Annex A: Bangladesh Case Study

Case study written by Shafiul Azam Ahmed and Sophie Trémolet

OVERVIEW OF BANGLADESH CASE STUDY (DISHARI PROJECT)

<table>
<thead>
<tr>
<th>Keyfacts</th>
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<tbody>
<tr>
<td><strong>Project name</strong></td>
<td>Dishari: Decentralized Integrated Sanitation, Hygiene and Reform Initiative</td>
</tr>
<tr>
<td><strong>Project objectives</strong></td>
<td>Scale up the Community Led Total Sanitation (CLTS) approach and strengthen local governments so that they can become main implementers of the approach.</td>
</tr>
<tr>
<td><strong>Public financiers</strong></td>
<td>Government of Bangladesh and a consortium of donors and NGOs: Water and Sanitation Program, WaterAid, Plan Bangladesh, Dhaka Ahsania Mission (local NGO)</td>
</tr>
<tr>
<td><strong>Scale</strong></td>
<td>1,631,000 people reached in 5 rural districts with high incidence of poverty</td>
</tr>
<tr>
<td><strong>Time frame</strong></td>
<td>Program years: 2004 to present / Study period: March 2004 to June 2008</td>
</tr>
<tr>
<td><strong>Level of service</strong></td>
<td>Basic latrines (below JMP standards in some cases)</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Summary of financing approach</th>
<th></th>
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<tbody>
<tr>
<td><strong>Software support</strong></td>
<td>• Software support for community mobilization, sanitation promotion, local government strengthening</td>
</tr>
<tr>
<td></td>
<td>• Outcome-based financial rewards to villages which are 100% sanitized, provided with no strings attached (do not necessarily need to be spent on sanitation)</td>
</tr>
<tr>
<td></td>
<td>• Software mark-up = 28% of total costs of sanitation solution</td>
</tr>
<tr>
<td><strong>Hardware subsidies</strong></td>
<td>• Up-front in-kind hardware subsidies targeted to the poorest</td>
</tr>
<tr>
<td></td>
<td>• Hardware subsidy: US$7 per household (42% of hardware costs)</td>
</tr>
<tr>
<td></td>
<td>• Hardware subsidies = 8% of public funds</td>
</tr>
<tr>
<td><strong>Access to credit</strong></td>
<td>• Not specifically included</td>
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</tbody>
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<thead>
<tr>
<th>Summary evaluation</th>
<th></th>
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<tbody>
<tr>
<td><strong>Impact on sustainable access</strong></td>
<td>• Contributed to 70% of population in project area gaining access to sanitation (equivalent to a 16% percentage point increase per year in coverage)</td>
</tr>
<tr>
<td></td>
<td>• Observed high levels of maintenance and user satisfaction although high pressure on delivering fast results may negatively affect long-term sustainability</td>
</tr>
<tr>
<td><strong>Costs</strong></td>
<td>• Average hardware costs: US$17 (15% of lowest quintile income)</td>
</tr>
<tr>
<td></td>
<td>• Operating costs: US$5 per year (4.5% of lowest quintile income):</td>
</tr>
<tr>
<td><strong>Effectiveness in the use of public funds</strong></td>
<td>• Moderate leverage ratio: 2.27</td>
</tr>
<tr>
<td></td>
<td>• Very high “increased access / public funding” ratio: 135 latrines built / US$1,000 public funds</td>
</tr>
<tr>
<td><strong>Poverty targeting</strong></td>
<td>• 7% households in project area received a hardware subsidy</td>
</tr>
<tr>
<td></td>
<td>• Community involvement in selection of recipients reduced exclusion errors</td>
</tr>
<tr>
<td><strong>Financial sustainability</strong></td>
<td>• Public funds = 31% of total costs of sanitation adoption (moderate sustainability)</td>
</tr>
<tr>
<td><strong>Scalability</strong></td>
<td>• Ending open defecation in 1,800 remaining unions is achievable in 2 years</td>
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www.wsp.org
A.1 Overview of the financing approach

The Dishari project was initiated in 2004 by a group of donors and NGOs, including WSP, WaterAid, Plan Bangladesh, and the Dhaka Ahsania Mission. Dishari stands for Decentralized Integrated Sanitation, Hygiene and Reform Initiative and also means “beacon” in Bangla. Its main objectives were to scale up the Community Led Total Sanitation (CLTS) approach, originally developed in Bangladesh, which emphasizes community mobilization for the eradication of open defecation. The project aimed to strengthen local governments so that they could become the main implementers of the approach instead of NGOs. This project (which is still ongoing) has been working in five districts to complement the government’s national sanitation program and contributed to sanitation adoption by 1.6 million people over the course of four years. The average hardware cost of the latrines built through the program was US$17.

The Dishari project’s financial approach relies mainly on software support for community mobilization activities and sanitation promotion, with about US$7 spent on software support per household (or 28% of the total costs of sanitation adoption). The households are responsible for investing in latrine construction. They use locally available materials and simple designs to build relatively cheap hygienic latrines that they can afford and meet their needs.

The government provides monetary rewards to unions and sub-districts that are 100% sanitized (about US$2,900 per union and US$7,250 per sub-district). These rewards come with no strings attached and can be spent on any type of local development project. Combined with the prestige they bestow and other nonmonetary benefits, these rewards have served as a strong motivator for local leaders and have introduced a competitive drive among villages to improve access to sanitation.

In adoption, to lift the affordability constraint for very poor households, the government has introduced an in-kind up-front hardware subsidy (equivalent to about US$7 per subsidized household), which provides construction materials to households identified on the basis of strict criteria and community meetings (these households had an estimated income of less than US$290 per household per year). About 7% of households in the project area benefited from this subsidy, which covered approximately 42% of their hardware costs.

