

CHAPTER 2

Sanitation in Bangladesh: revolution, evolution, and new challenges

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Abstract

Bangladesh is a hub of sanitation experimentation and model-building. It is internationally recognized as the place where CLTS first developed and succeeded in getting whole villages to declare themselves open defecation free (ODF). Such achievements rest on a broad foundation however. After briefly reviewing the history of sanitation promotion in rural Bangladesh, this chapter summarizes the most urgent issues and challenges related to sustaining the country's improvements in 2015. It concludes with some learning points of possible interest to other countries seeking to promote universal sanitation coverage.

Keywords: Bangladesh, Institutions, Collaboration, Policy, Subsidies, Shared toilets, Improved sanitation, Faecal sludge management

Context: leading up to a sanitation revolution

Intensive sanitation promotion in Bangladesh has a long and complicated history dating back to the 1960s. The Department of Public Health Engineering (DPHE) led by creating latrine production centres on the assumption that they would stimulate public interest. This approach did not succeed, however (Ahmed, 2011). A social mobilization for sanitation campaign, led by DPHE and the United Nations International Children's Emergency Fund (UNICEF) from 1988 to 1996, was the first attempt at large-scale change using participatory methods. Engagement of the NGO Forum for Drinking Water and Sanitation² made it also the first programme implemented jointly by government and NGOs. From the 1980s–1990s onward many approaches were tested and replicated by NGOs and others. For example, CARE's SAFE/SAFER programme continued for 10 years in south-eastern Bangladesh (1991 to 2001), producing public education materials for different social and ethnic groups and testing a no-subsidy approach. The most extensive campaigns and programmes have focused on changing household-level practices in rural areas.³

There was a government-led National Sanitation Campaign from 2003 to 2006. This was a remarkable campaign, one which set in motion a series of activities, some of which continue to this day. Led by a dedicated and detail-oriented government

minister,⁴ the campaign deployed a combination of top-down and bottom-up strategies. It gave the lowest level of government, the union *parishad* (council),⁵ the responsibility for achieving 100 per cent household latrine coverage. Results were monitored by sub-district and district-level officers. Cross-visits among unions occurred. Sub-district administrators expected reports on sanitation progress at monthly meetings with the chairmen in their areas, and an unknown number still do so.

By 2006, a total of 526 unions (12 per cent of all unions) had achieved the '100 per cent' latrine coverage goal, 24 per cent with the help of NGOs and 76 per cent on their own. Most importantly, the mind-set of the population eventually changed to the point where most of the people in most parts of the country now think that open defecation (OD) is not a socially acceptable practice. Even now, local people and professionals alike speak of the National Sanitation Campaign as a 'revolutionary' experience, comparable in its importance to the nation's war of independence.

The studies

In 2009–2010 I led a study, on behalf of the World Bank, of 53 unions that reached the goal of 100 per cent household latrine coverage between 2003 and 2005. Four types of union-level organizations had managed to reach the 100 per cent goal: local government leaders only; NGOs following CLTS methods; single NGOs using non-CLTS approaches; or NGOs under contract with large donors (Danida or UNICEF). A survey covered 3,000 households of 50 unions. We did an in-depth study in 13 unions, five of which had been declared '100 per cent' after a CLTS process.⁶ Unions were located in six different types of geographical areas. The study had generally positive findings. More than four and a half years after the Sanitation Campaign, 89.5 per cent of survey households were found to own or share a latrine that safely confined faeces (Hanchett et al., 2011).⁷

In February 2015 we interviewed 23 professionals in Dhaka about their views on how and why sanitation had progressed and the nature of present challenges.⁸ In 2015 my team also did follow-up interviews and field visits, to see how some '100 per cent'/ODF unions were doing 10 or more years after the campaign ended. We were able to visit two of our former study unions. We spoke at length with 10 union chairmen about sanitation issues in their unions.⁹

Evolution: sustaining achievements

Our initial study and subsequent interviews demonstrate that Bangladesh's achievements in increasing household latrine use have resulted from a combination of social, political, and technical factors. These are:

- High-level policy commitment during the 2003–2006 campaign and the subsequent government's continuing willingness to communicate regularly with representatives of civil society organizations.

- Consistent support from development partners (bilateral and multilateral aid donors).
- Technical guidance from academic engineers.
- Several large-scale sanitation promotion programmes operating throughout the country for several years.
- The enthusiasm and pride of union council chairmen, and experience sharing among them.
- Ordinary people's determination to maintain village environments and enhance family status by setting up household latrines.

One other factor is women's energetic involvement in Bangladesh sanitation campaigns. There is general agreement that women are especially interested in household sanitation improvements. 'Women are more willing than men to talk in committees and so on. Those working outside the home – especially teachers and social workers – are most valuable. Women are much more interested in toilets than men are', says Milan Kanti Barua, of the BRAC water, sanitation, and hygiene (WASH) programme.

National-level dialogue supports local change activities. In Dhaka, the nation's capital, a number of committees, forums, dissemination workshops, and other occasions foster communication among a close community of experienced professionals representing both government and civil society. They have built a degree of consensus about what works, what does not, and why. There are debates and differences among them, of course, but the Dhaka network is a strong one. All organizations' sanitation approaches are constantly evolving, and there is much collaboration among them. A National Sanitation Task Force, chaired by the Secretary of the Local Government Division (part of the Ministry of Local Government, Rural Development and Cooperatives, MLGRD,C), continues to meet.

Policy documents offer frameworks, maps, and other information to guide sanitation-related activities of government administrators, union councils, and organizations implementing special projects. A Danida-funded Policy Support Unit (PSU), established within the Ministry of Local Government, Rural Development and Cooperatives, facilitates development of these documents and distributes them. Especially important are the Government's *National Sanitation Strategy*, its *Pro Poor Strategy for Water and Sanitation Sector in Bangladesh*, a *Sector Development Plan (2011–2015)*, and a *National Strategy for Water and Sanitation Hard to Reach Areas of Bangladesh 2012* (People's Republic of Bangladesh (GoB), 2005a, b, 2011, 2012).

