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Handbook on Water, Sanitation and Hygiene in Bangladesh



Bangladesh Public Administration Training Centre

Savar, Dhaka, Bangladesh

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Bangladesh Public Administration Training Centre

Savar, Dhaka-1343

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Rector (Senior Secretary to the Govt.)
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Foreword

An MoU between BPATC and UNICEF Bangladesh took place on 18 July 2016 with a view to promoting cooperation in the areas of training, retraining and upgrading the quality of public administration, research, and consultancy and also developing mutual sharing of expertise and resources based on their statutes and mandates. BPATC and UNICEF made multifold bilateral efforts for realizing the targeted activities under the partnership for promoting child rights. This ‘Handbook on Water, Sanitation and Hygiene in Bangladesh’ is an integral part of the planned activities.

The Handbook intends to disseminate hand pack information towards the trainees at BPATC about Water, Sanitation and Hygiene situation in Bangladesh with special attention to children. It would be possible to use the Handbook for imparting knowledge-based training for government officers and other related stakeholders in the related field. Thus the Handbook through supporting in capacity building of the officials in the related field will contribute to some extent towards the implementation of the Vision 2021, manifesto related to children of the Government, Vision 2041, and the SDG-6 of the United Nations.

BPATC has received enormous support from the related officials of UNICEF Bangladesh, Government officials of different line ministries, departments, organizations, academicians & BPATC Faculty Members for this grueling endeavor. They had recommended on the issues to be incorporated and also helped selecting contents of the Handbook. It could not be developed without their earnest support and cooperation as the task was challenging. These supports are greatly appreciated as this could be a milestone for the development of the children of Bangladesh. Therefore, my paramount gratitude goes to all concerned of the Handbook.



Dr. M Aslam Alam



Representative
UNICEF Bangladesh

Foreword

It is decidedly pleasing that Bangladesh Public Administration Training Centre has developed four sets of Sectoral Handbooks on Child Protection, Education, Health, and WASH (Water, Sanitation & Hygiene) for the officials who undergo various training courses at the centre. This Handbook on WASH is one of the four ones that bear enormous significance.

We started our partnership at the beginning of 2016 with clearly stated results as 'Institutionalize knowledge-base on children's issues and increased awareness among officials' with preferential focus on the situation of children in Bangladesh and roles of the officials for children in respective sectors and departments.

Development of the sectoral handbooks is a key activity under BPATC-UNICEF Bangladesh partnership. It presents an up-to-date picture on the situation of children in Bangladesh with candid reflection in the areas of child deprivation with data and evidence which will be very useful for local level sectoral development plans with the allocation of required resources for children.

It is highly expected that the Handbook will be used as a ready reference on Water, Sanitation and Hygiene situation in Bangladesh with special focus on children for all the trainee officials as well as for the officials of different ministries and organizations.

Appreciating the joint efforts of BPATC and UNICEF team, I wish the continuation of this partnership and hope it will make a significant contribution towards the improvement of lives of children in Bangladesh through institutional support.

Looking forward to a better future of every child of Bangladesh.

Edouard Beigbeder



Director, BPATC

Preface

This ‘Handbook on Water, Sanitation and Hygiene in Bangladesh’ is ultimately a result of a meticulous activity in the concerned field. After preparing the draft of the Handbook, a Consultation Workshop was held at BPATC, Dhaka on 22 July 2018 where 35 personnel of different line ministries, departments, organizations, university professors, BPATC faculty members, and UNICEF officials participated. Appropriate recommendations made by the participants have been included in the Handbook and later on, the Handbook was sent to all faculty members of BPATC for opinions and suggestions to make it more effective and appropriate. Their precious suggestions have also been considered. The Handbook will help trainees of different training courses especially Foundation Training Course by providing varied information on Water, Sanitation and Hygiene situations, issues, and rights and contribute in the capacity building of the government officials for promoting child rights in the country. Eventually, BPATC Faculty Members, officials of line ministries, departments, local government bodies, NGOs and other people of the related field will be vastly benefitted from the Handbook. Thus the Handbook will contribute to some extent in implementing the Vision 2021, manifesto related to children and the Vision 2041 of the Government as well as the SDG-6 of the United Nations.