This case study first presents the country and sanitation sector context in Bangladesh as the background. It then examines the Dishari project in detail, including the project’s approach and institutional set-up. In section A.3, project costs, sources of finance for household sanitation and subsidy design issues are discussed in detail. Section A.4 analyses the project’s performance in terms of impact on sustainable access to services, efficiency, effectiveness in the use of public funds, poverty targeting, financial sustainability and scalability. A summary evaluation of the financing approach is presented in the last section.
A.2 Country and sanitation sector context

A.2.1 Country context
Bangladesh is a small country located in South Asia. With a population of 150 million, it is one of the mostly densely populated countries in the world. The country is also one of the poorest in Asia, with a GDP per capita of US$463 or US$1,311 in Purchasing Power Parity (PPP) adjusted terms in 2007.

A.2.2 Initiatives taken to increase sanitation coverage
Up to the 1970s, a large majority of people defecated in the open in rural areas of Bangladesh and there was little demand for sanitation. A number of government programs were introduced to change these practices (with donor assistance), which relied on relatively high-cost subsidized latrines. These projects failed to achieve substantial results as they did not include the critical component of social mobilization.

In the late 1990s, the international NGO WaterAid tested a new approach based on community mobilization, which would later be referred to as Community Led Total Sanitation. This approach was initiated by Dr. Kamal Kar working with a local NGO, the Village Education Resource Centre (VERC). The approach met with immediate success, as community leaders quickly emerged and villages adopted collective actions to stop the practice of open defecation. The villagers built simple and cheap latrines themselves with locally available materials and without any external subsidies, apart from occasional and voluntary cross-support from richer households to poorer ones.

A.2.3 Access to sanitation in rural areas
Thanks to the spread of the CLTS approach, Bangladesh has witnessed a most remarkable change in sanitation coverage in the last few years. In late 2003, the government estimated sanitation coverage (i.e., the percentage of households with hygienic latrines) to be 29% and 60% in rural and urban areas, respectively. By the end of 2008, these figures had shot up to 88% for both urban and rural areas. These figures are not universally accepted, however. They are compiled by the Bangladesh National Sanitation Secretariat based on self-reporting by field staff and local government and with no independent verification. They define a “hygienic” latrine as one that breaks the disease transmission route. This, coupled with the fact that there is a monetary reward for achievement, has rendered the official numbers somewhat vulnerable to inflation. Although data from the Joint Monitoring Programme (JMP) were originally showing much lower figures (with improved sanitation coverage at about 30% in 2008), these data have subsequently been revised and appear to be much closer to government’s figures.

Whatever figures are used, it is clear that open defecation has been reduced greatly in Bangladesh and it is estimated that more than 90 million people have gained access to sanitation within the household in the last five years. However, sustainability is a major challenge. In a flood-prone and poverty-stricken country like Bangladesh, permanently eradicating open defecation does not stop at constructing a sanitation latrine but also requires its proper use and maintenance.

A.2.4 Institutional set-up for sanitation

Government organization at the national level. The Ministry of Local Government, Rural Development and Cooperatives (MLGRD&C) is the line ministry in charge of providing safe water and sanitation in Bangladesh. As such, it is at the helm of the national sanitation program. The Department of Public Health Engineering (DPHE) is the line agency that works under this ministry to implement water supply and sanitation projects.

DPHE is responsible for planning, designing, implementing and monitoring water supply and sanitation in both rural and urban areas of the country except Dhaka, Chittagong, Khulna and Narayanganj cities. In rural areas, DPHE provides technical advice to local government institutions (e.g., upazila or sub-district councils and union councils) and helps in installing, operating, and maintaining public water and sanitation facilities. DPHE is the focal agency for initiating national policy frameworks and development plans in the water and sanitation sector under the guidance of the MLGRD&C and the Planning Commission of the Government of Bangladesh. DPHE has a network of offices down to the upazila level.

Government organization at the local level. Administratively, the country is divided into six divisions, 64 districts, 508 sub-districts (upazilas), and 4,466 unions. The lowest tier of local government in rural areas is the union council. Each union council has a directly elected chairman. Each union is divided
The union parishads (UPs), the lowest tier of local government in Bangladesh, have been entrusted with the task of latrine distribution and promotion. Resources from the center are channeled through the UPs for this purpose. The UPs are contributing to the national sanitation program by organizing public awareness campaigns at the local level through public meetings and rallies. They prepare the list of poor families eligible to receive sanitary latrine components (rings and slabs with pan) and ensure their distribution. They also monitor and keep record of progress. However, the UPs have limited staff to carry out such tasks. This is compensated by assistance from DPHE and NGOs working in their area.

Sanitation task forces. Sanitation task forces were created from the national level down to the ward level. These task forces are quite broad-based: they include not only government officials but also members of civil society. The members of the task forces at various levels are generally nominated by the elected representatives or bureaucrats. They are finally selected by consensus during local meetings. The members do not receive any remuneration. The main function of the task forces is to produce work plans to achieve the national sanitation targets at their level. They are also in charge of monitoring and evaluating progress, overseeing the distribution of funds, helping to mobilize local resources and building public awareness. These task forces have played a very important role in getting all players on board in order to achieve the sanitation target.

A.3 Dishari project design

A.3.1 Dishari project overview

The Dishari project was designed with the objectives of scaling-up CLTS approaches through the involvement of local governments.

