

Assessment of Water, Sanitation and Hygiene (WASH) Condition in School



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Golam Mahiyuddin, Mozammel Hoque, Matiur Rahman

Rowshan Ara, Md. Abdul Quader, Mohammad Badiuzzaman

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Rowshan Ara², Md. Abdul Quader², Md. Badiuzzaman²,
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Study Conducted by



Human Development Research Centre

House 5, Road 8, Mohammadia Housing Society,
Mohammadpur, Dhaka 1207
Phone: (88 02) 8116972, 8157621, Fax: (88 02) 8157620
Email: hdc.bd@gmail.com, Website: www.hdc-bd.com

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¹ Professor and Chair, Department of Economics, University of Dhaka; Chief Advisor (Hon.), HDRC & Study Team Leader,
² Consultant, Human Development Research Centre (HDRC)
³ Research Associate, Human Development Research Centre (HDRC)

Acknowledgement

Studies have suggested that children who have adequate water, sanitation and hygiene condition at school are more able to integrate hygiene promotion education into their daily lives, and can be effective agents for change in their families and their wider communities. The hygiene behaviours are life skills that children learn at school through a combination of hygiene promotion education and suitable water, sanitation and hygiene enabling facilities. These are the skills that they are most likely to maintain as adults and pass on to their own children. At this backdrop, UNICEF-BCO undertook this study to assess the condition of water supply and sanitation facilities at different schools and associated hygiene practices by their students all over the country.

First of all, we would like to thank UNICEF Bangladesh for their initiative to undertake a study of this kind as well as selecting HDRC to conduct the study. Mr. Hans D. Spruijt- Chief of Water & Environmental Sanitation (WES) Section, UNICEF-BCO deserves special thanks for his cooperation and positive attitude throughout the study. We express our sense of gratitude to a few other colleagues of Mr. Sprujit, namely, Ms. Nujulee Begum- Water and Environmental Sanitation Specialist (SSHE), Mr. Firoj Alam- Project Officer, Water and Environmental Sanitation Section, and Ms. Sania Shayera- Contracts Specialist, Supply & Procurement Section of UNICEF-BCO. Ms. Nujulee's and Mr. Firoj's names should be mentioned again for their ever-smiling endurance with us in all the critical stages of the study and generous support during the training session as well as implementation process.

The study was a complicated one considering the issues and the types of institutes and respondents required. From the sampling procedure through the field design and implementation- in every step, the study team sought help and advice from different authorities and individuals to complete the study successfully. Cooperation of those authorities and individuals made the complicated study possible.

We acknowledge the cooperation and facilitation provided by the Directorate of Primary Education (DPE), Directorate of Secondary and Higher Education, Board of Intermediate and Secondary Education, Dhaka and Bangladesh *Madrassa* Education Board. Cordial help from many officials of these institutes and their expert judgments and opinions gave us room to move forward. Mr. Fazle Siddique Md. Yahya- Deputy Director (P & D) of the Directorate of Primary Education deserves special thanks for the cooperation he provided throughout the study. His amiable and prompt response to our queries and his ever-helping attitude made us indebted to a great extent.

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Abul Barkat, *Ph.D*
Team Leader

Acronyms

| | |
|----------|------------------------------------------------------------------|
| ADB | Asian Development Bank |
| CBO | Community-based Organization |
| CHT | Chittagong Hill Tracts |
| CPS | Community Primary School |
| DPE | Directorate of Primary Education |
| DPHE | Department of Public Health Engineering |
| DSHE | Directorate of Secondary and Higher Education |
| DTW | Deep tube-well |
| EED | Education Engineering Department |
| EMIS | Education Management Information System |
| ESTEEM | Effective Schools through Enhanced Education Management |
| FGD | Focus Group Discussion |
| GoB | Government of Bangladesh |
| GPS | Government Primary School |
| JMP | Joint Monitoring Programme |
| KII | Key Informant Interview |
| LGD | Local Government Division |
| LGED | Local Government Engineering Department |
| MDG | Millennium Development Goal |
| MICS | Multiple Indicator Cluster Survey |
| MOE | Ministry of Education |
| MoLGRD&C | Ministry of Local Government, Rural Development and Cooperatives |
| MOPME | Ministry of Primary and Mass Education |
| MTR | Mid-term Review |
| NFWSS | National Forum for Water Supply and Sanitation |
| NGO | Non-Government Organization |
| NRNGPS | Non Registered Non-government Primary School |
| PEDP-II | Primary Education Development Programme-II |
| PLA | Participatory Learning Approach |
| PRSP | Poverty Reduction Strategy Paper |
| PSQL | Primary School Quality Level |
| RNGPS | Registered Non-government Primary School |
| SDP | Sector Development Plan |
| SEQAEP | Secondary Education Quality and Access Enhancement Project |
| SLIP | School Level Improvement Plan |
| SMC | School Management Committee |
| SSHE | School, Sanitation and Hygiene Education |
| STW | Shallow tube-well |
| UN | United Nations |
| UNICEF | United Nations Children's Fund |
| UPEP | Upazila Primary Education Plan |
| UPEP | Upazila Primary Education Plan |
| WASH | Water, Sanitation and Hygiene |
| WHO | World Health Organization |
| WinS | WASH in School |
| WSS | Water Supply and Sanitation |