My genuine and supreme gratefulness goes to Dr. M Aslam Alam, Rector (Senior Secretary to the Govt.) of BPATC for his ceaseless guidance and invaluable suggestions that indubitably facilitated to progress the Handbook. Concurrently I feel proud in expressing luminous appreciation to Mr. Edouard Beigbeder, Representative, UNICEF Bangladesh for his incandescent eager to promote child rights through institutional support and cooperation.

I am hereby expressing my enormous appreciation to external resource person Mr. M. Hifzur Rahman, a Researcher and Documentation specialist. He has undergone vast pains in assisting us to draft the Handbook. Concomitantly I am incalculably grateful to Mr. Mohd. Anwar Hossain, Programme Specialist and Focal Point of UNICEF Bangladesh and officials of different ministries and organizations for their massive cooperation and vital opinions.

Heartfelt gratitude also goes to the Thematic Group Members and other Faculty Members of BPATC for their unrelenting support and inspiration that helped and stirred us enormously in publishing the Handbook vividly. A number of research publications, booklets, brochures, reports, etc. have generated strength to develop the Handbook otherwise it could be hard to complete the daunting task within a short time. I am placing unending thankfulness and acknowledgment to all the authors and editors of those documents.

Md. Jahidul Islam

Acronyms & Abbreviations

BBS	: Bangladesh Bureau of Statistics
BPATC	: Bangladesh Public Administration Training Centre
CC	: City Corporation
C4D	: Communication for Development
CHPs	: Community Health Promoters
CLTS	: Community-Led Total Sanitation
CRC	: Convention on the Rights of the Child
DPHE	: Department of Public Health Engineering
FSM	: Faecal Sludge Management
GDP	: Gross Domestic Product
GoB	: Government of Bangladesh
HDRC	: Human Development Research Centre
JMP	: Joint Monitoring Programme
LGD	: Local Government Division
LGIs	: Local Government Institutions
MDG	: Millennium Development Goals
NGOs	: Non-Government Organizations
OHCHR	: Office of the United Nations High Commissioner for Human Rights
SDGs	: Sustainable Development Goals
SHEWA-B	: Sanitation, Hygiene Education and Water Supply in Bangladesh
SMCs	: School Management Committees
UN	: United Nations
UNCRC	: United Nations Convention on the Rights of the Child
UNDESA	: United Nations Department of Economic and Social Affairs
UNICEF	: United Nations Children's Fund (Original United Nations International Children's Emergency Fund)
WASA	: Water Supply & Sewerage Authority
WASH	: Water, Sanitation and Hygiene
WHO	: World Health Organization

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1. Definition of Major Concepts: Children, Safe Water, Sanitation and Hygiene

Children: Definition of the child is generally determined by the age of a human being and by laws of the concerned country. Different country defines a child in different age limits. United Nations in article 1 of CRC 1989 has defined a child as every human being below 18 years age unless any legislation of a country recognizes otherwise (OHCHR 2018). In Bangladesh definition of a child has been decorated in the Children Act, 2013. Section 4 of the Children Act, 2013 declares that a child means a person not exceeding 18 year's age to fulfill the purpose of the act. This age limit has been fixed aligning with the UN age perimeter. In other laws, a child may be defined in different age limits but the age limit described in the Children Act, 2013 will override other laws in serving its purpose.

Safe Water: Safe water means that water which does not cause any vital risk to the consumer's health for consuming throughout the lifetime.

Sanitation: Sanitation denotes promotion of health through treatment as well as safe disposal or clearance of faeces, surface drainage and solid waste.

Hygiene: Hygiene means the conditions or practices beneficial to maintain or preserve health and to prevent disease, particularly by cleanliness (LGD 2014).

2. Genesis of WASH

Access to safe water as well as decent sanitation has been recognized as human rights on 28 July 2010 by the UN General Assembly by Resolution 64/292. These rights are indispensable for the life of human beings and their dignity that means these rights are the foundation of realizing the entire human rights. The Resolution urges the countries along with international organizations to give monetary resources, assist in building capacity and transfer technology to facilitate countries, especially developing ones with a view to delivering safe, clean, accessible and affordable drinking water as well as sanitation for everyone (UNDESA no date).