The Dishari project was initiated in 2003 by three partner organizations, including WSP, Plan Bangladesh, and Dhaka Ahsania Mission, with WaterAid Bangladesh joining as the fourth partner in April 2005. The project was designed based on the observation that CLTS had been implemented by NGOs via pilot projects with little potential for scaling-up. Involving local governments was seen as a good way to strengthen the approach’s scalability and sustainability as they are a permanent institution whereas NGOs may come and go. The project was formally launched by the Local Government Minister in 2004. Funding from WSP ended in June 2007. Some activities were scheduled to continue with WaterAid Bangladesh funding up to March 2009 in Jamalpur district. Plan Bangladesh will support Dishari up to June 2009 in four other districts (Dinajpur, Gazipur, Lalmonirhat and Nilphamari).

The purpose of the project was to develop a decentralized implementation process and strategy for an upazila-based sustainable model of total sanitation steered by union parishad.

The main aim of the Dishari project was to build the capacity of local governments to enable them to take the leadership for promoting CLTS. The Dishari project personnel only provided facilitating support to local governments, which were placed in a leadership role. The focus of the Dishari project is on the upazila level, with coordination and planning activities organized at that level. In addition, capacity building activities are done at the union level. Actual promotional activities and community capacity building take place at the village and hamlet level. The existing government-led set-up of sanitation task forces at various levels was used and complemented by adding activities at the para level (the lowest level of local government) as it was felt that intensive social mobilization is best done at the grassroots level. At that level, CLTS activities, such as social mapping, feces counting, and the “walk of shame,” were quite similar to those in the early model.

The Dishari project works in five districts (Dinajpur, Gazipur, Jamalpur, Lalmonirhat and Nilphamari) most of which are districts with comparatively high levels of poverty.

These districts were selected based on the existing field projects of the sponsor agencies (Plan Bangladesh, Dhaka Ahsania Mission, and WaterAid Bangladesh). This was done partly to avoid the costs of setting up new facilities and so that, when the project ends, the work could continue through the other programs of the sponsoring agencies, as sanitation was seen as an entry point for greater local development.
The districts selected for implementation were in highly poverty-prone areas. It was deemed that if significant impacts could be demonstrated in such areas, it would be easier to convince the Government of Bangladesh of the model’s effectiveness. The selected areas are all in the north of the country, where famine-like crises often strike. Jamalpur is one of the poorest regions in Bangladesh which also suffers from regular floods. A relatively affluent area in Gazipur district was also selected to give a balance and show that the model also works in places that are richer and closer to the capital city.

A.3.2 Dishari project institutional set-up
The project is jointly funded by WSP, Plan Bangladesh, and WaterAid Bangladesh. Dhaka Ahsania Mission is the implementing agency. A project management team comprised of senior staff from each agency is the overall guiding authority. The project is managed by a central team located in Dhaka. It is headed by a project manager. Different units such as program support, advocacy and research, and administration and finance are included in the central team.

At the field level, Dishari has a small footprint. There is an upazila coordinator stationed at the upazila level. S/He is assisted by a few supporting staff. At each union, there is a union facilitator. The union facilitator has become a technical arm of the union parishad in many areas. In the Jamalpur area, there were two associate union facilitators to supervise activities in relation to water supply and community toilets in schools and public places.

A.3.3 Levels of service
The Dishari project does not recommend any particular type of latrine but it promotes the construction of latrines that have the basic characteristics of a hygienic latrine

Latrine components such as concrete rings, slabs, plastic pans, pipes, and water-seal are generally available in rural Bangladesh thanks to established private-sector businesses. In addition, the Dishari project trains rural sanitation engineers in the proper latrine construction techniques, including assembly of the water-seal, vent pipe, and so on, in order to ensure a basic level of quality.

The latrines that have been built in the project area are mainly pour-flush pit latrines with three or more concrete rings to line the pit. There is either a concrete slab with a plastic pan or simply an earthen floor with a plastic pan. Vent pipes are made of plastic or bamboo. People are encouraged to install plastic water-seal devices. In most cases, the superstructure is built of simple household materials such as bamboo poles and gunny cloth, depending on the household’s financial means. More affluent people use corrugated iron sheets (tin sheets).

CAPITAL COSTS OF HYGIENIC LATRINES
The average cost of materials for a latrine in rural Bangladesh is about BDT 600 (US$8.70) based on the retail price in the field. This includes three concrete rings to line the pit, one concrete platform with a plastic pan, plastic water seal gooseneck, and a vent pipe. Labor cost is generally not calculated because most families dig the pit and install the latrine themselves. However, for calculation purpose, the labor cost can be estimated at BDT 200 (US$2.90). In addition, there are some transport costs to carry the materials from the production center or shop to the home. This cost depends on the distance and accessibility of the locality. Sometimes the materials are transported by boat, but more often by rickshaw (tricycle) vans. This cost may be estimated to be about BDT 100 (US$1.45).

The superstructure costs can vary greatly, depending on the construction materials used. It can be just a gunny sheet thrown over a few bamboo poles, or it can be made of CI sheet (tin sheet) or even brick and mortar. The superstructure is usually built with materials available to the household. For estimation purposes, we may assume that the superstructure cost is about BDT 300 (US$4.35) based on a typical model made of bamboo poles, walls and roof. Therefore, the total cost for installing one pour-flush sanitary latrine would be about BDT 1200 (US$17.40). This is a general estimate. Interviews with villagers in the Dishari project area showed that the total cost of installation varied from BDT 414 to BDT 2,180 (from US$6 to US$32). Some high-quality latrines can cost up to BDT 10,000 (US$145) and very low-cost latrines can cost only BDT 70 (US$1.00).

