late 2017, which eroded the profit margin of LEs in some areas and made them reluctant to continue latrine construction within fixed prices set by the project.

The analysis does not provide any insight into whether the business sacrificed the sale of other, potentially more profitable products, to meet the growth in demand for sanitation products. However, most LEs have expressed satisfaction with the new latrine models and the provision of the “one-stop-shop” service, as well as showed a willingness to continue. Those that were not interested to continue

²⁰ Sales and profit figures are based on interview with LEs, and where possible this was triangulated with other data. However, it should be noted few LEs kept books of accounts, and hence the data is reliant on information provided by LEs. It is expected that LEs would underestimate their profits, so not as to look as if they were exploiting their customers.

primarily pointed to two factors: their lack of interest to market and provide services to the customer's doorstep and their desire to return to manufacturing and selling products at a single point.

During the project period, LEs were primarily focused on sanitation business generated from those households receiving loans. However, LEs reported between 3 and 5 percent of sales of the new sanitation products coming from households not taking out loans. Final project data confirmed that in addition to latrines constructed with the support of the SDL, a further 14,448 latrines were sold to customers without SDLs. This is an encouraging finding and demonstrates the strength of the products being promoted, as well as the purchasing power of some consumers in the market place.

Doctor Motivated to Lead Local Sanitation Enterprise

In 1999, Md. Nazmul Kabir of Jikorgacha, Jessore, was engaged as a village doctor. He moved around in the rural area by riding his old bicycle. At that time, there was poor sanitation and unhygienic practices among the rural people, and he saw many patients affected by diarrhea, dysentery, worms and parasitic diseases. As a result of there being no sanitary center in the area, Nazmul decided to start the sanitation business and established a sani-mart in 2000 with initial capital of BDT 2,600. He started his sanitation business on a very small scale and sold latrine materials from his production center. His monthly profit was between BDT 15,000 – 20,000 per month.

In 2016, ASA selected him for the Local Entrepreneur's training in Jessore. Nazmul attended a three day long Local Entrepreneur Capacity Building Training facilitated by the World Bank, where he got hands-on training on the construction of a range of new latrine technologies.

To meet the demand of the project, Nazmul took a loan of BDT 99,000 from ASA, which he repaid, and subsequently took a second loan for the same amount, which he is repaying regularly. This additional finance has enabled him to expand his business, establishing 4 more production centers to help him work with eight ASA microfinance branches in Jhikorgacha. His expanded business currently employs 16 people, including eight masons, three carpenters, two van drivers and two ring and slab maker.

With the support of the ASA offices, Nazmul and his team visited customers' houses to promote the



project sanitation issues and technologies. His business has successfully constructed 1,000 Bilas latrines for the project. His total business capital grew from BDT 0.5 million before engagement with the project to around to BDT 2.4 million after completion of the project. His average monthly sales are BDT 0.8 million and he makes monthly profit around BDT 120,000- 160,000.

Nazmul's business has significantly benefited from the project by increasing the volume of latrine construction work. More importantly to him, he was given the opportunity to provide sanitation

services to a bigger community, which motivated him to continue this business. Nazmul expressed his feelings: *“I have got much reputation in my current sanitation business and I am respected by the community for serving them with improved latrine construction and this gives me much pleasure. I really feel proud to be engaged with such noble work in the society, which is nevertheless more prestigious than my previous profession of being a village doctor”.*

4.4. Promotion and Marketing Activities

Due to Bangladesh’s successful reduction of open defecation most customers were already existing latrine users not practicing open defecation. The project aimed to address the next stage of sanitation coverage in Bangladesh to move households up the sanitation ladder, and hence the marketing strategies and tools were framed around this.

The POs were given the primary responsibility for motivating households to take out loans and build new latrines. They introduced sanitation loan products in their weekly sessions with the credit groups, where they also dealt with general loans and instalment collection. In addition, the project engaged a third party (NGO Forum) to provide technical support to the POs to undertake demand creation sessions with the credit groups.

POs loan officers normally focused on responding to customer demand for loans, and not on generating demand around new loan products. As a result, loan officers often did not have sufficient time for extra demand creation work, as it was time intensive and they still had to manage other ongoing loan activities. In addition, as sanitation promotion was a new area, many loan officers lacked the knowledge and skills to disseminate sanitation-related information to the credit group members.

Figure 12: Marketing Materials



To support communication activities, standard marketing materials were developed for POs and LEs, including posters and brochures with details of the different latrine models (see figure 12). The standardization of these tools ensured consistency and quality across the communication tools and, in effect, subsidized the marketing activities of the initiative.

The communication strategy focused on the convenience and quality of the new latrines to tap into households desire to improve their existing services. The communication messages did not focus on the health benefits of using hygienic latrines, which has been the approach used to eradicate open defecation. As a result, despite having access to and using latrines, many credit group members still didn’t understand the health risks of unhygienic latrines.

In the same way, traditional behavior change approaches focused on collective community action, whereas the project focused on individual household action and not on achieving community outcomes, such as open defecation free communities. As a result, there was no specific strategy for targeting households who were still defecating in the open to change their behavior and achieving 100 percent sanitation coverage in communities.

It is clear that the demonstration effect was a significant driver of demand, with household demand for latrine and loan products increasing once they saw the physical structure of the new latrine models. LEs supported latrine promotional work by providing information and increasing demand for latrines amongst neighboring households, while working on the construction of the initial latrine orders.

While the local government, particularly the Union Parishad, appreciated the initiative of POs to promote and construct quality latrines in the community, there is no evidence that their resource and capacity was harnessed to directly engage in the promotional work of the loans or latrines.

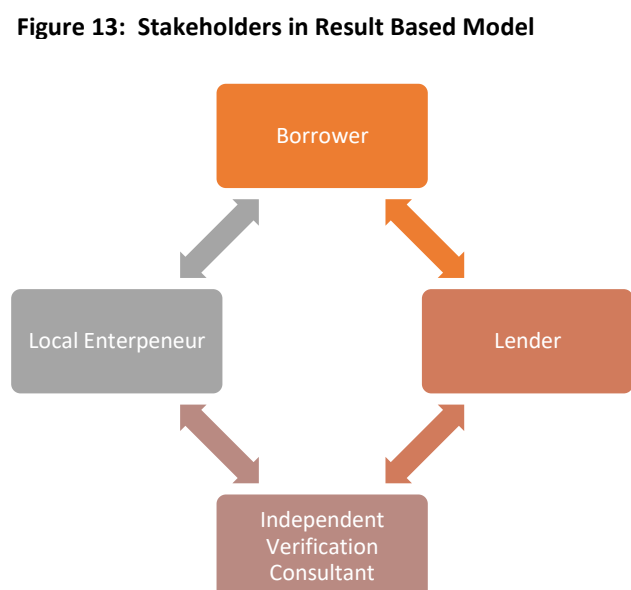
4.5. Result Based Model

Output-based subsidies offer the opportunity to deliver public funding into the sanitation value chain in a way that is cost effective and has measurable impacts on access. However, fundamental to OBA financing schemes is the requirement that service providers pre-finance their investments. Such pre-financing requirements have proved to be a real constraint, especially when the service providers are small and have difficulties in accessing finance.

The design of this project effectively overcame this issue by adopting both an OBA and microfinance approach. The design addressed the financial constraints of smaller MFIs through the mobilizing of resources from PKSF, discussed more in section 4.7. In addition, the microfinance loans provided to both the LEs and customers addressed the pre-financing issue of both purchasing materials to construct latrines and the actual purchase of latrines. Combining OBA subsidies with microfinance proved to be an effective way of facilitating pre-financing to local service providers whilst maintaining the incentives to serve poor customers.

The grant provided by GPRBA was designed as an OBA one-off capital subsidy. This results-based model created a range of positive incentives for different stakeholders to ensure project objectives were delivered in line with expectation. The output-based approach introduced an important fourth party into the delivery model. The Independent Verification Consultants' role was designed to improved service quality and accountability, as well as provide assurance that funds have been used for the intended purpose

Although the verification activities of the IVC were ultimately focused on outputs, as these activities were ongoing throughout the project, it provided a useful monitoring and feedback mechanism to identify shortcomings and obstacles and, where necessary, put in place corrective



actions. This is well demonstrated by PKSF's ability to modify POs targets during the project based on performance.

In accordance with OBA principles, the project funds covering the interest on the sanitation loans was paid upon verification that the latrine had been well constructed. In this way, performance risk was not taken on by the household, but rather the POs in the case that latrines were not constructed according to the required standard.

