Assessing Water, Sanitation, and Hygiene (WASH) in Southwestern Bangladesh

PROJECT COMPLETION REPORT APRIL 2012–MARCH 2016

JULY 2016

washplus
Supportive Environments for Healthy Communities

WaterAid

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ABOUT WASHPLUS

WASHplus project supports healthy households and communities by creating and delivering interventions that lead to improvements in WASH and household air pollution (HAP). This five-year project (2010-2015), funded through USAID's Bureau for Global Health and led by FHI 360 in partnership with CARE and Winrock International, uses at-scale programming approaches to reduce diarrheal diseases and acute respiratory infections, the two top killers of children under age 5 globally.

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ACRONYMS

CDF	Community Development Forum
CLTS	Community-Led Total Sanitation
DHTW	Deep Hand-dug Tube Wells
DPHE	Department of Public Health Engineering
GoB	Government of Bangladesh
ICDDR,B	International Center for Diarrheal Disease Research, Bangladesh
LGIs	Local Government Institutions
LSE	Local Sanitation Entrepreneurs
MHM	Menstrual Hygiene Management
NCE	No-Cost Extension
NGO	Nongovernmental Organization
ODF	Open Defecation Free
O&M	Operation and Maintenance
PNGO	Partner Nongovernmental Organization
PSF	Pond Sand Filters
SAP	South Asia Partnership-Bangladesh
SMC	School Management Committee
UP	Union Parishad
USAID	United States Agency for International Development
WASH	Water, Sanitation, and Hygiene
WatSan	Water and Sanitation

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BACKGROUND

WASHplus is pleased to provide a comprehensive report on the success of the recently closed four-year project that aimed to address the underlying causes of inadequate water, sanitation, and hygiene (WASH) conditions in hard-to-reach areas of southwestern Bangladesh. Through the WASHplus Cooperative agreement, USAID committed $6 million for three years of activity, with WaterAid serving as the main implementing partner, working through five national nongovernment organizations (or Partner NGOs, PNGOs). WaterAid took primary responsibility for implementing two of three objectives and related targets, specifically to increase access to water and sanitation services in southwest Bangladesh, as well as build local government and community capacity to manage water and sanitation infrastructure and services. FHI 360 led one of three objectives, to develop programming guidance for integrating WASH into nutrition programming. The USAID field support funding was allocated in 2012, and the three-year concept note and work plan was approved in January 2013. The USAID administrative kick-off meeting was held in April 2013. WaterAid activities continued through March 2016, and FHI 360 continued through an additional no-cost extension through June 2016. Shortfalls in Mission funding reduced the overall obligation to $4.33 million with slightly reduced targets.

WASHplus reached 94,471 individuals with access to clean drinking water, 157,838 with access to improved sanitation facilities, and installed 44,232 handwashing devices. This report will provide an overview of the project approach, as well as achievements and lessons learned.

PROJECT OVERVIEW AND BASELINE

WASHplus selected the region of southwestern Bangladesh because of its high incidence of water-related disease, poor nutritional outcomes, absence of sustainable WASH service provision, and highly marginalized and environmentally vulnerable population.[1] WASHplus developed a survey in line with USAID-selected indicators and subsequently competitively selected the company SURCH to conduct a baseline study to identify union-specific (sub-*upazila* or district) trends and behaviors, as well as WASH access and health information. Many of the project's baseline findings (2013) were foreseeable, as WASH and nutrition conditions in the project area were well known among development actors operating there, and documented in the Demographic and Health Surveys. However, additional nuanced findings, including those from the participatory community situation analysis, sharpened the project focus further, underscoring regional and upazila-specific gaps in sustainable WASH services.

[1] UNICEF and BBS. 2010. Multiple Indicator Cluster Survey 2009. Dhaka: UNICEF and BBS, Ministry of Planning, Government of Bangladesh.

Access to WASH Services

The baseline report uncovered nearly universal access to tube wells (98.9 percent) in the target upazilas but high rates of diarrheal disease (19 percent), malnutrition, and stunting (28 percent) among children under 5. When access data was "triangulated" with data from community situation analyses, access to water fell far short of national standards, with more than 100 users per well (national standard is 50 people per well, maximum). Moreover, 81 percent of respondents reported using surface water as their main source for cooking and cleaning. This is of particular concern in light of baseline findings around household latrines and handwashing practices; 19 percent of households use "hanging latrines," constructed over canals or ponds, 4 percent practice open defecation, and more than 50 percent of household latrines leak and flood periodically during the year. If 81 percent of respondents are using surface water for cooking and cleaning and 86.3 percent reported washing their hands in a river or pond, this calls into question issues of water quality, hygiene, and food preparation practices.

As a result of these findings, WASHplus determined that additional waterpoints were required to reduce the burden on existing sources, while incorporating behavior change interventions to address the ingrained behaviors around use of surface water sources for cooking, cleaning, and handwashing. In addition to ensuring improved quantity and quality of water access, WASHplus sought to address gaps in latrine quality and handwashing behavior. The project encouraged households to move toward more hygienic substructures and improve WASH practices, including latrine improvements and consistent maintenance and use of latrines, safe disposal of infant and child feces, protection of household drinking water, and proper handwashing at critical times.

