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THE WORLD BANK GROUP

Domestic Private Sector for Sanitation Marketing in Rural Bangladesh

(Output Report for TA P131981)

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This synthesis report details the process, outputs and intermediate outcomes of technical assistance (TA) to assist the Government of Bangladesh develop, test and mainstream policies, regulations and approaches to engage the domestic private sector to scale up improved sanitation services for the poor.

Executive Summary

While Bangladesh has been extremely successful in shifting its population from open defecation to fixed point defecation, many of these latrines are not hygienic. These unhygienic latrines continue to pose a threat to public health in the pollution of the environment and the transmission of diseases. While community based models are very effective in changing collective opinion to influence individual behaviour away from the practice of open defecation, market based models are more effective in supporting individuals to move from basic to improved sanitation models. Given a legacy of community based approaches within the sanitation sector but a vibrant domestic private sector and micro-finance markets outside of the sector, the World Bank initiated this technical assistance (TA) through WSP for the '*Domestic Private Sector Regulatory Framework for Sanitation in Bangladesh*' to support the development, testing and roll-out of market based sanitation service delivery models in rural Bangladesh. By bringing together the domestic private sector, financial institutions, local government and household demand, this TA extended support for the bottom-up sanitation mobility of rural households from unimproved (unhygienic) to improved (hygienic) sanitation. Strengthening of the local private sector has assisted the government to scale up safe and hygienic sanitation through a sanitation marketing approach designed to cater to the bottom of the pyramid.

Technical assistance for sanitation marketing commenced in 2011 with a small pilot in a few villages of two upazilas. By 2015, the technical assistance to central and local government, NGOs and MFIs, supply chains and local entrepreneurs had expanded to 349 upazilas. An evaluation of this TA commissioned by WSP to assess the achievements and learning provides the basis for the construction of the output report against the following targets of this TA.

Primary Outcomes

- *Against a target to develop capacity of 500 Local Entrepreneurs (LEs);* this TA trained 2,123 LEs to produce and market high quality hygienic latrines with an average monthly sales of trained LEs increasing from USD 165 before training to USD 641 after training. The yearly sale of hygienic latrines by trained LEs increased from 852 sets in 2011 to 275,756 sets in 2015.
- *Against a target to extend micro-credit loans to 200 LEs;* this TA facilitated the extension of micro-credit from micro-finance institutions (MFIs) to 784 LEs to expand their businesses.
- *Against a target to develop two (2) improved sanitation products;* this TA developed five (5) improved hygienic latrines include offset pit with flexible pipe connection, washable cemented floor, full latrine house/super structure with lockable door.
- *Against a target to extend the sanitation marketing capacity to DPHE and 10 NGOs;* this TA successfully supported the extension of sanitation marketing to the Department of Public Health Engineering (DPHE) and 22 NGOs.
- *Against a target to extend the sanitation marketing approach to local governments;* the effort to build Union Parishad capacity to promote sanitation marketing were not satisfactory compared to the effort and cost required.

Secondary Outcomes

- Over this period of this TA, trained local entrepreneurs (LEs) responded to the demand for improved sanitation from 458,528 households to the benefit of 2.3 million people.
- *Against a target to extend market based hygienic sanitation services to a minimum 40% poor users;* the evaluation found that an estimated 62% of the customers of hygienic latrines were poor.

Tertiary Outcomes

- More users in the intervention areas perceived health benefits to be associated with their hygienic latrines (88%) as compared to the non-intervention areas (68%) where people identified problems such as the presence of foul odor, visible feces and insects.

The quality of latrines in the areas where TA was extended surpassed that of the non-intervention areas in respect to storage of water within the latrine, the provision of a roof, the presence of a wall and the ability to lock the doors. Most of the latrines observed in the intervention area were improved latrines of either the Aram or Bilash hygienic models (95%), while only 67% latrines in the non-intervention areas were improved of which about a third (33%) were of the Aram or Bilash models. This is a tribute to the popularity of these models in the extension of demand and supply beyond the intervention areas.

The yearly sale of hygienic latrines increased from 852 sets in 2011 to 275,756 sets in 2015. The recent increase in sales is mostly due to the extension of loans by MFIs for sanitation. In particular, the choice by one of the six MFIs to mainstream loans for LEs to expand sanitation businesses and households to invest in latrines contributed to the massive increase in the installation of hygienic latrines from 10,986 in 2014 to 101,060 in 2015.

As sanitation marketing began to show potential, LEs started to invest in the expansion of their businesses. The total amount invested by LEs in business expansion in 2015 was USD 9.03 million with the value of the sales of latrines by LEs totalling over USD 14.9 million. Overall, the sanitation market approach appears to be a viable and effective option to assist people in adopting high-quality hygienic latrines. With the assistance of micro-finance the sanitation marketing approach has registered tremendous growth in hygienic latrine coverage with a majority of poor customers.

Key lessons learned from the extension of this TA are:

- Sanitation marketing is effective in assisting households to move up the sanitation ladder once there has been a shift in behaviour away from the practice of open defecation.
- Although still untested in Hard to Reach areas, the vibrant private and MFI markets in Bangladesh have rapidly adopted and expanded sanitation marketing approaches.
- The combination of access to sanitation markets and micro-finance is sufficient in most cases to extend improved sanitation to the poor. There are multiple options for the extending subsidies to the hard core poor that are worthy of further exploration.
- Although some LEs have started to engage in demand creation this is still considered to require additional support from NGOs and government agencies.

Although the extension of this TA to support the marketing of sanitation was considered effective, there are some substantive areas that require attention in the future.

- **Regulations:** There are no by-laws or regulations preventing the supply and the installation of low quality latrines which are prone to become unhygienic.
- **Awareness:** There is limited awareness on the risks associated with unhygienic latrines and some form of media campaign is needed to raise public awareness on the benefits of hygienic latrines.
- **Innovation:** In response to the demand from hard to reach areas, pregnant mothers, old and disabled people there is a need for greater innovation in latrine designs.
- **Training:** In response to the growth of local sanitation entrepreneurs there is a need for more training facilities to expand the capacities of LEs.

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Acronyms

4S	Steps for Sustainable Sanitation Services
ASA	Association for Social Advancement
BASA	Bangladesh Association for Social Advancement
BDT	Bangladeshi Taka
BRWSSP	Bangladesh Rural Water Supply and Sanitation Project
DPHE	Department of Public Health Engineering
DORP	Development Organization of the Rural Poor
FGD	Focus Group Discussion
GDP	Gross Domestic Product
GPOBA	Global Program for Output Based Aid
GO	Government Organization
KII	Key Informant Interview
LE	Local Entrepreneur
MFI	Micro-finance Institution
NGO	Non-governmental Organization
NGOF	NGO Forum for Public Health
PCN	Project Concept Note
PPI	Progress Out of Poverty Index
PPP	Purchasing Power Parity
TA	Technical Assistance
UNICEF	United Nations Children's Emergency Fund
UP	Union Parishad
USD	United States Dollar
VAT	Value Added Tax
WASH	Water Supply, Sanitation and Hygiene
WSP	Water and Sanitation Program

1 Overview

1.1 The Report

This report seeks to summarize the process, outputs and intermediate outcomes of the World Bank executed technical assistance (TA) to assist the Government of Bangladesh to engage with the domestic private sector to scale up improved sanitation services for the poor. This report has been resourced by an evaluation of the results of this TA as a means of determining the efficacy of this technical assistance. As such, this report seeks to summarize the results and the milestones of this TA with the key outputs over the 4 year period of this TA have been annexed to this report.

The program of TA summarized in this report relates to a World Bank executed capacity development initiative working with manufacturers and suppliers, local and central governments, NGOs and MFIs to expand the capacity of small-scale sanitation entrepreneurs to manufacture and market multiple sanitary products taking into consideration the affordability and aspirations of poor people. Through this the TA sought to strengthen the regulatory function to enforce minimum standards on the low cost and low quality anarchic sanitation markets delivering sub-standard health outcomes.

This program of technical assistance was limited to training and advice, design and assessment, documentation and advocacy. This TA extended technical assistance to DPHE on sanitation under the Bangladesh Rural Water Supply and Sanitation Project (BRWSSP) where World Bank investments were directed to increase the provision of safe water supply and hygienic sanitation in rural Bangladesh using a market-based approach.

1.2 Background

Over the last two decades, Bangladesh has emerged as a global leader in approaches to rural sanitation According to the WHO and UNICEF Joint Monitoring Program (JMP) Report of 2015¹, only one percent of Bangladesh's rural population still practice open defecation. Despite these achievements, Bangladesh failed to achieve the Millennium Development Goal (MDG) for sanitation which required access to improved sanitation for at least 69.5 percent of the population, while 61 percent of the population have access to improved sanitation² only 37 percent of people have access to sanitation which is hygienic³.

In terms of sanitation service levels, rural households in Bangladesh mainly use direct pit latrines that are constructed using 3 to 5 rings for pit lining and a concrete slab with a plastic pan to channel the waste to the pit (most are without water seals). Some of these latrines are initially connected to a water trap between the latrine and the pit, which is generally broken making the latrine unhygienic as the contents of the pit are exposed. The slabs which generally rest on top of the pit are of poor quality that can break after a few years of use (on some occasions resulting in people falling into their latrine pits due to broken or dislodged slabs). Most of the plastic pans do not have tabs that allow 'gripping' to the cement, resulting in pans that sometimes separate from the slab. Furthermore, latrine superstructures in many poor households are constructed of plastic sheets or dried leaves lacking privacy and protection from the rain.

¹ WHO & UNICEF (2015). *Joint Monitoring Programme for Water Supply & Sanitation for Bangladesh*

² According to WHO-UNICEF Joint Monitoring Program (JMP), improved latrines ensure hygienic separation of human excreta from human contact. The minimum standard of this type of latrine is a pit-latrine with slab (not only separating human feces from the environment but also blocking the transmission of germs). Hygienic latrines refers to the use of latrines where excreta is separated and maintained separate from users. This includes the use of materials that limit the retention of excreta in the bowl and the use of a system that eliminates the discharge of fecal sludge to the environment.

³ Long-Term Sustainability of Improved Sanitation in Rural Bangladesh; WSP; June 2011

Hygienic latrines must confine waste from the user and the surrounding environment. Offsetting the latrine pit helps to improve the separation of the waste however contamination can also occur during the pit emptying process. Using a twin pit latrine minimizes this risk by allowing fecal sludge to be contained for the necessary 18-24 months for the decontamination process to occur. After the waste has composted, it can be safely disposed of or reused as fertilizer.

The shift from open defecation to direct pit latrines has occurred in Bangladesh and now the challenge is to move up the sanitation ladder to install hygienic latrines such as the offset single or twin-pit latrines.⁴ Given the success of the community based approach to sanitation in eradicating open defecation, the challenge is moving the primary institutions associated with sanitation in Bangladesh (NGOs and GOs) to shift from a community mobilization approach to a marketing approach. This requires the refashioning of the relationships of the NGOs and GOs with the local private sector, supply chains, manufacturers and micro-finance institutions.

The Water and Sanitation Program (WSP) of the World Bank has been collaborating with the Government of Bangladesh in the journey to end open defecation. In line with this partnership, the World Bank through WSP sought to assist the government to meet the next challenge to increase the hygienic latrine coverage in Bangladesh. In the shift from basic sanitation to hygienic sanitation, WSP envisaged sanitation marketing as a potential approach to moving the country up the sanitation ladder. The **Domestic Private Sector for Sanitation Marketing in Rural Bangladesh** is a Technical Assistance (TA) of WSP that was launched to achieve this goal by engaging local sanitation entrepreneurs (LE) and microfinance institutes through a sanitation marketing approach.

Table 1: Sanitation Sector Constraints and Responses by the TA

Constraints	Response by the TA
Existing latrine models are often unhygienic.	The TA developed new hygienic latrine models.
Hygienic latrine models are not available in the market.	The TA trained LEs to manufacture and market high quality hygienic latrines.
LEs need external financing to expand their sanitation business to meet the demand for hygienic latrines.	The TA engaged with MFIs to extend micro-credit to sanitation businesses.
Households lack the funds necessary to replace unhygienic latrines with high quality hygienic latrines.	The TA engaged with MFIs to introduce micro-credit for households to install hygienic latrines.
Lack of capacity of GOs and NGOs to engage effectively with sanitation markets.	The TA developed a sanitation marketing model and provided training to GOs/NGOs.
The poorest 40% of the population are the least attractive market segment for entrepreneurs.	The TA developed different types of hygienic latrines with varying prices to suit different levels of affordability. The TA project arranged low-interest sanitation loans for consumers including the poor (bottom 40%).

⁴ Open defecation is characterized by the lack of fixed point sanitary facilities. Basic sanitation is characterized by low quality, basic infrastructure which does not necessarily isolate human excreta from contact. Improved sanitation isolates human excreta from human contact but may not fully block germ transmission through disease vectors such as insects. Hygienic sanitation typically refers to a fully 'closed system' which isolates the waste and minimizes the spread of germs. Hygienic sanitation may also be referred to as 'second generation' latrines or 'second generation' hygiene.

1.3 Results

The targets identified in the approved Project Concept Note (PCN) to fulfil the development objectives of the TA are presented in Table 2 along with the outputs achieved through this TA. All of the results presented below are directly and indirectly a result of the TA (for instance, in some cases this TA trained the LEs while in other cases the TA trained the trainers in ASA that trained the LEs and lobbied ASA to mainstream this in their operations).

Table 2: Intermediate Outcomes, Indicators and Outputs Achieved

Intermediate Outcome(s)	Indicator(s)	Outputs Achieved
Sanitation products renovated and available in the rural market at affordable prices for the poorest 40% of households	Two improved products are introduced in the market at affordable prices for the poor by January 2015	Five improved products (Aram junior, Aram, Aram Plus, Bilash Box and Bilash Brick) were introduced in the market at prices affordable for the poor (by January 2015).
	30% growth in sales of improved products	Average monthly sales of LEs grew by 436% (from USD 165/month before training to USD 641/month after training).
Capacity of private service providers increased to respond to the demands of consumers for improved sanitation	At least two improved latrine products are sold in the rural market by 500 small scale sanitation entrepreneurs followed by new marketing and business strategy	2,123 LEs are selling hygienic latrines products deploying new marketing and business strategies
MFIs provide loans to domestic private entrepreneurs to expand business	200 small scale entrepreneurs receive loans from Micro-finance institutions (MFIs)	784 LEs received sanitation loans from the six MFIs
Client implementation capacity to productively engage the private sector in service delivery increased	Department of Public Health Engineering (DPHE), and 10 NGOs are capable of designing and implementing sanitation projects with private sector participation	<ul style="list-style-type: none"> ▪ DPHE with the technical assistance of the World Bank developed a legal framework to allow public funds, targeted as subsidies for the poor, to be disbursed through local entrepreneurs to support a market-based approach to sanitation that also has a cost-sharing component for poor households. ▪ 22 NGOs are capable of designing and implementing sanitation projects with private sector participation.
	NGOs/MFIs and a donor implement projects by engaging private sector with their own finance / mobilizing from their own finance/mobilizing finance from different sources	One MFI (ASA) has mainstreamed sanitation loans for LEs and households into their routine micro-finance program.
	300 Union Parishads supported the private sector for product promotion and monitor the quality of products sold	1077 Unions under 349 Sub-Districts covered by 2015.

1.4 Process

This TA was designed to provide knowledge assistance to expand the pilot initiated in 2009 in five villages to explore the potential of sanitation marketing to improve access to hygienic sanitation in rural Bangladesh. In 2011, the program expanded to 10 unions⁵ (approximately 100 villages) through collaboration with small-scale sanitation entrepreneurs and two microfinance institutions (MFIs) - the Association for Social Advancement (ASA)⁶ and Bangladesh Association for Social Advancement (BASA). Knowledge partnerships were extended to a total of six MFIs however ASA and BASA have remained the most significant innovators in the allocation of resources to the extension of sanitation.