Under a normal microfinance initiative, the POs would primarily be focused only on the borrower's repayment of the loan; however under this result-based model, the POs were also concerned that the borrower used the loan for its stipulated purpose and with the quality of the product that the loan was purchasing. If the IVC was to find that the latrine had not been built or the quality of the latrine did not meet the standard, then the payment of the interest on the loan would not be made.

The POs passed on some of this risk to the LEs by not providing the loan to the customer until the POs had verified the latrine quality for themselves. The customer was also empowered through this approach. By not paying upfront, they had more leverage to demand a higher quality of service from the LEs. However, the approach also meant the customer had to work inside the designed system. Should they not have chosen to construct a hygienic latrine from the selection of project designed technologies or have it installed by a qualified project LE, the customers would not be eligible for the subsidy.

By financing a range of activities to support the different actors and ensure the quality of latrine installation, the project design helped to reduce the risk of the final output payments not being made. This range of activities included training and capacity building of LEs, the design and promotion of specific latrine models, providing technical assistance to LEs for on-site sanitation promotion and infrastructure development and insisting a two-year warranty was offered by LEs to customers.

The model incentivized the delivery of results, leading to targets being met. It also had a strong quality control mechanism, as few latrines were found by the IVC to be poor quality and customer satisfaction was high. However, the additional work of the loan officers overseeing construction and verifying the quality of outputs increased the transactional cost of the POs compared to other lending activities. In part, this cost was offset by the fact PKSF provided loans to its POs free of interest; however, questions remain on whether this model would be sustainable if POs had to absorb these additional costs without a preferential rate on the retail loans they received.

The OBA model has introduced greater discipline of governance, reporting and transparency into the implementation of this sanitation project. The approach has also increased the transparency of subsidies, which are often hidden and almost never quantified under other approaches. The right enabling environment to mobilize and leverage commercial finance was formed by increased financial discipline required under the OBA approach and the reduction of market distortions created by the dominance of indiscriminate, highly subsidized donor financing. This is explored further in Section 4.7.

4.6. Poverty Targeting and Inclusion

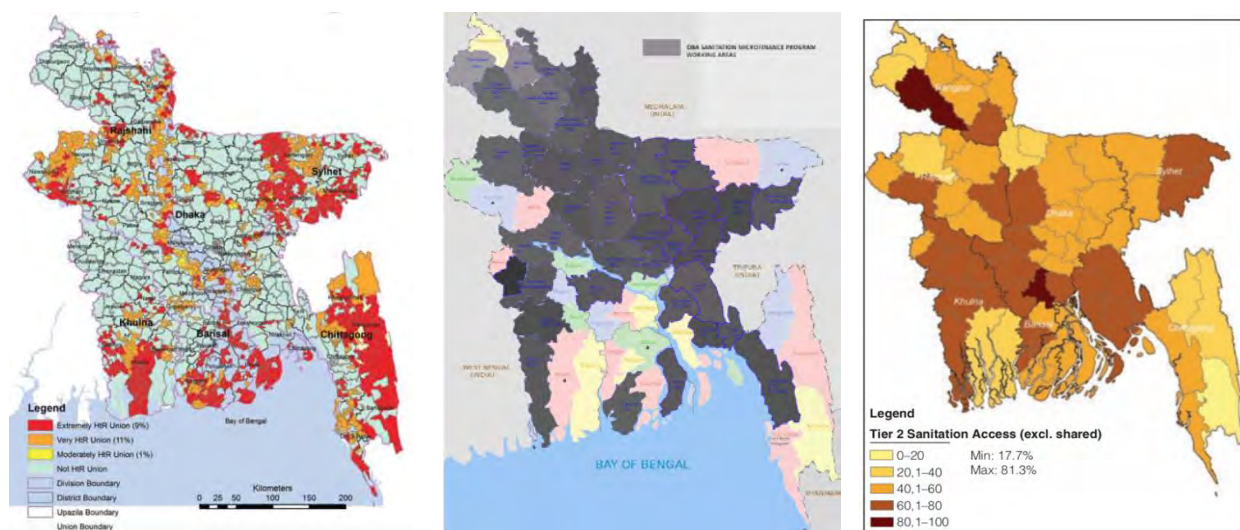
MFIs in Bangladesh have varying criteria for membership of their Credit Groups, but some of the common criteria include the individual needing to be: a permanent resident; aged between 18 and 60 years of age; and capable of working. There must also only be one member from each family and women are preferred. MFIs use a range of indicators to assess relative wealth, including income levels

and amount of farmable land. Owning less than 0.5 acres of land is a common indicator of being classified as poor.

MFIs confirmed that their credit groups are not designed for wealthier households within communities, and most wealthier households would have other sources of credit available to them. However, they would also acknowledge that credit groups exclude the very poorest, for the good reason that they would struggle with the burden of repayment. Some MFIs have developed subsidized loan products for the extreme poor, often for emergency situations.

The selection of the project's targeted districts was not done based on poverty levels, but poorer communities within the districts were targeted. While sanitation coverage was taken into account, some districts with the lowest sanitation coverage were not included in the project areas.

Map 3: (a) Hard to Reach Unions for WASH, (b) Project Target Districts, and (c) Sanitation Coverage



Accessing financial services in remote areas and difficult terrains, such as char, haor and hilly areas, are very costly, as well as difficult for MFIs and WASH service providers to render their service. Despite this, in recent years more effort has been made by the microfinance sector to expand their services in in these areas, including in micro-enterprise, micro-insurance and social development programs. In this project there was also a conscious decision not to target some of the char, haor and hilly areas. However, it should be noted that low coverage district of Dinajpur and the char districts of Barguna and Bhola were included. Districts considered hard to reach with WASH services, such as Noakhali, Netrokona, Habiganj and Moulvibazar, were also targeted (see map 3).

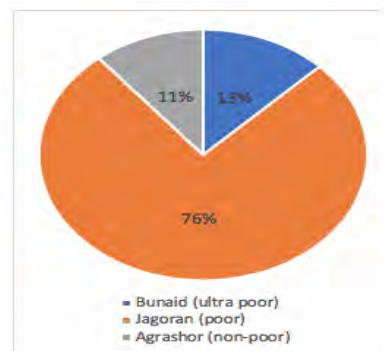
While the project set out to reach poor households, the approach worked on a first come, first served basis, and therefore did not prioritize the poorer members of the credit groups or those without a latrine. However, the project did have a range of latrines with varying prices and the interest free loans were only offered for low-cost latrine technologies, more likely to be purchased by poorer households.

The first come, first served approach had the impact of making it harder for poor households with existing loans to access the interest free finance. More wealthy households who could afford to take out multiple loans simultaneously were able to access the loans immediately, whereas poorer households that wanted the loan might have to wait to pay off their existing loans prior to accessing the new loan offered. In addition, the poorest households were more likely to practice open

defecation and have constraints of land to build latrines on. The project approach did not take any direct action to address these barriers to poorest customers accessing loans and latrines.

PKSF partners (excluding ASA) classify their credit group members into three groups: Buniad (ultra-poor), Jagoran (poor), and Agrasor (non-poor). Based on their databases of those who took out sanitation loans, 13 percent were classified as ultra-poor. The vast majority (76 percent) were classified as poor.

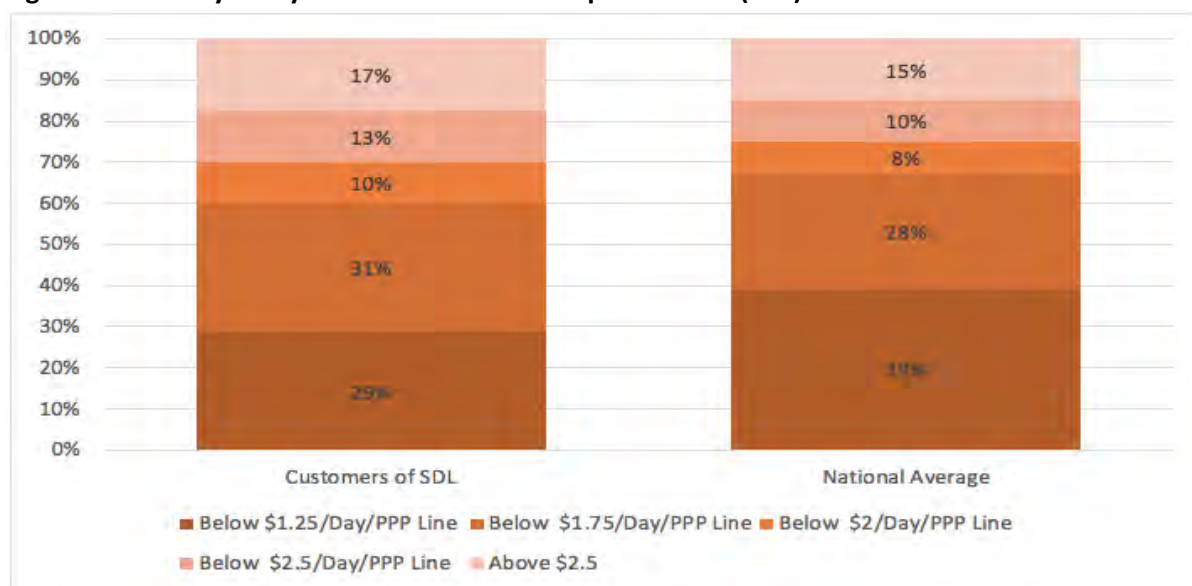
Figure 14: Poverty Status of Credit Group Members taking SDL from PKSF POs (excluding ASA)