The government has participated in an eight-country biennial South Asian Conference on Sanitation (SACOSAN) since it hosted the first one in 2003.¹⁰ Presentations and commitments made at these conferences help to inform and motivate government officers to address sanitation issues. Bangladesh hosted the sixth SACOSAN conference in January 2016. This event has created a hopeful feeling among NGOs about the government's commitment to give sanitation improvement enhanced priority in the future.

The Bangladesh sanitation sector benefits from some national routines established during the 2003–2006 campaign. October is now celebrated as National Sanitation Month throughout the country. According to most reports, there is close cooperation between governmental and non-governmental organizations each October, when the country's larger NGOs and district or sub-district-level officials jointly organize rallies and meetings.

Other widespread changes have occurred. The school curriculum raises children's awareness of the importance of latrines. There are now thousands of trained volunteers working to discourage OD in their villages. Neighbours complain about bad smells from others' latrines, even in some remote areas. The movement has developed its own momentum.

Some union council chairmen use funds allocated through the nation's Annual Development Programme to buy latrines for their constituents. They are supposed to give poor households sets of three concrete rings and one slab for installation of simple pit latrines. But there is no precise information on how many of these sets have been distributed or who actually receives them. Although there are (or were) some required steps to identify really poor households, chairmen may or may not follow formal procedures. As elected officials, they are under pressure to meet demands of their constituents to the extent that resources allow.

Scaling-up

Expanded sanitation programming in Bangladesh has been characterized by a combination of governmental, non-governmental, and commercial activities. Although control of the government changed in 2006 from one political party to another, the new government allowed certain activities to continue, albeit with less fanfare.

Though guided in a general way by policy documents, the Bangladesh scaling-up process is not a uniform one. Rather, different agencies, organizations, or coalitions follow distinct approaches. Priorities are determined in free-ranging discussions and debates among sector professionals, and there are differences among stakeholders. At the national level, all-important dialogue between government and civil society representatives has continued. While some, but not all, sub-district administrators continue to hold chairmen accountable for sanitation improvements, recognition through '100 per cent' awards was discontinued when the National Campaign ended.¹¹ District administrators continue to support National Sanitation Month events, often with the help of large NGOs.

Several very large sanitation projects were critical to sustaining momentum for national change after the National Campaign ended. The largest programmes have been implemented by BRAC, WaterAid and its 23 partner organizations, the Hygiene, Sanitation and Water Supply Project (HYSAWA) Fund, DPHE-UNICEF, and Danida. These projects have covered from 9 to 53 districts each, hiring thousands of field workers and reaching estimated populations of 3 to 39 million (Hanchett, forthcoming).

The National Campaign supported and subsidized formation of private latrine production businesses, some of which continued and expanded after 2006. As demand for latrine supplies expanded, businesses began to appear in most sub-district headquarters towns and in some union centres as well. Sanitation marketing, discussed below, is one way to encourage growth of businesses and offer choices to consumers.

CLTS strategies and scale

The Community-Led Total Sanitation (CLTS) approach was first developed in Bangladesh in the rural working areas of the Village Education Resource Centre (VERC), an NGO affiliated with WaterAid, Bangladesh. This approach is based on a participatory concept of sustainable development and the assumption that effective control of faecal-oral disease transmission requires change at the total community level. No household-level subsidies are provided; rather, families figure out ways to install latrines with their own resources. Specific techniques of 'ignition' and 'triggering' proceed until whole communities 'declare' themselves to be ODF, and these are well-known by now.

CLTS is not the only approach used to promote latrine use in Bangladesh, but it is quite influential, even outside the WaterAid network that first adopted it. As news spread about its efficacy, other organizations adopted CLTS concepts and techniques, often changing them in the process. A variety of 'total sanitation' strategies have thus emerged. In 2004, a project named Dishari began to scale-up the approach to the level of a total union, putting the union chairman and council in charge of the ignition and triggering process, and funding a staff position to look after sanitation issues inside the union office.¹² From 2003 to the present, Plan has implemented two programmes placing WASH facilitators inside union offices to look after water and sanitation issues. Plan's most recent 'Government-led Total Sanitation' programme operates in 81 unions of eight different sub-districts. Plan also operates its programme at scale in some sub-districts (*upazilas*). UNICEF created a programme called School-led Total Sanitation (SLTS), which gave schools the local leadership role.¹³

Those organizations not using CLTS still embrace participatory change methods, such as formation of village groups. Such methods strive to develop a sense of ownership among populations and community responsibility for behaviour change, as does CLTS. The largest organization using such alternative methods is BRAC.

Regarding programming scale, most CLTS programmes focus on transforming rural neighbourhoods or villages to ODF status, but the premier CLTS innovator, VERC, declared a whole sub-district to be ODF in 2004 or 2005, according to VERC managers. Moving beyond the most localized rural settlements, another Bangladesh NGO, Unnayan Shahojogy Team (UST), also affiliated with WaterAid, forms ward development management committees to conduct ward-based sanitation promotion. WaterAid Bangladesh is using the same approach in climate-vulnerable areas in the coastal belt.

Data on household latrine coverage

The government carried out a baseline survey in 2003, before the National Campaign started. This survey found 33 per cent of all households using 'hygienic latrines',¹⁴ 25 per cent using 'unhygienic' types, and 42 per cent resorting to OD (GoB, 2005a).