In 2013, this TA extend knowledge support to government and non-government organizations (NGOs) to scale up this approach. This included knowledge support for sanitation marketing to the Department of Public Health and Engineering (DHPE), Dutch WASH Alliance, International Development Enterprise (iDE), Plan Bangladesh, Concern Universal, WaterAid Bangladesh, CARE Bangladesh, Muslim Aid, and Max Foundation with many of these organizations adopting different aspects of sanitation marketing into their projects to increase access to hygienic latrines.

1.5 Achievements

To realize the above results this TA extended support in the following areas of sanitation marketing.

1.5.1 Product Development

Product development and renovation is a key part of the sanitation marketing strategy in Bangladesh. Under this TA, the capacity of local private sector was enhanced to develop and pilot the use of different latrine technologies in several villages. Products developed through this TA include:

- Renovated designs for single and twin pit offset latrines
- Two different types of latrine platforms (washable, bigger in size and more colorful)
- The introduction of three different types of hand washing devices
- Multiple latrine superstructure designs that incorporate privacy, convenience, security, sludge management and affordability for poor households, and
- Piloting of a new sanitation sealing system developed by American Standard in poor villages of Rajshahi with iDE (International Development Enterprises) an international NGO.⁷

Major latrine options developed under this TA are branded as 'Aram' (a Bengali word meaning 'Comfort') and 'Bilash' (a Bengali word meaning 'Luxury') with prices ranging from US\$ 40 to US\$ 257 per unit. (Details of latrine models innovated are available in Annex 7).

- Aram latrines are prefabricated at production centres / shops operated by local sanitation entrepreneurs. Customers (if they have general knowledge on latrine installation) can install the Aram latrine without assistance or with the help of an experienced labourer.
- Bilash latrines require on-site construction of the floor or slab by a mason.

⁵ The Union is the oldest and lowest tier of local government representing 10 to 15 villages with around 5000 households. Nine wards (1 to 2 villages compose a ward) form a Union. Each union is composed of 13 elected representatives including a chair, 9 members (1 from each ward), and 3 women elected members to reserved seats based on 1 female representative for every 3 wards. The total number of union parishads in Bangladesh is 4486 (as calculated on September 2009).

⁶ ASA is the second largest microcredit lending institution in Bangladesh. It was established in 1978 with an original focus on empowering rural landless villagers. It currently has over five million members forming different groups with a special emphasis on saving practices, and over 24,000 employees engaged in disbursing and collecting loans and savings deposits.

⁷ The "SaTo" pan latrine is a plastic pour-flush latrine pan, affordable for poor people, which provides a hygienic seal against odors and pathogen transmission and flushes completely with 1 - 1.5 liters of water. The SaTo pan is now mass-produced in Bangladesh.

1.5.2 Capacity Development of Local Entrepreneurs

Small-scale local sanitation entrepreneurs dominate the sanitation market in rural Bangladesh with an estimated 10,000⁺ entrepreneurs country-wide selling the materials needed for basic latrines. This TA helped develop the capacity of approximately 2,123 entrepreneurs to produce multiple options of quality hygienic latrines and carry out marketing at the village level. Previously local hardware merchants just sold the component materials for latrine construction with local masons or plumbers employed to do the construction. As an alternative, this TA has found that rural households were more likely to construct improved latrines with a superstructure and wash stand if the capacity of local entrepreneurs was expanded to supply all of the required construction materials and arrange installation services. With capital investment needs ranging from US\$300 to US\$1000, local sanitation entrepreneurs have transformed themselves into a 'One Stop Shop' for sanitation products that is responsive to the demand of rural households.

1.5.3 Engagement with Local Government and Community Leaders

Through this TA support was extended to local government representatives and community leaders (credit group leaders and other influential people) to encourage rural households to shift from unhygienic latrines to sustainable hygienic options. These local leaders also supported the sanitation entrepreneurs in their marketing activities often through the hosting of trade fairs for sanitation. In some areas, local governments extended subsidies to the hard-core-poor households through gap financing of sanitation entrepreneurs to respond to the demand of the poor for hygienic latrines.

1.5.4 Knowledge Sharing, Advocacy and Capacity Development

In order to increase the impact of sanitation marketing, this TA has facilitated knowledge sharing amongst the officials of the government, NGOs, and MFIs to integrate the sanitation marketing concept into their ongoing projects, and to incorporate different aspects of private sector engagement in new projects. This TA has supported peer learning visits for local sanitation practitioners and officials to share and visit the different good practices of peers, as well as participate in workshops and meetings. In the last three years, this TA has supported sanitation marketing capacity building for officials of DPHE, WaterAid, Plan, Dutch WASH Alliance, Concern Universal, Max Foundation and their local partner NGOs. This capacity building comprised of the compilation of data and advocacy with senior management, the exposure of middle management to the sanitation marketing achievements and process, and the provision of training and training manuals to LEs and local governments associated with those partners. As a result, local sanitation entrepreneurs trained under this TA are now working with MFIs, DPHE, NGOs and local government institutions.

This TA extended support to the World Bank team to design the sanitation component of the Bangladesh Rural Water Supply and Sanitation Project (BRWSSP; 2012-17). The Department of Public Health and Engineering (DPHE) is the executing agency responsible to carry out community mobilization, hygiene promotion and social marketing. This TA extended capacity development support to 457 DPHE staff and 355 small scale sanitation entrepreneurs on market promotion and the construction of multiple latrine options. Through BRWSSP, DPHE has extended support to 17,016 families (97% of which are poor) within the last eight months to engage sanitation entrepreneurs to construct hygienic latrines according to their preferences.

1.5.5 Facilitating Access to Finance

One of the major strategies for developing the sanitation market has been to extend working capital to local sanitation entrepreneurs by linking them with MFIs. This access to finance has enabled local sanitation entrepreneurs to invest, expand and diversify their businesses. This has also allowed LEs to offer more flexible repayment terms to their customers (i.e. hire purchase of sanitary latrines). In general, the MFIs provided loans to entrepreneurs at an interest rate of 10%, with loans ranging from US\$500 to US\$2,000 with repayments in monthly installments for a maximum period of two years. Credit support was initially limited to local sanitation entrepreneurs until 2013 with ASA being the primary provider of loans. In 2014, ASA developed a new loan product, offering loans to households to purchase latrines at an interest rate of 10% with repayment periods of 45 weeks (including a one week grace period) with loans ranging from US\$50 to US\$120. By the end of 2015, ASA has extended USD 4.39 million in household loans for sanitation and USD 1.18 million in loans for sanitation entrepreneurs. An additional 400 loans were issued by Bangladesh Association for Social Advancement (BASA) for local sanitation entrepreneurs. Both of these MFIs have been providing loans from their own capital taking full responsibility for loan disbursement and collection.

1.6 Beneficiaries

A total of 458,528 hygienic latrines have been constructed during the period from 2011-15 by local entrepreneurs that have received capacity building support through this TA. It is estimated that this TA has enabled **2.3 million people** to benefit from investments in hygienic latrines (Figure 1). The significant expansion recorded in 2015 is a result of the recent extension of micro-credit by ASA to households for investments in latrines. This TA has gradually increased its knowledge support from 10 Unions of two Upazilas to 1077 Unions of 194 Upazilas (Figure 2). This constitutes a significant expansion in geographical scope to a quarter of the unions but in terms of the target population without improved latrines this is still only 6% of the target population.

	TA	National	Reach
Upazilas	194	484	40%
Unions	1,077	4,503	24%
Population	28,002,000	105,427,000	27%
Improved latrine target	2,300,000	40,062,260	6%

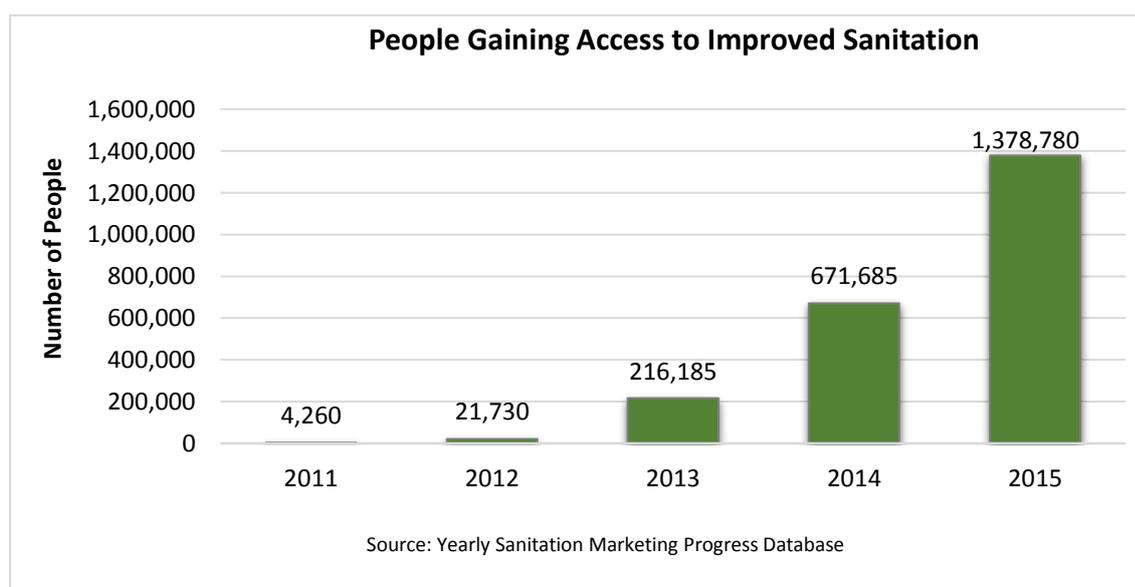


Figure 1: People Gaining Access to Improved Sanitation

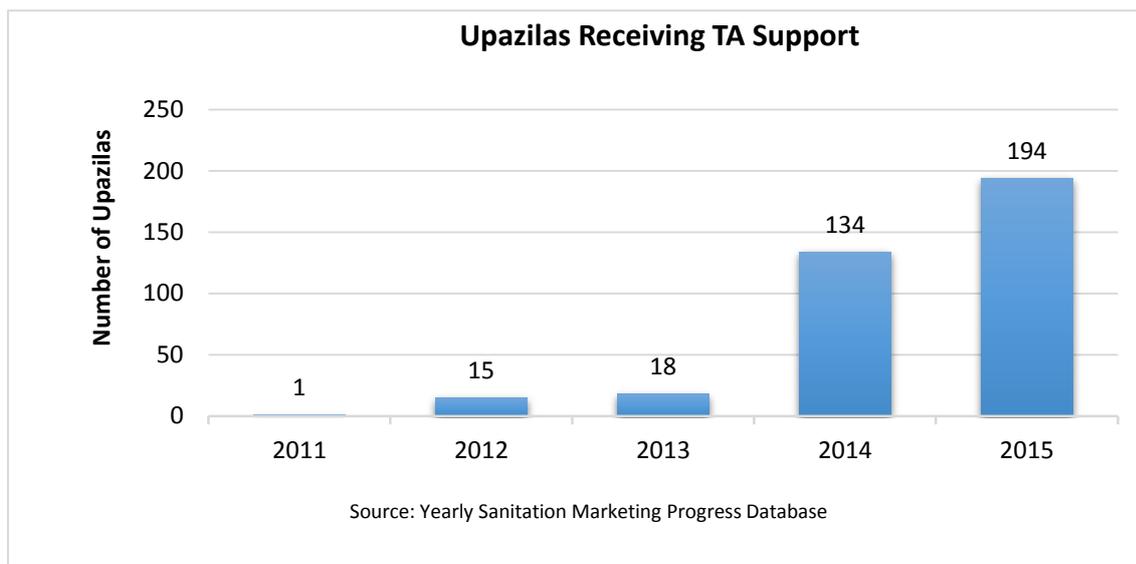


Figure 2: Upazilas Receiving TA Support

To assess the achievements under this TA, an evaluation was conducted on the effectiveness of the approach to sanitation marketing adopted under this TA. The methodology developed for this study is described in chapter 2 and was commissioned to five short-term consultants in 2014. The findings of the evaluation of this TA are primarily described in chapter 3 of this output report.

Products supported through this TA are available in the following annexures:

- Annex 1: Building Markets for Rural Sanitation in Bangladesh (September 2015, WSP)
- Annex 2: Latrine Catalogue in Bengali and English (April 2015, WSP)
- Annex 3: Making Sanitation Marketing Work: The Bangladesh Story (December 2013, WSP)
- Annex 4: Sanitation Market Development (November 2010, Smart Lessons, IFC)
- Annex 5: Training Manual for Sanitation Marketing through BRWSSP (February, 2016)
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2 Study Methodology

2.1 Study Design

The evaluation study adopted a quasi-experimental interventional design involving intervention and non-intervention areas. The respondents of intervention groups comprised of local sanitation entrepreneurs (LEs) who were trained under this TA on renovated hygienic latrines. The respondents also included the customers of the LEs who received sanitation products and/or sanitation services. The respondents of the non-intervention group comprised of traditional LEs who did not get training under this TA, and their customers who received sanitation products and/or sanitation services. In addition, representatives of selected partner organizations and relevant stakeholders were also included in this study.

Data for this study were collected from both primary and secondary sources. The primary data, both quantitative and qualitative, were collected from a total of 265 unions of 91 sub-districts in 21 districts. The respondents of intervention groups were taken from 133 unions of 60 sub-districts and the respondents of non-intervention groups were taken from 132 unions of 58 sub-districts. Secondary data, both quantitative and qualitative, were taken from different reports of WSP-World Bank, iDE and relevant government agencies.

Primary data for this study was collected using different methods and tools at two stages. At the first stage, quantitative data of LEs was collected through Monthly Time Series Survey using interviewer administered questionnaire at six times consecutively for the period of February 2015 through July 2015. At the second stage, additional quantitative data were collected through a Customer Survey using semi-structured questionnaire and the qualitative data were collected through observation checklist, Progress out of Poverty Index (PPI), Focus Group Discussions (FGD), Key Informant Interviews (KII) and case studies during December 2015 through February 2016.

The team members of this study followed systematic quality control procedures during collection and analysis of both quantitative and qualitative data at different stages of the evaluation. The following measures were taken for quality control:

- All team members were oriented on tools and requirements of the study.
- All tools were field-tested and necessary corrections were made.
- 10% of data collected by one team member through questionnaires was reviewed by another team member.
- The team members met weekly to discuss findings, problems and other issues.

2.2 Time Series Survey Techniques

2.2.1 Sample Size and Location

The study unit for the Time Series Survey was the LEs in intervention and non-intervention areas. The sample size comprised of 416 LEs. A total of 208 LEs from intervention areas and 208 LEs from non-intervention areas were selected to collect data for this survey. Data was collected for six consecutive months.

Data collection for the Time Series Survey was carried out in 21 districts covering a total of 245 unions under 91 sub-districts where respondents of intervention groups were taken from 121 unions under 60 sub-districts and respondents of non-intervention groups were taken from 124 unions under 58 sub-districts.

2.2.2 Sampling Technique and Selection Criteria

A multistage sampling technique was followed in selecting samples of LEs from intervention and non-intervention areas. For this purpose, the intervention areas were classified into pilot areas, areas with and without subsidy, areas with and without micro-credit. The criteria for selecting LEs were: (i) being trained under this TA, and (ii) having running business at present. Regarding the selection of unions, it was considered that there must be at least one trained LE with an operational business. A sample frame of LEs along with corresponding unions was used to select the sample units.

After selecting the sample of LEs from intervention areas, an equal number of samples of LEs of non-intervention areas were selected. The criteria for selecting LEs from non-intervention areas were: (i) LEs who did not receive training under this TA, and (ii) have minimum two years of business experiences and continuing their business. Here, non-intervention unions were selected from the same sub-districts or neighboring sub-districts of the intervention areas to ensure the similarities of geographic and socio-economic condition of the sample.

The data were collected using semi-structured questionnaire through face-to-face interview for the first time. Data for the next consecutive times were collected over phone. Filled-in questionnaires were edited and coded for computer entry and 20% of the questionnaires were re-checked for consistency. These data were entered in computer, cleaned and analyzed using the SPSS software (version 18).