As discussed in the methodology, the Poverty Probability Index (PPI®) tool was also used to assess the relative poverty of the loan customers targeted under this project. This analysis also looked at those credit group members who took out loans under the project and does not review the relative poverty of other credit groups members that did not take out loans. The PPI tool enabled the SDL customers to be classified into five wealth groups based on day income (as set out in Figure 15). The analysis suggests that 29 percent of the SDL customers fell into the poorest group of below US\$ 1.25 per day, and 31 percent in the next poorest group fell below US\$ 1.75 per day. Both this and POs poverty data represents a very positive picture in terms of the effectiveness of the project’s design to reach the poorest households within the communities.

When the PPI data is compared to the national data, there is a clear disparity between the 39 percent of the national population classified as living on below US\$ 1.25 a day and the 29 percent served by the project who fell into this group. However, it should be noted that the national average is based on 2005 data, and over the past decade Bangladesh has considerably reduced the number of households living on below US\$ 1.25 a day.

Figure 15: Poverty Analysis of Sanitation Development Loan (SDL) Customers



Note: National Average data for PPI is taken from 2005

The PPI also enabled comparison with a “Lower National Poverty Line” from 2010, as a more accurate recent measure. The analysis shows that just 6.8 percent of SDL customers fell below the Lower National Poverty Line, compared to the national total of 15.4 percent living below this poverty line in

2010. This is unsurprising, as many of those living under this poverty line would not be eligible for credit group membership; the fact that the 6.8 percent of SDL customers fall into this group represents a good level of outreach to the poorest.

While the overall sample size of the PPI data was large enough to be statistically significant for the SDL customers, the number were too small to provide any insights into the relative success of different POs ability to target the poorest households.

Poorer households are likely to be more cautious of getting in debt, especially for non-income generating activities. While subsidized loans are clearly an incentive for poorer households to access credit, it could be questioned whether it is enough to enable the poorest household to access sanitation. Other measures, such as longer repayment periods, might need to be considered to facilitate a greater number of the poorest households to access sanitation loans.

Due to the fact women account for 89 percent of MFI clients²¹, it is of no surprise that the vast majority of borrowers of sanitation loans were women (96 percent). Out of the total credit group members targeted, 5.4 percent of female members and 6 percent of male members took up the sanitation loans on offer. There was only a marginal difference in average loan size between men (BDT 10,091) and women (BDT 9,845). Male borrowers had a higher percentage of overdue loans than women borrowers. While loan recovery data provides a more meaningful picture at the end of the loan period, male borrowers had marginally higher repayment rates (46 percent) than women (41 percent). This data could have been influenced by male borrowers receiving loans first, allowing men to be further into their repayments than women.

Despite the high engagement of women in credit groups, it has been well documented that male heads of households have significant control over the decision to take out loans and how they are spent. The field data demonstrated that there was a small percentage of women who could not convince their husband to upgrade their unimproved latrine.

There were no female LEs recorded in the project. The project set out to engage female LEs where possible, but no female led LEs could be identified. Future projects should consider how to create more opportunities for women to engage in the LEs and benefit from these income-generating opportunities.

Ethnic communities were reached in five districts (Chattagram, Dinajpur, Joypurhat, Moulvibazar, and Thakurgaon) by six POs. While discussions were held with these groups on the latrine designs, no changes to the designs were requested. 459 customers were identified as being from ethnic groups and, in total, they took loans amounting to BDT 4.59 million (US\$ 58,846).

4.7. Financial Mobilisation and Leverage

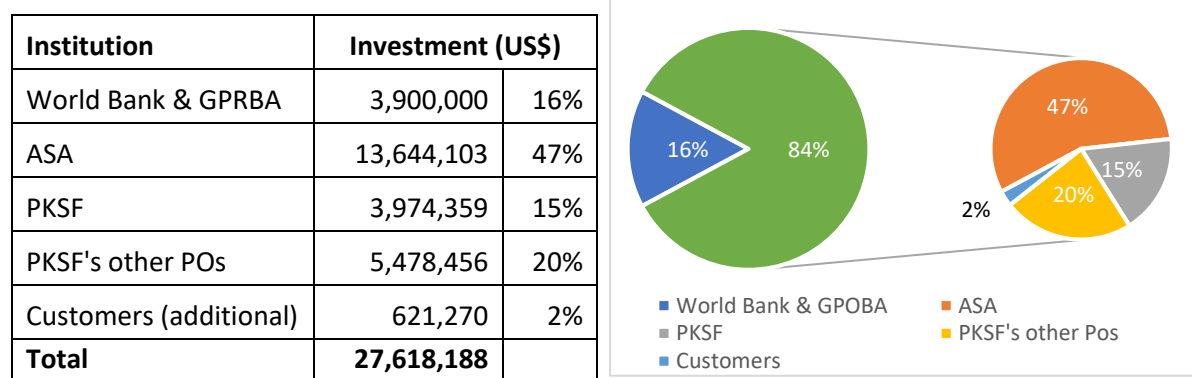
Traditionally, WASH sector actors in developing countries have relied on government lending and concessional financing from bilateral and multilateral development banks (MDBs) to mobilize financing for capital investment. However, estimates by the World Bank and the JMP project that these financial sources alone will not be sufficient to finance investments on the scale that is required to achieve the SDGs. Donors are the source of much of the below market, concessional financing that is currently available to the sector.

21 World Bank, "Linking Up and Reaching Out in Bangladesh: Information and Communications Technology for Microfinance"

The next generation of WASH projects will need to be designed to effectively mobilize private and commercial finance. This can be done by using the available concessional financing to stimulate commercial financing and avoid crowding out such private financing. One of the benefits of mobilizing domestic commercial finance (from domestic investors in local currency) is that it eliminates foreign exchange risks and helps reduce transaction costs.

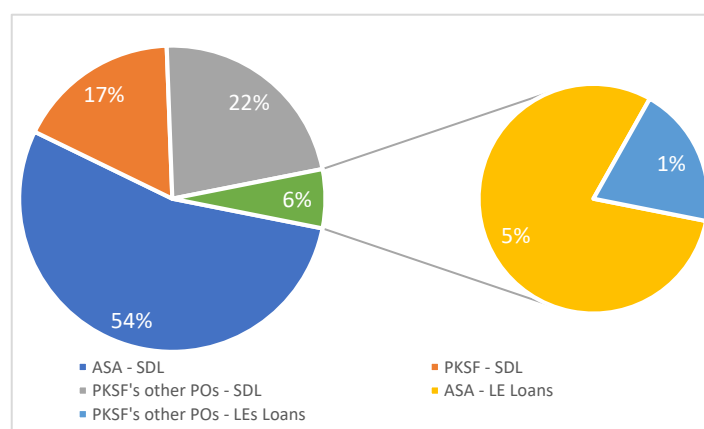
A significant feature of this project was the ability of the World Bank and GPRBA’s funds to leverage additional commercial finance to support the project objectives (see table 8 and figure 16). The evaluation has estimated that the US\$ 3.9 million investment by the World Bank and GPRBA has leveraged an additional US\$ 23.7 million of investment. This was achieved primarily through the partnership with ASA and PKSF. These two institutions contributed nearly US\$ 17.6 million in direct funds for sanitation loans for both households and LEs. ASA and PKSF had the confidence to invest their resources in this new sector due to the carefully designed investment of the World Bank and GPRBA, which both reduced risk of their investment and created the right incentives for the stakeholders tasked with delivering results.

