

6 Sanitation, water and hygiene programme in Faridpur

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Abstract

This paper summarises the experience of Practical Action Bangladesh in promoting water, sanitation, waste and hygiene related infrastructure and services in the town of Faridpur, Bangladesh. Practical Action attempted to help community groups to organise and develop participatory slum improvement plans with the municipality. This led to prioritising needs, and agreeing roles and responsibilities in the delivery. Communities also identified the opportunities for income generation and employment within the delivery, operation and maintenance systems. They have also acquired other skills to boost their income. The involvement of

people and their empowerment is leading to better use and maintenance of water, sanitation and hygiene infrastructure and services. Communities have also negotiated better deals with the municipality to use municipal land for waste recycling and to finance the larger infrastructure. The sustained income from users' charges was shown to be a more complicated issue than initially thought. This is mainly because of social structure, ownership and expectations at the community level. Practical Action has realised that larger slums of more than 100 families need more detailed technical planning for services. Overall, the Faridpur slum model has potential to scale-up in terms of physical and social infrastructure.

Context

Bangladesh has a total population of 144.2 million, with 36% living on less than US \$1 per day. The population densities in Bangladesh are perhaps the highest of any country in the world. Officially, 23% (some 30 million) of the population was living in urban areas in 2001, and the urban population growth rate is more than double the national rate. The actual population of these slums may be much higher.

Migration to towns and cities for income and employment leads to chronic shortages of housing, and families living in overcrowded conditions. This trend is set to continue: in future, large and concentrated populations in towns will require basic services such as water supply, sanitation, transport and electricity.

Practical Action has worked with people for more than 40 years and in the past 10 years, it has paid increasing attention to accessing urban services as a means to liberate people from poverty. Intended outcomes from this work include better health, improved environment and increased income opportunities. In Bangladesh, Practical Action has been working in a number of secondary towns including Faridpur.

The district town of Faridpur, located more than 100 km southwest of Dhaka, is home to 126,226 people. The town has moved locations several times due to erosion caused by the mighty force of the river Padma. Faridpur Town still wears the look of a neglected market town and lags behind many other district towns in terms of infrastructure and urban facilities. The town's inhabitants include a high number of victims of floods and river erosion. These people take refuge mainly in the elevated

khas land (fallow government land) and along the embankments and riverbanks. There are 22 informal settlements (slums) within the municipal area. According to data from the municipal authority, 9,735 people live in these slums. Although the population of slum dwellers in the district is 10%, a number of low-income areas are not any better than slums. Most of these slums are settled on the land, close to the city centre and markets. Practical Action's project in Faridpur: 'Integrated Urban Development' (IUD) began with three main objectives:

- 1) To demonstrate a participatory process of delivering environmental infrastructure, which can improve quality of life and create livelihood opportunities in the area
- 2) To prepare participatory plans and facilitate partnerships, so other infrastructure and services can be delivered as per needs and priorities of the poor
- 3) To support community in mobilisation and training, to enhance their income and employment with some services
- 4) To collect evidence and promote IUD as a replicable model to provide infrastructure and services to slum areas.

This paper provides an analysis of Practical Action's work in Faridpur and some of the key lessons learned.

Services in the slums of Faridpur

In this section, we set out the main issues relating to services in these slum areas. We observed that the municipal attitude was constructive when it came to supporting the provision of basic services to these slum areas, yet they lack financial resources and technical capacity to provide these services.

Most people in these slums depend on pond water for bathing and washing. They access tubewells for drinking water and have no street paving in most of their streets. Neither was there any drains or collection of solid waste. The transport service is only restricted to three-wheel rickshaw vans, pedaled by a driver. The access to sanitation was also mixed with very high numbers relying on the temporary hanging latrines and defecating directly into ponds. Practical Action carried out baseline surveys on the level of various infrastructure and services. This survey covered the entire population and included men, women and children. We made sure that all groups took part in the survey, irrespective of their ethnicity and ability to participate. We found that only 27.5% of the population has access to treated municipal water supply, while 72.5% rely on tubewells.

The sources of water are also inconveniently located, as almost half of the population has to travel more than 15 meters to collect water. One third of the population travel 50 to 120 meters to collect water. This not only demonstrates the hardship in collecting water but also has a major impact on the quantity of water they are able to collect, and risk of contamination while transporting

and storing. Residents express problems in water collection and availability of less quantities, but they usually have little understanding of sources of contamination. Availability of less water has an impact on hygiene and has serious repercussion on the choice of sanitation technology.

