Review article

Safe Water, Sanitation and Hygiene Facilities at Primary Schools in Bangladesh- An analysis of the needs versus the actual provision

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Introduction

An ideal primary school should have reasonably good infrastructure for students to provide them with various facilities such as smart classes, libraries, teacher's room, water and sanitation, toilet, playground, ramp for persons with disabilities, and boundary wall. The availability of safe water, sanitation, and hygiene facilities in schools improves health and increases school attendance leading to better learning outcomes. Adequate water, sanitation, and hygiene (WASH) facilities in schools are crucial for promoting student health, well-being, and educational outcomes, as they reduce disease transmission and improve attendance, particularly for girls.[1]

The availability of safe water, sanitation, and hygiene (WASH) facilities in schools is essential for a healthy learning environment and achieving sustainable development goals (SDGs) 4 and 6. SDG 4 (Quality Education) includes WASH facilities among others in school (4.a) as a critical element of a safe, inclusive, gender-sensitive, and healthy learning environment (UNICEF and WHO 2018). The sustainable goal (SDG) 6 aims to achieve universal access to safe drinking water (SDG 6.1), sanitation and hygiene (SDG 6.2) for all by 2030 (United Nations 2024).[2]

Clean and well-maintained washrooms help reduce the spread of germs, bacteria, and diseases, creating a safer environment for students, teachers and visitors. Proper hand washing facilities, adequate soap, and hygiene products, and clean water enables good hand hygiene practices, which are essential for the prevention of the spread of infections. Without WASH facilities in schools, children, particularly girls, are likely to get sick and miss their classes, Poor sanitation and hygiene in schools causes children to suffer from water-related illnesses such as diarrhea, cholera, and typhoid and worms, and gets in the way of their education. Unsafe water, inadequate sanitation, and poor hygiene practices contribute to roughly 88% of diarrheal deaths worldwide. Some children drop out of school due to inadequate WASH facilities in school.[3]

Bangladesh made substantial progress in WASH services, including in schools, through various government and non-government initiatives, and with support from development partners and international agencies. However, the provision of safe WASH infrastructure and facilities in schools, particularly safe drinking water and toilet, remains unsatisfactory and an issue that might hinder universal access to safe water by 2030.[4]

A number of studies have investigated the public health impacts of water quality, sanitation and hygiene issues in schools in Bangladesh.[5-7]

The studies found that in general, Bangladesh has been relying heavily on groundwater for safe drinking water (WHO/UNICEF, 2018).[8]

A survey of 49 primary schools in Gaibandha Sadar revealed that most students relied on shallow tube wells for drinking water and lacked proper sanitation facilities (Islam et al. 2015).[9]

In Bangladesh, there are 114,630 Primary Schools, out of which Government Primary Schools are 65,567, constituting 57.2% of the total Primary Schools in the country. The Government Primary Schools are managed by the Ministry of Primary and Mass Education (MoPME). According to the Annual Primary School Census (APSC) 2023, which collects data from all Government Primary Schools annually since the recent past, a total of 10,985,815 students were enrolled in Pre-primary to Grade V regardless of their age, while 2,723,873 students enrolled in the same grade as their official school intake age (6 years old). Overall 96.99 percent of children (Boys: 96.53 and Girls: 97.46) are enrolled at their official age of 6 years in Bangladesh.[10]

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As per APSC 2023, about three-fourths of Government primary schools still use tube wells for water supply. One-fourth of the primary schools use deep tube wells. Only 15.5 percent of the schools have piped water supply. Table 1 below provides data on the source of water in the Government primary schools. It is also estimated from APSC data that over 40 percent of Government primary schools need new WASH blocks and over 35 percent of them need repair work. It is estimated that a total investment of Taka 4,015 crore is required to undertake this work. Over half of the country's primary schools lack basic sanitation facilities, while many schools remain ill-equipped to accommodate students with disabilities.[9]

Table 1: Source of Water in the Government Primary Schools

Source of water	Number of Schools	Percentage
Tube well	48,846	74.5
Deep Tube well	16,634	25.4
Piped supply water	10,131	15.5
Tara pump	1,436	2.2
Others	4,574	7.0

Note: Total Numbers of Government Primary schools =65567; Multiple responses were considered.

Source: Annual Primary School Census (APSC) 2023, Ministry of Primary and Mass Education, Government of the People's Republic of Bangladesh.

By visiting a number of primary schools at different districts, the author found the following situation of WASH in schools in Bangladesh.

i) In some schools, WASH Blocks and toilets are not located with the main school buildings so that the students and teachers can access them during the rainy season. There is not even any rain or sun shade to help the children and teachers use the toilets during the rainy season.

ii) The girl and boy's WASH Blocks and toilets are not separated in many schools. They also have same doors to enter the WASH Blocks.

iii) The schools in urban and City Corporation areas often are three or more storied buildings but the WASH Blocks and toilets are in the ground floor making it difficult for all students to access them.

iv) In some schools, due to space constraints or due to design problems, adequate safe distance (10 metres) from drinking water sources have not been maintained from Septic Tank/Leach pit, Master pit and Soak well built adjacent to the toilets and WASH Blocks.

v) In some schools, the septic tank and soak well/ leach pit top were not above the highest flood level. So, waste water from the septic tanks were not properly drained out.