Table 8 and Figure 16: Project Finance and Leveraged Funds



PKSF provided their funding to their POs, and through a combination of revolving these funds and contributing their own funds, PKSF’s POs mobilized a further US\$ 5.5 million. Of the US\$ 9.45 million invested by PKSF’s POs (excluding ASA) 58% came from their own resources. The project was initially designed to disburse the loans in 24 months; however, due to this being significantly reduce to 9 months, POs were not able to revolve the zero-interest capital they have received for SDL as much as anticipated. It should also be noted that the additional funding provided by PKSF’s POs was either drawn down from funding PKSF had given them for general purpose loans or from other lending agencies; these funds were borrowed with interest.

Figure 17: Overview of Sanitation and LEs Loans, by funder



In addition to the US\$ 21.6 million of sanitation loans taken out by the customers, they also paid US\$ 621,270 directly to the LEs to cover the additional cost of latrines not covered by the loans. As

mentioned above, LEs also sold project designed latrines worth in the region of US\$ 1.85 million to customers who did not take out sanitation loans.

Sanitation Development Loans were the significant majority of the loans provided under the project, with loans to LEs only representing 6 percent of the total. As represented in Figure 17, ASA represented the majority of both the SDL and LE Loans. ASA provided a significantly greater proportion of the LEs loans, which was due to a number of factors, including the average loans size of ASA LEs loans being roughly US\$ 350 more than other POs. In addition, ASA had more access to resources to provide loans to LEs than the other POs.

Figures are not available on the additional investment LEs made in the project over and above the US\$ 1.43 million of loans taken out from the POs. However, with 57 percent of the LEs not taking out loans, it is estimated that the total investment by LEs to support the project might have been in the region of US\$ 3 million. This would be a conservative figure.

The successful leveraging of such a significant resource from the private sector offers the opportunity for future sanitation projects to begin moving away from the dominance of development assistance and public finance. This project demonstrates to the Government of Bangladesh and development partners operating in the sanitation (and water) sector that partial commercial finance can and should become a normal, complementary component of designing and financing future projects.

Within the Bangladesh MFI sector and commercial banks, there is capital available to scale-up this initiative and leverage additional commercial finance. To harness these resources effectively, preparation of future projects should ideally include economic cost-benefit analysis and transparent assessments regarding policy objectives, subsidy size, types of beneficiaries and payment mechanisms. The use of competitive bidding is an option to determine the size of subsidies needed to make additional private sector financing viable.

5. Conclusions & Recommendations

The project can be considered a success from a number of perspectives. The majority of targets were successfully achieved, and the quality of delivery has been verified as high. From a macro-perspective, the project has significantly contributed to the development of the market for new sanitation and financial products. The level of ownership and commitment that PKSF showed through their engagement in the project demonstrated the significant achievement of the project and offers opportunity for future microfinance investment in the WASH sector.

A New Generation of Latrines

Through building the capacity of sanitation businesses to respond to changing customer preferences, the project created a vibrant and viable market for a new generation of improved on-site sanitation products in rural Bangladesh. Customers moving to second generation latrines were motivated by the aesthetic of the latrine and an improved user experience, over and above considerations of health and community collective action. Service levels delivered by the new latrine models were above those delivered across Bangladesh during the MDG period and provide useful insights into the finance and capacity required to meet SDG targets.

While the new prices of the latrine models were designed to balance the needs of both customers and the LEs, the fixed-pricing policy was not able to effectively respond to rising material prices in the market. While protecting customers, it risked reducing profit margins and demotivating LEs.

Recommendations

- Latrine price policies need to remain flexible to account for changes in the price of materials and the cost of providing services in more remote locations.
- Selling latrine components, as well as the full package approach, would widen the market by increasing affordability for some households and responding to some customers' more specific upgrading needs.

Household Borrowing and Loan Products

The project delivered the right enabling environment to demonstrate there is a viable and robust market for sanitation loans for both households and businesses. The use of subsidies, and the marketing of them as interest free loans, do not appear to have distorted the market. In fact, it could be argued that they have been a key contributor in creating the right conditions to engage market makers (MFI and LEs) and first movers (customers), to create a new market for sanitation loans.

The project demonstrated that poor households are willing and able to take out non-income generating loans for sanitation when subsidies to allow preferential interest rates are applied. The blending of OBA finance with MFI loans further increased the affordability of high-quality latrine products, and the ability to spread repayments over time was a significant enabling factor in loan uptake by customers.

Due to the project's focus on market stimulation, it could be argued that the subsidy was deliberately targeted at the households most likely to purchase sooner rather than later. Hence the majority of those investing in new latrines were those already habituated to using unimproved latrines and looking for a higher quality service. Households without access to latrines or who only required minor repairs to improve existing latrines were less likely to take out loans. Given that the public health benefits of sanitation require near-total coverage within a village, future subsidies could target poorer households without the ability to pay.

Recommendations

- More flexible finance products that enabled households to upgrade their existing latrines, rather than fund a completely new latrine, would attract additional customer interest.
- Innovative loan products should be offered for a long enough period to enable households to settle existing loans and take advantage of the new product offering.

Supply Side Strengthening and Business Models

The project's theory of change set out that an initial critical mass of borrowers would induce greater MFI participation in the sanitation sector, as well as encourage more LEs. The impact of this over the medium term would be greater competition and outreach, leading to lower costs and sustainability. While the project demonstrated a clear market for new sanitation products, not all businesses were able or willing to respond to this market. Despite training and support, the number of businesses who do not remain active in the market is likely to remain relatively high. As a result, capacity building efforts for LEs need to be sustained, especially as demand for new products and services increase.

While the business model promoted was validated as being viable to sustain businesses, margins on the sale of sanitation products and services remain tight and easily hit by price fluctuations in the market place. Businesses that expanded and managed to achieve higher sales volumes through taking

out business loans and widening their geographical coverage were able to maximize economies of scale and reduce the impacts of price variability.

The adoption of the “one-stop-shop” business model, servicing the whole latrine construction supply chain, offered businesses the chance to increase revenue and margins, and provide customers with a more appealing product offering.

Recommendations

- Training schemes for both business leaders and masons on the manufacturing, promotion and construction of latrines needs to be expanded and, over time, evolved, with 50 percent more capacity needed to be trained than is required to compensate for dropout rates.
- Exploring additional products and services, both related to and complementary to latrine construction, is a possible way to broaden businesses’ sales offering and customer base, increase margins, and support businesses to manage seasonal demand

Promotion and Marketing Activities

The standardized marketing materials used under the project ensured consistency and quality across the communication campaigns and provided an effective means of subsidizing marketing activities. While the marketing strategy to focus on sanitation products proved effective, supporting this with more messaging related to the hygienic use of latrines and other hygiene behaviors is likely to engage a wider audience (including those customers without a latrine) and result in more sustainable behavior change outcomes.

While effective during the project period, MFIs loan officers do not have the capacity or time to be the long-term solution to latrine and sanitation behavior change promotion. While MFIs can focus on the promotion of sanitation loan products, the marketing and sales of latrines need to be more robustly taken up by the LEs. It is clear that where these two parties worked closely in coordination, the fastest and most effective results were delivered.

Recommendations

- The more active engagement of local government in the promotion of sanitation loans and latrines could further leverage resources and more effectively harness capacity from within the government system.
- Following the initial uptake of sanitation loans, more structured market segmentation might need to be undertaken to effectively market sanitation loans and products to the “late majority” and “laggards” to reach market saturation.

Results Based Model

Combining OBA subsidies with microfinance proved to be an effective way of facilitating pre-financing to local service providers whilst maintaining the incentives to serve poor customers. The results-based model provided an effective approach to focus all stakeholders on their roles and in delivering results.

Without the incentive of payment after results, the MFIs would have been less likely to aggressively promote the sanitation loan product to achieve targets. The careful selection of indicators and various layers of monitoring ensured a high quality of outputs across the project. In addition, the monitoring systems also provided the project management team with information to support the effective and dynamic management of the project to achieve the targets under a tight timeframe.

The strategic use of subsidies used to expand the reach of sanitation loans, played a critical role in creating a demonstration effect for sanitation lending at scale. However, the additional work of the loan officers overseeing construction and verifying the quality of outputs required from the OBA approach increased the transactional cost of POs and might make this model less attractive to POs.

The OBA model introduced greater discipline of governance, reporting and transparency into the implementation of this sanitation project. The approach has also increased the transparency of subsidies, which are often hidden and almost never quantified under other approaches.

Recommendations

- The use of OBA models and strong verification processes is an approach that DPHE could consider in future water and sanitation projects to strengthen monitoring systems and deliver results in a more efficient manner.
- The OBA approach offers other stakeholders a means of reducing subsidies within the sector and increasing the effectiveness of their targeting.

