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# Baseline Survey: Urban Component of SHEWA-B (GOB-UNICEF) Project



*Prepared for*

**Department of Public Health Engineering (DPHE)  
&  
Water & Environmental Sanitation Section**  
United Nations Children's Fund (UNICEF), Bangladesh

*Prepared by*

Abul Barkat  
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**Human Development Research Centre**

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Dhaka: February 2010





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## Executive Summary

The accompanying report delineates the findings, analyses and recommendations flowing from a Baseline Survey for the GOB-UNICEF project titled “Baseline Survey of SHEWA-B Urban Component GOB-UNICEF Project” (SHEWA-B) assigned by UNICEF Bangladesh to Human Development Research Centre (HDRC), Dhaka.

### BACKGROUND, METHODOLOGY AND IMPLEMENTATION

#### Project Background

UNICEF and DFID have agreed to execute the project titled “Sanitation, Hygiene Education and Water Supply in Bangladesh” (SHEWA-B) both in rural and urban areas with support of the development partners for implementation by the Department of Public Health Engineering (DPHE) of the Government of Bangladesh. **The project aim** is to improve within the intervention areas having about 30 million people (rural and urban), the standards of hygiene practices and behaviour by 2010 on a sustainable basis, emphasizing on ensuring adequate sanitation and safe water supply in un-served and under-served areas.

**The major objectives of the of SHEWA-B Urban Component** are as follows:

- ✓ To reduce mortality, morbidity and malnutrition due to water and excreta related diseases, especially among poor women and children;
- ✓ To improve standards of hygiene behaviours on a sustainable basis e.g., hand washing with soap before taking food and with soap/ash after defecation particularly among the poor;
- ✓ To improve access of safe water in un-served and underserved areas, including those suffering from arsenic contamination; and
- ✓ To increase sanitation coverage to 100 percent in project areas by 2010 as per GOB goal.

The Project is being implemented in 19 pourashavas, taking one pourashava from each of the districts. Both software and hardware components are to be implemented under SHEWA-B Urban Component. The software component includes such activities as social mobilization, awareness building, community-based planning, trainings, and other similar activities. The hardware component includes installation of water sources and sanitation facilities.

**The Objectives of the Baseline Survey** were:

- ✓ To gather data on the prevailing scenario relating to safe water availability, toilet facilities, sanitation-and-hygiene situation and waste disposal system in the Project clusters;
- ✓ To assess socio-economic profile of the targeted families covering the relevant independent variables having potential to explain changes in the dependent variables expected to be influenced by project interventions;
- ✓ To collect data from all sources linked with the Log-frame Indicators; and
- ✓ To collect data for both quantitative and qualitative assessments of the bench-mark situation.

## Methodology

To facilitate assessment of net impact of the project, a statistically valid “Pre-test-Post-test Intervention-Control Group Design” was applied in the Baseline Survey

**A two-stage random sampling procedure** was adopted for the Survey. Clusters/Slums were selected as the Primary Sampling Units (PSUs) and then, households were selected as the Secondary Sampling Units (SSUs). The whole survey research design had two broad dimensions namely, **Quantitative Survey** and **Qualitative Investigation**. With a view to **ensure the highest quality of field work and collected data**, supervision had been ensured at three tiers: constant supervision at the field level by Field Supervisors, frequent supervisory visits by Quality Control Officers, and overall supervision by the core team members of HDRC.

In this survey report, various technical concepts and definitions have been used with care. Technical Definitions that got unanimously agreed by UNICEF and HDRC were the following:

Intervention Households; Control Households; Evaluation Design; the four samples (that is, Intervention Baseline, Control Baseline, Intervention End-line, and Control End-line); Improved Sanitation Facilities; Unimproved Sanitation Facilities; Open Defecation; Direct Calorie Intake (DCI) Method; Cost of Basic Needs (CBN) Method; Convenient Hand-washing Place; Adequate Knowledge on Water, Sanitation, and Hygiene; Appropriate Feces Disposal; Appropriate Menstrual Hygiene; Appropriate Waste Disposal System; Appropriate Water Drainage; and a few others.

The changes expected as a result of the implementation of the project are 22 in number as mentioned by UNICEF in its Log-frame Indicators.

## MAJOR FINDINGS

### LAUNCHING STATUS OF THE SHEWA-B URBAN COMPONENT

In course of the Baseline Survey, it was evident that the status of launching of the SHEWA-B Urban Component Project was as reflected below:

Preparatory activities were continuing for recruiting NGOs in four Level-1 Pourashavas. Besides, NGOs were recruited and the process for recruiting Community Health Promoter (CHP), Pourashava Facilitator (PF) and Pourashava Coordinator (PC) was progressing in seven Level-2 pourashavas. Beyond these levels of progress, the Community Action Plan (CAP) Process was going on in eight Level-3 pourashavas.