2.3 Customer Survey Techniques

2.3.1 Sample Size and Location

The study unit for the Customer Survey was the customers of both trained and non-trained/traditional LEs in intervention and non-intervention areas. The sample size comprised of 480 customers – 240 each from intervention and non-intervention areas. A total of 160 customers (80 in intervention and 80 in non-intervention areas) were surveyed using PPI for poverty identification.

The survey was carried out in 7 districts covering 20 unions under 13 sub-districts. This included respondents of intervention groups from 12 unions under 7 sub-districts of 7 districts and respondents of non-intervention groups from 8 unions under 6 sub-districts of 6 districts.

2.3.2 Sampling Technique and Selection Criteria

A cluster sampling technique was used in selecting customers for this survey. A total of 12 clusters from 12 unions were selected randomly under 7 sub-districts in intervention areas. Available customer households from each cluster were selected randomly to reach 240 customers for the study. Similarly, an equal numbers of customer households were selected from 8 clusters of 8 non-intervention unions under 6 sub-districts. Therefore, a total of 480 customers were selected to collect data from intervention and non-intervention areas for the study. The number of clusters in intervention and non-intervention areas varied due to the variation of number of available customers in individual cluster.

Interviewers administered questionnaire, observation checklist and PPI were used to collect necessary information from the selected customer households. Filled-in questionnaires were edited, collated and coded for computer entry and 20% of the questionnaires were re-checked for consistencies.

2.4 Qualitative Study Techniques

2.4.1 Selection of Participants and Location

Different levels of participants were involved in the qualitative study to investigate relevant issues of the study. The participants were LEs, customers, chairmen of some union parishads, representatives of different partner NGOs and MFIs, representatives of DPHE, and representatives of some sectoral partner organizations.

LEs and customers were selected randomly from different unions under intervention and non-intervention areas from areas where time series survey and customer survey data were collected. The chairmen of some union parishads were selected from the pilot unions under intervention areas. The representatives of different partner NGOs and MFIs, representatives of DPHE, and representatives of some sectoral partner organizations were selected purposively.

2.4.2 Focus Group Discussion

Focus Group Discussions (FGDs) were conducted among LEs, heads of customer households (both male and female) and only female members of customer households in both intervention and non-intervention areas to collect qualitative information for measuring the effectiveness of the sanitation market extension.

A total of 12 FGDs were done with LEs equally distributed between intervention and non-intervention areas. Again, the same numbers of FGDs were conducted with the heads of customer households evenly distributed between intervention and non-intervention areas. Further, six FGDs were conducted with female members of households only also evenly distributed between intervention and non-intervention areas.

2.4.3 Key Informant Interview

Several Key Informant Interviews (KIIs) were done with three different levels of participants. Firstly, a total of nine KIIs were conducted among nine chairmen in nine union parishads in pilot unions under intervention areas only. Secondly, a total of six KIIs were conducted among the representatives of Dutch Wash Alliance, DORP, WaterAid Bangladesh, DPHE, UNICEF and NGO-Forum for Public Health.

2.4.4 Case study

Two special case studies were prepared to capture the learning on the activities and strategies of Plan Bangladesh as they introduced sanitation marketing through subsidy and ASA as they introduced both entrepreneurs and customers loan to enhance the sanitation marketing approach in rural areas. An additional case study on a successful LE was also included.

2.5 Secondary Data Sources

Information from different annual progress reports, key documents, case studies and other relevant documents of WSP and other partners and stakeholders were used in this study along with primary data to show the significant changes happening under this TA. The quantitative information taken from annual progress reports were used to compare the overall changes in volume of sales of latrines between the year of 2014 and 2015, and volume of sales of latrines by the LEs who worked with subsidy and who were not in the year of 2014 and 2015 helped to evaluate the sustainability of the engagement.

The relevant qualitative information of key documents, previously developed case studies and other relevant documents were used to assess the areas of success and future challenges.

3 Evaluation Findings

3.1 Service Delivery Results

3.1.1 Reaching the Poor

The Progress-Out-of-Poverty-Index (PPI)⁸ scoring was employed to estimate the poverty level of customers in intervention and non-intervention areas. A cut-off score of 59 corresponding to USD 2.5/day (2005 PPP) poverty line was used to identify the poor.

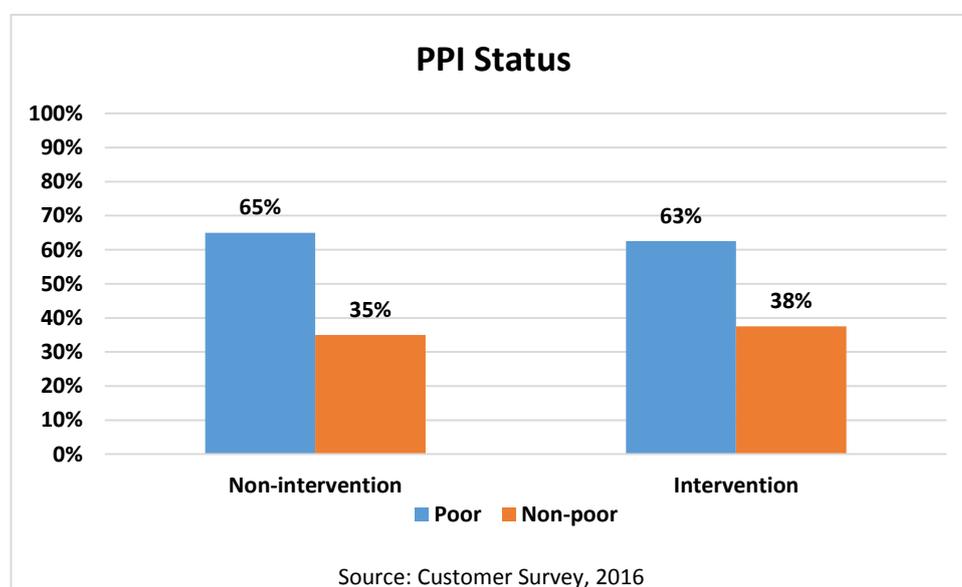


Figure 3: Progress out of Poverty Index (PPI) in Intervention and Non-intervention Areas

In the intervention areas, 63% of the customers were poor demonstrating the ability of the service delivery model to achieve its target to reach at least 40% of the poor (Figure 3). Despite the higher price, the choice to install hygienic latrines indicates the acceptance of these latrines by poor customers.

In the non-intervention areas, 65% of the customers classified as poor. The similarity with the intervention area is expected because the non-intervention and intervention areas were adjacent and similar in terms of socio-economic status, however it must be noted that most households in the non-intervention area continue to demand traditional direct pit latrines.

3.1.2 Types of Latrines

Through this TA, different types of hygienic latrine options that are durable, attractive and user-friendly were introduced. Although the cost of these latrines is more than traditional latrines, these latrines are of a higher quality with much lower risks of unhygienic operation. The design of the latrines was improved gradually based on continuous field learning. For instance, initially an offset latrine with clay platform was introduced followed by the higher-quality Bilash-Brick and Bilash-Box models. The clay platform model was dropped in 2013 because it was difficult to clean. In 2014, this TA supported the introduction of Aram and Aram Plus models made from prefabricated slabs. This made the latrines cheaper than the Bilash model and reduced the need for onsite construction.

⁸ The Progress out of Poverty Index is a survey and scoring system that uses indicators of a household's quality of life to provide a likelihood that the household is living below a recognized poverty line. It uses verifiable indicators to obtain score that correlates closely with results of other poverty status surveys. The total score ranges from 0 (most likely to be below poverty line) to 100 (most likely to be above poverty line) with a cut-off point established against the national poverty estimates. The cut-off score of 59 for the intervention and non-intervention areas was established against the 2005 national poverty line.

Another innovation addressed the problem of pit emptying. For this purpose, a flexible pipe was attached to the single-pit offset latrines. After the pit is filled, a consumer may construct a second pit and connect the flexible pipe to the new pit allowing the old pit to be safely emptied later.

The development of the low water usage [SaTo latrine pan](#) (plastic trap door pan) was also supported through this TA (Figure 5). WSP and International Development Enterprise (iDE) worked together with American Standard to develop and field test this product. It is now manufactured in Bangladesh by RFL Plastics under licence from American Standard. The cost of the SaTo pan is \$ 1.50 with over 100,000 units being sold by RFL across Bangladesh in 2014.

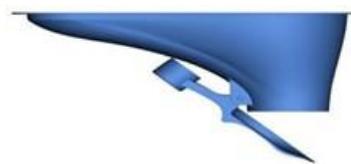


Figure 4: SaTo Latrine Pan

3.1.3 Use of Latrine Types

In the intervention areas, almost all (95%) of the observed latrines were either Aram or Bilash hygienic latrines revealing the wide acceptance of these latrines (Figure 5). This indicates that the sanitation marketing approach was effective in replacing unhygienic latrines with hygienic latrines in these areas. The remaining 5% latrines in the intervention areas were direct pit (3%), direct pit with SaTo Pan (1%) or traditional offset latrines (1%).

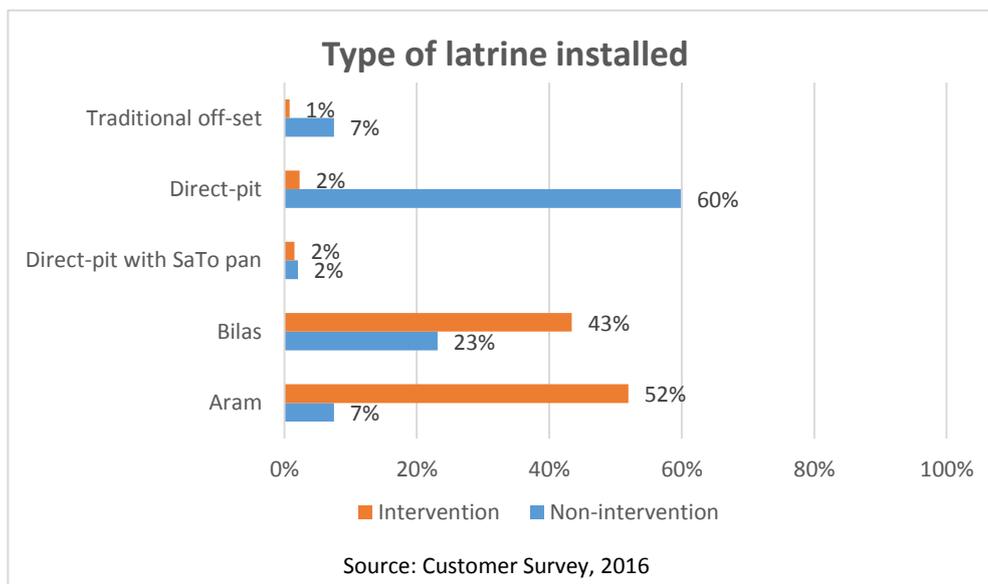


Figure 5: Types of Latrines in-use in Intervention and Non-intervention Areas

In the non-intervention areas, 67% of the latrines were either direct pit (60%) or traditional offset (7%) latrines. These are prone to the risks becoming unhygienic, generating foul smells, allowing access to disease vectors or leaking fecal effluent to the environment. Almost one third (31%) of the latrines in the non-intervention areas were Aram or Bilash revealing how the popularity of these latrines is spreading beyond the intervention areas.

3.1.4 Availability of Water

The convenience of water for flushing latrines and washing hands is a pre-requisite for the hygienic operation of latrines. While proximate water is generally available, the storage of sufficient water for flushing, anal cleansing and hand washing within latrines is a challenge. The provisions of water storage within latrines and hand washing facilities were emphasized in training with Local Entrepreneurs. It is recommended that future engagement in sanitation marketing should place greater emphasis on the provision of convenient water storage facilities and the installation of hand

washing devices to encourage the use of soap and water to wash hands at critical times (after defecation, before eating, before feeding children).

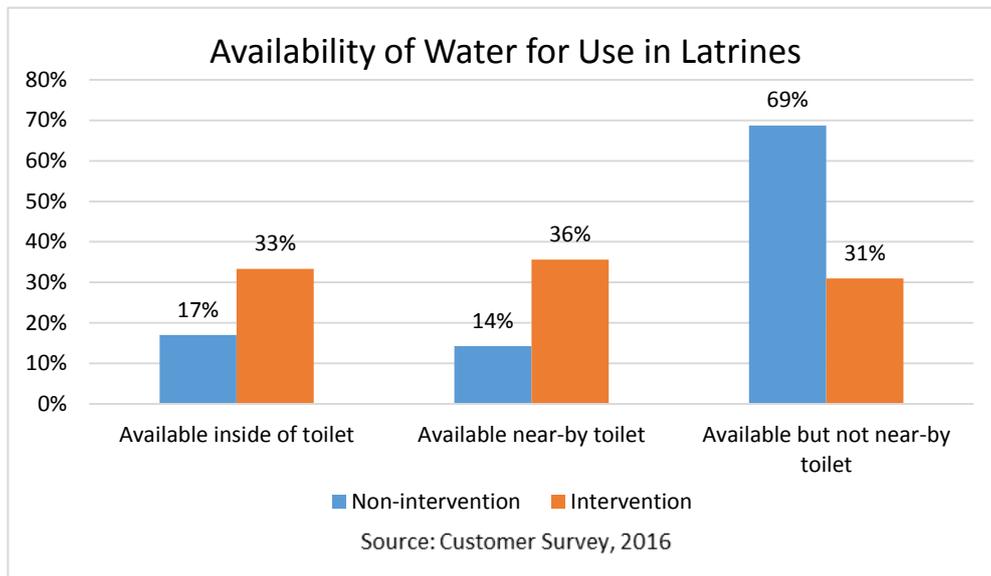


Figure 6: Availability of Water for Use in Latrines

In the intervention areas, the presence of water within the latrines was more prevalent (33%) since promotional messages on cleanliness and proper functioning of hygienic latrines were disseminated. However still about a third (31%) had to bring water from afar (Figure 6). In the non-intervention areas, over two-third of users (69%) had to bring water from afar while almost a third (31%) of the customers had water available inside (17%) or nearby their latrine (14%).

3.1.5 Latrine Superstructure Quality

Physical improvements to latrines from sanitation marketing included good quality roof, walls and lockable doors designed in consultation with the users to respond to their demand. The physical appeal of the hygienic latrines developed through this TA was an attraction for new customers and is an important feature for increasing hygienic latrine coverage.

While 118 latrines (91%) had a good roof in the intervention area, only 53 households (36%) were observed to have adequate roofs in the non-intervention areas (Figure 7). A good quality roof encourages the use of latrines offering cover during rain and improving the protection of the superstructure.