OPERATING COSTS OF HYGIENIC LATRINES
The operating costs of a hygienic latrine include pit emptying or shifting the latrine to a new pit when the existing pit fills up. It is estimated that a pit may fill up in three years. It costs
about BDT 180 to de-sludge or shift a latrine. This work is done manually and can even be done by householders themselves, by simply transferring the slab/pan and reusable rings and digging a new pit. Converting this to a monthly cost it amounts to BDT 5 per month. Other costs include buying soap for hand washing, a broom to clean the latrine, a water pot for cleansing, and sandals to wear while using the latrine. In total, the costs for consumables and shifting the pit (on an annual basis) are estimated at US$5 per year.

A.3.4 Dishari project costs
The total expenditure of the Dishari project over 4.33 years (March 2004 to June 2008) was about BDT 152,940,085 (US$2.2 million). The vast majority of project expenditure (84%) was spent on software, which includes staff salaries, research, training, exposure visits, publication, travel, public awareness, communication (telephone/fax/email), office rent, equipment rent, and overhead.¹

A main thrust of the project was to try and keep project staff levels down to a minimum so as to strengthen the union parishads and upazila administration. There was about 3 project staff in each union in the project area and 4 at the upazila level, plus 15 at the central level in Dhaka, which meant about 178 staff in total worked for 80 Unions. Although this may appear to be a large number, this is equivalent to 1 staff per almost 9,161 people served in the project area, which is a rather modest number.

| TABLE A.1. DISTRIBUTION OF EXPENDITURE BY THE DISHARI PROJECT (MARCH 2004-JUNE 2008) |
|-----------------------------------|----------|----------|
|                                   | BDT      | US$      | % of total costs |
| Hardware                          |          |          |
| Institutional sanitation           | 4,808,000| 70,000   | 3           |
| Water supply                      | 20,043,000| 290,000  | 13          |
| Software                          |          |          |
| Staff salaries and management     | 128,090,000| 1,856,000| 84          |
| Total                             | 152,941,000| 2,216,000| 100         |

A breakdown of the software costs for the Dishari project is shown in Table A.2 below.

| TABLE A.2. BREAKDOWN OF SOFTWARE EXPENDITURE BY THE DISHARI PROJECT (MARCH 2004-JUNE 2008) |
|-----------------------------------|----------|----------|
| Item                              | BDT      | US$      | %    |
| Hygiene promotion (meetings, sessions) | 2,959,000| 42,881  | 2.31 |
| Project management including supervision and monitoring | 2,659,000| 38,540  | 2.08 |
| Technical assistance (capacity building, research and publication) including travel | 24,973,000| 361,924| 19.50 |
| Promotional activities (rallies, campaign, events on WSP and advocacy) | 7,261,000| 105,237| 5.67 |
| Salary of staff, overhead and recurrent costs | 90,238,000| 1,308,000| 70.45 |
| Total                             | 128,090,000| 1,856,582| 100  |

¹ Some hardware support was provided for water supply (handpumps) in certain areas from WaterAid (mainly for the renovation of handpump platforms). In addition, hardware support was provided for institutional sanitation, which allowed building 91 school latrines and 29 public toilets.
A.3.5 Sources of Finance for Household Sanitation

The adoption of sanitary latrines at household level was supported by multiple sources of finance, as presented in Table A.3 below.

The largest source of finance was from the households themselves, who provided almost 70% of total costs, followed by the Dishari project (21%) and Government funds (10%). Below we provide additional information on these sources of finance.

*Households were the main source of finance for building the actual latrines.*

Detailed information on household financing was not available as part of the standard information collected by the project. It was therefore necessary to formulate assumptions based on the average cost of a latrine to derive estimates of total household financing. Given that the average cost of a latrine was estimated at BDT 1,200 (US$17.39) and that 362,385 new latrines were installed during the life of the project, the total costs of latrine installation was estimated at US$6,302,348. However, part of these costs was covered by a government subsidy (the ADP grant), which means that the estimated household contribution was US$6,093,452. This represented 96.7% of total investment costs (hardware component). In addition, households invested in rehabilitating and upgrading existing latrines, although it was not possible to obtain cost information on such efforts.

*The Dishari project funds covered 75% of the software costs.*

For the purpose of this estimate, only the software costs of the Dishari project were included. For lack of a cost allocation method between the different components of the project, all software costs have been included in this estimate of household sanitation adoption. However, this is likely to be a slight overestimate given that other activities were financed by the project, such as institutional sanitation and some hardware support for water supply.

*Government funds came from several sources and covered both hardware and software.*

Given that the Dishari project assisted government efforts to promote sanitation, it is important to take account of the costs of government support in order to derive the total costs of sanitation promotion in the project area. Government support is provided through several sources:

- **20% of the Annual Development Program (ADP) funds**, which local governments receive every year, are earmarked for sanitation. This allocation is from the Ministry of Finance for national development and is provided as a grant to all local governments;
- **Rewards for achievement of ODF status** are given to unions and upazilas;
- A portion of the **general block allocation** that is transferred from the Ministry of Local Government is spent on sanitation; and
- A percentage of **local government staff** costs is spent on sanitation.