Government and Capacity

The baseline reiterated a variety of capacity and strategic gaps at the local and national government levels, which are barriers to the success of the project and sustainable WASH services. The baseline survey collected data on the annual planning and budget of all 22 Union Parishads (UP) within the WASHplus intervention. Annual development plans are the infrastructure and services plan for each union (sub-upazila) concerning health, education, water, roads, drainage, among others. Of the 22 unions surveyed, 12 did not have an annual development plan and an additional three unions had plans that did not include water and sanitation plans. The remaining seven had provided for water and/or sanitation services in their annual, three-year, or five-year plans, including budget allocation. A review of past expenditures showed that six unions spent only between 20 and 27 percent of the allocated WASH budget. In the southwest (and elsewhere in Bangladesh), local government authorities and service providers, namely UP and the Department of Public Health Engineering, are limited by inadequate capacity and flexibility to plan, finance, and implement water and sanitation projects. At the time of this project's inception, a potential cause of low levels in capacity was the recent election of UP leaders in early 2011. Nearly 85 percent of the elected UPs were non-incumbents who lacked experience implementing WASH projects. Additionally, while Water and Sanitation committees (WatSan) existed at the union and sub-union (Ward) levels, many committees were dysfunctional and did not prioritize their duties.

One of the main objectives of the project was therefore to build capacity at the local level, including new UP leaders, local government, and WatSan committees, to better plan for, provide, and maintain sustainable WASH services.

WASH and Nutrition

WASHplus intervention upazilas were chosen in part due to the geographical overlap with USAID's Feed the Future intervention areas. As such, WASHplus sought to create synergy between the two projects, improving nutritional outcomes, particularly among children under 5, through WASH services.

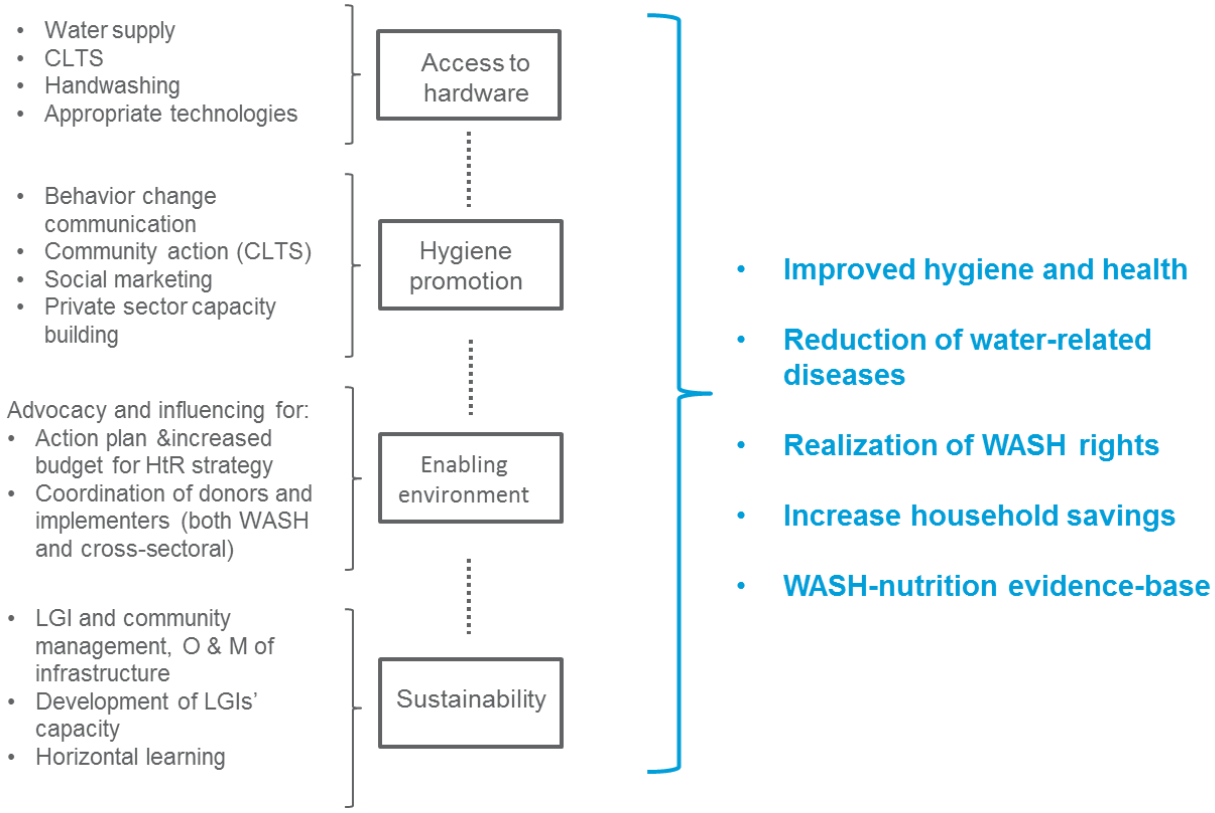
The baseline survey sought to assess the prevalence of diarrhea among children 0–59 months. Nineteen percent of respondents said their child had diarrhea in the last two weeks—well above the national average of 4.6 percent. [2]Additionally, anthropometric data were collected from 1,339 children (0–59 months); of these children 10 percent were determined to be wasted (too thin for height) and 28 percent were chronically malnourished or stunted. Within the context of this project and these findings, WASHplus viewed the collaboration between WASHplus and Feed the Future as an opportunity to develop a strong evidence base linking WASH and nutrition outcomes.

The WASHplus Bangladesh project plan reflects the overall goals of the global WASHplus program, as well as the experience of implementing partner, WaterAid Bangladesh, and the results of the baseline study. The broad goal of this project was to contribute to the improvement of human well-being and dignity through context-specific and scalable water supply, sanitation, and hygiene promotion in hard-to-reach areas of southwestern Bangladesh. Moreover, WASHplus contributed to the national WASH goal as well as WASH-related MDGs.