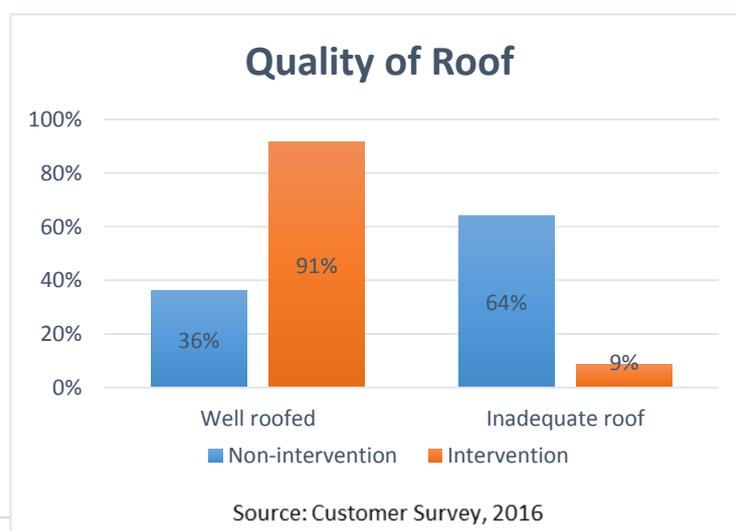


Figure 7: Quality of Roof in Intervention and Non-intervention Areas

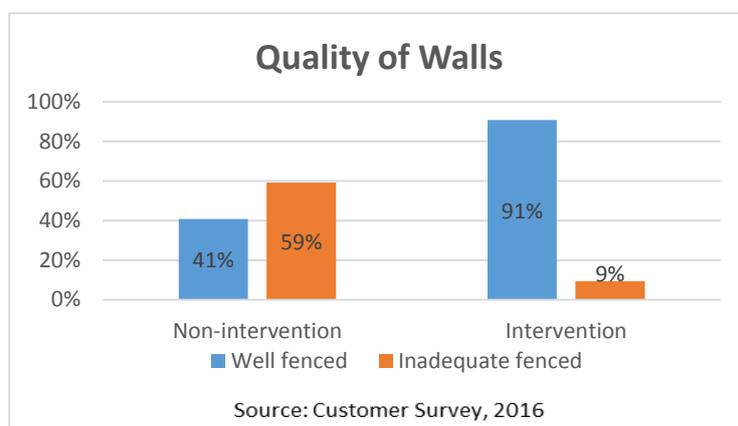


Figure 8: Quality of Walls in Intervention and Non-intervention Areas

Similarly the quality of the wall around a latrine influences its use. In the non-intervention area only 41% of the households had a good wall. In the intervention areas, 117 of the latrines (91%) sampled had good quality walls made of bamboo or metal generally chosen according to the customer's affordability (Figure 8). In the non-intervention areas, only 60 of the sampled latrines (41%) had an adequate wall with the rest of the 87 latrines sampled (59%) having broken fencing that was either poorly made or in disrepair.

3.1.6 Latrine Functionality

In rural Bangladesh, households sometimes deliberately destroy the water seal in latrine-pan to reduce blockages and water use for flushing. There were significant differences in the functioning of the latrines between the intervention and non-intervention areas. In the intervention areas, only 3% of the latrines had their water seals broken or absent, while 41% of the latrines in the non-intervention areas had this problem (Figure 9). This indicates that the trained LEs were successful in installing good quality hygienic latrines reducing the number of water seals intentionally broken by the user.

Another source of pollution is the condition of the pit cover or rings. In the intervention areas only 2% of the latrines had problems with the sealing of the pit covers or rings, while almost a quarter (24%) of the sampled latrines in the non-intervention areas had this problem.

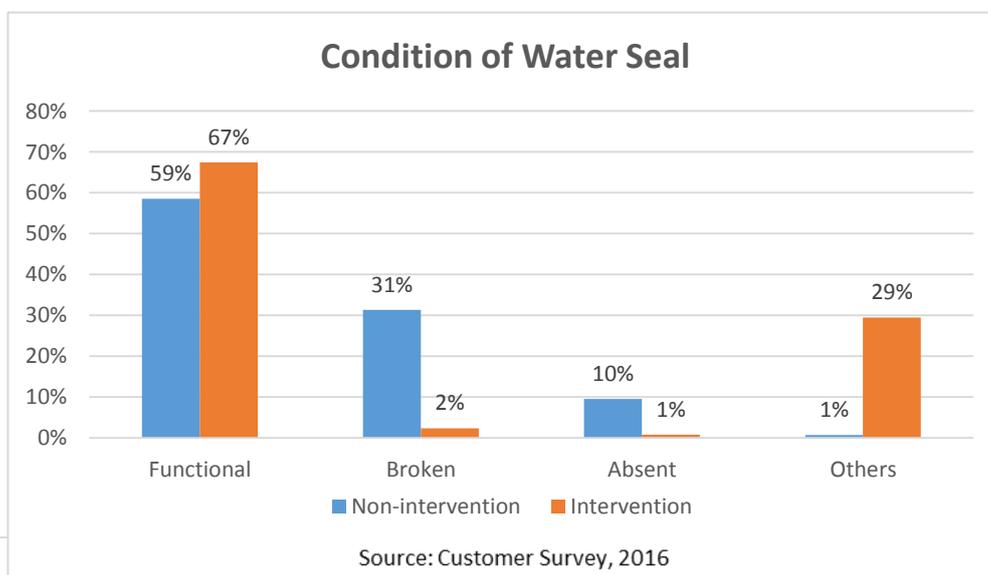


Figure 9: Condition of Water Seal in Intervention and Non-intervention Areas

3.1.7 Sustainable Latrine Use

The use of latrine by all household members was reported to be extremely high in both intervention (95%) and non-intervention (91%) areas. Although this data was self-reported, it provides evidence indicating the practice of open defecation is now rare in Bangladesh. Respondents admitted that small children and disabled or old members of the household do not use their latrine all of the time. In such cases, they dispose of this feces into latrines while a few simply throw it out in nearby bush or ditch. The safe disposal options for disabled people and young children possibly require greater attention in the future.

3.1.8 Perceived Health Benefits

In the intervention area, most users (88%) claimed that there were positive health benefits associated with their hygienic latrines. As there was no scope for investigating actual health benefits, we depended on anecdotal response regarding perceived health benefits. Their responses included: less incidence of diarrhoeal disease, less stomach ache, less parasite infection, better menstrual hygiene management, no access by disease vectors, etc. The rest of the users (12%) thought that there was no change in health from installing hygienic latrines.

In the non-intervention areas, the percentage of users with a positive perception about the health benefits of their latrines was less. Only 68% of users identified that there were positive health benefits associated with their latrines. The presence of foul odors, visible feces, and insects influenced their negative perception about the latrines. The existence of such problems may be helpful in convincing potential users to invest in upgrading their unhygienic latrines to hygienic latrines.

3.2 Gender Aspects

3.2.1 Privacy

In terms of doors, 82% had lockable doors in the intervention areas as compared to only about a third (35%) in the non-intervention areas (Figure 10). The presence of lockable doors is an important factor in ensuring the privacy of users, particularly for women. This is an important feature of both the Aram and Bilash latrines was appreciated by women. This is a design improvement extended through the local entrepreneurs evolved in response to the demands from users particularly women for peace of mind while using a latrine.

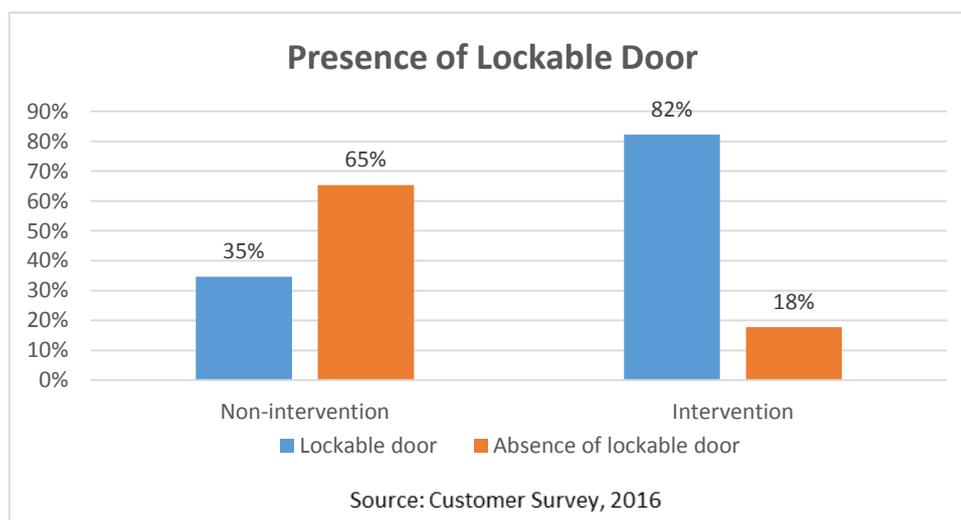


Figure 10: Presence of Lockable Doors in Intervention and Non-intervention Areas

3.2.2 Space within Latrines

The space inside the latrines is particularly important for the management of menstrual hygiene. In the intervention areas 97% of users expressed their satisfaction regarding the level of comfort of their latrines as against only 65% satisfaction of users in the non-intervention areas. Women respondents in the non-intervention areas using traditional latrines reported a lack of adequate space for menstrual hygiene management.

3.2.3 Location of Latrines

The location of latrines is another factor influencing the sustained use and hygienic maintenance of latrines. In estimating the distance between the living room and the latrine, four categories were used: Inside the room (attached), adjacent to the room, a bit far from the room (about 10 meters) and very far from the room (more than 10 meters). In estimating the distance between the living room and the latrine, four categories were used: Inside the room (attached), adjacent to the room, a bit far from the room (about 10 meters) and very far from the room (more than 10 meters). In the intervention areas, just over half of the latrines (54%) were attached to the living room or nearby (Figure 11). By comparison, in the non-intervention areas, 38% latrines were either attached or near the living room. The distance of a latrine from the living room impacts on its use by women and other members of a household. In addition to convenience, the distance also is a factor for the security of women users, particularly at night. The training of LEs to stress this point during consultation with customers appears to have been effective in this respect.

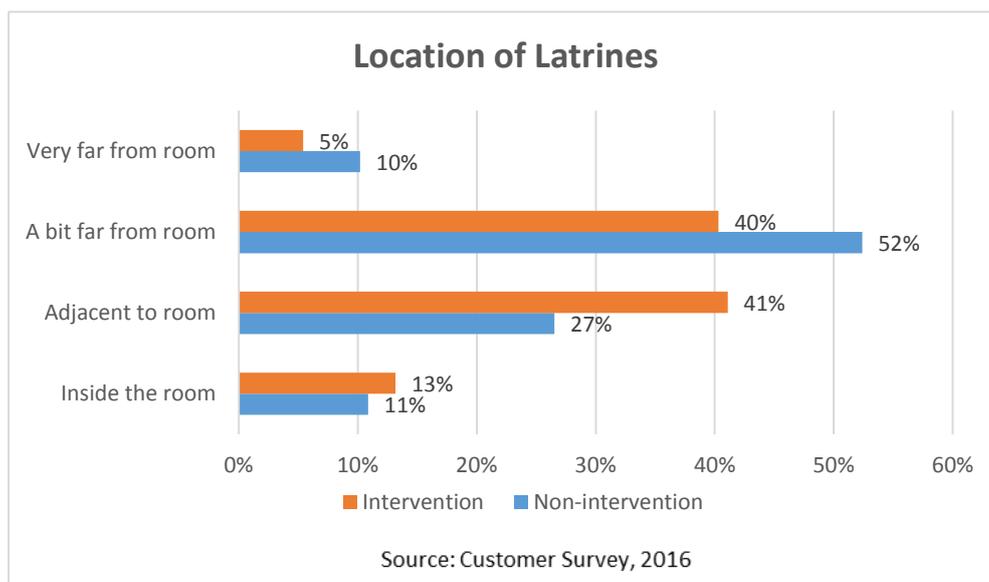


Figure 11: Location of Latrines in Intervention and Non-intervention Areas

3.2.4 Focus Group Discussions

Six (6) focus group discussions (FGDs) with women were conducted to learn about their views on hygienic latrines. A robust superstructure, particularly a roof, was highly appreciated by women's groups. This allows the comfortable use even during rain and ensures privacy as well. Similarly, the good quality walls available with Aram and Bilash latrines were appreciated by women as it adds to their sense of security. The women identified several areas for improvement in the design of latrines.

Shortcomings identified in Aram and Bilash	Recommendations to improve Aram and Bilash
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Latrines:

- There is still not enough space inside the latrines
- Pregnant women, the aged and disabled have difficulty using the latrines
- There is no system of in-built water supply

Latrines:

- The integration of a bathing space within the latrine
- The provision of an in-built water supply
- The provision to use open bottom chairs or stools for pregnant, aged and disabled users
- A lower floor height and the option for hand rails will improve access for pregnant, aged and disabled users

3.3 Entrepreneur Capacity

Recognizing the potential of local entrepreneurs, this TA attempted to build their capacity on the production and marketing of hygienic latrines. This TA also sought to link these LEs with MFIs to access loans to expand their business. The trained LEs are able to produce latrine components with better quality control. In addition to selling these latrines components the LEs also provide installation services. They have also expanded their product lines to include other household improvement goods and services.

3.3.1 LE Capacity Building

One of the major inputs of this TA has been the training of local sanitation entrepreneurs to produce and market high quality hygienic latrines. The training program started with only 17 LEs in the pilot phase in 2011. A significant increase in the number of trained LEs occurred in 2014 when ASA began its sanitation marketing in earnest. In the following year, there was a tremendous growth in the training program, and the number of trained LEs for that year reached 2,123 (Figure 12).



Figure 12: Annual Growth in Trained LEs

Much of the growth in the number of LEs trained may be attributed to the entry of ASA into sanitation marketing. As a major MFI of Bangladesh with operations all over the country, ASA launched their sanitation loan program for consumers in 2014, and started scaling up sanitation marketing through their branch offices. They trained 424 LEs in 2014 and expanded the training program in 2015 to train 1,270 LEs. In this period, DPHE also commenced the training of LEs through BRWSSP.

3.3.2 Latrines Sold by Trained LEs

Upon receiving training on the production of quality hygienic latrines and the marketing of these products, these LEs started contributing to the installation of hygienic latrines. From 852 latrines sold in 2011 the number of latrines sold increased to 275,756 units in 2015 (Figure 23). The big jump in the units sold in 2014 and 2015 was due to huge increase in demand for hygienic latrines as ASA's sanitation loans became available to customers and the implementation of the sanitation component under BRWSSP.

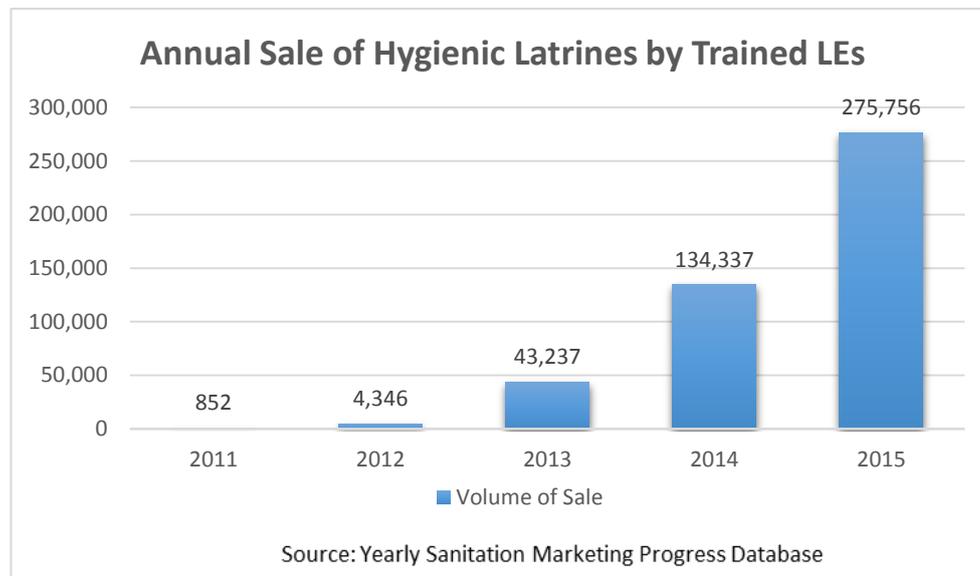


Figure 13: Annual Sale of Hygienic Latrines by Trained LEs

Time series data comparison reveals that the trained LEs sold and installed 170% more units than their counterparts in the non-intervention areas. . Between February and July 2015, the trained LEs in intervention areas sold 57,254 latrine units as compared to the 33,821 units sold by the LEs in the non-intervention areas (Figure 14). This suggests that the training led to a higher volume of latrine sales in the intervention areas.

