



## Water initiative for the urban poor

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BANGLADESH IS WELL known as a country with heavy bias towards agriculture but this is changing. Bangladesh is rapidly becoming urbanized. It has been predicted that by the year 2025 more than fifty percent of the Bangladesh population will be living in urban areas. This urban shift of population will change people's food habits, demand for housing and other things. In view of all this the demand for standard WATSAN services will also increase.

Bangladesh experienced a very high rate (8%) of urbanization during 1961-81 periods. However the trend is now declining (5.4 % during 1981-1991 period), and it is expected to remain at not less than 3.9 % until 2015. Migration alone contributed 40% of the urban population increase during 1974-81 period.

According to the 1991 census Bangladesh has five hundred and twenty two (522) urban centres or urban areas. The definition of an 'Urban area' is that it is a developed area around an identifiable central place, where amenities like metalled roads, communication facilities, electricity, gas, water supply, sewerage and sanitation services are available and the population is dense. The majority of the population are from non-farming backgrounds. In 1991, of the 522 urban areas, four large metropolitan cities (Dhaka, Chittagong, Khulna and Rajshahi) held about 46% of the total urban population. Dhaka had a population of 6.95 million which was 29 % of the urban population in 1991.

Currently the urbanization rate is 5-6% per annum and predictions suggests that more than 50% of the country's population will be living in urban areas by the year 2025. So this means we are faced with new challenges of governance and demands for services. In this changing scenario a huge number of people will be living in urban slum areas with great demands for water and sanitation services.

Government leadership/ institutions does not recognize the role of urban slum dwellers in the urban economy. But the informal economy in urban areas of this country plays a very important role in producing increased economic growth. Generally people living in urban slum areas are devoid of access to a legal water supply and sanitation. Provision of access to basic services is a first pre-requisite for the alleviation of poverty, economic growth and prosperity.

### Introduction

A myth generally persists that disadvantaged people will not be able and willing to pay for sites and services offered by projects. On the contrary, it is well documented that

people living in slums are paying higher rates for water and other services. In Dhaka DSK undertook a project to establish a water supply to communities on the basis of the community's engagement and sustainability. Such infrastructure projects on a cost recovery basis are not common in urban areas. Few non-government organizations are involved in such projects. The challenge is to demonstrate and prove that such experiments are successful; and can strongly influence and push local governments to make real investments in such projects for the benefit of depressed target groups. DSK started supplying piped water supply services to slums and low-income communities in the early nineties. The main target was to provide legal water supply services in slums via community-based organizations and on a cost recovery basis with a special emphasis on sustainability. Initially DSK started experimenting from its own resources having collaborative support from Dhaka Water and Sewerage Authority (DWASA) and Dhaka City Corporation (DCC), later support was given by Water Sanitation Program (WSP), Water Aid UK, UNICEF and Plan International.

### Premise

The DSK experiment providing piped water supply in the early nineties was triggered because slum households, while appreciating DSK's Primary Health Care (PHC) activity, expressed their difficulty with access to clean drinking water and their willingness to pay for the services if provided on legal basis. At that time slum dwellers were non-existent entities in the eyes of Dhaka Water and Sewerage Authority (DWASA). It was revealed that DWASA had no mandate to provide services to slum dwellers as they did not possess any holding numbers on land. It should be mentioned that slum dwellers paid and continue to pay in several places fifteen /sixteen times higher rate for water than the current DWASA rate. They collect water not from DWASA but from commercial operators. In view of the above DSK initially experimented with shallow hand pumps but that met with failure. Subsequently DSK started negotiation with DWASA for approval of connections to slums. Following persuasion from the DSK leadership DWASA management decided to approve, initially, two water point connections (1992) to different slums on condition that if there was any default in paying DWASA bills, then DSK would be responsible for paying the DWASA bills. DSK agreed to this condition.