Faridpur is an arsenic-affected area and it is possible that residents' only source of drinking water is contaminated with high levels of arsenic and iron. The baseline survey and programme for screening of water points shows that 11.67% tubewells are contaminated with arsenic above the safe limit (e" 50 ppb) as per standards recommended by the World Health Organisation (WHO). The concentration of arsenic ranges from 75 ppb to 500 ppb in those tubewells. Residents did not see arsenic as a major problem, as its impact on their health is likely to be slow. Also, in many cases, residents have no alternative sources of water or treatment system.

In addition, the screening of water points revealed that about 51.67% points are at risk of microbial contamination as they have no platform to drain used water and a heap of garbage around the water point is very common.

FIGURE 1 Sources of water for drinking

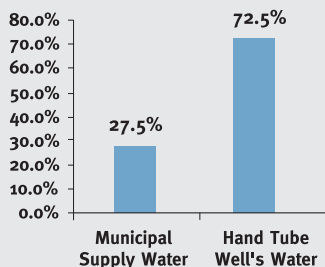


FIGURE 2 Situation of arsenic contamination of existing shallow tubewells

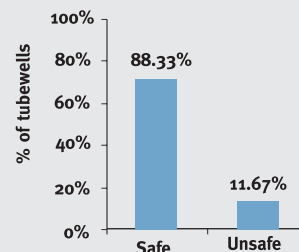
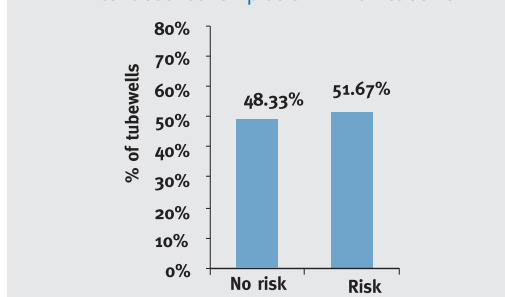


FIGURE 3 Risk of microbial contamination due to absence of platform with tubewell



The common mode of sanitation is individual and shared toilets, which are often of poor quality and temporary. These toilets are located outside the house boundaries and owned by a family or a group of families. Their use is based on an understanding among neighbours, without any financial payments. Though the sanitation coverage in Bangladesh has increased from 20% in 2003 to 65% in 2006, there are no signs of this in the slum areas of Faridpur. There are emerging issues of proper maintenance and resources to sustain hygienic practices in areas where local governments and NGOs have piloted these programmes. Under the national sanitation strategy, the line ministry directed municipalities to spend 20% of their annual development budget on the promotion of sanitation. Under this initiative, the municipality subsidised the construction of sanitary latrines. In most cases, the technology was single pit latrine. Though the success is outstanding in some areas, the people expect a reliable and coordinated service to de-sludge these latrines. There were also possibilities of groundwater contamination, which need more scientific studies. These were very important learning points for planning our programme in Faridpur. In slum areas of Faridpur, an estimated 22.5% of people are still using

common or shared latrines and they have to contribute more than Tk 30/= per month as a service charge. Among other major causes of poor health and environment, waste collection and inhalation of harmful gases were also identified as priority issues. Most of the slum people (98.9%) use single mouth earthen stove for cooking purposes and 68.8% people use firewood, jute sticks, cow dung and tree leaves as firewood for cooking. Most of the slum people have no legal land tenureship and have previously faced constant threats of evictions. Such insecurity restricts further investments on services by the municipality and by households. Households do not want to invest money for permanent structures, but with the investment in infrastructure services supported by NGOs and the municipality, the confidence of households to invest and their trust in the municipality increases.

Participatory planning

In January 2006, Practical Action started a three-year project in Bangladesh, Nepal and Sri Lanka to contribute to the reduction of environmental threats to the health and livelihoods of urban slum dwellers. The purpose of the project was to develop and promote an integrated approach at the neighbourhood level, in ways that are driven by and improve the livelihoods of poor urban women and men. The basic idea was to promote those improvements, which can improve income, employment and investments in the area. The approach was to work with the people, understand their priorities, prepare participatory plans, promote partnerships and strengthen community organisations for proper operation and maintenance of services. In addition, support opportunities, wherever possible, to enhance income and employment during the construction

of infrastructure and services. The municipalities, community groups and local NGOs are the project partners. In the first phase of the project, participatory plans were prepared, and community groups identified water, sanitation and waste collection as the top priority needs within the context of their local environment. However, further discussions with the community revealed that they do not clearly see the links between poor health and their poor hygiene actions. In slum areas, where people rely on daily wages and run local shops, the health and local environment are extremely important. Upon completion of participatory plans, community use it in various ways, especially influencing municipality to investment finances and support collectively agreed priorities of the poor.