**TABLE A.3. TOTAL COSTS OF HYGIENIC LATRINE PROMOTION AND ADOPTION AT THE HOUSEHOLD LEVEL (US$) (MARCH 2004 – JUNE 2008)**

<table>
<thead>
<tr>
<th>Source</th>
<th>Hardware</th>
<th>Software</th>
<th>Total</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dishari project</td>
<td>1,856,373</td>
<td>1,856,373</td>
<td>37,129,446</td>
<td>21%</td>
</tr>
<tr>
<td>Government funds</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADP grant</td>
<td>208,896</td>
<td>69,632</td>
<td>278,528</td>
<td>3%</td>
</tr>
<tr>
<td>Rewards</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unions</td>
<td>231,884</td>
<td>231,884</td>
<td></td>
<td>3%</td>
</tr>
<tr>
<td>Upazilas</td>
<td>57,971</td>
<td>57,971</td>
<td></td>
<td>1%</td>
</tr>
<tr>
<td>Block allocation</td>
<td>115,942</td>
<td>115,942</td>
<td></td>
<td>1%</td>
</tr>
<tr>
<td>Government staff costs</td>
<td>142,350</td>
<td>142,350</td>
<td></td>
<td>2%</td>
</tr>
<tr>
<td>Household finance</td>
<td>6,093,452</td>
<td>6,093,452</td>
<td></td>
<td>69%</td>
</tr>
<tr>
<td>Total</td>
<td>6,302,348</td>
<td>2,474,152</td>
<td>8,776,500</td>
<td>100%</td>
</tr>
</tbody>
</table>
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ADP funds mostly covered the costs of hardware subsidies for the poorest families, as well as some sanitation promotion activities.

Since 2004, the government has been allocating 20% of the ADP fund to upazilas for improving sanitation coverage. According to the government policy, 90% of this allocation was to be used to give hardware subsidies to the poorest people. The government’s thinking was that although it is possible to achieve nearly universal sanitation through social mobilization, a section of the population is too poor to afford a sanitary latrine.

The remaining 10% of the ADP funds for sanitation were to be used for promotional activities such as public meetings and rallies. In January 2005, the fund for promotional activities was increased from 10% to 25% following demands from the field (see Box A.1 for an example). When all poor households are covered, the money assigned to hardware subsidies is to be used for hygiene promotion and installation of latrines in public places.

Under the government reward scheme, unions that achieve 100% household sanitation are given a cash reward of BDT 200,000 (US$2,900) and each upazila that achieves this objective receives BDT 500,000 (US$7,250)

The reward money comes with no strings attached and may be used for any kind of development work, such as road construction. Some unions have used a portion of the money for public latrines while many others have used it for other types of development work, such as road construction. Another nonmonetary incentive comes in the form of a certificate. The chairman of each union council that achieves 100 percent household sanitation receives a certificate given by the local government minister. The ceremony has provided strong motivation for local politicians.

There are a number of problems with this incentive scheme, however. Some unions have been declared sanitized when in reality not all households have actually installed latrines. The absence of a system for third-party verification of the claims has encouraged this kind of practice. The other problem with the government incentive scheme is its emphasis on counting latrines, which is the only aspect of performance that is rewarded, rather than their sustained use or the adoption of hygiene practices. The government target is to reach “100% household sanitation” and not a behavioral outcome, such as ending open defecation. The Dishari project sought to complement the government program by ensuring that the ODF objective was also met in the project area.

Government staff costs at the local level need to be taken into account but are difficult to cost.

On average, union council members and other government staff work intensively for about 4.5 months over a total period of one year to achieve 100% household sanitation in their community. Costing their time is difficult, as they perform many other functions at the same time. For the purpose of the study, we have estimated the time allocated by UP officials to

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**BOX A.1. EXAMPLE OF GOVERNMENT SUBSIDY SCHEME ALLOCATION**

Laxmirchar union in Jamolpur Sadar District (in the Dishari project area) received a total ADP allocation of BDT 240,641 (US$3488) in fiscal year 2005-2006. Twenty percent of this amount was earmarked for sanitation, which amounted to BDT 48,128 (US$698). Seventy-five percent of these funds, or BDT 36,096 (US$523), were spent to procure sanitary latrines for hardcore poor households. The remaining 25 percent or BDT 12,032 (US$175) was used for software or promotional activities.

This shows that the hardware subsidy component is not very large in comparison with the number of villages in each union. In the above example, the hardware subsidy for one year in a union was BDT 36,096 (US$523). As there are about 10 villages in a union, each village on average received about BDT 3,600 (US$52), which makes it possible to procure only about seven sets of latrines. There are typically 600 households in a village. Therefore, just about one percent of the households received the subsidy in a year. Considering the big jump in the number of sanitary latrines installed, the main force behind this has been the successful motivational campaign rather than the hardware subsidies provided.
achieve the target multiplied by their salaries. These estimates are summarized in Table A.4 below. Total UP staff costs were estimated by multiplying this unit cost by 65, the number of UPs that achieved the target during the period.

<table>
<thead>
<tr>
<th>UP Officials</th>
<th>Person</th>
<th>BDT/ Month</th>
<th>Amount (BDT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chairman</td>
<td>1</td>
<td>3,000</td>
<td>13,200</td>
</tr>
<tr>
<td>Members</td>
<td>12</td>
<td>1,500</td>
<td>79,200</td>
</tr>
<tr>
<td>Secretary</td>
<td>1</td>
<td>5,000</td>
<td>22,000</td>
</tr>
<tr>
<td>Village police</td>
<td>10</td>
<td>1,000</td>
<td>36,700</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>151,100</td>
</tr>
</tbody>
</table>

In addition, many other people – school teachers, imams, women's groups, students, and elders – supported sanitation at the local level by attending and organizing numerous community meetings, but it is hard to put a monetary value on such efforts.

**Some NGOs and voluntary organizations provided additional support.**

Some NGOs and voluntary organizations also provided limited assistance. For example, NGOs operating microfinance programs cooperated with union parishad, and made the installation of sanitary latrines an integral part of their home improvement loan. NGO staff and beneficiaries also participated in campaigns against open defecation. The contribution from NGOs was relatively high to start with but recent information from the Dishari project shows that the percentage of latrines that received financial support from NGOs was only 0.8%. As the amounts are almost insignificant, they are not shown separately in the calculations and are included in the household financing component.