The UN Committee on Economic, Social and Cultural Rights has also identified 'water as a human right' by its General Comment No. 15 in November of 2002. Its article I.1 declares that to lead a life as a human with dignity the right to water is essential. The document defines the right to water as adequate, safe, suitable, physically accessible and affordable water for everyone for personal as well as domestic uses (UNDESA no date).

The country has launched a National Sanitation Campaign in 2003 and since then Government has inspired a partnership approach with the local government institutions, NGOs, development partners as well as civil society. Overall this multi-stakeholder partnership has created a large platform in putting synergistic effect in escalating coverage of sanitation. Bangladesh cherishes to establish her as global water security research observatories amongst three with a view to designing, testing and augmenting innovations based on evidence to secure national, regional and worldwide benefits.

In Bangladesh, the private sector too places important contribution toward the improvement of the WASH sector through delivering goods along with services; it sets up approximately 300,000 hand pump tube wells as well as 10 lakhs toilets every year.

At the local levels, community-based WASH delivery approaches also developed, scaled up and become successful which have been supported by LGIs and NGOs. Amongst the approaches, CLTS campaign is a top successful one that has been supported by the Government,

UNICEF as well as other partners. The campaign highlights the social along with behavioral changes required for discouraging open defecation.



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In 2007, UNICEF and Bangladesh Government introduced the urban component of the sanitation in the ‘Hygiene Education and Water Supply in Bangladesh Project’ (SHEWA-B) which is a countrywide programme that targets to bring 30 million people of rural and urban areas. The aim of the SHEWA-B Urban component is to decrease mortality, morbidity, as well as malnutrition caused by water and excreta linked diseases, particularly amongst women and the children in 31 urban municipalities. Decreasing the attack of diarrhoea helps to inspire school attendance as well as raise completion rates.

The project intends to increase the standards of hygiene-related behavior (especially hand washing), progress the accessibility to safe water as well as anticipated to obtain 100 percent sanitation coverage by 2010 in the areas of the programme.

A national campaign on hand washing was launched by UNICEF marking the International Year of Sanitation 2008. A campaign song as well as other few programmes broadcasted on TV and radio explaining the benefits of appropriate hand washing. UNICEF collaborated the Government in different other public programmes in 2008 for raising the people’s sanitation profile (UNICEF 2015).

Today, the WASH sector possesses sectoral policies, plan and strategies. The Government has formulated ‘National Hygiene Promotion Strategy for Water Supply and Sanitation Sector in Bangladesh 2012 and other legislations (LGD 2012). The Government of Bangladesh has public commitments that 60 percent of the masses will use improved sanitation by the year 2016 while 100 percent use of improved sanitation by 2021. For creating awareness on sanitation, October month is being observed as ‘Sanitation Month’ throughout the country. LGD, DPHE, Field Administration and LGIs have been observing the programme countrywide. Observance of the programme extensively up to root level may bring immense result in the sanitation field.

3. Three Pillars-Water, Sanitation and Hygiene

Access to safe drinking water, improved sanitation and hygiene (WASH) are crucial for the welfare of the family and these 3 pillars play an important role in preserving health. Many water-borne infections like diarrhoea are caused by contaminated water and that contaminated water also works as a transporter for vectors, for instance, mosquitoes spread epidemics.

Open defecation and use of open or unsealed latrines mean no sanitation. Sanitation plays a positive role in family literacy and places contribution to the social and economic development of a country. Furthermore, improved sanitation assists the environment.

On the other hand, infection cannot be prevented only by drinking safe water and using improved sanitation; for preventing infection requires good hygiene practices. A small habit of washing hands puts a huge role in preventing diverse diseases. A combined success in each of these three areas can bring good results in controlling enteric diseases as well as boost up the health of the household members, especially maternal and child health (BBS and UNICEF 2016).