Poverty Targeting and Inclusion

The project deliberately did not target some of the areas in Bangladesh harder to reach with both sanitation and microfinance initiatives. Although the project did engage in these areas, such as char areas in Southern Bangladesh, the products, both latrine and financial, appear to have similar uptake as in other areas. However, more testing will need to be undertaken to confirm whether these products and services will reach the poorest household in Bangladesh's most challenging areas.

The project successfully reached poor households due to the focus on credit groups members, and it was also able to deliver services to a good number of the poorest households. While subsidized loans increased accessibility of credit to poor households, other measures, such as longer repayment periods, will need to be used to enable inclusion of the poorest households. As with other microfinance initiatives, women dominated the credit groups; hence, they also dominated the borrowers' group under this initiative. When the minority male borrowers are compared to female borrowers, no significant differences in trends can be observed.

Recommendations

- Careful consideration will need to be given as to how to promote alternative financial products that are accessible to the poorest households, but do not distort the market created for the existing product. Providing non-financial incentives, such as longer repayment periods or initial repayment grace periods, should be considered.
- Targeting poor households with a second wave of financial products with more favourable terms, which follow the initial uptake of latrines through the standard product, might be an approach to be considered for targeting those unable to benefit from the current financial products.
- Future projects should consider how to create more opportunities for women to engage in sanitation businesses and benefit from these income generating opportunities.

Finance Mobilization and Leverage

In line with the objectives and approach of the World Bank's Maximizing Finance for Development (MFD) agenda, the project proved that carefully designed catalytic funding is able to leverage a significant amount of external resources for the sanitation sector. The World Bank and GPRBA investment reduced the risks of others' investments, encouraging actors (such as the MFIs) not previously engaged in the sector to enter the market. Having two of the largest actors in the Bangladesh microfinance sector offering sanitation products to their customers provides a significant opportunity for the sanitation sector to reach a wider customer base and mobilize further resources.

There is no doubt that if effectively communicated, this project can demonstrate to the Government of Bangladesh and development partners operating in the sanitation (and water) sector that partial commercial finance can and should become a normal, complementary component when financing future projects.

Through engaging the private sector, the project has demonstrated the positive impact maximizing economy-wide capacity can have on sanitation service delivery. The success of and demand for these products also opens new opportunities to attract and leverage additional financial resources and capacity from other financial institutions, such as commercial banks. In doing so, it has proved that the sector has viable models to attract the higher level of investments and capacity that are required to meet the SDG sector goals prior to 2030.

Recommendations

- Based on the lessons of this project, concerted advocacy is needed to raise awareness of the potential benefits of blending commercial and concessional finance to catalyze a market for commercial finance and reduce the need for public sector funds and sovereign borrowing.
- Donors must use their concessional funds to catalyze, not crowd out, private financing, with the aims of gradually reducing concessional finance over time to avoid long term distortions in the market.
- The Government of Bangladesh and donors (including the World Bank) must support the preparation of new projects to maximize the proven latent demand for households to invest in sanitation infrastructure and the available commercial investment.

Annex 1: Partner Organisations Target Areas and Results

PO Name	District coverage	No. of Branch engaged	No. of credit group in the branch	No. of credit groups focused to sanitation loan	Total Number of Latrines Supported with Subsidies
DFED	2	17	1,638	857	4,000
DSK	2	14	912	611	2,596
ESDO	1	20	1,124	1,124	4,000
HEED	7	19	1,522	500	1,657
JAKAS	2	23	4,694	3,937	4,500
JCF	3	25	2,715	1,440	3,247
MMS	3	14	1,385	966	4,001
MBSK	1	13	1,249	859	3,101
PBK	2	15	818	565	3,524
Prottyashi	1	13	1,576	546	3,500
FDA	1	22	1,790	1,038	5,157
RDRS	1	18	1,635	1,112	4,006
RDS	5	18	1,673	930	4,301
RIC	3	15	1,189	678	4,052
SDI	4	20	1,801	935	3,513
SSS	1	20	1,754	1,316	3,504
UDDIPAN	1	10	899	478	2,543
VERC	2	10	765	434	2,040
Wave Foundation	1	9	813	653	3,500
YPSA	2	11	785	672	4,102
ASA	18	1074	117,249	57,452	99,835
Total	63	1,400	147,986	77,103	170,679

Annex 2: Latrine Options with Components and Prices

Aram Plus Latrine

আরাম প্লাস ল্যাট্রিন

সিরামিক প্যান, কংক্রিটের প্লেট ও খুঁটি, টিনের চালা ও বেড়া



The image shows various components of the Aram Plus Latrine, including a completed structure with a green curtain, a person working on the concrete base, individual concrete slabs, a ceramic pan, and the water drum assembly.

আরাম প্লাস ল্যাট্রিনের মূল্য

৫ রিং চাকনাসহ	১২৫০ টাকা
কংক্রিটের প্লেট (৪ফুট X ৪ফুট প্ল্যাটফর্মের জন্য ৪ পিস)	৮০০ টাকা
সিরামিক প্যান	৫৫০ টাকা
সাইফন ও ডেলিভারী পাইপ (৪ফুট)	২৫০ টাকা
সিমেন্ট, খোয়া, বালু (কাস্টিং স্লাব)	৬৫০ টাকা
কংক্রিটের খুঁটি (৪টি)	১০০০ টাকা
টিনের চালা বাতাসহ (৩ পিস টিন)	৬০০ টাকা
টিনের বেড়া বাতাসহ	২২০০ টাকা
পানির ড্রাম ট্যাপসহ	৩০০ টাকা
পরিবহন ও মজুরী	১২০০ টাকা
সর্বমোট খরচ	৮৬০০ টাকা

Components and prices

Sl	Components	Price (BDT)
1	5-Ring with Cover	1,250.00
2	Concrete plate (4 pcs for 4'x4' platform)	800.00
3	Ceramic pan	550.00
4	Syphon and delivery pipe (4 ft)	250.00
5	Cement, Brick chips and sand (casting slab)	650.00
6	RCC pillar (4 pcs)	1,000.00
7	CI sheet roof with wooden supporting beam (3 pcs)	600.00
8	CI sheet fencing with supporting wooden frame	2,200.00
9	Water drum with tap	300.00
10	Labour and transport	1,200.00
	Total	8,800.00

The above component prices were estimated during 2016 but increased later during project implementation (Oct 2017- June 2018). Local entrepreneur (LE) charged BDT 10,000, which was given as loan to the borrowers.

Bilas Box Latrine (Box Platform)

১১ বিলাস ল্যাট্রিন

বক্স প্রাটফরম, সিরামিক প্যান, কংক্রিটের খুঁটি,
টিনের চালা ও বেড়া



বিলাস ল্যাট্রিনের মূল্য

৫ রিং ঢাকনাসহ	১২৫০ টাকা
সিরামিক প্যানসহ বক্স প্রাটফরম (৪ফুট X ৪ফুট)	২২০০ টাকা
সাইফুন ও ডেলিভারী পাইপ (৪ফুট)	২৫০ টাকা
কংক্রিটের খুঁটি (৪টি)	১০০০ টাকা
টিনের চালা বাতাসহ (৩ পিস টিন)	৬০০ টাকা
টিনের বেড়া বাতাসহ	২২০০ টাকা
পানির ড্রাম ট্যাপসহ	৩০০ টাকা
পরিবহন ও মজুরী	১২০০ টাকা
সর্বমোট খরচ	৯০০০ টাকা

Components and prices

Sl	Components	Price (BDT)
1	5-Ring with Cover	1,250.00
2	Ceramic pan with box platform (4'x4')	2,200.00
3	Syphon and delivery pipe (4 ft)	250.00
4	Cement, Brick chips and sand (casting slab)	650.00
5	RCC pillar (4 pcs)	1,000.00
6	CI sheet roof with wooden supporting beam (3 pcs)	600.00
7	CI sheet fencing with supporting wooden frame	2,200.00
8	Water drum with tap	300.00
9	Labour and transport	1,200.00
	Total	9,650.00

The above component prices were estimated during 2016 but increased later during project implementation (Oct 2017- June 2018). Local entrepreneur (LE) charged BDT 10,000-11,000 depending on varying labour and transportation cost from place to place. In this case, loan amount was BDT 10,000, and the additional amount was contributed by the household borrowers.