**A.3.6 Subsidy design**

*The government provides in-kind hardware subsidies to the poorest.* The union councils procure latrine materials (usually each set consists of three rings and one slab with pan) for the poorest families, which are given to them free of charge. The cost of these materials is about BDT 500 (US$7.24) out of a total estimated cost for an average hygienic latrine of BDT 1200 (US$17.4), which means that the hardware subsidy amounts to about 43% of total hardware costs. The subsidy recipients still have to transport the items, install them at their own costs, and build the superstructure (they are also responsible for the O&M costs).

Criteria for identifying potential subsidy recipients include eligibility criteria and exclusion criteria, as defined in the government’s Pro-Poor Strategy for the Water Supply and Sanitation Sector (2005) and its National Sanitation Strategy (2005) (see Box A.2 below).

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2 Although they spend some time after that on sanitation to sustain the achievement, the concentrated effort takes place during this initial period and time commitments from government staff rapidly drop off afterwards.
In practice, lists of the poorest people are prepared at the upazila and union level. The poor households are easily identified by the villagers and the common practice is that the union council prepares the list by discussing with the people in local meetings. Support is given on a case by case basis, depending on what the households can afford. It is always emphasized that the subsidy is a cost sharing mechanism and not a hand-out. Therefore, a fair share from the household is expected to cover both the capital costs and operational costs.

A.4 Evaluation of the project’s performance

In this last section, we seek to evaluate the project’s performance at extending household sanitation based on criteria set out in the common methodology for the project. Given that the Dishari project supported the national policy, we consider the overall performance of sanitation promotion in the project area rather than being solely focused on the project itself.

A.4.1 Impact on sustainable access to services

The first evaluation criterion is project impact, i.e. whether the project led to an increase in sanitation access which was sustained over time. The key finding is that a substantial increase in access to sanitation took place in the project area over the last 4.5 years.

The Dishari project contributed to an increase in coverage from 20% to 90% in 4.5 years, up to June 2008.

The Dishari project does not build household level sanitary latrines, as this is mainly done by the households themselves. Therefore, it is difficult to identify how many sanitary latrines were installed in the project area as a direct result of the project.

However, there is no doubt that the project (and the related government program that it sought to complement) has led to substantial investment by households in hygienic latrines. It is estimated that about 362,385 new household hygienic latrines have been installed in the Dishari project area, between the launching of the project in March 2004 and June 2008. As there are an estimated 525,000 households in the project area according to the Dishari project documents, this indicates that over 90% households in the project area now have a sanitary latrine. If circumstances where latrines are shared between poor households are included, this coverage figure could be even higher.

65 unions achieved 100% sanitation as of June 2008, or 81% of the unions in the project area.

In addition, the Dishari project touched the lives of all 2.36 million people in the project area. When the project worked in a community or union, all people were reached in one way or another, either through public awareness campaigns, school children’s cultural programs, public meetings, rallies or house-to-house visits by para committee members. But not all households responded by installing latrines.

High levels of maintenance and satisfaction were observed throughout the country and in the project area.

A WSP study reported high usage and maintenance of latrines in Bangladesh including in the Dishari project areas (WSP, 2006). About 82% of latrines showed physical evidence of maintenance. There is generally good satisfaction with the latrines as indicated by high maintenance of the facilities. Even though this evaluation was carried out shortly after the latrines were installed, experience in other areas of Bangladesh shows that households usually take care of their latrines once they have built them. They would also invest to go up the sanitation ladder as their economic situation would permit.

A.4.2 Costs

The total cost of building a household latrine is just above US$24, including the software component.

The cost of building a latrine was estimated, based on the various cost components, at US$17 for an average design. To this hardware cost, an additional US$7 must be added for software support, amounting to approximately 28% of the total latrine cost. The Dishari project costs alone accounted for US$5 per household latrine, or 21% of the total latrine

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3 In addition, the Dishari project constructed or repaired 91 latrines at schools and markets in Jamalpur district. The Dishari project also installed or repaired some number of handpumps.

4 The 51,539 households (9.82%) non-adopting households are in Jamalpur district where the project started later after receiving funding from WaterAid.
cost. If software costs are spread across all the households in the project area, they represent about US$4.7 per household.

**For each poor household, the cost of building a latrine amounts to between 3 and 4% of its yearly income…**

The average annual income of households in the project area is assumed to be BDT 45,000 (US$650). The cost of installing a sanitary latrine (BDT 1200) is about 2.66% of the average annual income of a typical household in the project area. In the case of the poorest households, the annual income is about BDT 30,000. Therefore, the same cost represents 4% of the yearly income of a poor household.

… although it can go up to 15% for the poorest households.

If we take the poorest households in some of the poorest districts of the project (such as Nilphamari), with an annual income estimated at just under BDT 8,000 (US$115), the cost of a latrine can represent up to 15% of their annual income. The government subsidy brings down their contribution to BDT 500 (plus labor costs), although this still represents about 6.3% of their annual income.

**Operating costs of the latrines are low, at about US$5 per household per year, and represent a fairly marginal portion of household incomes.**

Given that manual labor is very cheap in Bangladesh, the operating costs of the latrines are low, including the costs of emptying the pit or moving it every three years. Operating costs of running the latrine were estimated at about BDT 30 per month or US$5 per year. The O&M costs, therefore, account for 0.8% and 1.8% of the yearly income of an average and a poor household in the project area, respectively.

**A.4.3 Effectiveness in the use of public funds**

US$1,000 of the public expenditure was sufficient to trigger the provision of sanitation to 135 households.

Funds invested by the project and the government led to a high level of coverage for a variety of reasons: first, the latrines built are relatively cheap, at US$17 on average (just for hardware costs).