The current status varies depending on what definition of a satisfactory latrine is used. The Joint Monitoring Programme's (JMP) most recent national survey data indicate that approximately 85 per cent of Bangladesh households in 2015 are using latrines that would meet the JMP 'improved' standard, if the question of sharing were set aside (WHO/UNICEF, 2015). Sources counting what the government calls 'hygienic' latrines (limited to no more than two sharing households and having intact water-seals or other tight covers) find percentages around 50 to 60 per cent. This is an increase from the 33 per cent found in the government's 2003 baseline survey, but not sufficient to meet the Millennium Development Goal of 100 per cent coverage by 2015 (BBS and UNICEF, 2010; BRAC Research and Evaluation Division, 2013). The main problem with meeting the government's standard is that people break water-seals so as not to need much water for flushing. If the intact water-seal requirement were excluded, the basic latrine coverage rate would rise to around 89 per cent (GoB, 2011). Table 2.1 summarizes some information from recent surveys.

With regard to the accuracy or usefulness of available data, 7 of the 23 professionals we met in Dhaka in 2015 expressed concern about the current state of sanitation monitoring. Two representatives of the PSU, Md. Mohsin and Md. Abdur Rauf, told us, 'There is not any solid data. The JMP is based on secondary data. The last government survey was done in 2003. A new survey is needed.'

One recent national sample hygiene survey was conducted in 2014 by the International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B), WaterAid, and the Policy Support Unit. This survey collected information on latrines and handwashing facilities, not only in households, but also in schools, hospitals, and restaurants. Including shared toilets, 86 per cent of households were found to have satisfactory types, and 13 per cent used either hang latrines (less than 1 per cent), open pits (3 per cent), latrines flushing to open spaces (8 per cent), or no latrines (2 per cent) (ICDDR,B et al., 2014).

The data in Table 2.1 are not all comparable, but they give a general picture of current household latrine coverage. These various surveys suggest that approximately 6–15 per cent of households are continuing to defecate either in the open or in uncovered spaces.

Positive trends in child health

Bangladesh reached its Millennium Development Goal to reduce under-5 child mortality by 2015. Between 1993 and 2014 the rate declined by 65 per cent, from 133 per 1000 live births to just 46 (GoB, 2015). During this same period latrine use almost doubled (from around 30 per cent to almost 60 per cent), using the JMP's 'improved' definition. While diarrhoeal disease is not the only cause of child deaths, it always has been a substantial contributor. And increased latrine use surely has contributed to this positive result.

Table 2.1 Recent Bangladesh surveys on latrine coverage

Information source	Survey year	Survey area	Household latrines (%)	Latrine category/OD
WHO/UNICEF (2015)	2015	National sample survey	61	Improved
			28	Unimproved because shared
			11	Other unimproved (10%) and OD (total: 1%, rural: 2%, urban <1%)
ICDDR,B, WaterAid, and PSU (2014)	2014	National sample survey	86	Sanitary pit, septic tank system, or piped sewer system connection, individual or shared
			11+	Flush to open space, open pit, or hang latrine
			2	No toilet
Akter et al. (2015)	2014	Sample survey by BRAC Research and Evaluation Division BRAC intervention areas (WASH-I, -II, -III)*	74.7	Sanitary latrine: hygienic (GoB definition)+shared
			19.7	Ring & slab latrine without water-seal
			5.6	Uncovered pit and OD
			44.1	Sanitary latrine: hygienic (GoB)+ shared
			40.9	Ring & slab latrine without water-seal
			15.0	Uncovered pit and OD
		Comparison areas		

*Final evaluation study of completed project

Child stunting, related to malnutrition, also is associated with faecally transmitted diseases, as the intestines are affected in ways that make it difficult for the body to absorb nutrients. Stunting of children declined from 65 per cent to 36 per cent during this same period,¹⁵ but stunting remains at an unacceptably high level, according to WHO standards.

Climbing the sanitation ladder

Enclosures and basic pit latrines

When sanitation specialists describe the steps needed to make improvements, the first one mentioned is the move away from OD to some kind of 'fixed-place' arrangement. OD was common along village pathways or railroad tracks, in bamboo groves, and under trees with above-ground roots. Fifty-eight per cent of households had already made the move to some kind of 'fixed-place' defecation before the 2003 Sanitation Campaign began. A popular, 'unhygienic' arrangement was to put a plastic or other fence around a small patch of ground

at the edge of a rural compound, where family members could defecate on the open earth. As a region with many waterways, Bangladesh's sanitation problems included numerous 'hanging latrines' extending over rivers and canals, especially in the southern, coastal belt region. Or elevated 'hanging latrines' were constructed out of wood, or even bricks and concrete, with faeces dropping into household ponds or onto bare earth.

The next step, now achieved by the majority of the population, is to confine faeces in some kind of pit. A simple pit with a crude cover, for example, is called *gorto paikhana*. For poor people in many of our study areas, the low-cost or free (from the union *parishad*) concrete ring and slab system is common. If it is the typical, union-subsidized three-ring system, it is only 1.5 metres deep. A latrine pit of this type fills up quickly, and there often are problems of leakage and breakage, as low-quality concrete is likely to be used. In CLTS-influenced areas, and in others, a variety of locally invented pit latrine types are still found.

Non-poor households – and some poor ones as well – are upgrading their three-ring and slab systems to five or more rings, thus increasing the depth of the pit. Offset pits are considered relatively easy to clean, and twin-pit systems allow filled-up pits to decompose while a family uses the second pit (see Ahmed and Rahman, 2010). Vent pipes are common in these upgraded types.¹⁶ Relatively affluent families in rural areas may have septic systems and attached bathrooms.

Flooding during the monsoon season can cause pit latrine contents to overflow. One solution to this problem is to build latrines on raised platforms. Most homes are built on raised plinths to prevent water entry during normal floods. Poorer families, however, often consider building a raised latrine platform to be unaffordable.¹⁷ Latrines in *char* and *haor* areas¹⁸ are especially vulnerable to flood damage, so they must be built on elevated platforms.