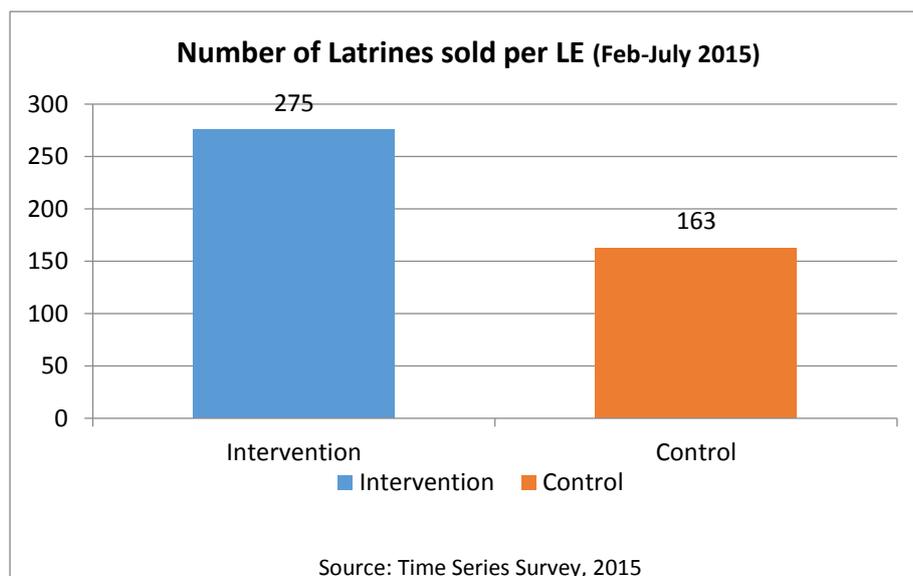


Figure 14: Number of Latrines sold per LE (Feb-Jul, 2015)

3.3.3 LEs Engagement in Demand Creation

The LEs traditionally sold goods and hardly played any role in creating demand for sanitary latrines. They depended on government and NGO programs for demand creation. However, through the training on sanitation marketing these LEs have understood that there are greater opportunities to create demand for hygienic latrines. These LEs have created consumer demand for hygienic latrines by:

- Offering high quality latrine installation services in addition to the manufacture and supply of latrine products.
- Increasing the range of hygienic latrine options to suit the preferences and affordability of customers. With the manufacture of other household items (i.e. concrete poles, cattle feeding bowls, stoves and pipes), sanitary marts have been turned into a one-stop shop for household goods.
- Establishing billboards and installing latrine models in hardware shops to advertise their products.
- Some LEs published leaflets and participated in sanitation fairs to disseminate information on their products.
- The use of standardized catalogues enabled LEs to explain the features and price variations associated with different hygienic latrines to prospective customers.
- Some LEs engaged local natural leaders paying them a commission to attract potential clients.
- Some LEs give discounts and free gifts (e.g. soap case, water container, etc.) to the buyers of hygienic latrines.

Capacity Building of LEs:

The capacity building of LEs was initially 4 days but now it is a 3-day field based training to make it more cost effective. Emphasis is given on the importance of hygienic latrines, different ways of constructing latrines including quality rings and slabs, offset pit latrines (single & twin pit) with a flexible 'siphon' and water trap. In the training importance is given on the user friendliness of latrines; the construction latrine platforms which are easy to clean, different types of super structures with proper door, the ideal size of a latrine with water storage facility / hand washing facility etc. Apart from technology, the entrepreneurs also learn how to market their products through demand creation at the community level, installation services and hire purchase

Case Study: Shirajul Islam

Mohammad Shirajul Islam is a local sanitation entrepreneur of Chunarughat Upazila, Hobiganj District. He started his sanitation business in 2008 with USD 130. At that time, he produced only rings and slabs for direct pit latrines earning was around USD 85 per month.



In 2011, Shiraj heard about a training on producing hygienic latrines. He said, "I was curious about the new technology and enrolled myself in the program." Then he received a four-day training on the importance of hygienic latrine and different ways of constructing hygienic offset latrines. Following the training Shiraj introduced offset latrines with different types of platforms of a comparatively larger size with a water storage facility and superstructure. He established a one-stop shop where all sanitary materials and prefabricated latrine components are available.

Shiraj frequently visits nearby villages and motivates them to install hygienic offset latrines.

Shiraj uses the latrine catalogue to show the photographs of the various models along with their estimated cost taking many orders 'on the spot'. When households are cannot afford the upfront



cost of the latrines he connects them to an appropriate micro-finance institution (MFI). In some cases, he assists the extreme poor to access latrines through the subsidies offered by the union parishad.

Shiraj took out loan from ASA three times between 2013-15 totalling USD 1,048 at a concessional interest rate of 10% that he repaid within the allotted timeline. With this credit and his market promotion activities, Shiraj has expanded his business to cover 15 neighbouring villages of two unions. Presently Shiraj earns an average of USD

385 per month with capital of around USD 2,564. His vision is to expand his business to other upazilas in future.

3.4 Market Financing

This TA supported the introduction of small loans in the sanitation sector by building an alliance with micro-finance institutions. The loans were made available to both LEs and their customers. This boosted the capacity of LEs on one hand and the purchasing ability of the households on the other hand. Thus both supply side and demand side benefited from the infusion of micro-credit support.

3.4.1 The Need for Financing

One of the main goals of this TA was to bring hygienic latrines into the market to gradually replace the unhygienic latrines. Financing becomes an issue for two reasons. Firstly, for the consumers, the hygienic latrines cost significantly more than the traditional latrines. The minimum cost of the Aram hygienic latrine (offset pit) is USD 64-71 and even the Aram Junior latrine (direct pit with *SaTo* Pan) costs USD 33-38. Set against the cost of a traditional latrine of less than USD 20 the affording the

latrines, particularly for poor consumers, is a challenge. Secondly, the LEs also require financing to increase their capacity to buy materials, conduct promotional activities and expand their business.

3.4.2 The Means of Financing

The financing challenge has been handled in different ways. Some organizations (e.g. Plan International, BRAC, DPHE, union parishad) uses subsidies for the poor. In such cases, the poor people bear some part of the cost, while the rest is borne by the respective organization. In some cases, the latrines are given out free of charge as well. These subsidy schemes distort the sanitation market in a number of ways:

- 1) It creates a dependency mentality among the beneficiaries. People expect and wait for subsidized latrines rather than take steps and pay to install hygienic latrines by themselves. For example, in areas where BRAC distributed subsidized latrines, they targeted small groups of eligible people and handed out latrines free of charge. The rest of the eligible people became reluctant to install hygienic latrines from LEs, rather they preferred to wait to receive subsidized latrines.
- 2) Usually subsidized latrines are of low-cost models. For example, union parishads distribute 3-ring and 1-slab traditional latrines using government subsidy. In comparison, the latrines sold by the trained LEs are of better quality, and cost more. These hygienic models have to compete against the low-cost and subsidized latrines. It creates an additional challenge for the LEs in areas where subsidies are available.
- 3) Subsidies work against innovation. The fixed designs of subsidized latrines leave no room for LEs to innovate and respond to customer demand. They must produce latrines as per the specification provided. The LEs in such areas become complacent and less interested to innovate to attract new customers. The trained LEs on the other hand bring new products and services to the market in response to customer demands. For example, they adopted new business strategy and marketing approach, helped in raising awareness, and started latrine installation service.

The Sanitation Marketing found that micro-finance is better than subsidy due to the following reasons:

- (1) Since it is a profit-making venture for the MFIs, there is no fixed time horizon. MFIs will continue to provide access to sanitation credit as long as there is demand. In comparison, subsidies depend on government or donor agency resources that have limited time period and funding.
- (2) Subsidy programs are often limited to specific areas where government or donor agency projects operate. MFIs, on the other hand, operate throughout Bangladesh. Therefore, they may launch sanitation loan program anywhere. For example, ASA is now offering sanitation loans in 36 districts of Bangladesh, and may expand further. It would be difficult to attain such reach by subsidy through government or donor projects.
- (3) MFIs offer more options of latrines to suit different clients, whereas subsidies are usually tied to one or a few models. Through their flexibility, MFIs can reach a wider section of the population by giving loan for the latrines of their choice.
- (4) Subsidies are targeted toward poor or extreme poor households. However, to increase hygienic latrine coverage, the non-poor households must also be enabled to replace their unhygienic latrines. MFIs may give loans to any household, and therefore help all households to move up the sanitation ladder, no matter whether they are poor or non-poor. In this way, the total hygienic latrine coverage of a community increases.
- (5) Latrines procured through accessing micro-credit bring a sense of ownership to a household. This makes them use and maintain the latrines with good care. Latrines given free of charge or with heavy subsidy are often neglected by the beneficiaries. For example, in a number of

non-intervention areas, subsidized latrines were seen lying uninstalled or in poor maintenance or in broken condition.

While micro-credit and subsidy both attempt to enable poor households to install hygienic latrines, micro-credit offers a greater choice for the consumers to select the type of latrines, and it is available to poor and non-poor households. Therefore, micro-credit helps to increase the overall hygienic latrine in an area. Subsidies, on the other hand, are targeted for poor or extreme poor households, and are limited to a project's life and available funding. Often the design is fixed and the households no option to select any other model. These latrines are often of traditional direct pit design that is prone to becoming unhygienic. The subsidy amount is usually too small to opt for higher cost hygienic latrines. In contrast, micro-credit loans are sufficient to procure good quality hygienic latrine models according to a consumer choice and affordability. Besides, subsidy is given according to the criteria fixed by the donor, and in limited number per year. Therefore, a poor household may not get selected to receive the subsidy, and even if it is selected, it may have to wait for long to receive a latrine (of a design that they may not prefer). Due these reasons, micro-credit is a better option to enable the poor households to install hygienic latrines in a faster, wider and more sustainable way.

For the above reasons, this TA has preferred the involvement of MFIs over subsidy. In cases where subsidy could not be avoided, such as in BRWSSP, in which subsidy is built into the project, the Sanitation Marketing Project advocated for cost-sharing rather than full subsidy. For the reasons given above, some partner organizations, such as the Dutch WASH Alliance, adopted a 'no subsidy' policy in promoting sanitation marketing.

3.4.3 The Effect of Consumer Loans on Demand

The introduction of the consumer loan by ASA had a huge impact on the demand for hygienic latrines. With a low interest rate of 10% and simple repayment conditions, many households were able to install higher quality and more expensive hygienic latrines. Prior to the introduction of consumer sanitation loans, only 10,986 units were bought by households in the ASA areas but this jumped to 101,060 in 2015 (Figure 18).

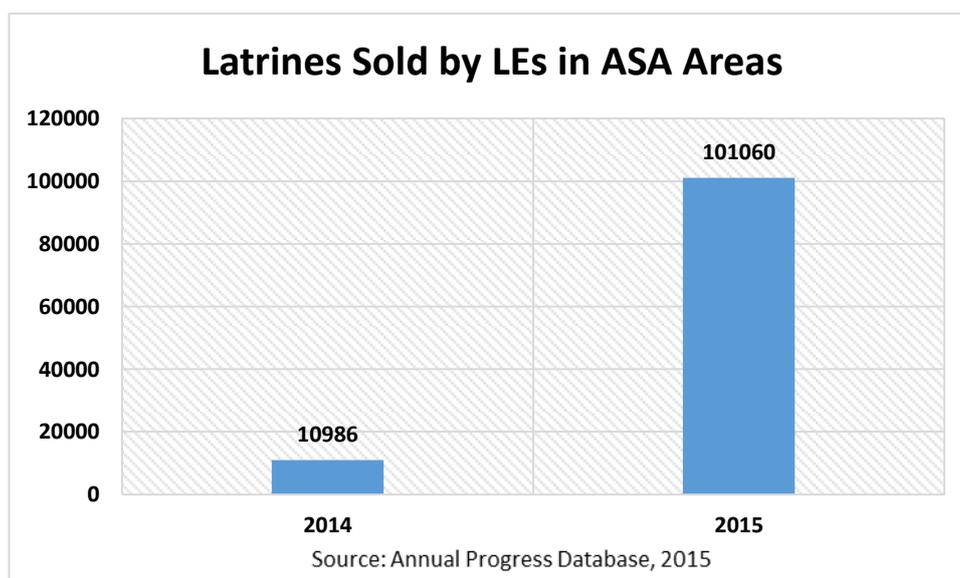


Figure 15: Latrines Sold by LEs in ASA Areas

Thus the loans from MFIs worked in the demand side by enabling the consumers, and in the supply side by enhancing the capacity of the LEs to produce more hygienic latrines to meet the demand.

3.4.4 The Effect of Financing on LE Sales

As the demand for hygienic latrines started to grow with the expansion of sanitation markets, the LEs began to take loans to expand their businesses. The number of LEs who received loan was only 5 during the pilot phase in 2011. The number of LEs receiving loans steadily grew reaching 323 LEs in 2014. When ASA's sanitation loan became available in many upazilas, the number of LEs receiving loans increased to 784 in 2015 (Figure 15).

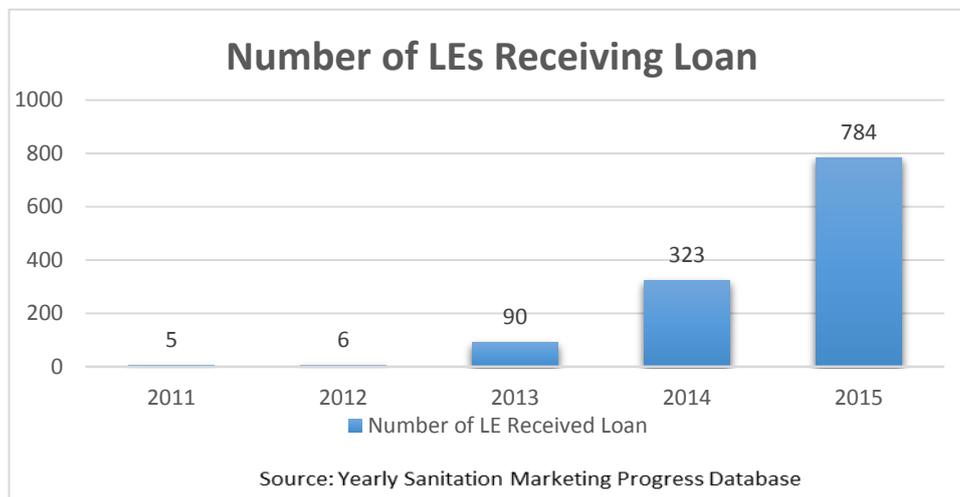


Figure 16: Number of LEs Receiving Loan

The amount of loans taken by LEs registered similar growth over this period. In 2011, during the pilot phase a total of USD 8,333 was taken by the LEs. The annual amount disbursed in loans stood at USD 950,705 in 2015 with a cumulative loan amount of USD 1.23 million over the period from 2011-15 (Figure 16). In addition to ASA, the LEs also accessed loan from BRAC, Grameen Bank and Islami Bank.

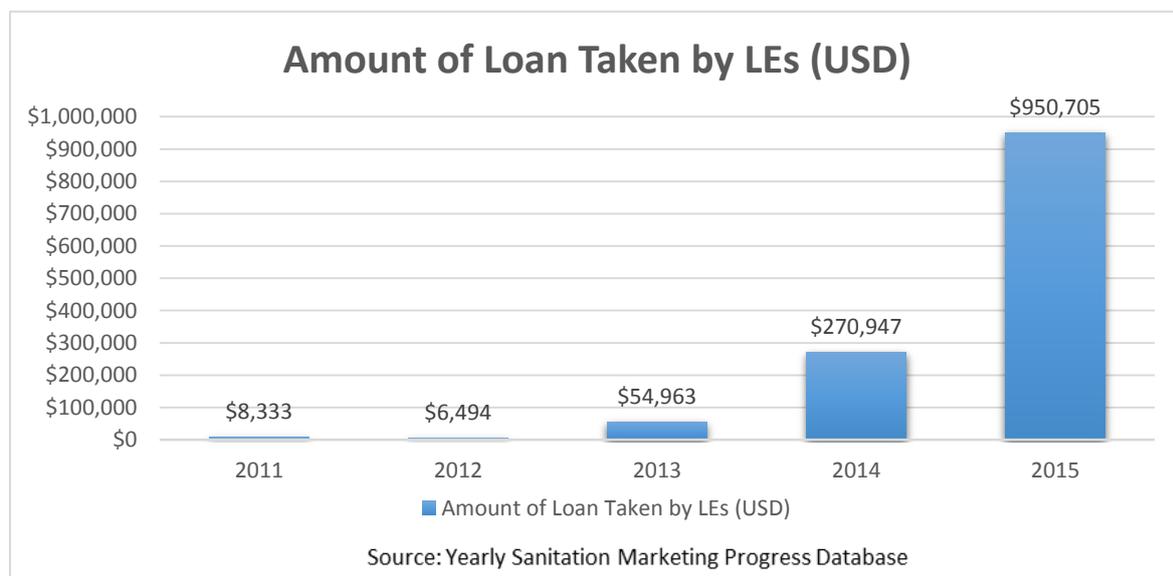


Figure 17: Amount of Loan Taken by LEs (USD)

The sales of hygienic latrines by LEs increased rapidly due to better access to financing in the intervention areas. With predictable and easily available credit, along with renewed knowledge of producing hygienic toilets, the LEs were able to increase their production to meet the demand for hygienic latrines.