**One dollar of public investment (from the project and government funds) triggered at least US$2.3 of private investment from households.**

If we estimate the ratio of public versus private investment, we find that public expenditure led to a relatively high ratio of private investment from households. One dollar of public funds triggered at least US$2.3 of private investment from households building their latrine. This is likely to be an underestimate, as household investment in upgrading existing latrines has not been included (and there is no reliable data on this issue).

**A.4.4 Poverty targeting**

The Dishari project deliberately targeted poor areas, in order to demonstrate the effectiveness of its approach in the most difficult to serve areas.

The average household income in rural Bangladesh is estimated to be about BDT 6,095 (US$90) per month or BDT 73,140 per year. The Dishari project area is especially prone to poverty, except the district of Gazipur. The average monthly income of the households in the northern districts is far below the national average. In Dinajpur, Nilphamari and Jamalpur, the average monthly household income is only BDT 3,474 (US$50), 3,370 (US$49) and 4,474 (US$65) respectively. The poorest households earn much less. For example, the annual income of a very poor household in Nilphamari district was just under US$10 per month. The Dishari project targets all people in its project area, including the poor.

**Only a small percentage of households have received a government hardware subsidy.**

Some households, identified as the poorest, have received specific assistance from the government program in the form of in-kind hardware subsidies. On average, about 7% of households have received a subsidy from the government in the form of latrine components, whereas the remaining 93% have received no hardware subsidy at all. For those who have received a subsidy, it represented between 42% and 50% of the cost of building a latrine (depending on how manual labor was carried out: poor households usually perform it themselves to reduce costs). In the project area, the Dishari project was instrumental in focusing the subsidies on the households most in need.
The poor households that did not receive a subsidy had to develop strategies to be able to build a latrine.

That may have included several households grouping together to build a shared latrine, adapting the design of the latrine (by using household materials where possible, using just one concrete ring or installing a pan on an earthen mound rather than a concrete slab) and borrowing funds from an NGO or from relatives. In addition, comparatively rich people supported the poor by providing material or land for constructing latrines.

Capture of the hardware subsidy by the nonpoor is a threat to the scheme, however, as it is estimated that up to 50% of hardware subsidy recipients are nonpoor households.

WaterAid Bangladesh conducted an action research on the use of the 20% ADP grant to provide subsidies to the poor. The study area was outside the Dishari project and included two unions and one municipality. The finding showed that 35%-56% of the subsidy was captured by the nonpoor, largely due to weak monitoring, lack of transparency, and a lack of involvement of the poor.

The Dishari project took particular care to reduce the risk of subsidy capture by the nonpoor. The UP members and communities were made aware of the government program. Poor people were included in the tasks forces and grassroots level para committees were created and effectively linked with ward and union task forces. Regular open meetings were held where all issues were frankly discussed. The amount of subsidy received was revealed to the public. The communities themselves identified the poorest families eligible for the subsidy and submitted the list to the UP.

A.4.5 Financial sustainability

Public funds (including for both hardware and software) represent 31% of the total costs of household sanitation adoption, which means that financial sustainability is relatively good.

Public funds, including hardware and software, represent 31% of the total costs of household sanitation adoption in the project area. These costs are, by definition, not recovered. However, all operating costs are the responsibility of households as well as initial investments, which indicates a high potential for financial sustainability.

Sustainability of physical results may be an issue however.

The critical question in terms of sustainability is whether or not the improvements are going to be sustained over time and the latrines effectively used, given that the ODF evaluation is only carried out once. In addition, the financial incentives for UPs to be declared ODF are strong, which could lead to a tendency to over-report results.

The program staff felt that there was an intense pressure to concentrate on latrine installation at the expense of local government capacity building. This happened due to the rush to declare a union 100% sanitized and receive cash reward and recognition. The Dishari staff had to plead with local agencies and administration to slow down so that the process can be internalized by the local government for the sake of sustainability.

A.4.6 Scalability

The last indicator focuses on scalability, i.e. to evaluate how much it would cost to serve all unserved households in the country with an approach like that of the Dishari project, particularly in comparison with the annual water and sanitation sector budget in the country.

In financial terms, it appears possible to end open defecation in the 1,800 remaining unions yet to be ODF in one to two years using the Dishari project approach.

Countrywide, it is estimated that about 60% of the unions have achieved full household sanitation. This leaves 40%, or 1,800 unions, that have yet to achieve this status. To investigate whether it would be possible to scale up the Dishari

5 WaterAid, “Poor Targeting of Sanitation Subsidy in Bangladesh” (Dissemination Paper No. 4) (Dhaka: WaterAid, 2008).
approach to reach these unions, we calculated the total costs of scaling up the Dishari project approach to these remaining unions and compared these costs to available public funds.

The total subsidy costs per union parishad reaching ODF were US$28,559 in the project area over 4.3 years, including the Dishari project costs and local government costs. If one were to start from scratch to expand coverage in these remaining 1800 unions, the total costs would be almost US$68 million. This is a substantial cost compared to the national annual water and sanitation sector budget, which was BDT 8,275 million (US$120 million) in 2007 and particularly when compared to the budget available for rural sanitation (7% of that budget or US$8.4 million). The costs of scaling up the approach therefore represent more than half of the total water and sanitation yearly budget and eight times the annual rural sanitation budget.

However, the remaining 1800 unions have already gone through the national sanitation program activities for over four years. It can therefore be assumed that some progress has already been achieved towards reaching the ODF goal. If we estimate that it would take another 6 months for these villages to reach ODF, the additional budget required could be estimated at US$7.8 million, which is just under the annual budget for rural sanitation and seems affordable. A critical factor that could potentially limit the ability to scale up the approach is the lack of good quality facilitators, who are the most important tool for implementing the approach.