As of now, CHPs have started working at the community level in 17 pourashavas. The first batch of CHPs started working in Rangpur Pourashava on 22 March 2009 and the last-so-far batch, in Gaibandha, on 14 January 2010. The other 15 pourashava authorities recruited NGOs and CHPs during March 2009 - January 2010. Bandarban and Sunamganj Pourashavas are yet to recruit NGOs and then CHPs.

## **RESPONDENT AND PARTICIPANT CHARACTERISTICS**

### **Major Issues**

Various groups of respondents and participants were selected and interacted with. These respondents and participants fall under the following groups:

Households in intervention and control areas; Adolescent Girls; Women and Children during their various Hygiene Practices; Adolescent Girls in FGDS on Menstrual Hygiene; Women's Groups; Children aged 9 years on an average in PRAs; Community Leaders; Retail Shopkeepers Selling Hygiene Products; Pharmacy Salespersons; Local Medical Practitioners; SHEWA-B's Pourashava Focal Points; Concerned Local CARE Officials (mainly Technical Officers); and Project Coordinators and Programme Officers of various local NGOs.

### **DCIs/Methods Applied**

The interviewees in the household survey and key informant interviews were treated as "Respondents". Besides one-to-one interviews, various qualitative tools (e.g., Focus Group Discussion, Participatory Research Appraisal) were administered in the study. The participants in these qualitative sessions were treated as "Participants". With regard to the socio-demographics of the "respondents" and "participants", it is noteworthy that they were drawn from slums and low-income settlements. The control samples were drawn from geographical areas that were relatively less urbanized. As such, there are some, though insignificant socio-demographic differences between the selected intervention areas and control areas. Despite this, there was no methodological problem in the selected sample areas, because changes in both groups of areas shall be covered at the end-time evaluation in order to assess the net impact of SHEWA-B Urban Component.

In the survey, a household was defined as a dwelling unit where one or more non-guest persons ate together under a common cooking arrangement (same hearth) and lived (generally slept at night) under the same roof for at least once in last six months. Matrimonial or blood-connected relatives existed among most of the persons who reside in the dwelling.

### **Key Findings**

The average household size among the intervention group was 4.7 against the average household size of 4.5 among the control group (national average of urban area: 4.8). Almost all the intervention and control group households were headed by male household heads. One among numerous signs of precariousness of the both intervention and control households got reflected in the evidence that the sex ratio in these households is significantly lower (98.4 and 95.3 respectively) than the national urban average of 117.2. In a society like Bangladesh where women's seclusion is almost the norm, lower number of male household members hypothetically means a narrower scope for earning of family-wise income. There is insignificant difference of proportion of economically active population (in the age bracket of 15-60 years) in both intervention and control households as compared to the national average of 54.6%. The dependency ratio is 77.4 in intervention households and 74.5 in control households (national urban 58.9)- another symptom of a precarious socio-economic scenario of these households. The number of household members who had no

schooling amounts to 51% in intervention households and 55% in control households- a relatively insignificant difference. The primary occupation pattern is similar in intervention and control households.

## **ECONOMIC CHARACTERISTICS**

### **Major Issues**

As SHEWA-B Urban Component is aimed at addressing the water-and-sanitation needs of the urban poor in Bangladesh, an analysis of the target population’s economic characteristics in intervention and control areas was felt as an essential issue for consideration in this Baseline Survey. In this context, the major issues dealt with in this chapter are:

Ownership Status of Land, Homestead and Assets; Income, Savings and Credit; and Food Consumption and Food Security; Poverty Status.

### **DCIS/Methods Applied**

For necessary data collection, DCIs having both qualitative and quantitative questions were used. In estimating the incidence of poverty among the surveyed households- both Direct Calorie Intake (DCI) Method and Cost of Basic Need (CBN) Method had been used.