In a 2015 visit to a relatively remote union in Barisal District, Banaripara sub-district, we found that consumers have begun to demand improved quality concrete (made with a special type of sand and more cement than usual) for the manufacture of latrine rings and slabs, so that their facilities will not easily crack or break. Latrine sellers are responding to this demand.

As their experience with latrines goes on, many families improve the housing for their facilities as well as the rings and slabs. Crude (*kacca*) walls of leaves, jute bags, or plastic sheets may be the first enclosures erected. The next step is a tin shed. The most desirable housing is a brick wall (known as a *pucca* structure). Roofs provide protection from storm damage, so adding a roof is an important step.¹⁹

Union chairmen interviewed in 2015 all commented on the need to improve standards of household latrine maintenance and cleanliness. Breakage is a general problem, and poor households cannot always afford to make repairs or replace broken rings and slabs. Others may not be sufficiently motivated to do so. In one union formerly covered by a CLTS programme, the chairman told

us that the poorest people are still using simple pit latrines without concrete rings and covering the squat-holes with plastic sheets.

Sanitation marketing

The World Bank's Water and Sanitation Program (WSP), together with some partner organizations, is starting up a programme to support small-scale entrepreneurs wishing to develop and market new latrines and other products.²⁰ Capacity development and financial support for entrepreneurs are parts of this programme. Small-scale sanitation entrepreneurs receive three days of training on how to produce and market newly developed options, with practical demonstrations.

Latrine manufacturers and sellers need credit, in order to offer instalment payment plans to their customers. The micro-credit organization, Association for Social Advancement (ASA), provided loans to 300 entrepreneurs within the six months prior to February 2015, and ASA was working to introduce sanitation loans in 24 districts.

Sanitation marketing is most suitable to consumers with increased incomes and an interest in using their money to upgrade latrine facilities. Several of the professionals we met told us that rural poverty in Bangladesh is declining. One reason for this trend is that the garments industry is attracting large numbers of unskilled workers, so daily pay for agricultural labourers is increasing. Remittances from family members working abroad also contribute to the income of poor households. Some undetermined number use their larger incomes to upgrade their latrines. Poverty, however, has not disappeared; the issue will continue to be relevant in future years.

Technical innovations

The widespread pour-flush, water-sealed latrine requires 1 or 2 litres of water to flush properly. To save themselves the trouble of arranging a sufficient supply of water near the latrine, many owners break the water-seal.²¹ A newly invented, low cost, plastic slab model (SaTo-pan, from American Standard Co.) is rapidly gaining popularity, because faeces can slip into the pit without any need to flush with much water. A weighted flap closes as soon as the faeces drop down (see Figure 2.1). The plastic pan has the added advantage of being light weight and thus easily portable. According to Sayedur Rahman, of UST, some union chairmen in river islands (*chars*) are distributing these items to their community members.

Leaching out of latrine pit contents is a common problem, especially in high water table areas. One solution to this problem is to create a sand envelope around the sides and the bottom of the pit, to filter the liquid and reduce risk of bacterial contamination of ground water. WASHplus is currently testing the efficacy of this technology in a small study with the ICDDR,B.

In 2015, in a remote union of Banaripara sub-district, we found that a buffer wall had been erected to prevent water pollution by blocking the flow of any leaked pit contents from a row of privately owned latrines set alongside

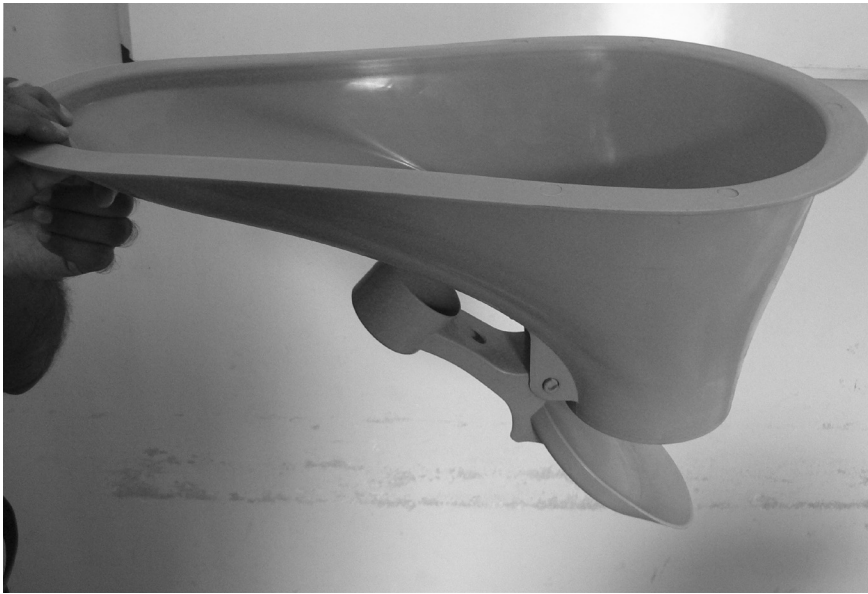


Figure 2.1 American Standard SaTo-pan sanitary toilet pan

a village canal. A local leader – formerly a DPHE-Danida sanitation committee member and now an elected union council ward representative – explained:

I try to spread good ideas among the neighbourhoods (*para*) in my ward. For example, we still set latrines alongside the canal and the road. But these are very different from the old types of hanging latrines or crude (*kacca*) structures. These are ring-slab latrines. Sometimes it is difficult to stop leakage. I found one latrine owner had created a buffer wall, so that if there was leakage it would be stopped. I advised others to create these walls, and now everyone in my ward does it.²²

At least two organizations are known to be working on ‘eco-san’ latrine designs: UNICEF and Bangladesh Rural Academy for Development (BARD, in Comilla). UNICEF is promoting 11 different models, ranging in price from Tk.5,000 to 20,000 (US\$60–250). These latrines separate urine from faeces and thus accelerate the drying-up of faecal matter.