3.4.5 The Effect of Financing on Production

The increment in sales was influenced by the availability of sanitation loan to the LEs. Some trained LEs availed of the loan from ASA, while others did not. Analysis of the sale of latrines units by the LEs who received loans in 2015 versus those who did not in 2015 illustrates the effect of the sanitation loan. During this period, the LEs who received loans sold 57,751 units, while the LEs who didn't sold 43,309 units (Figure 17).

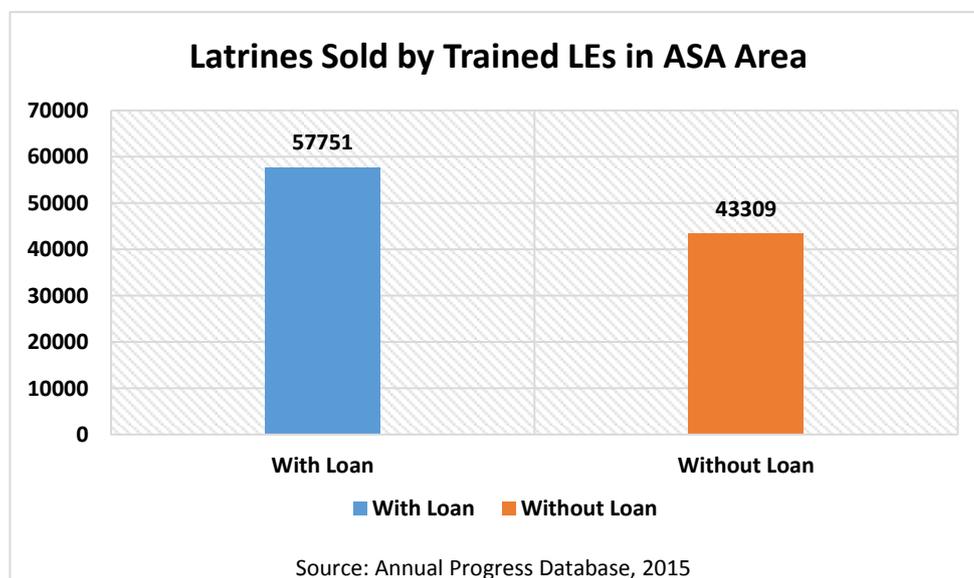


Figure 18: Latrine Sold by Trained LEs in ASA Area

The sales of LEs that accessed loans increased due to injection of funds into their business thereby helping them to buy more raw materials, produce more latrines and expand their product line. The micro-credit loans are easily accessible, predictable and repayments are by installment. This easy financing along with renewed know-how of producing hygienic latrines helped them to increase their sales in response to the growing demands.

Case Study: ASA's Leading Role in Sanitation Marketing

In 2009, WSP engaged in discussions with ASA on the potential of sanitation marketing while initiating a sanitation marketing pilot in five villages of Jamalpur district. In 2011, ASA provided credit to five LEs of Chunarughat upazila of Hobigonj district with loan sizes ranging from US\$500 to US\$2,000 at a subsidized rate of 7 percent interest for a maximum period of two years. WSP continued its advocacy with ASA's top management to build their confidence in mainstreaming sanitation loans for customers and LEs.

To accommodate its entry into the WASH sector, ASA revised its loan policy in 2014 and re-fixed its interest rate from 7% to 10% for both for LEs and customers. In 2014, ASA introduced a new loan product, offering loans to households with repayment periods of 45 weeks (including a one week grace period). With loan approval amounts varied from US\$50 to US\$120 it was important that the interest rate must be viable for ASA to ensure that the provision of loans for sanitation is not a losing concern. While the regular interest rate of ASA loans is 12.5%, the lending rate was reduced by 2.5% for sanitation with ASA's regular credit workers being responsible for the disbursement and collection of sanitation loans.

With WSP's knowledge support, ASA has now fully embraced sanitation marketing. ASA have drawn a far-reaching vision for sanitation, set up a separate department and deputed four staff to train the local sanitation entrepreneurs using the training manuals developed under this TA. ASA

have allocated funds for loans, LE training and staff orientation on sanitation marketing. Over the next three years ASA plan to install 100,000 hygienic latrines through the provision of loans to consumers and LEs. For this purpose, ASA are seeking to disburse a total of USD 12.8 million in loans having earmarked USD 6.4 million for disbursement in 2016 alone. All of this financing shall be run from its own resources as ASA does not accept any donor support.

3.4.6 Re-designing Pro-Poor Subsidies

Many development partners in Bangladesh target subsidies to reach the poor. In order to align subsidies with sanitation marketing, this TA has extended support for the re-designing of subsidies into cost sharing arrangements. Re-routing subsidies of NGOs and DPHE to the poor in conjunction with competitive LE markets has reduced the cost of hygienic sanitation models for the poor while still enabling poor customers to exercise their client power in demanding different models of hygienic latrines from different LEs.

Case Study : Redesigning Subsidies at Plan Bangladesh

Plan Bangladesh is a leading international NGO working in Bangladesh. As a child-centric organization, one of its core areas of operation is providing safe water and sanitation to disadvantaged households. Like many other development agencies, Plan Bangladesh used to provide sanitary latrines to poor households free of charge. This practice of distributing free sanitation hardware ended with the advent of Community Led Total Sanitation (CLTS) as community mobilization became the main thrust for promoting sanitation.

In 2004, Plan Bangladesh joined with to expanding CLTS through local government. At first, Plan Bangladesh worked in five upazilas later adding three more upazilas in 2010. The primary goal was to achieve open defecation free (ODF) status by mobilizing communities and local government.

By 2012, as the CLTS approach matured and communities attained ODF status, new challenges began to emerge. Sustaining ODF and moving up the sanitation ladder with better latrine options became areas of concern. Only a few households replaced their crude latrines with better options as the local entrepreneurs (LEs), who were the main suppliers of sanitary latrines, sold only traditional direct pit latrine slabs and rings. As the LEs did not engage in promotional activities, demand creation was left to the NGOs.

In 2013, WSP introduced the sanitation marketing approach to Plan Bangladesh and invited them to visit the field. When officials from Plan Bangladesh visited Chunarughat district the Aram and Bilash hygienic latrines caught their attention as excellent options for replacing unhygienic latrines. Impressed by the performance of the trained LEs, Plan Bangladesh found the sanitation marketing approach to have great potential to address many of the challenges in their post-ODF context.

Following the field visit, Plan Bangladesh decided to try sanitation marketing in its project areas in eight upazilas. At first, they conducted a survey of LEs identifying 250 eligible LEs for training. WSP provided hands-on training to an average of three LEs per union to produce and market hygienic latrines. In addition, UP representatives and Plan Bangladesh's own staff received a 5-day residential training on sanitation marketing.

As the trained LEs and staff started marketing sanitation the demand for Aram and Bilash hygienic latrines soared. Besides producing better quality latrines, the trained LEs now actively engaged in marketing their products. While some published leaflets as adverts for hygienic latrines, others participated in promotional activities. While some even employed local people as agents to attract customers, others provided payment by installment facility for their customers. As a result, traditional direct pit latrines are being replaced by higher quality offset hygienic latrines.

While Plan Bangladesh has now adopted sanitation marketing model and integrated this approach into its WASH Results project. However in order to assist the bottom 15% of the population to move up the

sanitation ladder, Plan Bangladesh decided to redesign its subsidy to support the sanitation marketing approach. WSP provided technical advice in the re-designing of the system for providing subsidies which included the following conditions: (1) only hygienic latrines will receive subsidy; (2) the customers will share the latrine cost; and (3) the subsidy will be paid to the LE who supplies the latrines.

Following a market survey, Plan Bangladesh decided to provide USD 29.50 as a subsidy to the poor households. These households were identified by the community in a participatory and transparent manner based on the government criteria for selection of poor households. As most hygienic latrine cost at least USD 51.30, the poor households pay at least USD 21.80 per hygienic latrine. Under this subsidy program, over 94,000 households have installed hygienic latrines between October 2014 and December 2015.

On one hand, this subsidy scheme helped in reaching the poor households, and on the other hand it helped the LEs to serve new customers. With this success in reaching the poorest households, Plan Bangladesh expects that the entire upazilas within its project areas will have no unhygienic latrines within the next 2-3 years.

3.4.7 Value of Investments by LEs

Trained LEs have gradually increased their investment (includes retained earnings and owners contribution equity) in sanitation business. Initially the investment by LEs was USD 3,256 in 2011. As more LEs were trained and enlisted, and the demand for hygienic latrines increased as well, the LEs started investing more into their business. Investment by LEs was at USD 1.8 million in 2014 increasing to USD 9.03 million in 2015 with the introduction of sanitation loans by ASA (Figure 19).

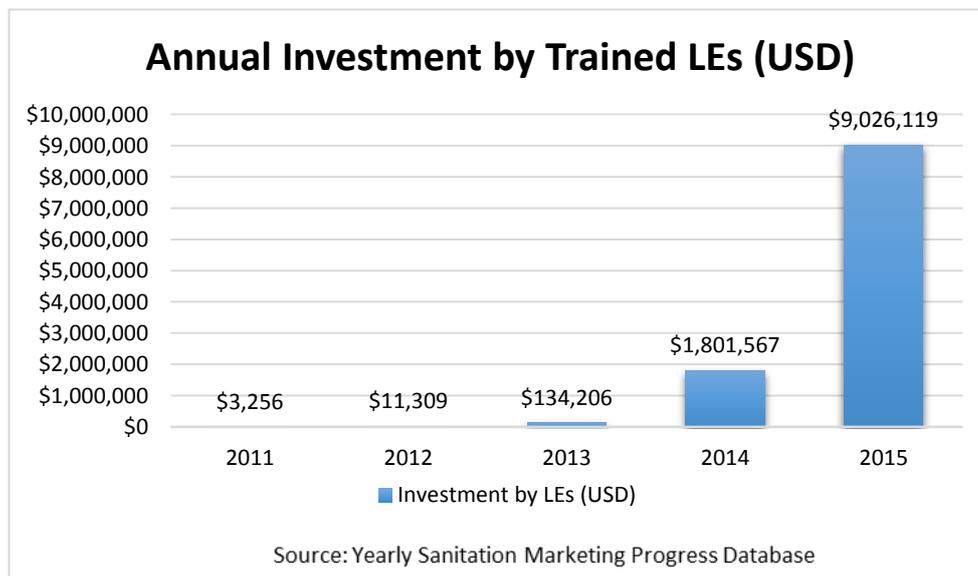
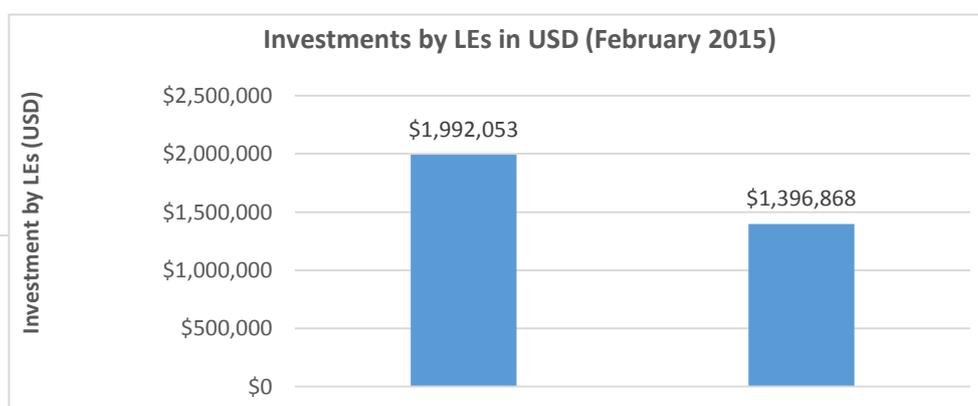


Figure 19: Annual Investment by Trained LEs (USD)

The difference in investment by trained and non-trained LEs is captured in the February 2015 time series data for LEs where US\$ 1,992,053 was invested by LEs in the intervention areas while US\$ 1,396,838 was invested by LEs in the non-interventions areas (Figure 20).



Between the intervention and non-intervention areas, the difference in the total capital invested by the LEs was not statistically significant at $p < 0.05$. Details are given in Annex 9.

3.4.8 Value of Sales by LEs

The value of sales by the trained LEs showed a steady but gradual growth from USD 12,215 in 2011 to USD 2.075 million in 2014. With the rapid expansion due to ASA's large scale entry there was a tremendous increase in value of sales to USD 14.9 million in 2015 (Figure 21).

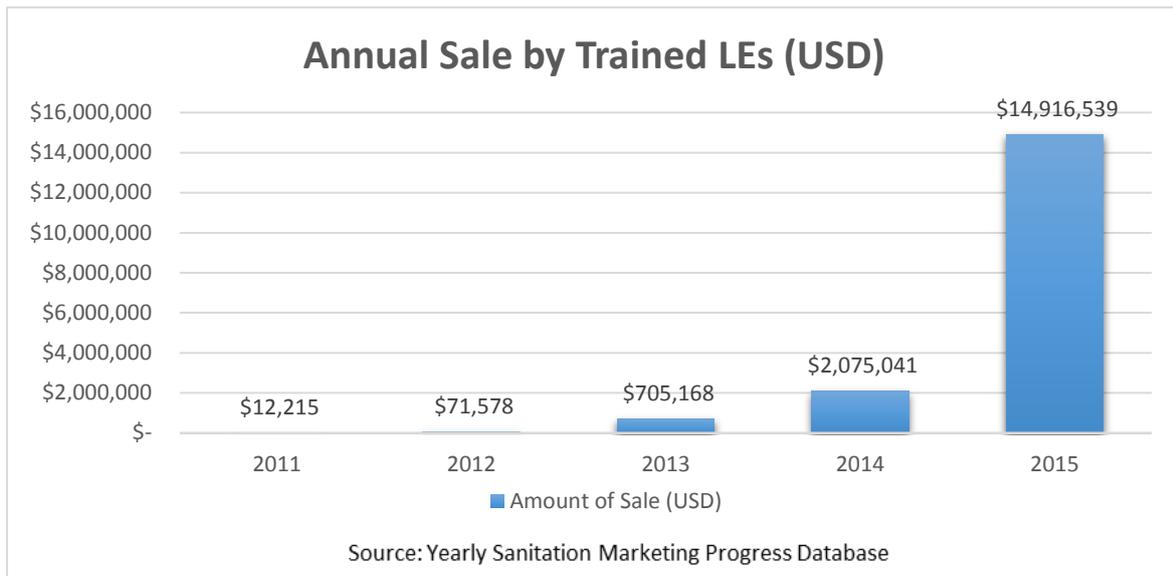


Figure 21: Annual Sale by Trained LEs (USD)

The distinction between intervention and non-intervention LEs in sales is seen in the value of latrine sales over six months (from February 2015 to July 2015) where the value of LE sales in the intervention areas was USD 1,865,589 as against USD 796,355 by LEs in the non-intervention areas (Figure 22).