### **Key Findings**

The economic conditions of both intervention and control households are poverty-stricken, but there are some discernable differences between the two groups of households with regard to certain economic characteristics. Though economically belonging to the poor section of the society, majority (67% of intervention households and 75% of control households) of the survey household members live at houses owned by themselves in relatively less developed areas of the country. More than 60% of the households in both intervention and control groups are single-room households. Amounts of land owned by the households are almost equal in both intervention and control groups (13 decimals and 15 decimals respectively). The higher monthly net income exists among the intervention households (Tk. 4,777) as compared to that among the control households (Tk. 4,329). The estimated calorie intakes in intervention and control households are lower than the national average by 17.5% and 19.2% respectively. Further analysis shows that according to the DCI method- about three-fourths of the households in intervention and 80% in the control group are absolute poor. The incidences of hardcore poverty in intervention and control households are estimated as 43% and 44% respectively. According to the CBN method, 73% households in intervention group and 77% households in control group live below the upper poverty line, and 55% in intervention and 60% in control households live below the lower poverty line. In terms of upper poverty line, the incidences are 45 and 49 percentage points respectively, higher than the corresponding national poverty incidence. In terms of the lower poverty line, those are 40 and 45 percentage points respectively, higher than the corresponding national poverty incidences. In this context, it may be commented that targeting of the SHEWA-B’s beneficiaries appears to have been appropriate in line with the project design.

## **WATER: AVAILABILITY, ACCESS AND UTILIZATION**

### **Major Issues**

This chapter is mainly focused on the sources of water for key domestic uses, ownership of water source, adequacy and quality of safe water, household water collectors, time taken to bring water for key domestic use, household appraisal of gender and other disadvantaged people in safe water issues, and problems faced in access and collection of water among the urban poor in the sample areas.

### **DCIs/Methods Applied**

DCIs having both close-ended and open questions were applied in order to gather pertinent data and information.

This Baseline survey, given a longer timeframe and compatible financial and other resources, would require to be based on a particular technical definition and categorization of drinking water. “Drinking water supply” has been technically broken down into two categories by WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation, namely ‘Improved’ and ‘Unimproved’. The category ‘improved drinking water sources’ is defined as the ones that, by nature of their construction or through active intervention, are protected from outside contamination, in particular from contamination with faecal matter. However, as the current baseline study does not provide reliable information on the quality of drinking water based on *relevant microbial, chemical and physical parameters*, improved water sources do not necessarily provide safe water.

### **Key Findings**

Overall major findings say that tube-wells are the major ‘other improved source of water’ for drinking water among both intervention and control households. Nearly 40%-50% intervention and control households singly or jointly own the water sources followed by neighbours, (27%-30%) and Government/Municipality (15%-19%)- and these sources provide adequate water during the normal time of the year as well as during the dry season and floods. Amongst the poorest, 47% households in intervention group and 35% in control group use ‘arsenic-free safe water’ for drinking. The average distances between the water source and a household in both groups (intervention and control) are 156 feet and 165 feet respectively. The intervention household members spend, on average, 25 minutes to collect water and carry it home as against 24 minutes for control households to do so. Majority (60%) of water points in all the survey households are user-friendly for women- but overcrowding around the water sources, inadequacy of water supply, occasional refusal by the water source owner to allow others to collect water from their sources and taboo on collection of water by women from sources vicinity of mosques make it difficult for women to collect water for their households.

## SANITATION AND DEFECATION PRACTICES OF HOUSEHOLDS AND ENVIRONMENTAL CLEANLINESS OF COMMUNITY

### Major Issues

A detailed review was made of both existing hardware, physical environment and the defecation-related practices of the target household members in intervention and control areas. Major issues reviewed were:

Sanitation and Defecation Practices in Sample Households- focusing on Status of Latrines used by households; Varieties of latrines used by households- including Classification of latrines per JMP Definition and GoB Definition, and Improved Sanitation facilities, especially for the poorest; Whether Latrines are Cleaned; Who Cleans the Latrines; and User-friendliness of the Latrines- especially to the Physically Disabled Persons and the Elderly Persons.

### DCIs/Methods Applied

For data collection related to this issue, several methods were followed including household-based interview, spot check (observation), Focus Group Discussions (FGDs), PRA, and In-depth Interview.

In addition- with regard to the types or classification of sanitation facilities or latrines, the two existing definitions (JMP/International Definition) and the GOB's definition were reviewed. Finally, the JMP definition- which is the latest one and slightly adapted for Bangladesh- has been used in this study. Primarily, the latrines used by the sample households were categorized by presence or absence of different facilities. They were then divided into two main groups, that is, 'Improved' and 'Unimproved' by following the JMP-set criteria.