Executive Summary

THE STUDY: Most of the schools IN Bangladesh do not have adequate water and sanitation facilities. Besides, schools having such facilities cannot or do not maintain them well. UNICEF Bangladesh, on a request of donors in Education Sector of Bangladesh, commissioned this study in order to (i) conduct an assessment and submit report on school water supply, sanitation facilities and associated hygiene practice, and (ii) contribute to the discussions for incorporating WASH in schools (WinS) in overall planning of this country. **Both quantitative and qualitative methods** have been used for collecting necessary primary data/information. A survey on 992 schools in 12 districts was conducted out of a total of 97,074 schools across the country.

MAJOR FINDINGS

Policy Level Findings:

Policy formulation in the WASH/WinS Sector basically follows the provisions and priorities set in the MDGs and PRSP. Three of the 8 inter-related MDG Goals are clearly inter-related among themselves in the area of WASH/WinS, that is: **Goal 2: Achieve Universal Primary Education**, **Goal 3: Promote Gender Equality & Empower Women**, AND **Goal 7: Ensure Environmental Sustainability**. The most comprehensive planning for WSS (Water Supply and Sanitation) sector has so far been the Sector Development Plan (SDP) 2011-2025, made by the Local Government Division (LGD) under the Ministry of LGRD&C. However, WinS in Bangladesh suffers from lack of a really ‘child friendly school policy’.

In the strategic management context, planning by DPE for upkeep and improvement of WASH in primary schools has been relatively more significant through years in the past. Instances of this efforts in this direction are numerous- such as: (a) Launching PEDP-II (Primary Education Development Programme-II) as a Programme Approach, (b) The introduction of Operational Guidelines for the Revised School Level Improvement Plan (SLIP) and the Upazila Primary Education Plan (UPEP) by August 2008, and (c) The adoption of the decision to continue the massive countrywide PEDP (Primary Education Development Programme) at its Phase-III. For secondary level schools- the Directorate of Secondary and Higher Education (DSHE) in Bangladesh are relatively more active toward maintaining safe and healthy WinS environments in the secondary schools. Conscious efforts for instilling a culture of WinS in *madrassas (faith-based education system)*, though relatively insignificant, are not completely absent.

In the area of primary education in Bangladesh, since the introduction of PEDP-II, this Programme has been a subsector-wide approach by the Government in this area, aimed at adoption of Inclusive Primary Education. The most serious problem in this sub-sector is the country’s lack of financial and other resources to meet the prevailing demands, leaving the implmentors in this area ready to make adjustments between the actual level of demand, need for wider coverage of schools and the availability of resources. **In the secondary education sub-sector-** a number of GoB agencies (especially Directorate of Secondary and Higher Secondary Education), development partners and NGOs are active implementers of projects aimed at improvement of WinS across the country. The Secondary Education Quality and Access Enhancement Project (SEQAEP) for the period of 2009/2010-2011/2012 is blessed with special features for proper motivation of school committees and communities to participate in implementation of target WinS activities and maintenance of hardware in this sector. Information/data on investments and actual expenses in the WSS sector by different

organizations involved are not yet readily available. However, SDP 2011-2025, after making provisions for projections of different investments by different sectors/sub-sectors, are now expected to come up with better information in this regard in future.

Monitoring activities in the WinS sector has remained largely un-attended task due mainly to lack of financial resources making it difficult to recruit caretakers and security guards in various schools to maintain the WinS hardware.