vi) In urban areas, many primary schools do not have connection to WASA or Pourashava water supply system to get clean water.

vii) In many schools, sewerage and waste water lines were not connected to the public sewerage system.

viii) The Infrastructure Planning Guideline of the Ministry of Primary and Mass Education has recommended some standards for building separate toilets for girls and boys in primary schools. These are hardly followed in many schools due to fund constraints.

ix) In many schools, separate toilets were not built for persons with disability. Also, ramps were not built for these students to access school buildings and toilets. The government has undertaken some interventions for the people with disability. The schools are supposed to provide supportive services to persons with disabilities, including ramps, wheel chairs if possible, other assistive devices, appropriate vocational training, capacity building, use inclusive education methods, child protection and develop separate information, education and communication materials for them. The weakness in this area is lack of data. In Bangladesh, the health management information system or the education sector does not provide disaggregated data on disability. Starting from immunization to health services, there is no separate data for either the disabled children or adults. There is little information on whether appropriate procedures are followed to ensure that public health care services and education facilities adhere to health and education standards and norms for the persons with disability.

Importance of Local Level Actions in School WASH Management

In Bangladesh, local participation in school WASH management can be facilitated through various stakeholders, including students, parents, teachers, School Management Committees (SMCs), and community members. These local stakeholders can play crucial roles in cleaning WASH facilities, promoting hygiene practices, maintaining facilities through small monetary contributions, and advocating for improved WASH services within the school premises.

In some places, the SMCs and community members participate in the maintenance of WASH facilities, including cleaning, minor repairs, and ensuring proper

waste disposal. Since government budget allocation is limited, the local communities, local government bodies, and SMCs may contribute financially or through in-kind support for WASH management in schools in a more active manner. The Ministry of Primary and Mass Education should provide support in this respect.

Parents are direct beneficiaries and most important stakeholders of a primary school. However, in most schools, the involvement of parents is less than expected, which affects the educational atmosphere of the school. Parental and community involvement can help greatly in schools having inadequate WASH facilities.[11]

Community members, including local leaders, should be more regularly involved in school WASH initiatives through the support for facility maintenance and awareness creation. The school authority has to organise extracurricular activities at the school level involving the Head Teacher, Assistant Teacher, SMC members, and other related stakeholders.

Students in different places are seen to be actively engaged in WASH initiatives through student brigades, hygiene committees, and awareness campaigns. Teachers often play a vital role in educating students about hygiene, monitoring WASH facilities, and integrating WASH into the educational curriculum. The SMCs also oversee WASH-related activities, including facility maintenance and community mobilization. Students and teachers organize hygiene promotion activities like handwashing technique demonstrations, awareness campaigns on World Handwashing Day, cleaning school premises, waste collection drive, and delivering classroom lessons on hygiene practices. Much more frequently such as weekly or monthly events can be organized to keep the WASH facilities cleaner and making the school surrounding healthier. The local doctors and nurses who may also be available as parents of students, may be easily mobilized to teach the students about hygiene behavior and clean environment so that the students remain healthy and attend their classes regularly.

Recommendations for Improvement of WASH Facilities in Primary Schools

The development of quality education depends on a large number of factors including school infrastructure, quality of teaching, furniture and equipment, and overall learning environment of which WASH, playing field, security, etc. are also very crucial. A number of recommendations for improvement of WASH facilities in primary schools in Bangladesh is made below.

i) WASH Blocks and toilets should be located as close as possible to the main school building so that they can be accessed during the rainy season. If necessary, sun shaded gangway can be constructed to help the children and teachers use the toilet during rainy season.

ii) The male and female WASH Blocks should be constructed in separate places. If not possible, they should have entry in opposite side of the WASH Blocks.

iii) For schools in urban areas/City Corporation areas or having three or more storied buildings, priority should be given for built-in/attached sanitation facilities in each floor of the school (multi-storied WASH Blocks).

iv) There must be provision for adequate space for septic tank/leach pit, master pit and soak well adjacent to the toilets and ASH Blocks but with a safe distance (10 metres) from the drinking water sources.

v) The septic tank and soak well/leach pit top should be above the highest flood level. Waste water from the septic tank should be properly drained out.

vi) Sewerage and waste water line should be connected to the public sewerage system (if available). There should be a provision for surface drain for draining out surface runoff to the roadside drain or nearby pond/reservoir.

vii) Additionally, government and non-government agencies may initiate suitable water supply projects with adequate funding to supply safe drinking water in primary schools.

viii) Bangladesh is still struggling to transform the legal provisions into concrete policies, systems, programmes, and services that uphold the human rights of persons with disabilities. As a huge issue where about nine percent of the population are facing the challenge of disability, the Government of Bangladesh and the development partners need to deliver on their SDG commitments through appropriate interventions. The first thing required to understand here is to support strengthening awareness about the main bottlenecks and priorities in each disability area in the health and education sectors. The country's progressive legislative frameworks, such as the National Disability Act, 2013, the National Disability Action Plan (2019), making disability a cross-cutting issue in the country's eighth five-year plan, and the issue addressed in the National Social Security Strategy prove that the country is willing to address the rights of people with disabilities. Therefore, higher allocation of funds in the national budget should be made to purchase medicines, treatment, assistive technology, educational materials, infrastructure, and water and sanitation facilities in schools for the persons with disability.[12,13]

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