4. The Child and WASH

For keeping health fit of the children, services of water and sanitation are critical. Economic benefits are generated; dignity is increased; social development is fastened and the environment is helped to remain at a desired level by the water and sanitation services. Concurrently, proper hygiene practices immensely contribute to the improvement of health that eventually assists in reducing child as well as neonatal mortality. Bangladesh has improved a lot in sanitation especially in rural areas through experiment and execution of innovative approaches, and consequently, open defecation has been reduced dramatically to 3 from 34 percent. This success has emerged Bangladesh as a leader in the Asian countries (UNICEF 2015).

Challenges prevail in the water sector are the quality of water, accessibility throughout the year and salinity. In the sanitation sector, the challenges are the insufficient sanitation facilities, meager hand washing practices, etc. All these challenges seriously affect children's welfare as well as their development in the physical and mental aspects. Side by side, other factors like quick urbanization, decrease in water levels, climate change vulnerability, natural hazards, etc. make the challenging situation compound and difficult. It should be mentioned here that maximum schools have created the scope of accessibility to water as well as sanitation facilities, but the alarming fact is that these are frequently seriously unhygienic, non-functional and very often non-available for use of the students which put a negative impact on the enrolment, presence, retention, and rates of attendance.

At present, the key challenges for the water as well as sanitation sector are to furnish them for meeting the rising challenges of delivering improved, equitable as well as sustainable services to each and every one. In Bangladesh, the percentage of access to improved sources of water remains high relatively compared to many other countries in South Asia as the country has a rate of 87 percent. Collection of water by households from improved sources has

been increased significantly since 1990. Anyway, the figure contains harsh variations in various fields, for instance, coverage and quality variation amongst districts, unions, communities, educational institutions and also within households.

A National Sanitation campaign began in the year 2003 and enormous progress achieved. Despite the progress, the rate of access to improved sanitation stay moderate that is 56 percent, with a rate of 28 percent shared facilities especially in slums of urban areas. A strong correlation is seen between the WASH sector's links and affects with nutrition that is between drinking water of households and the stunting of children aged below 5 years. It is found from 400 regular and protracted hit of diarrhoea that occurred due to poor hygiene practices as well as drinking water holding faecal coliforms persist to hamper physical development of the children and also cause stunting as well as malnourishment.

It is found that children living in the households having unimproved sources of drinking water are considerably facing more risk: In total, 57 percent of children belong to these households were identified as stunted, wasted or underweight while 31 percent children of the households having improved sources of water suffered from the problem.

There is also a strong correlation between severe stunting or underweight and unimproved sanitation use. In general, the percentage of children stunted, wasted or underweight is greatly higher for the children living in the households using unimproved sanitation or practicing open defecation (48 and 64 percent respectively) than those children living with improved sanitation (37 percent).

Hygiene has generally a 'weak or poor link' with the WASH sector and that carries enormous diseases burden because of the use



of unsafe water or insufficient supply of safe water. Most people have knowledge regarding key messages but the proportion of effective practice of hand washing at the key times is extremely low that is after defecation 26 percent, before preparation of food and eating 1 percent, and before feeding a child 4 percent. Water as well as soap is readily accessible and available all over the country and in the households but frequently soap and water are not adjacent or close to a latrine that decreases the practice of hand washing significantly.

Usually children suffer from 3 to 5 episodes of diarrhea averagely every year that causes serious dehydration as well as malnutrition. Although there are initiatives of national hygiene promotion, the actual impact is still low due to different reasons. Traditional beliefs, for instance, some people think that the stool of a young child is not harmful or detrimental, stay high. The language may also be a impediment for communicating messages of hygiene effectively in the hard-to-reach regions like Chattagram Hill Tracts as there some of the ethnic minorities do not know Bangla and remain hugely out of the campaigns of national hygiene promotion by the mass media. Therefore, special programme may be arranged for the ethnic minorities who do not know Bangla and for the people living in the hard-to-reach areas like char lands.