Faecal matter also dries up in the twin-pit latrine system. Disposal and use of this composted material are still subjects of experiment and debate. Several experts we met in Dhaka said that some people, but not all, are willing to use the material to fertilize food crops, especially winter vegetables. Concerns about the perceived spiritually and physically ‘polluting’ nature of human faeces, however, remain an obstacle to full acceptance of using human waste to fertilize food crops in South Asian countries.



Figure 2.2. A tree grove used for OD in 2010 (top) had a household latrine built in it by 2015 (bottom). Location: Banaripara sub-district, Barisal District (Photo credits: Anwar Islam)

An interesting innovation we found in Banaripara sub-district was the placement of latrines in formerly preferred OD locations. In one remote southern union, moving along canals that were formerly lined with hanging latrines, we saw that all had been replaced with ring-slab sets. In a larger, more centrally located union of the same sub-district, we re-visited three or four bamboo groves or other ‘jungle’ areas used in 2010 for OD and found five years later that families had built latrines in those places (see Figure 2.2).

Challenges: Bangladesh’s unfinished business

Discussing the current state of Bangladesh sanitation with representatives of 14 organizations in early 2015, we found most agreeing that the problem of OD is more or less solved, but that important problems still require urgent attention. Rokeya Ahmed from the WSP said, ‘CLTS was good for ODF. ODF is done now. Now something more is needed’. The people we met emphasized five current sanitation priorities in Bangladesh: quality of existing latrines; hard-to-reach areas; faecal sludge management; urban squatter settlements; and hygiene.

Quality and sustainability of existing latrines

Seven of the Dhaka professionals we met expressed concern about the poor quality of many household latrines now in use. This problem is especially relevant for poor families, who may not have the means to improve or replace rings and slabs when they break, or to clean out pits when they fill up.

Hard-to-reach areas

There are still some regions of Bangladesh where sanitation programmes have had only minimal effects to date. These include sandbar islands (*chars*), areas called *haors*, which are deeply flooded for six months of every year, parts of the Chittagong Hill Tracts, and other areas, depending on a combination of social and physical factors, plus vulnerability to extreme weather events. The PSU has formed a Hard-to-Reach Thematic Group, in order to disseminate information about these areas and encourage organizations to work in them.

Faecal sludge management

Reflecting a broad consensus among sanitation professionals, Md. Wali Ullah, Director of the Sanitation Secretariat, told us, ‘Faecal sludge management is a burning issue’. Hasin Jahan, formerly of WaterAid Bangladesh, said,

The whole sector should now plan for the second generation sanitation problem – faecal sludge management. We installed thousands of pit latrines without asking about either faecal sludge or environmental pollution. Our mind-set wasn’t aligned to the truths. We never appreciated how important these things were.

She continued, 'We need to search the whole stool chain, from collection to re-use'.

Cleaning out filled-up pits is a constant problem. If they have space, families may just cover a filled-up pit and shift their latrine to a different location.²³ Others bargain with pit cleaners, who are available in increasing numbers nowadays, to get their pits cleaned at a cost of Tk.100–200 (US\$1–2) per ring, depending on the width of the pit. However, union chairmen we interviewed in 2015 mentioned that poor families sometimes clean out their own pits.

In rural areas pit cleaning usually is done with buckets, spades, and ropes, although there have been experiments with mechanical pumps here and there. Waste is either buried in new holes, diverted through pipes to new holes, or dumped in canals or onto fields. There are no statistical data on rural sludge disposal practices.

Professor Mujibur Rahman, of ITN-BUET, commented on urban problems, 'the picture behind the success is really challenging. I have been trying to tell the government people, if 5,000 litres of faecal sludge is being dumped openly [in municipal areas], then 5,000 people are doing open defecation'. He praised the country's achievements in rural sanitation, however, because so many people are now 'thinking of latrines'. A regulatory framework for sludge management is being developed under a government initiative led by Professor Mujibur Rahman in 2015.

Faecal Sludge Management conferences, three of which (FSM-I,-II,-III) have been funded thus far by the Bill & Melinda Gates Foundation. They are influencing opinion among Bangladesh sanitation professionals.

Urban squatter settlements

Known as *bastis*, large squatter settlements can be found in almost all Bangladesh cities and towns. Four of the professionals we met in 2015 agreed that, 'Sanitation for the urban poor is the biggest challenge because of poor drainage and maintenance issues', as Md. Masud Hassan of VERC, put it. Latrines in *bastis* are generally shared by multiple households because of space constraints, and they often are managed by hired caretakers. According to Sayedur Rahman of UST, female caretakers are needed in these situations, to ensure the safety of female users.

Several municipalities are working on sanitation in *bastis*, some with the help of large NGOs, such as DSK, Practical Action, or the NGO Forum for Public Health. Dhaka's Water and Sanitation Authority (DWASA) has formed a new Low Income Communities Department. Nonetheless, the professionals we met agree that this problem is extremely serious and that latrine sharing arrangements are essential to solving it.²⁴

Hygiene

Training on handwashing with soap, domestic water management, hygienic food preparation and storage, and solid waste disposal are standard parts of

all organizations' sanitation programmes, with each organization devising its own approach.²⁵ All are striving to improve their hygiene education techniques by introducing methods such as hands-on demonstrations and training of local volunteers.

Nowadays, increased attention is being paid to the hygiene issue of placement of latrines far from drinking water sources. And the problem of keeping household latrines clean continues to be a challenge in many places, including those with high percentages of 'improved' or 'hygienic' types.²⁶

We found a newly added emphasis on menstrual hygiene in our 2015 Dhaka conversations. As most sanitation specialists now recognize, problems associated with menstrual hygiene can obstruct, or even stop, adolescent girls' educational progress, unless their schools' facilities are set up to help meet this need. Emerging from the shadows, this issue has received increasing attention in recent years. According to Milan Kanti Barua, BRAC-WASH organizes sub-district conferences for adolescent girls, in order to 'give them a chance to speak up about menstruation and menstrual hygiene'. PSU staff members mentioned recently conducting 18 district-level dissemination workshops on personal hygiene, food hygiene, and menstrual hygiene.