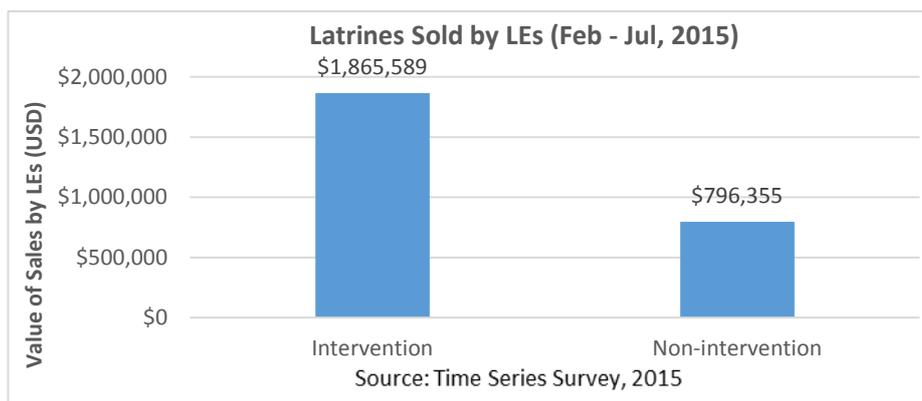


Figure 22: Latrines Sold by LEs (Feb - Jul, 2015)

The difference in the value of latrines sold (in USD) by the LEs in intervention and non-intervention areas is statistically significant at $p < 0.05$. Details are given in Annex 9.

There was a marked increase in the value of sales in ASA areas from USD 828,515 in 2014 to USD 11.3 million in 2015 (Figure 23). This is due to the rapid increase in the number of trained LEs as ASA has expanded to new districts. This reveals the significant potential that national level MFIs can exert in scaling up sanitation marketing.

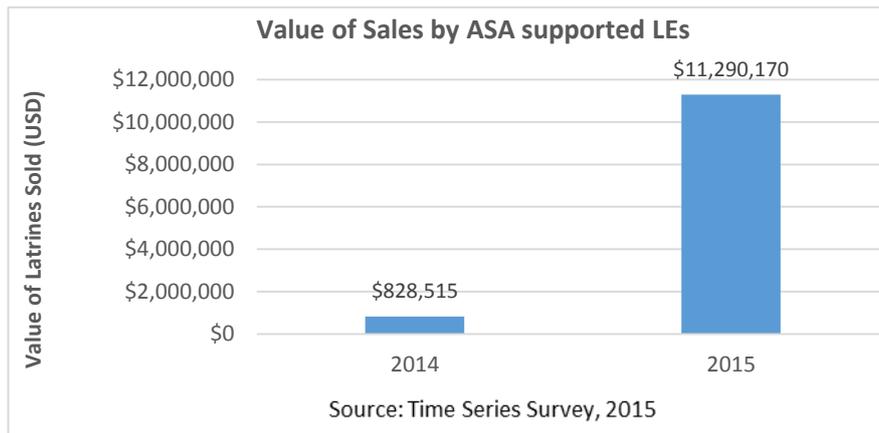


Figure 23: Value of Sales by ASA supported LEs

Among the LEs trained by ASA, there was a difference in the performance of those LEs who received loans and those who did not. While the value of sales by the LEs that did not receive any loan was USD 4.84 million the value of sales for LEs that received loans was USD 6.45 million in 2015 (Figure 24).

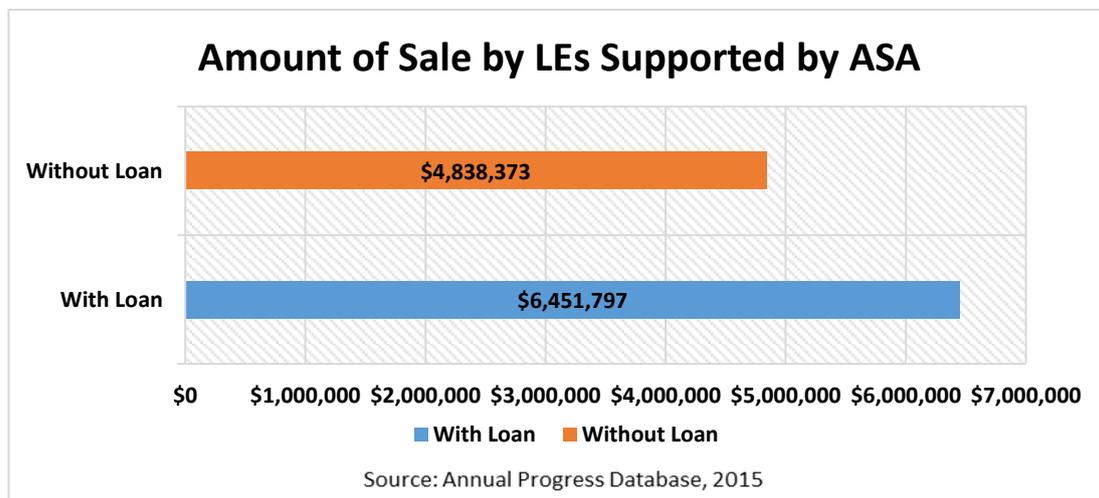


Figure 24: Amount of Sale by LEs Supported by ASA

In line with the value of sales, a distinction in the profit margins of trained and non-trained LEs was also exhibited in the time series data. The profit from latrine sales across trained LEs in the six months (February 2015 - July 2015) in intervention areas was USD 311,983 against a profit of untrained LEs in the non-intervention areas of USD 163,648 (Figure 25).

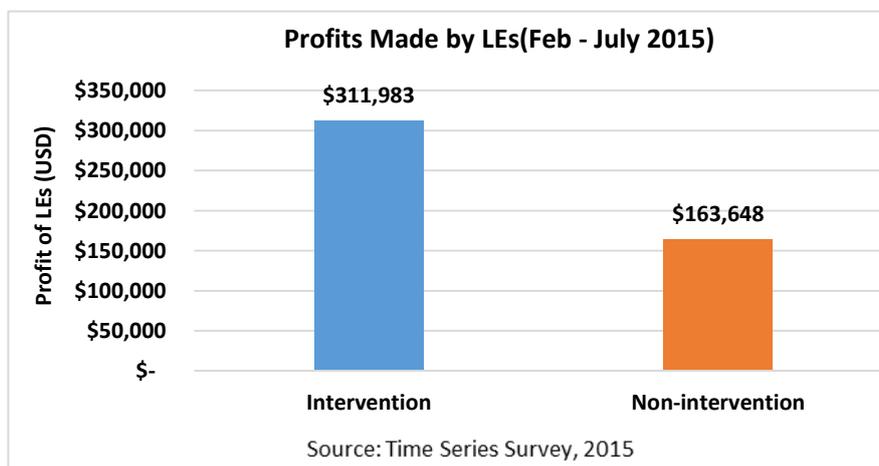


Figure 25: Profits Made by LEs (Feb - July 2015)

The difference in the value of profit (in USD) made by the LEs in intervention and non-intervention areas is statistically significant at $p < 0.05$. Details are given in Annex 9.

3.4.9 Business Viability

Focus group discussions with trained LEs revealed that all of their businesses were viable with increasing sales in all but one location. The reasons cited were that:

- People's awareness of the need for hygienic latrines is generating demand for latrines;
- The demand for individual latrines (as opposed to shared latrines) has increased significantly;
- Neighbors feel compelled to install hygienic latrines once someone else installs a good latrine;
- The adoption of a marketing strategy that included the bulk purchase of raw materials and more product lines (i.e. selling latrines, pipes, stoves, pillars, containers)

The LEs on the remote island of Char Fasson reported that their business was suffering due to the increasing cost of raw materials and labor. With the rising cost of raw materials, labor and transport across the board, the LEs reported that the selling price of their latrines has been gradually increasing. Increased demand by customers for larger sized latrines and higher quality latrines is also pushing the prices upward. This is corroborated by the time series data revealing a 2-5% increase in the selling price of Aram and Bilash latrines over a six month period.

Most of the trained LEs supported the idea of one-stop shop for all water, sanitation and hygiene needs of rural households. In their opinion, these shops are more appealing to customers because they can buy many items under one roof. This improves their sales and profit, and lowers their operational cost as the same laborers produce many types of items. Some LEs expressed reservations against the one-stop shop approach on the basis that:

- It requires more capital investment over a longer period of time
- This requires larger space which is not always available
- Larger operations generally mean more wastage

The LEs made some suggestions to increase the sale and installation of hygienic latrines which included:

- Raising awareness about the need to use hygienic latrines
- Public campaigns against the use of unhygienic latrines
- Increased publicity through billboards, calendars with messages, video shows, public meetings, message dissemination by loud speakers, etc.
- Stronger relationships between the NGOs / UP members who are better at creating demand and LEs who are better at responding to demand
- More lending and repayment options for customers to purchase higher cost hygienic latrines
- Extend training to prospective LEs and refresher training for existing LEs
- Opportunities for LEs to lease bigger parcels of land with the administrative support from local government

3.4.10 Sanitation Market Financing

In the intervention areas, just over half of the users (53%) received some form of financial assistance to install the higher-cost latrines through either loans (13%) or subsidies (40%). While 33% of the surveyed users received assistance from Plan International, the other 7% received subsidies from the local government (UP).

In the non-intervention areas, no users reported having access to micro finance loans for sanitation. Users reported receiving a subsidy from BRAC (9%) and the UP (1%). The remaining 90% had to

depend on their own savings to purchase and install latrines. The lack of access to appropriate financial instruments can leave households unable to procure improved hygienic latrines.

During the focus group discussion with the trained LEs, a total of 27 reported taking loans while 16 did not. The loans were used to increase capital, expand business and buy raw materials. The reasons for not taking loans were that:

- Enough capital is available with them
- Weekly pay back of loan is not convenient
- Loans were not available when it was needed
- Increasing interest rates on loans
- Not knowing that loan is available

During the focus group discussion with the customers, it was found that 13 respondents took loans for sanitation while 58 did not in the intervention areas. In the non-intervention areas, 15 respondents took loans and 60 respondents did not take loans. The similarity between intervention and non-intervention areas in spite of the fact that MFI loans were not available in the non-intervention areas suggests that then demand for finance by customers has been fulfilled from other sources.

<p>The reasons cited for taking a sanitation loan were:</p> <ul style="list-style-type: none"> • That their latrine of choice was unaffordable without a loan • Loan re-payment by small installments is easy • Loan is not available from friends or relatives so accessed loan from MFI 	<p>The reasons cited for not taking sanitation loans were:</p> <ul style="list-style-type: none"> • Received subsidy or free latrine from NGOs or UP • Have enough savings to buy their latrine of choice • Do not wish to be in debt so chose a lower cost latrine • Did not know that sanitation loans were available
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The creation of a micro-credit loan facility for customers to install hygienic latrines was supported by 82% of FGD respondents in the intervention areas. In the non-intervention areas, support for the extension of micro-credit for sanitation was only 58% amongst FGD respondents. The training to LEs combined with the opportunity for households to access loans appear to have been the most powerful drivers for the extension of the market for improved hygienic latrines. Centering the provision of the training to LEs and the extension of loans to households within a particular MFI (in this case ASA) appears to align the incentives for the extension of sanitation markets.

3.5 Engagement with Development Partners

3.5.1 Knowledge Sharing and Advocacy

Through this TA the sanitation marketing approach has been shared with many sector organizations including NGOs, GOs, and MFIs. As a result, organizations such as DPHE, ASA and Plan Bangladesh have adopted the sanitation marketing approach in various projects. As the sanitation marketing model has begun to mature, the dissemination and advocacy efforts through this TA have been increased. This has included exposure visits for NGOs, government officials, elected representatives and researchers, while teams from India, Tanzania and Cambodia also visited these areas.

3.5.2 Engagement of Local Government and Community Leaders

In Bangladesh, the Union Parishad (UP) is responsible to ensure sanitation services for all. This TA sought to strengthen the capacity of Union Parishad representatives to support sanitation promotion, mobilize and coordinate resources for sanitation, and assist LEs in supplying sanitation services to the community. However, the field experience was not very promising. Only 10-15% of the UPs were found to be actively working on sanitation. Some UPs did channel government subsidies for hygienic latrines through trained LEs to assist the hard core poor.

Over the period of this TA, engagement with partner organizations including government agencies, NGOs and MFIs has gradually increased from four relevant stakeholders in 2012 and gradually to 22 in 2015.

	Partners	Starting Period
1	ASA	October 2010
2	BASA	2011
3	iDE	2012
4	Dutch WASH Alliance (10 Organisations)	May 2012
5	Plan Bangladesh	January, 2013
6	Max Foundation (2 Organisations)	June 2013
7	Concern Universal Bangladesh	March 2014
8	WaterAid Bangladesh (6 Organisations)	March 2014

Project personnel of MFIs, local government representatives and staff from NGOs have been oriented on the benefits of the sanitation marketing approach. At the local level this has resulted in:

- Community leaders (such as those from credit groups) playing key roles in demand creation
- Local government providing government subsidies for the poor through the private sector instead of providing sub-standard direct pit latrine materials.

The approach to marketing sanitation has thus far resulted in 21 NGOs, 2 MFIs and the key government department replicating this sanitation marketing approach in their own programs. The Department of Public Health and Engineering has adopted both the Aram and Bilash latrines and is promoting them in World Bank-supported Bangladesh Rural Water Supply and Sanitation Project (BRWSSP) areas.

3.5.3 Perspectives of Sanitation Marketing

Over time, the orientation on sanitation marketing has brought a change in the organizational view of sanitation in many agencies. For example, Plan Bangladesh now values sanitation marketing as an effective approach and has adopted it as a mainstream approach in their sanitation program. DPHE as a government organization which does not traditionally deal with LEs, expressed satisfaction with their experience in sanitation marketing. Recognizing that sanitation marketing by the private sector will remain a strong force to promote sanitation in Bangladesh, DPHE highlighted that government agencies must also remain active especially in emergency situations where rapid intervention is needed. Other agencies expressed some reservations about the viability of sanitation marketing in reaching the poor and marginalized. The concerns are that sanitation marketing is essentially a

profit-oriented approach that may exclude the poor and the marginalized because their purchasing power is too small. The attention may have a bias toward the more profitable section of clients. The other tension regarding the sanitation marketing approach is viewing sanitation as a commodity rather than a basic right of the people. The fear is that the commercial interest of the sanitation marketing approach may dominate over the basic rights issue. Their argument is that no matter how much we try, a section of the population will be unable to install hygienic latrine on their own. It is claimed that to cover a community with hygienic latrines, such households must be given some assistance in the form of subsidy. Such differing viewpoints are expected and may be constructive as the WASH sector in Bangladesh tries to find the best way to reach the poor.

3.5.4 Feedback on Aram and Bilash Latrines

Partner organizations appreciated the innovations in sanitation design extended through this technical assistance for sanitation marketing. The popularity of the Aram and Bilash models is such that some organizations have adopted the brand names and published brochures to promote these brands. As the rural economy in Bangladesh is improving, people are increasingly looking for better quality products. Demand for the traditional direct pit latrines with poorly functioning water-seal will reduce if better alternatives are available to a point where customers are even increasing looking for better quality components than currently supplied with the Aram and Bilash models (i.e. ceramic pans instead of plastic pans, concrete poles instead of bamboo poles).

3.5.5 Perspectives on LE Effectiveness

The partner organizations interviewed were highly satisfied with the performance of trained LEs. In particular the higher quality of the services in regards to marketing for demand creation, the offer of design, supply and installation services and the provision of latrines on hire purchase. Some partner organizations expressed reservations about the capacity of LEs to create demand on a large scale. They believe this responsibility should remain with UPs and NGOs who have the capacity and resources to create large-scale demand for hygienic latrines. This requires LEs to build stronger alliances with UPs / NGOs and to participate in promotional activities.