## Approach to the community

In order to be successful DSK organized a participatory rapid appraisal with the community. It was proposed that DSK could play the role of intermediary if communities are willing to pay for the services. Because of their situation and very high price of water, communities were willing to pay for these services. In order to select a specific site for water point installation DSK was guided by the Baseline survey, (the purpose of the base line study was to identify the status of water supply, sanitation systems, and health hygiene needs in the slums), criteria which included information on location, area and population; the socio economic status of the population, possible evictions, technical feasibilities, monthly family expenditure on water and activities of other NGO's etc. Initially DSK started the activity with an inception meeting in a slum explaining the roles and responsibilities of the stakeholders involved in the process. This eventually led to the formation of water committees comprised of women and an advisory committee comprised of men. DSK opted for female committees based on its experience. DSK initially started with male committees that were not very successful; later the organization embarked on mixed committees containing both women and men. The organization was faced with various difficulties in the operation of these committees because men are usually out of their neighborhoods attending their jobs and they are not ready to accept women's opinions in the management of water points. Women are generally available in the community throughout the day and they are also the main bringers of water to their households. Because of this, gradually DSK shifted to women led water point management committees. In DSK's experience women's committees are functioning well. Men advisory committees were formed taking into consideration role of the slum power structure and socio-cultural biases in a country like Bangladesh. DSK proposed to the community leaders that as their women are there in the community throughout the day, it would be easy for them to engage in the management of water points. If there are any problems in management or disputes or external threats then the Men's Advisory Committee will be in a position to extend their support to mitigate those problems. In that way DSK tried to alleviate male bias in the management of water points and that seems to be working. In addition women's participation was reinforced.

The Water Committee is responsible for management, minor repairs, periodic maintenance, regular payment of DWASA/ Chittagong Water and Sewerage Authority (CWASA) bills, payment of caretakers and repayment of installments. Generally caretakers are women.

## Design and technical options

In order to create the provision of water supplies to slums DSK came up with a simple practical design. Water points were set up with an underground reservoir connected to the DWASA mains. Because of low pressure and the intermit-

tent flow of water, an over ground tank is not appropriate and an underground reservoir has been constructed. Hand pump heads have been mounted on top of the reservoir so that water can be extracted via mechanical pressure. The capacity of the reservoir varies between 1700-3000 litres depending on the size of the community and the space available for the siting of the water point.

## Design modifications

In view of the high cost and risk of collapse, DSK has recently been trying to explore the possibilities of modification in water point technical design. The following options are being considered: reservoirs made of ferro cement, suction pumps directly connected to the DWASA supply, brick soling with cement concrete (CC) casting, and a small size of reservoir (500-600 liters) etc.

## Integration of software and hardware activity

The implementation of DSK's community based water and sanitation services are comprised of two broad components, i.e. 'Software' and 'Hardware'. The integration of the following activities would be undertaken to establish the software component and also for the improvement of hygiene practices.

### Software

- Establish the baseline and need assessment through participatory approaches
- Hold a Projection meeting to revisit the findings of the baseline report
- Formation of Community Based Organizations (CBOs) / Community Management Groups (CMGs)
- Establish training for CBO/CMG members in hygiene promotion, community management, operation & maintenance and book keeping.
- The monitoring system should specifically allow corrective action to address the ongoing problems. DSK believes in the participatory monitoring approach involving communities in monitoring process.

## Financing

DSK offers an average loan of Tk 50,000 for each water point. Loan repayments are made over a thirty-month period including a six-month grace period. A contract between DSK and the community formalizes the terms and conditions of the operation of water points including the cost of construction which is clearly identified in the contract. Water prices are charged either on a monthly basis or on a pay and use basis. A 20 litre of bucket of water usually costs Tk.50 and Tk 1.0 for washing bathing etc. DSK has been considering the introduction of 10% interest on the loan in the near future. Currently DSK has a modified system of payment from clients and has been advocating a 10% advance contribution from prospective clients as sign of their commitment to the loan procedures.

## Operational modality

Water point management committees meet monthly to discuss water point management issues. DSK provides management supervision. DSK facilitates community participation, designs, selects sites for street hydrant water access and cost sharing. DSK also mediates with DWASA, DCC/CWASA, Chittagong City Corporation (CCC), lends money and provides technical advice to the community for the construction of water points. Following the thirty month repayment period and as soon as a community reaches maturity (see criteria) in relation to management of water points the WATSAN facilities are handed over to community ownership.

## Legality

A permission letter from DWASA and DCC/CWASA and CCC creates the legal basis for setting up a water point.

## Difficulties

There are many difficulties in setting up water points. Major difficulties are as follows:- dishonesty in the DWASA system, the slum power structure and corrupt caretaker., DSK has tried to face these challenges with the help of community pressure, community policing and pressure from legal authorities.

## Sustainability

Sustainability of water point operation has been achieved because of the inbuilt design. Water point operation is seen as a small water business operated and maintained by the community. Because of the many differences between the DWASA price and water point rates sustainability has been well established if the proper flow of water and community leadership has been established.

## Water point (WP) hand over criteria

The presence of a female WP Management Committee (MC), the presence of a male WP advisory committee, regular monthly meeting, special meetings as and when necessary, women's attendance and leadership, regular payment of capital loan installments, a hundred percent recovery of the capital costs, regular payment of DWASA bills, regular payment of the caretaker's salary, maintenance of the cash box at the water point, maintenance of a transparent tally book, the capacity to collect the fees from the users and deposit them in the WP's account daily, maintained by DSK, a feeling of ownership and cleanliness at the water point are the hand-over criteria.