Building on the WASHplus global program, the project adapted the overall WASHplus approach to the Bangladesh country setting, based on best practices and grounded in tested behavior change principles. WASHplus employs USAID's WASH Improvement Framework to implement a comprehensive approach, ensuring access to essential hardware, services, an enabling environment; national, local, NGO, and commercial sectors with strong skills to manage their key functions; and a set of demand creation, promotion, and mobilization activities, like community-led total sanitation (CLTS), to generate demand and momentum for change. This framework guided the project design in Bangladesh.

[2] National Institute of Population Research and Training, Mitra and Associates, and ICF International. 2013. Bangladesh Demographic and Health Surveys 2011. Dhaka, Bangladesh and Calverton, Md., USA: NIPORT, Mitra and Associates, and ICF International.

Image: USAID's WASH Improvement Framework



A Behavior Change Strategy was also developed to facilitate behavior-centered programming, target behaviors, and overarching approaches.

The first iteration of the project plan targeted four upazilas, led in-country by WaterAid Bangladesh and four PNGOs (see table below). At approximately the midpoint of the project (September/October 2014), the USAID Mission requested an expansion of the initial project plan to a region where various types of innovative water technology were feasible; in the original four upazilas, boreholes were the most common and technologically indicated method of water access. A fifth upzaila (Shyamagar) was added with a fifth PNGO to implement alternative technologies, specifically pond sand filters (PSFs) and rainwaster harvesting tanks. Additionally, implementing partners requested a nine-month no-cost-extension to allow for funds to be expended on sustainablility efforts at the local level—bolstering and refreshing gains made during the three-year project implementation period—with a particular focus in Galachipa.

FHI 360 continued with WASH-nutrition integration activities through June 2016 under an additional no-cost extension.

Name of PNGOs	District	Upazila	Unions
Development Organization of the Rural Poor	Bhola	Char Fasson	Char Kukri Mukri Dhal Char Ewajpur Aminabad Osmanganj Char Manika
Dhaka Ahsania Mission		Daulatkhan	Char Pata Madanpur Char Khalifa Saidpur Dakkhin Joynagar
South Asia Partnership	Patuakhali	Galachipa	Galachipa Amkhola Dakua Char Biswas Char Kajol Golkhali
Association of Voluntary Actions for Society		Kalapara	Dhulasor Chakamoiya Lalua Dhankhali Champapur
Shushilan	Satkhira	Shyamagar	Kaikhali Ramjannagar Iswaripur

ACTIVITIES AND ACHIEVEMENTS BY OBJECTIVE

Objective 1: Improved access to safe drinking water, improved sanitation, and hygiene practices of poor and marginalized people in the five targeted subdistricts (upazilas).

To address the need for improved access to safe water and sanitation in the targeted upazilas, the WASHplus team employed a combination of technologies and approaches to achieve WASH access in this challenging region of the country. Applying the modified WASH Improvement Framework and related elements, WASHplus and its local implementing partners identified appropriate WASH technologies and a strategic set of activities to address access and supply.

In light of the tremendous population burden on existing waterpoints and the widespread use of surface water for non-drinking purposes, WASHplus successfully improved safe, affordable, and reliable drinking water supply facilities in the target upazilas. By increasing the number of available waterpoints and supporting behavior change within households on water quality protection, WASHplus contributed to the health and well-being of the population. WASHplus and its local implementing partners installed 670 deep hand tube wells (DHTWs), with an additional 40 leveraged from stakeholders as a result of project mobilization activities.

Therefore, in total, the project delivered 710 new DHTWs across the four upazilas. After working closely with the community and identfying dysfunctional systems with the communtiy development forums (CDFs), 19 DHTWs were rehabilitated and put back into use by the community. In addition, and as a result of the mid-project geographic expansion to Satkhira District, WASHplus constructed an additional 17 PSFs and 19 rainwater harvesting systems. For each waterpoint, a local WASH fund has been established, using community-generated income, to ensure continued use and maintenance of the facilities. All systems were sited, constructed, tested, and monitored in line with the Environmental Mitgation and Monitoring Plan; water quality tests were completed and all water was deemed safe and clean, as per WaterAid and Government of Bangladesh standards. In all, WASHplus provided clean, safe water to 94,471 individuals in five upazilas in southwestern Bangladesh. (A detailed output indicator table is provided at the end of this report.)

The Need for Clean Water Spurs Mobilization for a Village DHTW

Kacharikanda is a small village in Galachipa that has long suffered from the lack of safe water. There is one DHTW 1km away from their village and the women walk back and forth every day to provide water for their families. More than 100 households use this one pump, which is more than twice the national standard for water access.

Kacharikanda's new DHTW

Shahinur, 32, used to spend almost four hours a day collecting water, carrying 20 liter pitchers back and forth to the well. During the monsoon season, it became nearly impossible for her and the women in her village to travel the distance for water. Villagers use the nearby pond when they cannot access the DHTW, and use it frequently for chores, cleaning, as well as when women give birth. During her village's first community development forum under the WASHplus project, Shahinur raised the urgent need for clean water in her village. Shahinur lead the process to apply for a DHTW. At the beginning of the WASHplus project the village received approval to construct a DHTW. In December 2014, the well was handed over to the community and during recent follow up visits

to Kacharikanda, PNGO staff noted that all households have also installed their own latrines and handwashing devices.