Field Level Findings

Sources of water

While 83.5 percent of the schools have water supply sources within the school campuses, access to functional water supply in the sample schools accounts for 76.1 percent, which is 72.1 percent in primary schools and 90.6 percent in secondary schools. Average school-wise number of functional water points is 1.1. Shallow tube-well is the most common source as reported in 79.1 percent of schools. Besides, there are also noticeable instances of non-functional water points- especially in case of shallow and deep tube-wells. Across the categories of general schools, water supply is relatively higher in governmental schools (80.2%) than in the registered non-governmental and non-registered schools (65.8% and 52.2% respectively). Among the secondary schools, there is virtually no difference in terms of water supply between general education schools and *madrassas*.

Availability and Adequacy of Water

About 84.5 percent of schools have their water supply available round the year. Continuous supply of water throughout the year is more pronounced in secondary schools than in primary schools (95.4% vs. 79%). Regarding continuous water supply, there is no substantial variation between the general education schools and *madrassas*. In the governmental general education schools, continuous water supply in boys' and girls' schools are equal (100% each); but it is higher in boys' schools than the girls' ones among non-governmental schools (93% vs. 81%). In most of the schools, water points are not child-friendly. Existing ratio of water points to number of students in primary and secondary schools are 1:229 and 1:257 respectively against the proposed national standard of 1 for 100 students. In considerable schools, water points are not user-friendly for the younger children.

Quality of Drinking Water

Although, ground water should be tested for all harmful elements and pathogenic microbes, out of the total 975 shallow tube-wells surveyed, 57 percent were tested for arsenic, and a 7 percent were identified as arsenic-contaminated. In the primary schools, tube-wells tested for arsenic are comparatively more in *madrassas* than in general education schools (68% vs. 56%). Testing for arsenic contamination is relatively more frequent in general secondary schools than in *madrassas* (60% vs. 55%). Water in an 80 percent primary and secondary schools are acceptable for drinking in terms of photoreceptive requirements.

Distance of Drinking Water Source from the Latrine

Latrines in 64 percent of sample schools are located within 15 metres off the water sources. Among primary schools- distance between the water source and the latrine in around two-thirds of general education schools and *madrassas* is shorter than 15 metres- those in general secondary schools and *madrassas* being 59 percent and 52 percent respectively.

Sanitation Facilities

About 94 percent schools have latrines within their own campuses, 90.7 percent of them being functional, and a 9.3 percent of the schools do not have any latrines. Average number of school-wise functional latrines in the schools is 3.1. About 19 percent schools have single functional latrines, 28.5 percent two latrines, 14 percent have three, and 29 percent have 4 or more. Flash or pour flash latrine connected to a septic tank is the most common variety in 85 percent schools and only 15 percent schools have pit latrines with slabs.

On average, there is one latrine or urinal for 80 students in the sample schools, while the agreed national standard is one latrine/urinal for 50 students. Gender-wise desegregation provides for boys a latrine-to-students ratio of 1:74 and for girls 1:88. In primary schools, the ratio is 1:93 – whereas it is 1:96 for general education schools and 1:65 for *madrassas*. In the secondary schools- overall latrine to students ratio is 1:70; and the ratio in general education schools is 1:71 with 1:67 in *madrassas*.

Although the teachers' needs for latrines have not been addressed in most of the schools, overall latrine-to-teachers ratio is 1:10- equal to the proposed national ratio. In the primary schools, overall latrine-to-teachers ratio is 1:11, where the latrine-to-male teachers ratio and latrine-to-female teachers are 1:10 and 1:11 respectively. In the secondary schools, latrine-to-male teachers and latrine-to-female teachers ratios are 1:8 and 1:11 respectively.

Access to Latrines

In majority of schools (75%), overall access to the latrines is open for the students and they do not face any problem to use the latrines at any time during school hours. Unclean latrines have been pronounced as a major barrier in most of the schools (61%), remotely followed by lack of water near the latrines (35%), and unusable latrines (32%). Preoccupation by others at the time of need for use of a latrine (19%) and broken or no door of the latrine (10%) etc. is among other complaints. Out of the 930 schools, latrines for the disabled have been observed in merely 12 schools (1%). None of the schools has user friendly latrine for the younger children, who requires closed footrest and smaller squatting hole.