## Replication

WaterAid supported NGO's have started replicating the model and become pretty successful.

## Experiences

### Dwasa bills and cost recovery of capital

Communities are paying DWASA bills on a regular basis. The figures shown below applied at one random cut off date - June30, 2002

- Tk 878,883 (US\$15,419) (73.61%) as DWASA bills; at that time Tk 312,475 (US\$5,482) was due; considering cash bank situation it could be safely submitted that hundred percent of the DWASA bill could be paid. (1US\$=57)
- Cash at bank Tk 540,857 (US\$9,488)
- Cumulative maintenance costs stand at Tk 848,474 (US\$14,885) this includes the salaries of the caretakers and repair maintenance costs at the water point.
- The revolving fund stands at Tk 976,477 (US\$17,131) maintained in a separate account.
- Cumulative capital investment cost stands at Tk 2,953,717 (US\$51,819), evicted and non-functioning ones are not counted.
- Capital cost recovery stands at Tk 123,489 (US\$2,166). The repayment rate is 41.43%
- Some of the water points could not repay the full capital amount on the due date. Their payment procedures were rescheduled. The main reason for non-payment of capital costs was irregular water supply and hence fewer clients.
- Such service provision significantly brought down the cost of the water for the community.

### Community management/women leadership

- Community based organization's were formed around the provision of water via a street hydrant in a specific community.
- Eighty percent of the monthly community meetings took place with average attendance of 62% where females constituted 60.48% of attendees.
- DSK helped communities to achieve maturity of the leadership, especially for women in the community to help them run the management of the water points on a regular basis.

### Transfer to community management

- Eleven water points were transferred under community management. Three others are in the pipeline to be transferred. The main criteria taken into consideration were the presence of a WP management committee, regular monthly meeting, women's attendance, women's leadership, male attendance, regular payment of DWASA bills, regular repayment of the capital loan, cleanliness at the WP, ownership feelings.

## Eviction

- Dhaka slums are located on private and government lands. Many of them are located on government land.

The price of land has skyrocketed in Dhaka. Private developers linked with ruling parties are generally interested in acquiring low priced government land. Because of this, in recent years Bangladesh has witnessed unprecedented eviction of slums in Dhaka. DSK provides connection to both types of lands. Seventeen water points located on government land were evicted. The loss due to eviction stands at Tk 401,961 (\$7,052).

- Non operating water points - four water points remain closed because of supply shortage.

### **Policy implications**

This approach has been accepted as an effective tool for providing water and sanitation services to communities living in slums and also squatters. Several NGO's have started replicating the approach. Recognition of the model has been reflected in National Water policy of GoB 1998. Because of the collective effort this simple project has evolved as a tool which is significantly influencing the change of institutional arrangements.

### **Difficulties/problems**

- Slum power structure remains one of the main obstacles of non-repayment of loans on time. In addition insufficient clients, inadequate flow of water, the monthly payment system and the dishonesty of the caretakers and their leadership influences negatively on the recovery of capital and DWASA bills.
- Among this ten-water point's three water points were evicted in this period.
- Eviction has been seen as complete loss of capital to the project provider and service provisions.

### **Conclusion**

More than 50% of the Bangladeshi population are projected to be living in the urban areas of Bangladesh by the year 2025. This will change and increase Bangladesh's demand for habitat, water, sanitation and SWM services

and many others. This acceleration of urbanization has been throwing up new challenges. Bangladesh will have to have vision and new coping strategies to manage these new situations. There will be a tremendous need to work with depressed communities covering WATSAN services in numerous secondary towns of Bangladesh not to mention larger cities. This is the challenge of city governance in this new millennium. People will demand sustainable and standard services. Our experiment indicates that the targetted depressed communities are able and willing to face new challenges if they are given proper access to such services.

### **References**

- National Policy for safe Water Supply and Sanitation 1998 Dhaka, Ministry of Local Government Rural Development and Cooperatives (MOLGRD&C)
- Water Point Implementation Strategy, Dushtha Shasthya Kendra (DSK) April 2001
- Social Intermediation Towards Gaining Access to Water for Squatter Communities in Dhaka, N Matin WSP May 1999.

### **Abbreviations**

- DWASA = Dhaka Water Supply and Sewerage Authority  
DCC= Dhaka City Corporation  
CWASA= Chittagong Water Supply and Sewerage Authority  
WATSAN=Water and Sanitation  
GoB= Government of Bangladesh  
WP =Water Point  
CC =Cement Concrete  
CCC= Chittagong City Corporation

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