Indicator	Project Outputs			Comments
	Target	Achieved	%	
Number of new tube wells installed	670	710	106%	*Target surpassed* *The additional 40 tube wells were installed by local stakeholders as a result of project mobilization activities*
Number of improved/rehabilitated tube wells	19	19	100%	*Target achieved*
Number of people with improved access to drinking water	65,771	94,471	144%	*Target surpassed*

In line with the overall project approach and WASH Improvement Framework, WASHplus implemented CLTS tactics with the goal of reducing the rate of open defecation and improving the quality of latrines in the target areas. This focus on improving the quality of latrines using the WASHplus small doable action approach was in direct response to data finding that most households had a household latrine, but as explained earlier in the report, these latrines did not effectively separate feces from the environnment, and leaked or flooded at least part of each year. WaterAid incorporates CLTS tactics into a community situation analysis to include CLTS trigger, action plans, and follow up. Households were encouraged to move up the "sanitation ladder" by seeking better and more sustainable (and more leak-proof) latrine models, as well as including a fixed handwashing station as part of this model. Under Objective 2, WASHplus also promoted local and private sector capacity to meet the increasing demands of the communities for these improved latrine models. Overall, the CLTS process was successful, as seen from the increased demand and installation of latrines in the target area (and the reduction of open defecation).

A total of 31,551 latrines were constructed as a result of project funds or project mobilization/ CLTS activities. This ensured access to improved sanitation for 157,838 people in the target areas and contributed to 685 communities declaring open defecation free (ODF) status before the end of the project, by far exceeding the target of 512 communities. In addition to latrines and as a result of CLTS triggering and behavior change mobilization, a total of 44,232 handwashing devices were installed in project areas; among those, 4,216 devices were installed with project funds and 40,016 devices were installed through CLTS mobilization. While initially the project focused on "do-it-yourself" tippy taps, the communities demanded different technologies, which will be discussed in the learnings section below.

Activity	Project Outputs			Comments
	Target	Achieved	%	
Number of open defecation free communities	512	685	134%	*Target surpassed*
Number of improved latrine constructed	20,266	31,551	156%	*Target surpassed latrines include those constructed using project funds, those funded through subsidy/SaTo pans, and those triggered via CLTS activities)*
Number of mother group hygiene/ sanitation sessions	1,683	1,683	100%	*Target achieved*
Number of people with access to improved sanitation	88,358	157,838	179%	*Target surpassed*
Number of tippy taps/handwashing devices installed	39,726	44,232	111%	*Target surpassed 4,216 devices were installed with the project cost and 40,016 devices were installed through CLTS mobilization.*

Objective 2: Build community and local government capacity to operate and maintain facilities, demand increase allocation of funds to ensure sustainability and impact.

WASHplus strengthened capacity at the local level among community groups and local government to support new WASH services and to improve coordination at a local and district level to enhance and sustain these WASH services.WASHplus developed a number of campaigns and trainings around key hygiene messages at the community and school levels to amplify the effect of new facilites on the health of the population. This included raising awareness about the quality of surface water used for cooking and cleaning revealed in the baseline survey via water safety plans.

To strengthen PNGOs' staff competencies in key WASH improvement approaches highlighted in the WASHplus behavior change strategy and its annexes, the project organized a three-day-long training at each intervention subdistrict. The main audience of each training was the union facilitator and union supervisor of the PNGOs. WASHplus invited program managers, community development officers, and monitoring and documentation officers as observers to ensure everyone involved with the process had the same understanding of project strategies for changing and maintaining WASH behaviors. The training also served as a refresher on several WASH topics, introduced an explicit focus on why WASH matters for child growth and

development, allowed for supervised practice of new tools and concepts, and clarified roles of the union facilitator and union supervisor to conduct the behavior change activities. A total of 99 participants, 75 male and 24 female were trained. Supervision and refresher training supported best practice approaches.

Improving WASH Practices by Coupling Improved Access and Services with Messages and Community Discussion

Led by local partners, WASHplus trained 386 community volunteers to support project activities and messages by encouraging households to adopt small doable WASH behaviors. Builing on the concept of a sanitation ladder, a series of feasible, yet effective behaviors are identified (like steps on a ladder), and households are encouraged and supported to move from the unacceptable to the ideal. Promoters and outreach workers negotiate small doable actions, using counseling techniques to help overcome barriers and motivate consistent WASH practice.

Activities aimed at building management capacity skills at the community level are mirrored in schools to ensure institutional facilities are also properly maintained over time. PNGOs worked with teachers and school management committees (established in year 1) to both manage school-based WASH facilities but also spread good hygiene behaviors and messages in the schools. Local partners trained 428 teachers on how to disseminate key hygiene messages, encourage handwashing practice, and instill and support their responsibility for ensuring hygienic conditions in the school. Teachers implemented a rotation schedule for cleaning latrine blocks in their schools. WASHplus held open discussions with female students, led by trained female teachers, on menstruation challenges and the importance of cleanliness and the supply and disposal of sanitary napkins.

Messaging was strongly focused around menstrual hygiene management (MHM), with emphasis on the effects MHM has on reducing absenteeism and school dropout rates among girls. The goal of promoting these behaviors at the school level was to encourage good hygiene behaviors among children who will then pass the messaging onto other children, their parents, and other community members. To facilitate good hygiene behaviors, schools were given low-cost handwashing devices, buckets, mugs, and soap. Moreover, WASHplus re-activated existing school student brigades (part of the Bangladesh school curriculum requirements) that were responsible for maintaining environmental hygiene in schools.

To support community volunteer and teacher messaging efforts, WASHplus encouraged participation in events like Sanitation Month and Global Handwashing Day, using colorful banners, pamphlets, and open discussion sessions to raise awareness around key WASH issues. These events garnered interest from not only PNGOs and the community but also local government officials, local elites, schools, and other local NGOs. PNGO staff traveled frequently to the communities to monitor and assess the condition of household latrines and handwashing devices throughout the course of the project. During the project period, PNGO staff observed

visible changes, including handwashing behaviors at critical times and the safe disposal of infant and child feces.