A.5 Summary evaluation

In this section, we summarize the evaluation of the financing approach based on our set of criteria and draw practical implications for the applicability of this financing approach. Overall, the Dishari project was considered a success, for the following reasons.

In terms of impact on sustainable access to services, the Dishari project triggered a substantial increase in access to sanitation. In just under 4.5 years, 362,385 new hygienic latrines were installed in the project area, resulting in more than 90% of households in the project area having access to hygienic latrines by late 2008. In addition, it has been shown that over 80% of the latrines built demonstrate physical evidence of maintenance. The high degree of ownership is a good indication of sustainability.

In terms of costs, investments were made at a reasonable cost compared to household income. Given that households were making all their investment decisions based on what they could afford, they chose to invest in relatively cheap latrines providing a basic level of service. These latrines cost about US$17 on average, which represents between 3% and 4% of household average income. In addition, software costs (i.e. community mobilization and hygiene promotion activities, as well as program management and staff costs) accounted for about US$7 per household latrine, or 28% of the total costs of latrine adoptions. However, the project has not been cheap if compared against government investment, which accounted for just under US$2 per household latrine. But lack of comparators with areas where the government actions were not supported by the Dishari project means it is difficult to make a definitive assessment of the impact of the project per se and to identify whether the additional software costs were well spent.

Operating costs were also affordable, as they represented between 0.8% and 1.8% of the yearly income of average and poor households in the project area, respectively.

In terms of effectiveness in the use of public funds, US$1,000 of public funds enabled the construction of sanitation facilities for 135 households. The households themselves invested more than US$6 million in the facilities, which means that for each US$1 of public money spent, each household invested more than US$2.3, which is a substantial contribution given poverty levels.

In terms of poverty targeting, targeted hardware subsidies provided by the government covered approximately 43% of the investment costs per household, bringing down investment costs from 15% to 6% of household incomes. The Dishari project targeted poor areas, with income substantially below the average rural income. Hardware subsidies were only provided to 7% of the population in the project area, however, which means that a substantial number of poor people invested themselves in building latrines without external support. In general, people were willing to invest in sanitation after the social mobilization campaign. However, there were some diehard individuals who refused to comply. The Dishari project did not promote coercive measures but, instead, gentle social pressure by local government and social leaders was applied to persuade them to conform. The fact...
that poor households were free to choose the technology that best suited their needs meant that they invested only in what they could afford.

In terms of financial sustainability, public funds represented about one third of total initial costs while operating costs were fully paid by households themselves. This is a fairly high level of cost recovery, which means that the approach is financially sustainable provided public funds continue to be made available. One major concern, however, is the sustainability of physical results, since there is no ongoing monitoring of results once villages have been declared ODF.

In terms of scalability, reaching the 1,800 unions that have yet to be declared ODF could be achieved within one to two years and could be financed with available budget funds. Although implementing the Dishari approach from scratch would be excessively costly, the fact that efforts have already been carried out to reach ODF in these remaining villages means that the ODF goal could be achieved at a moderate cost over the course of a few years.

WHAT SEEMS TO HAVE WORKED?
Overall, relying on household investment for latrine construction seems to have worked, despite pressures from competing NGOs to provide latrines free of charge. Achieving ODF status was achieved through a combination of nonfinancial and financial incentives, as follows:

- The CLTS approach of community mobilization delivered good results and local governments were capacitated to maintain this approach over time. The Dishari project helped to successfully shift the role of local government from providing sanitation services to ensuring that such services are adequately provided. The costs of such social mobilization (i.e., the software costs) accounted for about a third of total initial costs, which seemed to be money well spent given the high levels of investment triggered in that way;

- The focus on mobilizing households to build low-cost latrines reduced people’s dependency on external subsidies and helped to quickly scale up the approach. Partial hardware subsidies provided to a narrowly defined set of poor households helped those households overcome the affordability constraint. Such hardware subsidies represented only 8% of total public expenditure. Those households that did not get a subsidy still chose to invest, through community pressure and occasional support from richer households.

- Financial rewards provided to villages reaching ODF status (alongside nonmonetary rewards, building on prestige) increased the competitive drive among villages. Such financial rewards accounted for about 4% of the total costs of latrine adoption. Setting policy targets for local governments (such as 100% sanitation) and rewarding performance seem to have created the right incentives for local governments, so that they could leverage all service providers to deliver a minimum quality of sanitation service for all in an inclusive manner.

- The Dishari project’s institutional set up helped in reducing errors of inclusion plaguing the government’s hardware subsidy scheme (with an estimated 50% of recipients being non-poor households in some cases). In the Dishari project area, the villagers themselves could help decide which families were most in need and would be eligible to receive the subsidy.

AND WHAT DID NOT WORK SO WELL?
The upazila to community chain established by the Dishari project may or may not last beyond the project intervention. If there is continued government interest in decentralization and devolution, this institutional set-up may flourish, but there are no guarantees to that effect.
The government monitoring and evaluation system still remains weak, as it is based on self-reporting by the unions. Third-party verification is not exercised and there is a tendency to over-report, given that achievement of ODF status triggers a one-off monetary reward, with no attempt to verify that coverage is maintained beyond that point. The inclusion of monetary rewards therefore may have introduced a perverse incentive to over-report results. Ongoing monitoring should be introduced (perhaps with the possibility of clawing back some of the rewards) so that such improvements can be sustained over time.

Finally, although the CLTS approach in Bangladesh has been successful at shifting millions of people from open defecation to fixed-place defecation, the country will need further investment to allow households to “climb the sanitation ladder”. To do so, higher investments per household are likely to be required, which calls for alternative financing approaches, with the possible inclusion of microfinance arrangements or other mechani