Subsidy issues

The Bangladesh sanitation sector has tried out a full range of approaches to subsidizing sanitation facilities, from the zero-subsidy system of CLTS and earlier programmes, through partial subsidies, on to union chairmen simply giving rings and slab sets to households. Experiments with subsidies continue to evolve, as many organizations strive to expand or improve latrine coverage, especially among poor households. 'About subsidies, it is important to ask, "Subsidy for whom?". People who own motorcycles or cell phones do not need subsidies. Give subsidies only after achieving 70–80 per cent latrine coverage. Free latrines otherwise will not be used.' This is the advice of Md. Masud Hassan, of VERC.

There is a broad consensus among the sanitation professionals and others we met in 2015 that subsidies can do harm as well as good. As many observers of CLTS programmes have noted, *not* subsidizing latrine installation forces people to think about the whole-village health and environmental advantages latrines offer. Not subsidizing latrine installation can thus motivate people to invest their own time, energy, and money in equipment which they probably will feel responsible to use and maintain.

Expecting subsidies can delay personal action. One middle-class man we met in Barisal District in 2015, for example, said he had been promised a free ring-slab set by an NGO after the devastating Sidr cyclone of 2007. He waited three or four years but never received one.

If they had not misled me [he said], I would have bought a latrine myself. I carried the shame for a long time because my household had no latrine. This hurt me a lot. Now I have a three-ring and slab set, a whole latrine that I set up in 2014 without help from anyone. I am proud of that.

The Bangladesh experience, like that of many other countries, has shown that simply giving latrines to people will not change their defecation habits unless they are motivated (personally and group-wise) to use latrines. A well-meaning union chairman we interviewed in 2015 stopped giving away free latrines. After spending Tk.100,000 (US\$1,300) to distribute many free latrines to poor villagers, he found that, 'most of the latrines we constructed remained unused. People preferred to buy their own, better quality and larger ones'.²⁷

An important issue related to ODF sustainability is the situation of the very poor. There is no doubt that truly poor households cannot own, maintain, or upgrade latrines without some kind of financial support. This is a point of general agreement among almost all those we interviewed in 2015. One chairman of a union that became ODF under the government-only approach told us in 2015 that his union provides funds to poor households to cover pit cleaning expenses.

It is especially interesting that union chairmen and NGOs in five CLTS unions we recently contacted are now subsidizing latrine installations or distributing free ring-slab sets to poor households. CLTS approaches established a general sense of local pride in being ODF, but some subsidy measures are considered necessary to maintain the situation.

Poor households receive help with acquiring latrines from both governmental and non-governmental programmes. During the national campaign the government authorized use of up to 20 per cent of each sub-district's Annual Development Programme funds for this purpose. This allocation has continued, but less consistently than before 2006. BRAC's Targeting Ultra-Poor (TUP) programme fully supports sanitation for 'ultra-poor' households as part of its 'sustainable livelihoods' strategy. TUP either gives them latrines or arranges for free latrines to be provided from other sources as an essential health maintenance measure. Eligibility to 'graduate out' of the ultra-poor status is carefully computed according to multiple criteria.²⁸

The programmatic challenges are, first, to identify those who truly require subsidies and, second, to arrange financial assistance in ways that encourage a sense of self-help and homeowner responsibility, as Robinson and Gnilo discuss elsewhere in this book (Robinson and Gnilo, 2016). The identification process is considered effective, but it is not 100 per cent perfect. Poor households are identified by union council chairmen and members from voting lists. If NGOs work in an area, they may assist with preparation of lists in that area. Female-headed households and persons eligible for government support (widows, elderly, or disabled) also often qualify. Lists may be checked for accuracy, especially in areas covered by the larger-scale water and sanitation programmes.

Flexible financing is helpful to poor households wanting new or upgraded latrines. Plan International has started offering financial support of a new type. 'We designed a new model of offset-pit latrine with five rings', explained

Md. Zillur Rahman in a recent conversation. 'The total cost is Tk.3,000–4,500 (US\$45–52). We give hard-core poor Tk.2,300 toward the cost. They pay the rest in instalments. They can afford this. Some people are adding more rings.'

An important point to keep in mind when addressing the needs of the poorest households is their heterogeneity. Female household heads, disabled people, and marginalized ethnic or occupational groups must overcome multiple social and economic obstacles to livelihood improvement.

Some learning points

Government and community involvement

Bangladesh is a centralized state. Unions and sub-districts have very little independence, either financially or administratively. So central government policies are likely to drive future change. Thus far, responsibility within the central government rests primarily with the MLGRD,C. The DPHE, part of MLGRD,C, has been officially responsible for implementing most government-led water supply and sanitation projects outside of municipalities or city corporations. DPHE is an engineering organization, not one with strong health education or community mobilization expertise (Matrix, 1993; Pendley and Ahmad, 2009). UNICEF's WASH Section has partnered with DPHE since 1990, and UNICEF (or earlier, the NGO Forum) has tended to handle the 'software' aspect of sanitation programming. Formation of the Policy Support Unit in 2006 created an alternative knowledge hub within MLGRD,C but outside of DPHE.

The Ministries of Health and Education have the non-engineering expertise and the field-level staff to help move sanitation forward in a sustainable manner. But until now health has not been much involved in sanitation programming or promotion. Education, however, has done its part with curriculum changes and school-level programmes. Inter-ministerial efforts and communication need improvement, if the country is to face the sanitation challenges ahead.