Building Local Community Capacity to Plan, Manage, and Operate WASH Services

In support of the local private sector to meet the demand created under Objective 1, WASHplus organized local sanitation entrepreneurs (LSE) to help identify innovative, high quality, contextually appropriate sanitation technology. After understanding the high levels of community demand, LSEs were encouraged to meet this demand, supplying innovative but affordable latrine technology. At the same time, PNGOs continued to encourage households to engage LSEs and other providers to install or improve existing household latrines.

As mentioned above under Objective 1, for each water facility, WASHplus established a WASH fund to financially support operations and maitnenance (O&M) activities. In addition, 1,450 facility caretakers were trained to conduct O&M for all new and rehabilitated services. At the ward or union level (sub-upazila), WASHplus establish and trained ward WASH fund committees on financial management of WASH funds. As a result of these trainings, committee members felt that they had a better understanding of important financial management topics, such as: how to manage a bank account, how to make deposits and withdrawls, how to use the funds appropriately, how to keep expenditure records, and the roles and responsibilities of the committee members.

Local Imam Becomes Sanitation Entrepreneur

Hafez Md. Myeen Uddin lives in Sotodhali village in Daulatkhan Upazila, one of the WASHplus intervention areas. He is an Imam (a Muslim religious leader) but does not make quite enough money to provide for his family.

Hafez Md. Myeen Uddin, in front of his shop

He happened to walk by when WASHplus PNGO staff were facilitating a mothers' group session in his village. The discussion that day was around sanitation and how open defecation and leaky toilets can create illness and cause malnutrition in children. When he went to his tea stall, the PNGO field staff were discussing the importance of handwashing with soap, particularly after using the toilet.

But looking around, Hafez realized that, if he wanted to build his family a toilet, he could not. There were limited materials and tools in his village to construct a household latrine to keep his family healthy. So he made the decision to start his own shop that would sell good quality materials for himself and his village to build their own latrines and improve the health of his community. He borrowed money from a relative and started the shop. Under the WASHplus project, he was trained as a local sanitation entrepreneur to improve his business and understanding of sanitation options. He now sells the SaTo pan to the

community, at subsidized prices to the poorest households in his village, and carries handwashing devices.

His story doesn't end there. Because he is an Imam by profession, and therefore well respected in his community, he took advantage of his position and began to speak about sanitation and hygiene issues during "khutba" before Friday noon prayer. This not only helped inform others about the importance of sanitation and hygiene behaviors but also helped his business as he grew the demand for his products.

The success of Hafez's shop is part of a larger scope to improve local service provider capacity, and ultimately, establish a market around WASH services. By creating a market around services, the WASH sector can ensure, to a certain extent, that services will continue to be provided and maintained because there is value, supply, and demand associated with the service. While supporting local organizations and local government to oversee and establish demand for services, it is the role of the private sector to provide the supply. Under WASHplus a total of 27 local sanitation entrepreneurs were trained and are earning, on average, 18,500 Taka per month selling sanitation products.

Developing the private sector was a necessary component of the WASHplus intervention strategy. To ensure sustainability of sanitation services and to strengthen and reinforce the supply chain, it was vital that WASHplus worked with local entrepreneurs. Moreover, because WASHplus was committed to environmental regulation and safety, it was crucial that local entrepreneurs who would be providing sanitation and water services understood the technical aspects of facilities to reduce environmental hazards. As such, WASHplus arranged two batches of trainings for LSEs in the intervention area with the objective of facilitating easy access to products and services to the intervention communities. WASHplus collaborated with the existing World Bank Water and Sanitation Program to organize the trainings. A total of 37 local sanitation entrepreneurs attended the training sessions, along with local government and community development officers. The trainings covered topics like appropriate technologies but also how to build, strengthen, and expand a local business. Both training sessions were paired with a field session to a sanitation production center to practice latrine installation.

As mentioned above, at the start of the WASHplus project, the majority of the UP local government representatives were new to their office. Therefore, it required additional efforts on the part of WASHplus and PNGO staff to sensitize and engage these new UPs around the WASH issues in their upazilas. As such, WASHplus gathered Department of Public Health Engineering officials (DPHE) and local government institutions (LGI) to discuss the project's objectives and then continued to follow up with these groups to ensure the messages were retained and that momentum existed to spur further improvements to the WASH situation. LGIs appreciated, in particular, the project's alignment with the national-level hygiene policy, through dissemination of handwashing, water safety, and MHM messaging. PNGOs reinforced WASH messaging through follow up, and LGIs and DPHE were informed on the components of sustainable hardware management, including who at the ward, union, and upazila levels were responsible for ensuring maintenance and repairs. WASHplus also trained 1,206 community members on WASH advocacy and leadership, as a way to ensure sustained outcomes but also amplify local

government funding and coordination for future WASH projects. These community members are charged with essentially continuing to educate the UPs, LGIs, and DPHE on the WASH situation and advocating for better, improved services.

Activity	Project Outputs			Comments
	Target	Achieved	%	
Number of leadership, advocacy training conducted	1,206	1,206	100%	*Target achieved*
Number of people trained on O&M of water facilities	1,450	1,450	100%	*Target achieved*
Number of community volunteers trained	386	386	100%	*Target achieved*

A Disabled Man Becomes a Passionate Advocate for his Community's Sanitation Improvement

Nannu Mia

Nannu Mia lost both his legs in a road accident 15 years ago. In his village in Bhola District he is one of the CDF leaders. Despite his disability, he is an active leader and participated heavily in the sensitization and mobilization activities to raise his community's awareness around improved sanitation and hygiene. WASHplus trained Nannu on leadership and advocacy to be able to continue to demand the rights of his community.