Bilas Latrine (Brick work platform)

বিলাস ল্যাট্রিন

ইটের গাঁথুনির প্রাটফরম- সিরামিক প্যান, কংক্রিটের খুঁটি, টিনের চালা ও বেড়া



বিলাস ল্যাট্রিনের মূল্য

৫ রিং চাকলাসহ	১২৫০ টাকা
সিরামিক প্যান ও পানির হাউজসহ	৪৫০০ টাকা
প্রাটফরম (৫ফুট X ৫ফুট)	
সাইফুন ও ডেলিভারী পাইপ (৪ফুট)	২৫০ টাকা
কংক্রিটের খুঁটি (৪টি)	১০০০ টাকা
টিনের চালা বাতাসহ (৩ পিস টিন)	৬০০ টাকা
টিনের বেড়া বাতাসহ	২২০০ টাকা
পানির ড্রাম ট্যাপসহ	৩০০ টাকা
পরিবহন ও মজুরী	১৫০০ টাকা
সর্বমোট খরচ	১১১০০ টাকা




Components and prices

Sl	Components	Price (BDT)
1	5-Ring with Cover	1,250.00
2	Ceramic pan with water reservoir and platform (5'x5')	4,500.00
3	Syphon and delivery pipe (4 ft)	250.00
5	RCC pillar (4 pcs)	1,000.00
6	Cl sheet roof with wooden supporting beam (3 pcs)	600.00
7	Cl sheet fencing with supporting wooden frame	2,200.00
8	Water drum with tap	300.00
9	Labour and transport	1,500.00
	Total	11,600.00

The above component prices were estimated during 2016 but increased later during project implementation (Oct 2017- June 2018). Local entrepreneur (LE) charged BDT 12,000-13,000 depending on varying labour and transportation cost from place to place. In this case, loan amount was BDT 10,000, and the additional amount was contributed by the household borrowers.

Annex 3: Data Parameters

The following qualitative and quantitative data parameters will be analyzed, and where necessary collected through the primary collection tools:

Consumers/Households:

- Credit group membership
- Wealth of household
- Income sources
- Previous sanitation infrastructure
- Exposure to sanitation behaviour change and marketing messages
- Motivation to improve latrine
- Barriers to improve latrine
- Other loans taken (current/previous) – size and reason

Sanitation Coverage:

- Latrine coverage in communities
- Total number of latrines reported to be constructed during project period
- % of latrines constructed with loans
- Latrines types
- Latrine quality and use – offset, cement floor, superstructure, and cleanliness
- Consumer satisfaction (latrine and price)

Project Sanitation Loans

- Loan uptake rates
- Total loans made per PO
- Average size of loan in real terms & %
- Household investment in latrine in addition to loan
- Interest rates charge on the loans
- % of loans household spent on latrine
- Subsidies received by POs from project
- Size of sanitation loans as % of POs overall loan portfolio
- Loan repayment status
- % of women taking loans
- % of poor household taking loans

- Barriers to accessing finance

Construction Firms (LEs)

- LE's infrastructure and assets
- # of sanitation products on sale and prices
- Marketing activities undertaken, and investment in marketing
- Training received from project or elsewhere
- Latrine sale during project period (with and without loans)
- % of sale using loan products
- Average monthly sales of latrines – before/during project
- Average monthly turnover
- Average monthly profit
- Barriers to product and sales
- LE's future strategy

Other Sector Sanitation Loans

- Loan types and structure
- Loan delivery mechanisms and partners
- Average size of loan in real terms
- Interest rates charge on the loans
- Loan uptake rates
- Loan repayment status
- Size of sanitation loans as % of overall loan portfolio

Project Costs:

- Total cost of project
- Fund leveraged from MFIs
- Funds leveraged from households
- Cost per latrine
- Financial internal rate of return

Annex 4: Poverty Probability Index

The Poverty Probability Index (PPI[®]) is a poverty measurement tool for organizations and businesses with a mission to serve the poor. The PPI is statistically-sound, yet simple to use; the answers to 10 questions about a household's characteristics and asset ownership are scored to compute the likelihood that the household is living below the poverty line. With the PPI, organizations can identify the clients, customers or employees who are most likely to be poor or vulnerable to poverty, integrating objective poverty data into their assessments and strategic decision-making.

Unlike other poverty measurement methods, the PPI was designed with the budgets and operations of real organizations in mind; its simplicity means that it requires fewer resources to use. The PPI is a set of 10 easy-to-answer questions that a household member can answer in 5 to 10 minutes. The questions are simple—"What material is your roof made out of? How many of your children are in school?" The scored answers provide the likelihood that the survey respondent's household is living below the national poverty line and other internationally-recognized poverty lines. The PPI is country-specific and there are currently scorecards for 60 countries.

In 2005, Grameen Foundation commissioned the development of the Progress out of Poverty Index[®] (PPI[®]) with the support of the Consultative Group to Assist the Poor (CGAP) and Ford Foundation. Their goal was to create an easy-to-use poverty measurement tool for microfinance institutions, understanding that these institutions need reliable poverty data to manage their social performance.

Mark Schreiner's simple poverty scorecard resonated with Grameen Foundation because of the characteristics it shares with the Grameen Bank's 10-Point System. The Prizma Microfinance (Bosnia) scorecard also inspired the development of the PPI. After pilot testing the PPI, Grameen Foundation instituted a training program for MFIs interested in using the PPI, which helped to facilitate initial adoption of the tool.

Today, the PPI has proven its reliability and feasibility to many organizations around the world. Armed with client-level poverty data, these organizations are now making more informed decisions and assessments. The PPI is now used by a wide range of organizations—international NGOs, social enterprises, donors, investors, multi-national corporations, governments and more—across a variety of sectors including agriculture, healthcare, education, energy, and financial inclusion.

In July 2016, in order to facilitate the long-term sustainability of the tool, the PPI Alliance was formed and the PPI moved its home from Grameen Foundation to IPA and created a new construction methodology behind the PPI. In October 2017, the PPI was rebranded as the Poverty Probability Index.



PPI[®] Scorecard for Bangladesh

To assist with collection, organizations can use the household roster located on the second page.

Entity	Name	ID	Date (DD/MM/YY)
Participant:	_____	_____	Date joined: _____
Field agent:	_____	_____	Date scored: _____
Service point:	# HH members: _____		

Indicator	Response	Points	Score
1. How many household members are 12-years-old or younger?	A. Three or more	0	
	B. Two	10	
	C. One	16	
	D. None	32	
2. Do all household members ages 6-to-12 currently attend a school/educational institution?	A. No	0	
	B. No one 6-to-12	0	
	C. Yes	6	
3. In the past year, did any household member ever do work for which he/she was paid on a daily basis?	A. Yes	0	
	B. No	8	
4. How many rooms does your household occupy (excluding rooms used for business)?	A. One	0	
	B. Two	3	
	C. Three or more	5	
5. What is the main construction material of the walls of the main room?	A. Hemp/hay/bamboo, or other	0	
	B. Mud brick, or C.I. sheet/wood	2	
	C. Brick/cement	9	
6. Does the household own any televisions?	A. No	0	
	B. Yes	7	
7. How many fans does the household own?	A. None	0	
	B. One	4	
	C. Two or more	7	
8. How many mobile phones does the household own?	A. None	0	
	B. One	8	
	C. Two or more	15	
9. Does the household own any bicycles, motorcycle/scooters, or motor cars etc.?	A. No	0	
	B. Yes	4	
10. Does the household own (or rent/sharecrop/mortgage in or out) 51 or more decimals of cultivable agricultural land (excluding uncultivable land and dwelling-house/homestead land)?	A. No	0	
	B. Yes	7	

By [Mark Schreiner](#) of Microfinance Risk Management, L.L.C. Score: _____

This PPI was created in March 2013, based on data from 2010. For more information about the PPI, please visit www.povertyindex.org.

Annex 5: Tool 1 - Semi-Structured Questions for Credit Groups

1. Partner Organisation.....
2. Name of Credit group.....
3. Group location:
 - a) Village:
 - b) Union:
 - c) Upazilla:
 - d) District:
4. Number of household in village:
5. No of members in the credit group:
6. What have members previously received loans for:
 - a) Agricultural production
 - b) Livestock or poultry rearing
 - c) Vegetable cultivation
 - d) Other income generating activities.....
 - e) House improvement
 - f) Health
 - g) Social activities
 - h) Other non-income generating activities other.....
 - i) No previous loans
7. Estimate of latrines coverage in the community before sanitation loan scheme:
 - a) No. of households with improved latrines:
 - b) No. of household with unimproved latrines:
 - c) No. of households having no latrines:
8. How did you previously construct your latrines?
 - a) Self-financed
 - b) Government support
 - c) NGO support – provide name.....
 - d) Loans – provide MFI name.....
 - d) Other.....
9. What were the barriers you previously faced to build/improve your latrine?
 - a) Did not see need for latrine
 - b) Happy with existing latrine
 - c) Lack of money
 - d) Lack of access to material or products
 - e) Lack of space
 - f) Lack of time/other priority
 - g) Other.....
10. What information did you receive about new sanitation and loans products?
 - a) Latrine types and brands
 - b) Where to buy latrine
 - c) Cost of latrines
 - d) Availability of interest free loans
 - e) Terms and condition of loan

- f) Others.....
- 11. Who provided information on sanitation product and loans:
 - a) PO staff
 - b) Local Entrepreneur
 - c) Credit group members
 - d) Neighbour or family member
 - e) Other NGO workers – name
 - f) Government employee – provide department.....
 - g) Advertising posters
 - h) Radio or TV messages
 - i) Other.....