### Key Findings

In general, around 50% of the households use individual latrines. The latrines were reported to be user-friendly for slightly higher than 50% of each of the groups of surveyed women, men and older people aged 60+ years, as well as one-fifth of physically challenged persons. Majority of women participants in various FGDs mentioned that they could not maintain their privacy while using the latrines. An extremely low proportion (in 14% of intervention households and 10% of control households) of the latrines appeared to be clean. The embedded for such a high-level un-cleanliness is implied in the fact that the latrines are cleaned in only around 43% of intervention and control households- mainly by an adult female member of the household. However, a 63% of households reported that there was no specific person assigned to carry out the task of cleaning the community latrines. With regard to the level of hygienic condition of the areas surrounding the survey households, it was gathered through an observation process that the situation was largely hygienic. Collected statistics reveal that no garbage was seen in one-fourth of households ('Very clean'), and in around 40% of the households some amount of garbage was seen ('Clean'). Besides, there were no *faeces within the courtyards* in two-thirds of households.



## **WATER-SANITATION-HYGIENE RELATED MORBIDITY AND MORTALITY**

### **Major Issues**

An analysis was made of the water-sanitation-hygiene related morbidity and mortality in the survey households. The issues considered in the process included:

Incidence of Water-Sanitation-Hygiene related Diseases; Days of Suffering due to Water-Sanitation-Hygiene related Diseases; Cost of Treatment due Incidence of these Diseases; Mortality related to Water-Sanitation-Hygiene related Diseases; Impact of these Diseases on Expenses for Buying Medicines; and Poverty and Gender-wise Distribution of Buyers of Medicines due to Incidence of such Diseases.

### **DCIs/Methods Applied**

Though data collection for this chapter simply followed the related DCI filled by the field investigators through interviews of specific respondents, the desk analysis was detailed in order to find out the implications of the impact of their current practices on especially the sanitation and hygiene scenarios in both intervention and control areas. As for instance, at par with the UNICEF-provided logframe indicators, consideration was made of various specific phenomena related to water-sanitation-hygiene related issues.

### **Key Findings**

The survey respondents reported the incidence of any water-sanitation-hygiene related diseases in a relatively high percentage of the survey households, that is, in 58% of intervention households and 60% of control households. Strikingly, it is reported that the incidences of water-sanitation-hygiene related diseases comprise around 75% of all disease-incidences in both intervention and control groups. The average number of days of suffering from water-sanitation-hygiene related diseases and the resultant average number of workdays lost in both intervention and control households are reported as 12 days and 4 days respectively. On the financial side, these diseases have been costing around 50% of the costs of treatment of all diseases in both groups of households. Despite the high cost of treatment, the rate of death incidences due to these water-sanitation-hygiene related diseases have been around 36% in intervention households and 29% in control households during the 2 years preceding the survey.

## **HYGIENE ISSUES: REPORTED KNOWLEDGE AND SOURCE, OBSERVATION, AND PERSONAL HYGIENE PRODUCTS SALES SCENARIO**

### **Major Issues**

The status of knowledge on hygiene issues and sources of knowledge had been identified for different categories of people – adult males/females and children. In particular PRAs with children, various hygiene-related issues were also identified in the “eyes of children”. The following are the specific issues that were dealt with:

Knowledge and Sources of Hygiene-related Knowledge of Adult Males and Females; Hygiene Issues in the Eyes of the Children; Actual Hygiene Practices; Disposal of Childrens’ Faeces;

Storage of Drinking water; Coverage on Food for Protecting it from Possible Contamination; Condition and Cleanliness of Water Points; Location and Availability of Soap Inside Latrines; Availability and Use of Hygiene Products; and Gender and Poverty-wise Distribution of Users of Hygiene Products.

### **DCIs/Methods Applied**

Different Data Collection Instruments were used to cater to the need for pertinent data collection. These instruments included a household survey for adult male/female and specific Tools for Participatory Research Appraisal (PRA) with children. In addition, a separate instrument, especially focusing on Observation, had been administered to know the actual practice level.

### **Key Findings**

The surveyed respondents ranked relatively high (around 61.2%), significant differences exist between knowledge on hygiene and safe water and concurrent practice as per the retained knowledge. A mere 1% of women in intervention households had the practice of washing both hands with soap before preparing food and eating. Besides, only 6% of the caretakers (women) practice washing of both hands with soap or ash after cleaning of children's bottoms and disposing their faeces. The knowledge level on hygiene and safe water messages is notably high among the people under the non-poor group, as compared to that of the people below the poverty line. The TV had been reported in majority cases as the main source of knowledge on the hygiene indicators. A 56% of children in intervention households and 62% of those in control households were reported to have been attacked by from water-borne diseases, especially diarrhea and dysentery in the last three months. A bit less than a half (that is, 44%) of the households store their drinking water in covered pots. Field Investigators' observation process evidenced that around 30% of the households maintained soap/ash and water at convenient hand-washing spaces for using them after defecation.