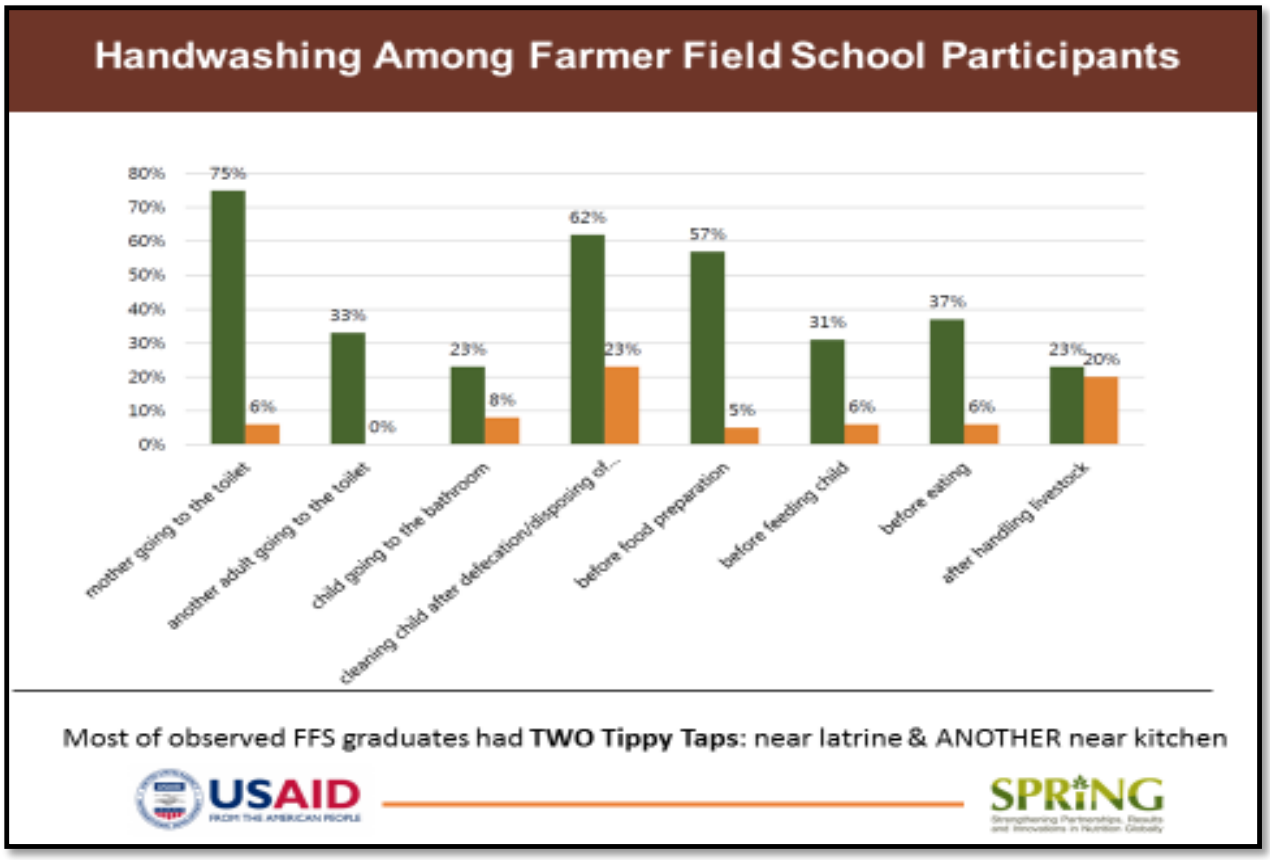
In his village, 55 latrines were in bad shape—leaking or broken—and an additional 19 households were known to practice open defecation. Nannu visited each of these households to talk about why good quality latrines were so important. Nannu found that his peers and neighbors responded well to his messages and all of them made the decision to construct latrines for their families. In spite of his disability, Nannu is a strong leader for his community, particularly in providing a voice for other community members with disabilities and has effected great change because of his trainings and leadership skills.

Objective 3: Strengthen the evidence base and programming guidance for coordinated WASH-nutrition programming in Bangladesh

As highlighted in the context section above, southwest Bangladesh suffers from both limited access to WASH and poor nutrition outcomes, particularly among children under 5. Based on the evidence base linking poor WASH access and practice with diarrhea, and even independent of diarrhea linking poor WASH with malnutrition, the project set out to contribute to improving growth and health of children under 5 by integrating WASH and nutrition in project areas. As an emerging intersection for development work, WASHplus sought to strengthen programming guidance for WASH nutrition integration. WASHplus used a mixed strategy of co-locating WASH activities in Feed the Future areas as well as working toward integration into Feed the Future project activities.

At the request of USAID, WASHplus work closely with the USAID Feed the Future projects, SPRING and SHIKA that also work more expansively in the same regions of southwest Bangladesh. In fact, as mentioned above, the target areas for WASHplus were selected due to the geographic overlap with Feed the Future project areas. WASHplus hoped to improve coordination, collaboration, and sharing of lessons learned among WASH and nutrition actors at the district level. It is notable that both projects already had approved targets and Project Monitoring Plans that did not include WASH integration beyond handwashing.