12. Group members sanitation loan information

Sl.	Latrine before project			Loan Taken out		Latrine Constructed		
	No latrine	Unimproved	Improved	Y/N	Amount (TK)	Brand	Cost (TK)	Amount Repaid
1.								
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
12.								
13.								

13. What was your motivation to improve latrine?
- a) Access to credit
 - b) Convenience of installation - LE one-stop-shop
 - c) Latrine quality better than previous latrine
 - d) Health benefits
 - e) Community cleanliness
 - f) Pride of having better latrines
 - g) Other.....

14. Why they were motivated to take this subsidy loan from PO?

- a) Interest free loan
- b) Loan repayment in instalments
- c) Loan and product came together
- d) Other.....

15. For those do did not take loans for latrines, why not?

- a) Not interested to take loan for a latrine
- b) Could not afford loans
- c) Had other loans to repay
- d) Had loan application rejected
- e) Happy with current latrines
- f) No information about loan
- g) Other.....

16. How many of those who have not taken loan plan to take loans for a latrine in future?

- Number with unimproved latrine:
- Number with no latrine:

17. What was you level of satisfaction with:

	Satisfied	Neutral	Unsatisfied	Why?
PO service				
Loan interest				
Loan repayment				
Latrine choice				
LE service				
Latrine quality				

18. Any other good or bad experiences

Annex 6: Tool 2 - Semi-structured Questionnaire for Local Entrepreneurs

1. Name of the Enterprise:
2. Owner/Entrepreneur Name:
3. Location:
4. Contact No.:
5. Year of establishment:
6. Shop or production centre infrastructure and assets
 - a) Land ownership:
 - b) Size of the land:
 - c) Infrastructure:
 - d) Capital asset:
7. Manpower
 - a) No. of Masons:
 - b) No. of Helpers:
 - c) Other staff:
8. Services provided

		Before Project	Since project
a)	Sale of latrine materials from production centre only		
b)	Latrine installation service		
c)	Sale of complete installed latrine as per project design		
d)	Pit emptying services		
e)	Other		

9. What sanitation product do you provide and what is their price?

	Item	Specification	Price
a)	Rings		
b)	Slab with pan		
c)	RCC pillar		
d)	Hand washing device		
e)			

10. Did you received any training on new latrine products and their manufacture?

- a) Yes
- b) No

11. If yes, where did you receive the training from?

- a) Project (PO)
- b) Other NGO (mention name)

12. Who received the training?

- a) LE only
- b) Mason only
- c) Both

13. What were your previous and current level of capital assess and working capital?

Item	Before engagement in the program (BDT)	Current investment (BDT)
Capital asset		
Working capital		
a) Material stock		
b) Receivable		

14. How have you financed your engagement in this project?

- a) Own capital (Equity)
- b) Existing Loan
- c) New loan
- d) Other

15. What was the source of any new loan you have taken out for this project?

- a) PO Loan
- b) Other MFI loan (mention name)
- c) Bank loan (mention name)
- d) Personal loan from relatives

16. What is the status of any loan taken out for this project?

- a) Loan amount received.....
- b) Service charge/interest rate.....
- c) Duration of loan
- d) No. of instalment.....
- e) Amount of loan repayment to date.....
- f) Payments on schedule – Yes/No

17. What were/are your average monthly sale of latrine?

Before engagement with project			During project period		
Latrine set	Monthly sale (BDT)	Monthly profit (BDT)	Latrine set	Monthly sale (BDT)	Monthly profit (BDT)

18. What full sanitation packages do you sell and what is their price?

	Item	Material Cost	Labour Cost	Transportation Cost	Total cost	Sale Price
a)	Aram					
b)	Aram plus					
c)	Bilas					
d)	Bilas box					
e)	Other type					

19. How many latrines have you sold to PO borrowers and other customers?

Latrine brand	PO borrowers	Other customers
Aram		
Aram plus		
Bilas		
Bilas box		
Non-brand		

20. Did you receive upfront deposit for latrine prior to construction?

- a) Yes, how much?.....
- b) No

21. Did you households contribute to cost of the latrine?

- a) Yes, how much on average?.....
- b) No

22. Sales promotional strategies

- a) Salesmanship in the production centre
- b) Salesmanship in the community and order collection
- c) Participation in the community level demand creation meeting
- d) Latrine demonstration in the centre or in the community
- e) Publicity by using leaflet and brochure
- f) Linkage with POs/ other MFIs/ NGOs/ hardware shops
- g) Other.....

23. What was your customers motivation to purchase latrine?

- a) Access to credit
- b) Convenience of installation - LE one-stop-shop
- c) Latrine quality better than previous latrine
- d) Health benefits
- e) Community cleanliness
- f) Pride of having better latrines
- g) Other.....

24. What were your motivations and incentives for involvement with this project?

25. What have been the benefits and/or challenges of working with POs?
26. Do you plan to continue to sell new latrine products?
 - a) Yes – sell and construct
 - b) Yes – just sell
 - c) No
27. If they plan to discontinue, then why?
 - a) Cost high, business not profitable
 - b) Not interested to provide door step package services
 - c) No additional staff to work in community
 - d) No capacity to handle such installation work in the community
 - e) others.....
28. Other observations, lessons learnt, challenges, benefits:

Annex 7: Tool 3 - Semi-Structured Questionnaire for PO branch staff

1. Name of PO:
2. Branch location:
3. Participants in the discussion

Sl.	Name	Designation	Mobile

4. Loans

4.1	No. of credit groups under the branch	
4.2	Total number of members in credit groups	
4.3	Total current volume of loans	

5. Target Area Data

5.1	Total population	
5.2	% with improved latrine	
5.3	% with unimproved latrine	
5.4	% with no latrine	

6. Project Data

6.1	No. of credit groups targeted in this project	
6.2	Total number of members targeted in project	
6.3	Number of LEs trained	
6.4	Number of active LEs	
6.5	Original loan/latrine target	
6.6	Revise loan/latrine target	
6.7	Number of loans/latrine achieved	
6.8	Total amount of loans provided	
6.9	Additional household investment in latrines	
6.10	Total amount of repayment received	

6.11	Number of members taking SDL as first loan	
6.12	Number of loans to LEs	
6.13	Total value of LE loans	

7. What was the poverty focus of your loans?

	Number of loans	Total Amount of Loans	Total Repayment
Ultra-Poor			
Poor			
Non-Poor			

8. Please describe the process of promoting and putting in place the sanitation loans (step by step process and timeline), including roles of different stakeholders.

9. What were the barriers and challenges of providing sanitation loan?

10. What has your experience been working with LEs?

10.1 Support to promotion of loans?

10.2 Aligning price of construction with products?

10.3 Efficiency in delivering to customers?

10.4 Quality of construction?

10.5 Other

11. Would more or less LEs have helped deliver project?

12. What was the role of other key stakeholders, such as local government in market development / promotion of second generation toilets (Linkage with LGI)?

13. Whether interested to continue project modalities of sanitation loan under their normal loan program without subsidy?