Gender Friendliness

On the whole, 35 percent of the coeducation schools have separate latrines for boys and girls. Latrine separated by gender is not usually common in primary schools (26%). Besides, two-thirds of the coeducation schools at secondary level (66%) have separate latrines for boys and girls. Latrines separated by gender of users are more familiar in the secondary general education schools (73%) than in the *madrassas* (48%). Moreover, physical difference of the females has been ignored in providing squatting pan in the latrines for girls and female staff, who require wider squatting slab and hole.

Cleanliness of Latrines

In most of the schools, latrines and urinals are relatively unclean;, and the number of clean latrines is relatively larger for latrines being used by girls than those for boys (55% vs. 50%). Latrines and urinals of secondary schools are relatively cleaner (54% and 50%) compared to those in primary schools (46% and 48%). In both primary and secondary schools, clean latrines are more prevalent in general schools than in *madrassas*. In most of the schools and *madrassas*, the latrines are usually cleaned by cleaners/sweepers, the staff and the students.

Distance of Latrine from the Hand-washing Places

The average distance between latrines and hand-washing places in the surveyed schools is 15.1 metres, ranging between 1 metre and 150 metres. Some 22 percent of the schools have water supply inside the latrines. Compared to the primary schools, average distance between the latrines and hand washing places is a little longer in secondary schools (14 metres vs. 17 metres).

Education for Hygiene Promotion

A 90 percent of the surveyed has provision for education on hygiene promotion to students, but relevant issues in the education curriculum are not properly addressed. As such, the teachers give special advice related to WASH during morning assemblies and on other occasions. The World Hand-washing Day contributes to hygiene education to students. Only 19 percent schools have separate periods for hygiene promotion education in their class routines, but there are no separate textbooks and curriculum available in school to address the hygiene issues. Some textbooks contain some chapters which partially encompass hygiene promotion education issues. About 2 percent schools have teachers trained on sanitation and hygiene promotion education-and no *madrassa* had any teacher trained on hygiene education. In 86.6 percent of the schools having provision for hygiene promotion education for the students, one-way lecturing- rather than visual and participatory teaching is practiced.

Students' Awareness about Sanitation and Hygiene

About 92 percent students are aware that **drinking of unsafe water** causes diarrhea, and 75 percent mentioned that it causes dysentery. Only 11 percent and 15 percent of students were aware about worm infection and arsenicosis respectively from drinking of unsafe water. About 81 percent students knew that use of sanitary latrine reduces chance of diarrhoea, and 50-53 percent knew that it keeps away bad smell and water pollution. About 94 percent students are aware of the need for **hand-washing before taking food**, 81 percent mentioned about need for hand-washing after using latrine and 75 percent after taking food. Other critical timings, such as 'before serving food', 'before feeding a child', 'after cleaning a baby's bottom' and 'after disposal of children's faeces' etc. were mentioned by a very few students. Irrespective of gender, only 6 percent of the students were observed to **wash both hands with soap after using latrine**, followed by another 5 percent who washed only one hand with soap. The most common hand-wash practice after using latrine was washing one hand with water only (girls: 36% and boys: 33%) followed by washing of both hands with water only (girls: 25% and boys: 24%).

Cleanliness in School Premises

About 22 percent schools do not have any hand-washing place; and around 63 percent schools have clean hand-washing places. DPHE organizes some activities at schools on the World Hand-washing Day, and provides hand-washing agents to schools. This initiative by DPHE is appreciated by respective SMCs and school staff. About 46 percent schools have clean classrooms as observed during the survey. At the same time, courtyards in 36 percent schools have been found clean. It was observed that 57 percent schools do not have any arrangement for waste/garbage bins at their campuses. More so, 47 per cent schools do not have specific pits for solid waste disposal and 87 per cent schools do not have storm water disposal system.

Estimated Cost for Addressing Unmet Demand for Water-sanitation

The total financial cost for addressing unmet demand (78% of total demand) for provisioning water facilities in sample schools has been estimated at Tk. 26,373,806 while per school the estimated average cost is Tk. 26,586. Regarding provisioning sanitary latrine in nationally representative sample schools the estimated total cost is Tk. 1,280,285,073 where as the estimated average cost per school is Tk. 1,290,610. Considering these estimates, further analysis shows that on an average Tk. 84.13 and Tk. 4,084 are required per child to provide adequate safe water and improved sanitation facilities in schools respectively.