One learning point from the generally successful Sanitation Campaign of 2003–2006 was the value of combining government directives with initiatives to support community mobilization. 'For a sanitation campaign to succeed, it has to come from the head of government. Our sanitation started from the top. We did it both ways: top-down and bottom-up', says Md. Monirul Alam, of UNICEF. Community people need to understand the health benefits of hygienic latrine use. Processes such as CLTS definitely help to change all-important social norms. But governmental authority is needed to guide and sustain full-scale change.

The union is an appropriate administrative level for capacity-building in Bangladesh, according to many of those we interviewed. 'Union councils have statutory responsibility. Our learning point was: it works. Many thought that the union would misappropriate funds or not supervise their WASH facilitators properly. But they are working nicely in 81 unions now', says Md. Zillur Rahman, of Plan International Bangladesh. Open defecation is now down to 3 per cent.

The credit for this mainly goes to the union *parishads*, according to Md. Nurul Osman, of the HYSAWA Fund. The union council represents a larger and more diverse population than India's village *panchayat*. Being rather large, however, it has the advantage of making visible changes in environmental practice and testing various approaches in different environments.

Role of NGOs

NGOs are a prominent part of the Bangladesh sanitation scene. Some are huge and have implemented large-scale sanitation programmes. Most of the 10 union chairmen we recently interviewed expressed appreciation for the help their unions had received from NGOs in becoming ODF and solving follow-up problems, but two mentioned that NGOs may withdraw at any time. Governmental officers or departments, weak or strong, do not have that option. The learning point here is that NGOs cannot replace governmental institutions. It is only government that has the authority and full-scale responsibility – and some steady revenue stream, however limited – to protect public health by sustaining 100 per cent latrine usage. A distinctive feature of the Bangladesh sanitation sector is the existence of opportunities for regular communication between NGO leaders and government officers.

Tailored approaches

While not as geographically or culturally diverse as India, Bangladesh does have plenty of diversity. 'When installing latrines, we must consider geographical conditions, disaster risk, and water availability', according to Rozina Hoque, of BRAC-TUP. 'Tailor the approach to different geographical and cultural situations', says Rokeya Ahmed, of the World Bank Water and Sanitation Program. Experience has shown that different areas require different approaches, both technical and social. This is another argument in favour of community mobilization strategies.

Latrine sharing

It is becoming increasingly clear that some residential arrangements demand multi-household latrine sharing. Though problematic for cleaning and other reasons, latrines shared by joint family members are normal in this part of the world. Even in rural areas there can be settlements almost as congested as urban squatter settlements, where some kind of community latrine arrangement is needed. Rather than rejecting these as 'unimproved', the international community should study ways to make them work for the people who need them.

Monitoring

An important gap in the Bangladesh situation is the lack of routine monitoring of sanitation coverage or quality. As happened during the National Campaign and in CLTS programme areas, monitoring of *total communities'* facilities and

practices is needed, not just individual household latrine coverage. At the individual household level, monitoring should track who actually does or does not *use* the available latrines and people's motivations for use or non-use. Latrines' maintenance (cleanliness) is as important as their physical presence. And a satisfactory survey should cover latrines in institutions, especially schools, clinics, and hospitals as well as those in homes.

The government seems too ready to accept the Joint Monitoring Programme's 2015 report of 'one per cent [total national] OD', as if this means the sanitation job is finished (UNICEF and WHO, 2015: 56). One per cent is a positive finding, but it is not helpful to focus on this news instead of arranging to monitor the country's sanitation status properly and regularly.

Ensuring continuity

The most important learning point 10 years after the Sanitation Campaign is: **sanitation improvement is a continual process**. It is never finished. New households are formed, and new houses are built. Floods and cyclones come. Concrete breaks. Rats eat bamboo pit liners. Pits fill up. Migrant labourers come in large numbers to help with the harvest. There will always be new problems to solve, new leaders to educate. The Bangladesh experience has shown that declaring thousands of villages to be ODF is just the beginning.

Conclusions

Our 2015 discussions with people at all levels of Bangladesh society reveal both pride in sanitation achievements and concern about meeting future challenges. A combination of approaches – subsidies, non-subsidies, micro-credit, sanitation market improvements, programming at various scales, motivating of individuals and groups – has resulted in a majority of households using latrines rather than defecating openly. Policy documents have created frameworks to guide activities in diverse areas. Issues such as quality, faecal sludge removal, and appropriate subsidies for very poor households remain, however. Hard-to-reach geographical areas lag behind the rest of the country. As a review by Professor Mujibur Rahman (2009) has pointed out, failing to address present challenges will threaten the sustainability of achievements.

Unique characteristics of the Bangladesh sanitation situation include the focus on its local government institution (the union), a long history of NGO-sponsored community mobilization, the willingness of government to work with NGOs, and high population density. Donor involvement has been a regular feature of the sanitation scene for more than three decades. It is a relatively small country, the size of only one of India's states. All of these special conditions and characteristics have supported its achievements to date.

The transitions and challenges occurring in 2016 are daunting, to be sure, but the country has faced larger ones in the past. Moving away from OD was the biggest challenge. This achievement was psychological, cultural, and also

political. Introducing and maintaining sewer systems, however, will involve substantial expense. Upgrading household latrines in rural areas also costs money. Donors' interests will shift away from sanitation to urgent matters such as climate change, so new revenue sources will be needed.

There is by now a well-established network of professionals working on the critical issues of the day, and the general population is committed to maintaining public health through latrine use. It seems likely that the next challenges will be met, considering the Bangladesh sanitation sector's intellectual and organizational strengths.

About the author

Dr Suzanne Hanchett is an applied anthropologist with a PhD from Columbia University. She is a partner in the consulting firm, Planning Alternatives for Change, and a Research Associate with the Center for Political Ecology in Santa Cruz, California, USA. Her work has mainly focused on Bangladesh where she has carried out programme evaluations for major NGOs as well as research related to arsenic, gender, water, and sanitation.