In Faridpur, the project selected eight slum areas. To further explore major environmental health hazards for slum/low-income settlement dwellers,

a focus group discussion was held in each of the eight slums. Participatory tools were used to identify and agree on priority needs. After a series of discussions, the community was asked to assign marks to their priorities, as shown in the table below. It is clear that safe water supply, environmental sanitation and proper waste disposal facilities were the main problems identified.

The community understood the project's context and identified their priorities within that. Issues like security of tenure and evictions may be very important, but the community may prefer to work on these issues once their immediate needs are addressed. Education and health needs are addressed through available facilities in the town and communities did not see a need to establish separate systems for such facilities in the slum areas. Community groups want improved water and sanitation facilities to improve their quality of life, enhance their livelihoods opportunities and for better health.

Trust between slum dwellers and the project team improved over time and the project team asked communities to form more structured and representative organisations. A set of rules for each community group was recommended to ensure their inclusiveness, and their respect within the wider communities. The rules recommended that each community group should have female representation, well respected leadership and understand the needs of less able people. They were encouraged to meet regularly, review the priorities and prepare themselves to negotiate their needs with the municipalities. Gradually, the community organisations and municipality prepared the participatory neighbourhood plans. This was a detailed plan on needs and how the needs will

TABLE 1 Community priority needs

Priority Need	Marks obtained	Percentage	Ranking of problems
Safe water supply	71	17.66%	1st
Environmental sanitation	61	15.18%	2nd
Waste disposal	46	11.44%	3rd
Education	3	0.75%	11th
Unemployment	30	7.46%	5th
Water logging	30	7.46%	5th
Internal walkways	46	11.44%	3rd
Housing	25	6.22%	6th
Electricity	4	1%	10th
Basic health services	1	0.25%	12th
Land tenure	21	5.22%	7th
Lack of knowledge on hygiene	39	9.7%	4th
Eviction	17	4.22%	8th
Municipal tax	8	2%	9th
Total marks	402	100%	

be addressed through a participatory process. This whole exercise requires time and effort, but improved the ownership of development. Once the participatory plans were developed and broadly agreed by the community groups, municipality and the project team, the actual construction of some infrastructure and services started. Community organisations sought other partnerships for needs that were identified in the participatory plans, but could not be supported by the project funds.

Project implementation

Very often, when local authorities or external consultants make decisions, poor communities do not have an opportunity to express their views. As a result, services either don't reach them, are too expensive, or are delivered in a way which does not meet their needs. In such cases, services are not maintained properly and may have minimal impact. Participatory planning is a way of ensuring that the voices of local residents are heard and acted upon. It also provides a springboard to leverage additional resources. In Faridpur slums, the participatory plans were prepared and jointly owned by the community organisations and municipality. A local NGO, the Society for Urban Poor (SUP) was involved in the pro-poor development, supported the whole approach and worked as an equal partner. SUP also assists slum improvement committees to raise their voices. This helped the municipality to support certain activities through their budgets and play a role as a more resourceful partner. The slum improvement committee identified infrastructure and services that could improve the overall environment in the settlements and reduce the risks of water- and waste-related diseases. Project staff prepared the design in consultation with the community, assisting

with the estimates and jointly supervising the construction. Slum improvement committees also monitored the quantities and quality of materials used in the construction and jointly approved payments to contractors. For the water- and sanitation-related infrastructure, community organisations identified improved toilets, water points and street paving as their priorities. In some areas, depressed land was filled, and solid waste bins and drainage were also constructed. The community committee held monthly meetings to monitor progress, continue maintenance of the toilet blocks and water points, and also encouraged the contribution of Tk 150 per family per month, to be held in a bank account to cater for any future repair and maintenance needs. The community committee played a key role in the collective negotiation with the municipality, which led to its agreement to allocate funds on relatively larger infrastructure and services needed to support the community level infrastructure. In addition, the municipality also leased out a piece of land to recycle solid waste into compost.

It is often not possible to suggest one type of technology for water, sanitation and hygiene to fit all types of situation. People's preference and other criteria vary. In this project, we suggested a possible range of options to the slum dwellers, keeping in mind the technical possibilities and the community took the final decision. In some cases, twin pit toilets were chosen, in others a septic tank was possible, or a single pit with soak-away system was the only possibility. Hygiene education was provided with a focus on regular toilet use, washing hands and proper maintenance of toilets.