14. Other lessons learnt?

Annex 8: Field Visit Sites

SI	PO	PO Branch	Credit Groups	LEs
1	RIC	Shibpur, Norshingdi Manager: Md. Rafiqul Islam (01984440240)	Borrower: Hosne Ara Kanam, Majlishpur, Chakrada, Shibpur, Norshingdi (01826641301)	Kafil Uddin Traders, C&B Road, Shibpur, Norshingdi LE: Md. Shahidullah (01952262120)
2	PBK	Shibpur, Norshingdi Manager: Md. Alamgir Hossain: 01708440320	Borrower: Roksana, Bajnabo, Masimpur, Shibpur, Norshingdi (01709420231)	Taranga Toa Enterprise, C&B Road, Shibpur, Norshingdi LE: Md. Shahin Alam Bhuiya (01727788320)
3	Prattashi	Bomanghat, Holudia, Satkania branch and Head office in Chittagong FP: Nasim Haider Shaheen, Director (01817292445)	1) Jonaki Women Society 2) Utshab Women Society	1) Rafique Sanitary, Satkania, Chittagong LE: Rafiqul Islam 2) Mallik Sanitary, Satkania, Chittagong LE: Ujjal Kumar Mallik
4	YPSA	Sitakundu, Chittagong FP: Morshed, Director(01673298645)	Chotto Kumira Tripura Para	Alamin Sanitary, Chotokumuria, Sitakundu, Chittagong LE: Alamin
5	DFED	Chowgacha, Jessore Manager: Uttam Kumar Biswas (01770515358)	1) Shimul Women Society 2) Kapatakha Women Society 3) Apurba Women Society 4) Hira Women Society	1. Alam Enterprise, Kongsharipur, Chowgacha, Jessore LE: Jahangir Alam (01742649078) 2. Alif Enterprise, Chowgacha Bazar LE: Md. Moktar Hossain (01748482812)
6	JCF	1. Alamdanga-1, Chuadanga Manager: Md. Faruk Hossain (01774816740) 2. Alamdanga-2, Chuadanga Manager: Md. Abbas Ali (0174816748)	1) Kamini Women Society 2) Bakul Women Society 3) Nishi Women Society 4) Moushumi Women Society	Rippi Sanitary Enterprise, Anandodham, Alamdanga, Chuadanga LE: Md. Aminul Islam Chandu (01716887215)
7	Wave Foundation	Garaganj, Shailkupa, Jhenaidah Manager: Md. Akhterul Islam (01701680424)	1) Sraboni Women Society 2) Jaba Women Society 3) Jamuna Women Society	Eva Sanitary, Jamtala Bazar, Paglakanai, Jhenaidah LE: Tipu Sultan Jamtala Bazar, Paglakanai, Jhenaidah
8	SSS	Charbari, Sadar, Tangail Manager: Md. Ashraf Ali (01730011202)	1) Fatehpur Women Society 2) Sakrail Women Society	Shakib Enterprise, Binnapur Bazar, Tangail LE: Md. Kamal Hossain Mia Chand (01720450937)

SI	PO	PO Branch	Credit Groups	LEs
			3) Barabinnahfur Women Society	
9	ESDO	Shantinagar, Thakurgaon Sadar, Thakurgaon Manager: Ziaur Rahman (01715717913)	1) Shurma Eco Women Society 2) Shapla Eco Women Society	1) Snigdha Sanitary, South Takurgaon LE: Nabodip Chandra Pal (01737801672) 2) Rafiq Sanitary House, Boro Khochabari hat, Thakurgaon LE: Rafiqul Islam (01737801672)
10	MBSK	Kutubdanga, Chirirbandar, Dinajpur Manager: Md. Erfan Ali (01718836713)	1) Padma Women Cooperative Society 2) Golap Women Cooperative Society	Bhai Bhai Sanitary, Kutubdanga Bazar, Chirirbandar, Dinajpur LE: Mojibur Rahman
11	DSK	Kapasias, Gazipur Manager: Mahmudul Hasan (01926673165)	1) 57 No. Women Society 2) 24 No. Women Society 3) 54 No. Women Society 4) 30 No. Women Society	Bhai Bhai Sanitary Corner, Torgaon Medical More, Kapasias, Gazipur LE: Md. Roman Molla
12	VERC	Laksham, Comilla Manager: Shahnaj Parvin (011733347039)	1) Keya Women Society 2) Shatodal Women Society	Halima Sanitary, Foizganj Bazar, Lalmai, Comilla LE: Kamal Hossain Nannu (01711185337)
13	ASA	Bhaluka-1 and Bhaluka-2 Branch Officers, Mymensingh FP: Rezaul Kaium (01748983135)	1) Shatu landless women society, Trishal 2) Dipchar landless women society, Trishal	Gedu Sanitary, Dhanikhola Bazar, Kachari Road, Trishal, Mymensingh LE: Gedu Mia
		Rajganj, Monirampur, Jessore Manager: Md. Shamsuzzaman (01730099430)	1) Madhobi ASA Landless Women Society 2) Shuva Jatra ASA Landless Women Society	Rahman Sanitary Bakru bazar, Jhikorgacha, Jessore LE: Nazmul Kabir (01927030780)
		Delduria, Tangail Manager: Mohiuddin (01730313548)	Hasna Hena ASA Landless Women Society	
		Pairabond, Mithapukur, Rangpur Manager: Md. Rafiqul Islam (01730313376)	1) Rangdhonu ASA Landless Women Society	Gram Bangla Sanitary, Bhajer More Bazar, Mithapukur, Rangpur LE: Abdul Kader (01737492693)

SI	PO	PO Branch	Credit Groups	LEs
			2) Juger Alo ASA Landless Women Society	

Annex 9: Summary of Quantitative Field Survey Data

SI	Description	Quantitative data from field survey	Remarks
A. Field findings under Data tool No.1 with PO credit groups (based on discussion session with 34 credit groups under 13 PO branches)			
1	No. of members taking general loan	736 (97%)	Income generating small businesses other than sanitation
2	General loan size	BDT 10,000-120,000	
3	Latrine coverage in the credit groups before sanitation loan scheme		
(a)	No. of households with improved latrine	334 (44.1%)	Before project
(b)	No. of households with unimproved latrine	407 (53.8%)	Before project
(c)	No. of households having no latrine	16 (2.1%)	Before project
4	No. of households with unimproved/ no latrine taking new latrine loan	274 (64.8%)	
5	Amount of loan taken	BDT 2,740,000	@ 10,000
6	Additional upfront contribution by borrowers	BDT 77,500 (2.8%) Av. additional cost per latrine was BDT 1140	Borrower's contribution was required for 68 latrines due to higher transportation and labour cost
7	Latrine loan recovery rate	100%	No overdue
8	No. of non-responsive HHs with unimproved latrine who have plan to take sanitation loan in future	127 (95%)	
9	No. of non-responsive HHs with no latrine have plan to take sanitation loan in future	16 (100%)	
B. Field findings under Data tool No.2 with LEs (Based on interview with 14 LEs)			
1	Training received	14	100% received training
2	Additional equity investment for project	BDT 4,900,000	Av. BDT 350,000 per LE
3	No. of LEs taking Loan	5	36% took loan
4	Average size of LE loan	BDT 139,800	
5	Average monthly sales per LE before project	BDT 72,857	
6	Average monthly sales per LE during project	BDT 235,000	
7	Sales increased due to project support	2.23 times	
8	Average unit cost of latrine (Bilas box)	BDT 9,600	
9	Average unit price of latrine (Bilas box)	BDT 10,286	Profit margin 6.8%
10	Average number of latrine sold to PO borrowers	228	Per LE
11	Average number of latrine sold to other customers	12	Per LE
C. Field findings under Data tool No.3 with PO branch staff (Based on interview with 13 PO branches of 11 POs)			
1	No. of credit group under the PO branches	1,150	
2	No. of members in credit groups	25,818	
3	Current volume of outstanding loan	BDT 550,551,555	

SI	Description	Quantitative data from field survey	Remarks
4	No. of credit groups focused with sanitation loan	598	52% credit groups focused to sanitation loan
5	No. of LEs trained	35	2-3 LEs under each branch
6	No. of active LEs	18	51% were active
7	Original latrine loan target	2,451	
8	Revised latrine loan target	2,360	
9	No. of latrine loan achieved	2,009 (85%)	15% underachieved were reallocated
10	Total amount of latrine loan provided	BDT 20,025,000	
11	Additional HH investment in latrine	BDT 719,000	3.5% of latrine cost invested by HHs upfront
12	Total amount of repayment received	BDT 7,705,328 (38.5%)	38.5% already recovered; No overdue
13	No. of members taking SDL as first loan	408	20.3% of the latrines installed
14	No. of loans given to LEs	10	55% of active LEs
15	Total amount of loan amount to LEs	BDT 1,489,000	
16	Poverty focus		
(a)	Percent of ultra-poor HHs (Buniad) who took latrine loan	8.4%	Landless having poor dwelling
(b)	Percent of poor HHs (Jagoran) who took latrine loan	57.7%	Having productive land less than 50 decimal and semi- pucca dwelling
(c)	Percent of non-poor HHs (Agroshor) who took latrine loan	6.9%	Having productive land more than 50 decimal and semi- pucca dwelling
(d)	Percent of new HH members (Non-classified) who took latrine loan	29.9%	New entrants in the credit groups
17	No. of PO interested to continue project modalities of sanitation loan under their loan program without subsidy?	11	All visited POs

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²² As of February 2019 GPOBA is known as GPRBA. All references under the Bibliography are kept GPOBA to reflect the name of the program at the time of publication of the reference materials.