Notes

1. Five associates contributed substantially to this report, and to the research on which it is based: Tofazzel Hossain Monju, Mohidul Hoque Khan, Anwar Islam, Shireen Akhter, and Kazi Rozana Akhter.
2. The organization's name has been changed since then to the NGO Forum for Public Health.
3. The population of Bangladesh is estimated to be approximately 70 per cent rural.
4. Abdul Mannan Bhuiyan (1943–2010), Minister of Local Government, Rural Development, and Cooperatives (MLGRD,C).
5. A union *parishad*/council (UP) represents a population of 20,000–50,000. Each union is divided into nine wards, each of which has an elected representative. Three women additionally are elected to the council, each woman representing three of the nine wards. There is a separately elected UP chairman representing the whole union. A union has numerous distinct, named, villages and neighbourhoods. In 2001 there were 4,484 unions in Bangladesh.
6. The in-depth study involved a small team of three researchers holding focus group discussions, key informant interviews, and making structured observations in multiple union locations for a period of approximately one week. Three villages were sampled randomly from each union for survey and in-depth study, one near the union council headquarters, one moderately distant, and one remote. Ten of the 50 unions covered by this study had become ODF after a CLTS process.
7. This study was conducted under contract with The Manoff Group.

8. In February 2015 we met with 23 staff members of 14 organizations, who kindly took time to share their experience and views with us. The organizations were: BRAC-WASH (Milan Kanti Barua), BRAC-TUP (Rozina Hoque, Md. Abdullahil Baquee, Sagarika Indu, and Arunava Saha); the HYSAWA Fund (Md. Nurul Osman); ITN-BUET/International Training Network Centre, Bangladesh University of Engineering and Technology (Professor Dr Mujibur Rahman); Plan International Bangladesh (Md. Zillur Rahman); Policy Support Unit/PSU (Md. Mohsin and Md. Abdur Rauf); Practical Action (Engr. Dipok Chandra Roy); Sanitation Secretariat (Engr. Md. Wali Ullah); UNICEF (Md. Monirul Alam and Syed Adnan Ibna Hakim); UST (Md. Sayedur Rahman, Shah Md. Anowar Kamal, and Dr Hamidul Haque); VERC (Md. Masud Hassan); WASHplus/FHI360 (Kathrin Tegenfeldt and Md. Faruqe Hussain); WaterAid Bangladesh (Hasin Jahan and Mujtaba Mahbub Morshed); and the World Bank Water and Sanitation Program (Rokeya Ahmed).
9. Eight interviews were done in multiple telephone conversations and two were done in personal visits.
10. The first conference was funded entirely by outside donors. The Government of Bangladesh has contributed substantial funds to SACOSANs since then.
11. There are 488 sub-districts (*upazilas*, formerly *thanas*) in Bangladesh. Each sub-district has around 10 unions. A sub-district administrator (Upazila Nirbahi Officer, or UNO) coordinates the activities of various governmental departments and hosts a monthly meeting that includes all union chairmen. Since 2010 there also are elected sub-district chairmen, vice-chairs, and councils. At the time of writing of this chapter, the respective roles and responsibilities of UNOs and sub-district chairmen are still being sorted out.
12. Dishari was a joint endeavour of Dhaka Ahsania Mission, Plan Bangladesh, WaterAid Bangladesh, and the World Bank Water and Sanitation Program.
13. Howes et al. (2011) review and compare expansion of CLTS and some related programmes in Bangladesh.
14. The government's definition of 'hygienic latrine', in contrast to the JMP definition of 'improved latrine', includes latrines shared by no more than two households (up to 10 people), and which confine faeces in pits or septic tanks, but only if their covers/slabs are closed by intact water-seals or flaps (GoB, 2005a).
15. Information from UNICEF Bangladesh WASH Section, September 2015.
16. In our 2010 survey of 50 ODF unions we found 25 per cent of household latrines to have vent pipes in good condition, and approximately half had nets on them to prevent entry by insects.
17. In our 2010 survey of household latrines of 50 unions we found 30 per cent to be elevated above the level of the homestead yard.
18. *Chars* are sandbar islands; *haors*, are low-elevation areas deeply flooded for approximately six months of every year.

19. In the 2010 survey of household latrines in 50 unions, we found 52 per cent of the enclosures to have roofs.
20. At the time of our February 2015 meeting, the piloting phase of this programme had been completed.
21. In our 2010 survey we found 45.2 per cent of all latrines with slabs to have no water-seal, a broken water-seal, or no other flap or cover sealing the hole in the slab (Hanchett et al., 2011).
22. Tofazzel Hossain Monju notes, February 2015.
23. They might or might not upgrade their latrine model when they shift. Poor people tend to replace it with the same type.
24. Christine Sijbesma's study, *Financing Models for the Urban Poor* (2011), systematically reviews the global experience in seeking economic solutions to these types of problem.
25. In our 2010 survey of household latrines in 50 ODF unions, we found 84 per cent to have handwashing stations. Water was available at 74 per cent of them, and soap was observed at 30 per cent (source: World Bank WSP database, used for Hanchett et al., 2011).
26. In our 2010 survey of household latrines in 50 unions, we found 44.3 per cent of all improved/shared latrines to be clean, meaning no faeces visible on the floor, pan, or water-seal, and the pit not leaking profusely (Hanchett et al., 2011).
27. This union had been declared ODF under the government-only approach. The chairman at the time was enthusiastic about promoting hygienic latrine use, as is his successor.
28. No self-reported food deficit for one year, multiple sources of income, homes with solid roofs, ownership of livestock or poultry, kitchen gardens, cash savings, no child marriage, school-age children going to school, couples using family planning, and use of a sanitary latrine and clean drinking water (BRAC, n.d. and 2013).

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