## **MENSTRUAL HYGIENE: KNOWLEDGE, SOURCE OF KNOWLEDGE, AND PRACTICE**

### **Major Issues**

In this chapter, status and sources of knowledge and practices about menstrual hygiene among the adolescent girls in both intervention and control clusters were investigated.

### **DCIs/Methods Applied**

The instruments used for data/information collection include interviews with adolescent girls and Focus Group Discussions with adolescent girls. In the interviews with adolescent girls, they were asked about their knowledge, source of knowledge and practice on menstrual hygiene. In the Focus Group Discussions with adolescent girls, different aspects of menstrual hygiene were discussed in details to understand these girls' knowledge, source of knowledge and practice.

## **Key Findings**

Around 44.2% of adolescent girls practice appropriate menstrual hygiene. Majority of them practicing washing used sanitary rags with soap. In context of shyness from exposing their sanitary rags to outsiders, especially men, 45% of the adolescent girls in intervention households and 53% in control households dry their rags in dark spaces inside their houses. The remaining girls dry their rags in sunlight outside their houses. These girls have reported that their mothers are the most frequent sources of their knowledge on ‘menstrual hygiene, followed by ‘sisters-in-law/sisters’, and ‘friends’. Besides, irrespective of household category, the adolescent girls change their napkins/rags at a frequency of 2.6 times a day during their menstruation. Around a half of the adolescent girls (50.7% in intervention households, and 46% control households) change their napkins/rags at a frequency of less than 3 times a day. Various taboos and wrong concepts about menstruation and menstrual period prevail among the surveyed communities that have the potential of leaving negative impacts on the adolescent girls’ mental and physical health.

## **WATER-AND-SANITATION FACILITIES IN PRIMARY SCHOOLS**

### **Major Issues**

In the baseline survey, the water-sanitation facilities in primary schools were assessed, because most of the primary schools located in the slum areas suffer from problems related to water and sanitation. In Bangladesh, slums are the neglected pockets of poverty. Due to unplanned growth of slums, the schools located there suffer from water-and-sanitation facilities. They do not have adequate land and fund to maintain a sound, hygienic water-and-sanitation scenario in their neighborhoods. Due to their limited awareness on hygiene and sanitation issues, they do not put much emphasis on these issues. This chapter focused on water-and-sanitation facilities in primary schools in addition to other related components.

### **DCIs/Methods Applied**

For data collection on the relevant critical issues, interview of teachers and spot checks (observation) were done. The situation of water supply for drinking purpose and the situation of the latrines of the schools were assessed.

### **Key Findings**

Water points in primary schools having waste water drainage system exist in one-third of shallow tube-wells. Respondents in a one-third of the survey schools were unaware of whether their tube-wells were tested for detecting presence of arsenic in the water from these sources. On average, there was one latrine for 51 students, although the latrines were of the ‘Improved Variety’. Number of targeted schools having at least one latrine for boys and one latrine for girls- which are open, functional and clean- was 32%. In only a few primary schools, latrines have soap or ash/mud nearby; and the frequency of the cleaning of the latrines by sweepers or students is also low. In both the intervention and control area around one-third of the schools have some appropriate place for disposal of solid waste. Around a one-third of the surveyed schools were clean. Some wastes were visible in or around 50% of the schools.

With exception of the negative impact of seasonal variations in availability of water and contamination of water with arsenic, the scenario of water supply in the surveyed primary schools is fairly acceptable, though there is still room for improvement. Quite contrastingly, the scenario of hygiene, especially with regard to the situation of latrines in these schools, is far discouraging.

### Intervention Area: Baseline Status by Key Indicators

Indicator	%
Women wash both hands with soap before preparing food and eating	1
Use of improved latrine by all members of household	35.6
Proportion of poorest household who use their improved latrine	34.6
Households' reporting of using adequate and safe drinking water round the year	52
Poorest households' reporting of using adequate and safe drinking water round the year	47
People who have adequate knowledge on hygiene and safe water messages	61.2
Caretaker (women) who wash both hands with soap before feeding children	0
Caretaker (women) who wash both hands with soap or ash after cleaning children bottom and disposing their faeces	6
Adolescent girls who practice appropriate menstrual hygiene	44.2
Under 5 children whose faeces are disposed of in hygienic manner	28
Open defecation in programme area	6.9
Clean latrines	14
Households who have an appropriate solid waste disposal system	3.4
Households who have an appropriate waste water disposal system	7.4
Primary and secondary schools having at least two latrines, one for boys and one for girls, which are open, used, functional and clean	21.3
Households keep drinking water in covered pot	44