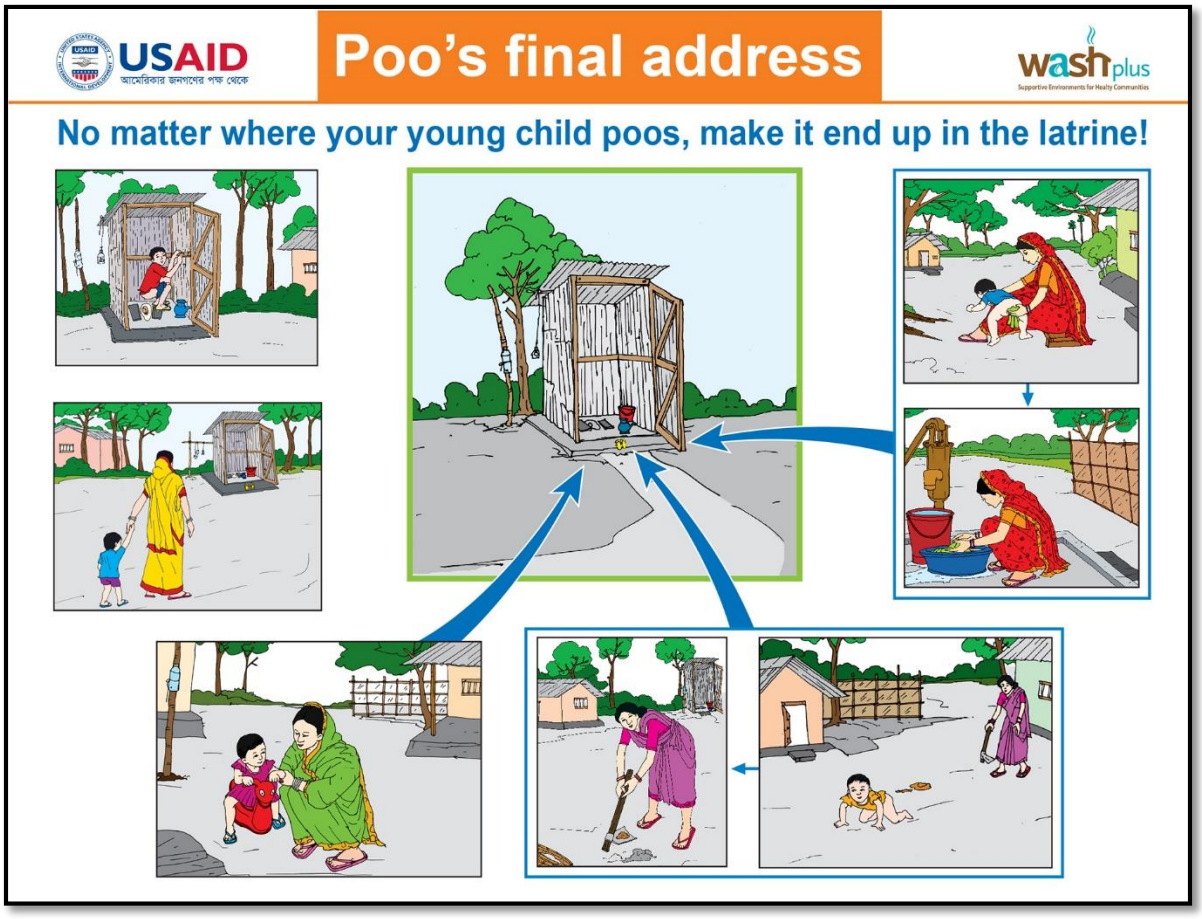
In the context of improving nutrition and growth, WASHplus developed a concept note to work with both SHIKHA and SPRING on WASH integration in general with a focus on safe management of infant and child feces. At the national level, WASHplus convened an integration knowledge-sharing event focusing on the emerging evidence of the impact of safe disposal of infant feces. Quite early in the project, WASHplus offered a daylong workshop for SPRING project managers focusing on why WASH matters to child growth, sharing critical research conducted by ICDDR,B and the Alive and Thrive project (the predecessor of SHIKHA) that suggested the critical role of handwashing before cooking and feeding on child undernutrition, diarrhea, and stunting. SPRING was introduced to the tippy tap do-it-yourself handwashing device as critical to improving handwashing practice. Not only does a tippy tap allow proper washing with much less water (an issue *less* critical in Bangladesh than in other countries), but it ensures handwashing occurs with flowing water rather than dipping, it brings handwashing close to the cooking (as well as defecation) locale, and it serves as a reminder to wash. The focus on handwashing at the cooking/feeding junction as well as construction of tippy taps became a core activity in 26 upazilas where SPRING was working. Evaluation data showed dramatic and statistically significant increases in handwashing at all critical junctures for those attending SPRING project activities compared to control households.



In WASHplus upazilas, pngos completed a two-day training on why wash matters for improved child growth, as well as behavior change approaches like negotiating small doable actions. From the PNGOs, 18 key staff participated in the training, led by WASHplus's Senior Behavior Change Specialist Julia Rosenbaum. In turn, key staff trained an additional 88 frontline staff. Outreach promoters included handwashing, safe infant feces disposal, and the link between consistent WASH practice and good child growth in mothers' group discussions, alongside traditional WASH and nutrition topics, like safe transportation of water and food preparation. More than 1,600 mothers were exposed to messaging around the links between nutrition and WASH.

In each of the four original project upazilas, WASHplus disseminated the National Hygiene Promotion Strategy through workshops. This was a key activity in integrating WASHplus activities with existing government processes and frameworks. The National Hygiene Promotion Strategy was an integral part of the Sector Development plan 2011–2025 in Bangladesh. The objective of the strategy is to promote sustainable use of improved water and sanitation services and to create an enabling environment that includes comprehensive hygiene promotion and reduces WASH-related diseases. This objective is heavily aligned with the objectives of WASHplus, as well as the goals of the implementing partners, FHI 360 and WaterAid. WASHplus worked intensively with SHIKHA and SPRING to develop a set of small doable actions for the safe disposal of infant and child feces, organized by age cohorts corresponding to the Essential WASH Actions. After discussion groups with mothers and SHIKHA Program Officers,

the concept of "Poo's Final Address"—the latrine—was developed and late in the project, integrated into trainings and job aids.