At the start of the project it was envisaged that a number of families could enhance their income

through fees and other charges from the water, waste and sanitation facilities. This happened to a certain extent, but people expressed their need to learn more personal skills, which could help them to earn a sustained income. Depending on the time available and other responsibilities, a number of women and young adults acquired skills to make paper bags and other types of embroidery. They have also been matched with buyers and other actors in the market chain. This programme was necessary to ensure that the improvements in the water, sanitation and hygiene status go hand in hand with social and economic improvement. Otherwise people in the community will not be able to contribute to the operation and maintenance of the facilities provided.

Project outcomes and learning

The project is in its second year and the mid-term review was carried out from January to March 2008. This paper serves to highlight our own learning from this process, which is based on our observations and feedback from people in the communities:

- The project aims to improve the local environment and enhance income from the infrastructure and services. The beneficiaries were empowered to choose where they want to see money invested and the process of implementation. This process led to some real improvements in the area and enhanced the ownership of the process. In addition to water and sanitation facilities, people also prioritised street paving, drainage and waste collection to see an overall positive impact in their living environment. It is obvious that in high-density settlements, these improvements contribute significantly to better hygiene and enhance the impact of sanitation and water

infrastructure. There are clear indicators that the water and sanitation services are maintained well.

- As mentioned earlier, the project design has two innovative features: providing the set of services to improve the environment and linking income generation from these services. The idea was to promote income generation within the service provision. However, the project design was modified as per the situation on the ground.

Firstly, the nature of infrastructure is such that fee collection is not possible in all cases. For example, charging for a common street paving and drain that serves a group of households is technically challenging. Nevertheless, there is some indication of community contribution in the capital cost.

Secondly, the ownership of infrastructure and agreements for its use also vary from one set of infrastructure to another. For example, in some cases the handpump is owned by one family, which has agreed to allow other families to use it. In the other, the infrastructure is owned by a group of 4 to 6 families. In some cases the ownership is with an extended family, which includes a number of households. In the case of water supply, the pipe and water point is owned by the municipality, which may impose a system of charging on the bulk supply. Practical Action has avoided a blueprint of ownership for newly constructed infrastructure services. This situation also makes fee collection from users extremely difficult. So, the proposed approach to make CBOs the overall and collective managers of the infrastructure services seems to be the most appropriate and innovative. Practical Action helped communities to form an organisation, make it inclusive, build their capacity to work

together, manage the affairs and open a bank account. It was suggested to ask each family to contribute Tk 150 per month into the bank account, which could be used in the event that repairs were needed. It is necessary to include a number of well paying customers for income generation and the project has moved towards this in the waste collection programme. The fees from middle class income groups cross subsidised the lower fees from the low-income areas.

- The skills enhancement for income generation is working well for both groups. One group would like to do this as a casual work, while the other would like to do it as a full time work. Income generation through household-based production, such as making paper bags and tailoring, is more popular among casual workers. Training for the more business oriented Cutchupi (a type of embroidery) was taken up by young adults, who may have more time at their disposal, while paper bag making and stitching clothes tended to suit women with the responsibility for young families. This training is done in collaboration with NUF, a local NGO working on economic empowerment for women. We would like to understand more on this subject, particularly the impact of income generation on payments for services.
- The integrated model seems to be more successful, where the communities are smaller, such as Basher Mia and Bishorjan Ghat slums (which comprise less than 40 families). In the slum areas of more than 100 families, the

needs are bigger and more complex. Some of the larger settlements, such as Bihari Para (120 families), require integrated planning for infrastructure services, particularly for the drains and filling of depressed land. Laying one drain without getting a topographic survey of the whole area and making sure that the discharge levels are coordinated can lead to future problems. Similarly, filling one depression, without analysing flow patterns of surface and sub-soil waters could merely serve to transfer the problems. Engineering planning is an important activity for such areas. Use of topographical surveys and putting important information on GIS could be very useful for future work.

- In addition to the above outcomes, there is clear evidence that the communities have acquired the ability to organise, agree and raise their voice to the local government. This has led to greater attention, government investment and transparency. We are expecting to collect more concrete evidence of this during the mid-term evaluation.

The Integrated Urban Development (IUD) project in Faridpur has directly benefited 2,500 people. More importantly, it has experimented with a model of slum improvement, where participation, ownership and income generation can truly enhance the benefits of physical infrastructure. We anticipate that this will lead to a greater impact and sustained benefits of infrastructure services in future.