3.5.6 Perceptions on Sanitation Marketing

While partner organizations expressed some satisfaction with the sanitation marketing approach, they also identified the following challenges in expanding and sustaining this approach:

- An association of LEs has still not been established everywhere. This is important for continued capacity building and support to the LEs to sustain their business operations.
- The technical skill of trained LEs has increased considerably. They are now producing higher quality latrines, providing better customer service and maintaining better standards. However they are still weak in financial management and book-keeping practices.
- LEs will continue to need further support in terms of sanitation promotion to ensure that there is a steady demand for hygienic latrines.
- There are very few female LEs. Women need to be encouraged to enter into the sanitation marketing business.
- There is a need for sanitation marketing to be formally acknowledged by the government authority as an approach to promote sanitation. Greater advocacy for this is needed.
- LEs are subject to VAT and income tax which adds to the costs of operation and increases the price of latrines. Since the extension of sanitation is a nationally important public health issue it is worth advocating with the government to exempt taxation on sanitation goods and services.
- Some NGOs and UPs still distribute free or subsidized latrines which distorts the market. The government should issue a sanitation rule on subsidies to avoid confusion among customers.
- While some MFIs are increasing their interest rates on sanitation loans, there should be some incentives for MFIs to extend loans for sanitation at concessionary rates.

4 Lessons Learned

4.1.1 Moving up the Sanitation Ladder

One of the animating questions underpinning this TA was whether the sanitation marketing approach was able to assist people to move up the sanitation ladder from crude unhygienic latrines to hygienic ones. This evaluation has shown that most households (even the poor) have successfully graduated to hygienic latrines through sanitation marketing. The sanitation marketing approach appears to be a viable and effective option to assist people to adopt high-quality hygienic latrines in Bangladesh.

4.1.2 Scaling up Sanitation Marketing

Another important question underlying this TA was whether the approach is scalable. Based on the learning from a small pilot experiment, the provision of technical assistance has witnessed the gradual increase from 2 upazilas to 320 upazilas within five years (2011-2015). There is evidence from the data on hygienic latrine coverage, the loans taken by the trained LEs, the latrine production numbers and latrine sales to confirm that this sanitation marketing model is replicable at a larger scale.

In terms of geographical area, the approach has been tried in various parts of Bangladesh with good success, however it has not been tried yet in the remote hill tracts or haor (wetlands) areas⁹, where the situation is more challenging.

4.1.3 Access to the Poor

Since sanitation marketing is founded on a willingness and capacity to pay, a key question of this approach was whether these markets would be able to reach the poor. Data from the poverty index indicates that over 60% of the customers of the hygienic latrines were poor. The extension of sanitation loans and the opportunity for latrine repayment by installments has enabled poor people to adopt higher cost hygienic latrines. With a growing rural economy, more people are able to afford higher cost latrines and especially the lowest cost hygienic latrine model which sells for only USD 33.

In regards to the extreme poor, the subsidy models developed by BRWSSP and Plan Bangladesh prove that it is possible to extend some form of subsidies as support to the hard-core-poor through sanitation marketing. In such contexts it should be investigated whether the people still using unhygienic latrines are doing so because of poverty or because of other reasons.

4.1.4 Demand Creation

It was observed that some LEs actively try to create demand for hygienic latrines by distributing leaflets, participating in fairs, and even engaging local leaders as agents. However, not all LEs are so capable. To a large degree, the LEs still depend mostly on the government and NGOs for creating demand.

Some sector organizations expressed views that the LEs are not yet strong enough to create and maintain demand for hygienic latrines. In their opinion, the demand creation activities must be carried on by Governmental and NGO agencies as the LEs cannot match their skills and resources.

⁹ Haor areas remain inundated, under water for about seven to eight months of the year which limits the crop intensity to only a single crop in a year resulting in high level poverty. The fresh water supply is poor to moderate but the sanitation situation is worse as the latrine coverage is only below 10 percent. Public facilities and NGO activities are rarely available in haor areas.

4.1.5 Improvements in Latrine Design

While the Aram and Bilash brand of hygienic latrines have become popular, some users mentioned that the design needs to be further improved to enable pregnant women, disabled and old people to use the latrines. It may include special design options for users with special needs.

Only a third (33%) of the latrines in intervention areas were observed to contain water inside the latrines. Adequate provision of water for flushing and handwashing is essential. More design options are required for this purpose.

4.1.6 Partnership with Sector Agencies

In general, the sanitation marketing approach has been well-received by the sector partners. Many organizations including Plan International, ASA, Dutch WASH Alliance, NGO Forum for Public Health and DPHE have embraced the approach. There are some differences in the implementation mode of different organizations, but they have largely accepted the principle of sanitation marketing. WASH sector stakeholders in general are willing to promote the sanitation marketing approach.

4.1.7 Sustainability

While it is too early to definitely claim long-term sustainability of sanitation marketing in Bangladesh, there are many encouraging indicators. The sales of hygienic latrines by the trained LEs are steadily increasing and the loans by LEs and customers are also rising. With ASA preparing to disburse another tranche of loans worth USD 12.8 million in the coming years it appears that there will continue to be strong growth in the sanitation markets in Bangladesh. Given the key role that local governments played in the CLTS movement, the limited success in the engagement of local government in the sanitation market promotion (and regulation) is an area of concern for sustainability. Going forward, the role of local government is particularly important in ensuring that the compliance of latrines and LEs with hygienic quality standards.

5 Recommendations

The partner organizations, LEs and customers made a number of recommendations to further the sanitation marketing approach in Bangladesh which are summarized below:

5.1.1 Policy Interventions

Some policy interventions are required at this stage. For example, traditional direct pit latrines that often do not function as hygienic latrines are still being produced. Some organizations, including union parishads, continue to procure these unhygienic latrines. There should be a policy directive to end the production of such latrines and discourage GO/NGO agencies from supporting the production of such latrines.

This could be furthered through the establishment of a regulatory authority for the WASH sector in Bangladesh. This would increase the ability of the government to regulate the quality of sanitary products entering the market in the interests of public health.

5.1.2 Technology Innovations

The introduction of Aram and Bilash latrines has been greatly appreciated by the customers. However, there is demand for further improving these models. These include optional rails in the entrance and handles inside the latrines for assisting the aged and pregnant mothers; option to add bathing space for women; option for larger space; provision for water supply; and option for sitting instead of squatting.

New technology is also needed for fecal sludge management, menstrual hygiene and management products. Such technologies could help LEs to expand their range of services and products. Technologies should also be customized for area-specific needs. For example, latrine components need to be light and durable for carrying in the hill tracts. It requires more research and development, followed by marketing through LEs.

The research and development in new sanitation technology are mostly conducted by NGOs and private organizations. However, DPHE, as the national technical line agency could contribute to this effort. They have contributed much to the development of tube wells and early sanitary latrines. Their resources could be better used for developing new sanitation technologies as well.

5.1.3 Triggering Demand and Supply

A massive public awareness campaign was raised during the promotion of CLTS. It is felt that a similar national campaign is needed now against the use of unhygienic latrines. In addition to a campaign against the use of unhygienic latrines it is necessary to better understand the drivers that will encourage households to continue to move up the sanitation ladder. This not only could include an aspiration to have latrines that are of a similar quality to those used in cities and towns, but also the effect of the provision of space for bathing to encourage the installation of higher quality latrines. The combination of a public campaign against the use of unhygienic latrines and the promotion of new attractive convenient latrines should assist the LEs in replacing the unhygienic latrines with hygienic latrines.

As the sanitation marketing approach flourishes, there will be new LEs entering the market, and the existing ones expanding their business. Therefore, there will be a need for financial support to the LEs. Some stakeholders recommended that a revolving fund could be created by the government and MFIs so that there would be permanent loan facility for the LEs. These loans could have concessionary interest rates for the LEs. However, the need and effectiveness of such facility is open for debate.

As the sanitation marketing approach expands, there will be a need for training facilities for the prospective LEs. Agencies such as NGOF and DPHE have facilities that could be used for training purpose. A cadre of trainers in sanitation marketing could be created by the WASH sector stakeholders for this purpose.

5.1.4 Fecal Sludge Management

With the massive shift in Bangladesh away from open defecation towards fixed point defecation has confined excreta within hygienic and unhygienic latrines. In the current scenario the management of fecal sludge is primarily undertaken by private sector sweepers that are engaged by households to empty the latrine pits and dump the contents.

With the shift from unhygienic to hygienic latrines, the unhygienic handling and dumping of fecal sludge will begin to present a major risk. Future engagement needs to consider the promotion and regulation of the entrepreneurs involved in the safe excavation and disposal of the fecal sludge from the latrines throughout Bangladesh. Given the present dominance of the pit emptying market by small scale unrecognized private labourers, improvements in handling and disposal lend themselves to a market development approach.

6 Post-Script

In FY15, an additional 1.4 million consumers are using improved quality sanitation services as a result of the market extension offered by the 2,123 trained local sanitation entrepreneurs. In FY15, these entrepreneurs invested a total of USD 9 million capital in the expansion of their business with a total

volume of sales for FY15 from these entrepreneurs almost reaching USD 15 million. The massive increase in the demand for and sales of hygienic latrines from 10,986 latrines in 2014 to 101,060 latrines in 2015 is mostly due to the extension of loans by ASA (one of the Micro-finance Institutes) to local entrepreneurs to expand their business as well as the introduction of sanitation loans to households. The role of ASA (the largest MFI in Bangladesh) in mainstreaming sanitation loans for entrepreneurs and households has been instrumental in the expansion of sanitation marketing in Bangladesh.

As a result, a future programmatic TA has been developed for a sanitation marketing initiative that will combine social and commercial marketing approaches to stimulate supply and demand for hygienic sanitation facilities by poor consumers. The commercial side of the program will involve lending by a wholesale MFI (WMFI) to a select number of retail MFI's for on-lending to two kinds of borrowers: (i) rural consumers, for the purchase of materials and the construction of completed hygienic latrines, and (ii) small scale local sanitation entrepreneurs (LEs) who will provide products and construction services. The resources for whole-sale lending by the MFI will be provided from their existing project resources. In addition the World Bank administered the Global Program for Output Based Aid (GPOBA) has committed additional resources for the targeting of output based subsidies for the hard core poor. The social side of the partnership will involve advisory support and capacity building for the staff of the WMFI and participating MFIs, training for small-scale entrepreneurs and community group leaders, as well as project monitoring and evaluation. Wholesale lending and financing from the MFIs to the LEs and consumers will be provided by the WMFI and no financing from the TA will be used to lend resources. This TA will have the capacity to launch a review to help the government to come out with relevant policies in terms of extending subsidies to the poor to raise their capacity to purchase latrines or offering financial incentives to LE's to reach the poor with latrines.

Annex 7: Products innovated by the 4S Project

Product Type	Product Picture
<p>Aram Junior This model is for those who are unable to install offset latrines. It is a hygienic direct pit latrine with SaTo Pan. It includes SaTo Pan, five concrete rings, concrete poles, tin roof, walls of bamboo or metal sheet. The price is around USD 33-38.</p>	
<p>Aram The platform is made with earthen plinth with concrete slab and ceramic or plastic pan. It includes platform, five concrete rings, concrete poles, tin roof and walls of bamboo or metal sheet. The price is around USD 64-71.</p>	
<p>Aram Plus The platform is made with four concrete plates on which the slab with ceramic or plastic pan is fixed. It includes platform, five concrete rings, concrete poles, tin roof and walls of bamboo or metal sheet. The price is around USD 83-90.</p>	

Product Type	Product Picture
<p>Bilash</p> <p>First the earthen plinth is compacted, and then it is covered in plastic sheets. Afterwards, a 2-inch thick cement concrete layer is applied on the floor and sides to make the platform. It includes platform, five concrete rings, concrete poles, tin roof and walls of bamboo or metal sheet. The price is around USD 71-77.</p>	
<p>Bilash Box</p> <p>First the earthen plinth is compacted. Then steel mesh (10 or 12 gauge) is placed on the floor and sides. Wooden shuttering is used like a box. Then it is covered in plastic sheets. Afterwards, a 2-inch thick cement concrete layer is applied on the floor and sides to make the platform. It includes platform, five concrete rings, concrete poles, tin roof and walls of bamboo or metal sheet. The price is around USD 90-103. If brick walls are used then the cost increases to 128-154</p>	

Annex 8: Research Questions

1. Do trained entrepreneurs result in higher levels of hygienic latrine access?
2. Does the purchase of a hygienic latrine from a trained LE result in more sustainable use by all family members, greater customer satisfaction, and better perceived health outcomes?
3. Are customers served by trained LEs richer or poorer compared to average households?
4. What is the impact of training to LEs in-terms of investments, sales and profit?
5. What is the impact of sanitation loan to LEs in-terms of investments, sales and profit?
6. What is the impact of sanitation loan to customer in-terms of purchasing hygienic latrine?
7. How did WSP influence NGOs, MFIs and GOs?

Annex 9: Detail Analysis of t-tests

Capital investment by LEs in intervention and non-intervention areas:

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Cap_present_feb	Equal variances assumed	2.164	.142	1.365	425	.173	223205.3	163549.7
	Equal variances not assumed			1.375	403.452	.170	223205.3	162368.1
Cap_present_mar	Equal variances assumed	3.219	.073	1.530	425	.127	246510.6	161107.1
	Equal variances not assumed			1.543	395.676	.124	246510.6	159775.9
Cap_present_apr	Equal variances assumed	3.294	.070	1.584	425	.114	255128.9	161116.5
	Equal variances not assumed			1.597	395.709	.111	255128.9	159785.9
Cap_present_may	Equal variances assumed	3.219	.073	1.530	425	.127	246510.6	161107.1
	Equal variances not assumed			1.543	395.676	.124	246510.6	159775.9
Cap_present_jun	Equal variances assumed	3.056	.081	1.497	425	.135	241184.6	161152.9
	Equal variances not assumed			1.509	395.834	.132	241184.6	159824.5
Cap_present_jul	Equal variances assumed	3.056	.081	1.497	425	.135	241184.6	161152.9
	Equal variances not assumed			1.509	395.834	.132	241184.6	159824.5

Value of sales by LEs in intervention and non-intervention areas

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
price_lat_feb	Equal variances assumed	83.273	.000	9.836	425.0	.000	3980.3	404.7
	Equal variances not assumed			10.008	303.5	.000	3980.3	397.7
price_lat_mar	Equal variances assumed	117.295	.000	10.821	425.0	.000	4414.0	407.9
	Equal variances not assumed			11.017	297.2	.000	4414.0	400.7
price_lat_apr	Equal variances assumed	110.057	.000	10.664	425.0	.000	4242.3	397.8
	Equal variances not assumed			10.860	294.1	.000	4242.3	390.6
price_lat_may	Equal variances assumed	92.991	.000	10.330	425.0	.000	4267.2	413.1
	Equal variances not assumed			10.492	324.0	.000	4267.2	406.7
price_lat_jun	Equal variances assumed	79.705	.000	9.643	425.0	.000	4060.4	421.1
	Equal variances not assumed			9.780	339.8	.000	4060.4	415.2
price_lat_jul	Equal variances assumed	95.804	.000	10.005	425.0	.000	4015.6	401.4
	Equal variances not assumed			10.187	296.6	.000	4015.6	394.2

Profits made by LEs in intervention and non-intervention areas

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
profit_lat_feb	Equal variances assumed	21.029	.000	7.099	425	.000	546.1	76.9
	Equal variances not assumed			7.187	358.018	.000	546.1	76.0
profit_lat_mar	Equal variances assumed	25.460	.000	7.694	425	.000	595.4	77.4
	Equal variances not assumed			7.793	354.326	.000	595.4	76.4
profit_lat_apr	Equal variances assumed	37.728	.000	8.199	425	.000	596.9	72.8
	Equal variances not assumed			8.347	297.867	.000	596.9	71.5
profit_lat_may	Equal variances assumed	31.571	.000	7.866	425	.000	587.1	74.6
	Equal variances not assumed			7.989	324.756	.000	587.1	73.5
profit_lat_jun	Equal variances assumed	29.892	.000	7.391	425	.000	564.2	76.3
	Equal variances not assumed			7.497	337.864	.000	564.2	75.3
profit_lat_jul	Equal variances assumed	44.694	.000	7.819	425	.000	584.9	74.8
	Equal variances not assumed			7.955	304.756	.000	584.9	73.5