A more general set of Essential WASH Actions were also developed with SHIKHA collaboration to facilitate behavior-centered programming as well as integration of the various WASH behaviors into nutrition outreach, again specified by age cohort. Lastly, WASHplus trained over 5,300 SHIKHA program officers.

END OF PROJECT ACHIEVEMENTS

In late 2015, the USAID Bangladesh Mission commissioned Social Impact to conduct an independent endline survey, using the same instruments developed for the WASHplus-managed baseline in addition to a qualitative component. Field work was conducted in late 2015 and early 2016. WASHplus provided comments to a draft report in March 2016, and the final report has not yet circulated.

Indicators and Achievements

	Activity	Project Outputs			Comments
		Target	Achieved	%	
1	Number of open defecation free communities	512	685	134%	*Target surpassed*
2	Number of new tube wells installed	670	710	106%	*Target surpassed* *The additional 40 tube wells were installed by local stakeholders as a result of project mobilization activities*
3	Number of improved/rehabilitated tube wells	19	19	100%	*Target achieved*
4	Number of improved latrine constructed	20,266	31,551	156%	*Target surpassed* *latrines include those constructed using project funds, those funded through subsidy/SaTo pans, and those triggered via CLTS activities*
6	Number of mother group hygiene/ sanitation sessions	1,683	1,683	100%	*Target achieved*
7	Number of people with improved access to drinking water	65,771	94,471	144%	*Target surpassed*
8	Number of people with access to improved sanitation	88,358	157,838	179%	*Target surpassed*
9	Number of tippy taps/handwashing devices installed	39,726	44,232	111%	*Target surpassed*
10	Number of leadership, advocacy training conducted	1,206	1,206	100%	*Target achieved*
11	Number of people trained on O&M of water facilities	1,450	1,450	100%	*Target achieved*

	Activity	Project Outputs			Comments
		Target	Achieved	%	
12	Number of community volunteers trained	386	386	100%	*Target achieved*

LEARNING AND CHALLENGES

WASHplus Bangladesh successfully achieved or surpassed its proposed targets, despite being plagued by tremendous political unrest and violence during the project period. The political climate in Bangladesh over the last three to four years has served to slow progress against not only WASHplus but also national development objectives and prevent essential movement in-country to implement, monitor, and follow up on project activities. In fact, these delays were the impetus behind the no-cost extension (NCE) request—to ensure all timely follow up and monitoring was completed as proposed.

Additionally, natural disasters delayed and impeded progress by damaging and destroying a number of newly constructed latrines in the first two years of the project. This forced households, which had gone through the CLTS process and constructed latrines, to revert to using unimproved sanitation while they remobilized and reconstructed. PNGOs engaged the local government to support this process and help households renovate damaged latrines.

WASHplus and PNGO staff learned that while promoting hygienic and quality technology is important, it is also necessary to keep an open mind in terms of providing options for communities. WASHplus proposed encouraging households to use the widely accepted tippy tap technology for household handwashing facilities. Households were happy with the tippy tap because it was easy to use and affordable. However, mid-project, households began to demand larger tanks; they found that if each of the members of their family washed their hands at all critical times, the tippy tank would need frequent refilling. As such, WASHplus identified a handwashing device with a much larger tank. Households were very happy with this innovation—however small.

The success of the NCE period (additional handwashing devices, latrines, waterpoints, and 32 more communities declared ODF) shows the importance of ensuring sufficient time invested in sustainability. Implementing partners achieved the large majority of the project's proposed output targets prior to the end of the grant period but due to the political climate and delays, a number of key follow-up activities were pending. The NCE allowed WASHplus to maintain relationships with local government and target communities for an additional 10 months and continue to provide follow up, support, and encouragement aligned with WASHplus objectives.

Integration of WASH into USAID nutrition programs proved challenging, despite the eventual learnings and achievements. Despite best intentions, leaving integration to one partner without USAID incorporating integration objectives into the nutrition projects' objectives, activities, and targets was opportunistic and required persistence.

Materials *Please visit* http://www.washplus.org/bangladesh-behavior-change-training-materials	**Logos used**	**# printed/ distributed**
1. Sanitation Technology Selection Flip Chart	USAID, WASHplus, WaterAid	500 *
2. Sanitation Technology Selection Guide (Brochure)	USAID, WASHplus, WaterAid	500 *
3. Menstrual Hygiene Flash Cards / Discussion Cards	USAID, WASHplus, WaterAid	500 *
4. Menstrual Hygiene (Pocket book/Discussion Stimulator)	USAID, WASHplus, WaterAid	500 *
5. Hygiene Education Flip Chart—3rd edition January 2014	USAID, WASHplus, UKaid, DPHE, Plan Bangladesh, WaterAid, UNICEF	500*
6. Tubewell maintenance—3rd edition January 2014	USAID, WASHplus, WHO, DPHE, WaterAid	500*
7. Mood meter—household assessment job aid	USAID, WASHplus, WaterAid	500*
8. (How to Make) Various Tippy Taps for Consistent Handwashing *Final Draft/Current in Production*	USAID, WASHplus, WaterAid	8,000
9. Essential WASH Actions *Final draft/currently in production*	USAID, WASHplus, WaterAid	8,000
10. What to Do with Infant Poo? (Small Doable Actions for Safe Disposal of Infant Feces) *Final draft/currently in production*	USAID, WASHplus, WaterAid	8,000
WASHplus Bangladesh Behavior Change Strategy	WASHplus	Limited circulation to key actors

Inventory of Materials Produced (Type and Numbers)

**Distributed widely to PNGO outreach workers for use in courtyard sessions, community volunteers for outreach work, schools, etc.*

Materials 1,2, and 7–10 were developed specifically for WASHplus activities. Other materials were adapted and/or branded from existing WaterAid materials.