5. The Child, WASH and Related Articles of the CRC 1989

Out of the 54 articles of the CRC 1989, article 6, 24 and 27 have a direct or straight link towards WASH services for the children. The articles are being stated below:

Article 6: Right to life, survival and development is critical for a child and without these rights children are unable to enjoy their economic as well as social rights. Article 6:1 briefs that right to life is inherent for each child while Article 6:2 mentions that the signatory countries must confirm the survival as well as the development of each child to the highest possible. This principle directs that every child possesses the right to progress complete or full potentials in terms of physical, spiritual, ethical, mental or psychological along with social fields.

Article 24: Every child has a right to the highest standard of attainable health as well as medical care. Countries must put particular stress in reducing infant as well as child mortality, and in executing the proviso of primary as well as preventive health care along with education on public health. They shall inspire international cooperation to implement these for children and endeavor to observe that no deprivation occurs in accessing effectual health services.

Article 27: As per this article, each child possesses the right of a standard living sufficient for his or her development in the field of physical, mental, spiritual, moral as well as social areas.

6. WASH and the Constitution of Bangladesh

Two articles related with WASH are found in the constitution of Bangladesh. The articles are as follows:

Article 11: This article declares that Bangladesh will be a democratic country where fundamental human rights, freedoms, dignity as well as worth of the human being have been guaranteed.

Article 18: In this article, increasing the nutritional level and improvement of public health has been recognized as one of the primary duties of the state.

These are directive principles that have been mentioned in ‘Fundamental Principles of State Policy’ in Part II of the constitution (GoB 2010). The principles are directive to the government but not judicially enforceable. The state will

7. WASH and National Children Policy 2011

In the National Children Policy 2011, WASH issues of the children have been given emphasize in chapter 6. WASH related directives illuminated in the chapter are:

- Adopting needed steps for inclusion of fundamental information on health, nutrition, physical as well as mental health, etc. in the school syllabus
- Conducting regular awareness programme at the grass-root levels all over the country to ensure child rights
- Ensuring special actions for making available sources of safe water and delivering pure drinking water for the children in the saline coastal as well as arsenic affected zones
- Ensuring child-friendly sewerage facilities as well as supplying water in the schools.
- Ensuring sewerage system in the educational institutions as well as job place for female children including adolescents (MoWCA 2018).

8. Plan and Strategies on WASH Sector in Bangladesh and SDG-6

Bangladesh has achieved notable success in ensuring improved safe water as well as sanitation facilities that is in MDG-7. Confirming access to drinking water, sanitation, as well as good hygiene practices for everyone has been given high priority in the Perspective Plan 2010-21 by the Government of Bangladesh and support to these has been considered as fundamental for sustainable national development; upgrading the people's standards of living as well as increasing welfare (GoB 2012). The Government is committed in its 7th Five Year Plan (2016-20) to ensure availability of safe drinking water as well as improved sanitary facilities by the end of the plan period (GoB 2015). The country has prepared a Sector Development Plan 2011-25 for water and sanitation. The Government has formulated 'National Hygiene Promotion Strategy for Water Supply and Sanitation Sector in Bangladesh 2012' (LGD 2012). To implement the plan, a 'National Strategy for Water Supply and Sanitation 2014' has also been made. For achieving the sector goal, 17 strategies have been identified which are broadly categorized into 3 themes- 1. WASH Interventions- to increase coverage as well as improve WASH interventions quality 2. Emerging challenges- to address promising challenges in the sector, and 3. Sector Governance- to strengthen the governance system of the sector (LGD 2014).

It needs to be mentioned that the Bangladesh Government is committed to implement the Agenda 2030 of the UN. In pursuit of its own development trajectory and promise to the accomplishment of the SDGs, Bangladesh Government incessantly invests in social sectors like health and education apart from adopting various policies to eradicate poverty and strengthening social protection. Concomitantly, Government also initiates as well as revises policies to address changing requirements of health and education. And ensuring provisions of basic services like WASH will require a considerable amount of direct, indirect physical as well as financial resources from the government and the society.

The Government is committed to achieving the targets of SDG-6. The targets of the SDG-6 are to ensure universal and equitable access to safe and affordable drinking water for everyone; confirm sufficient and equitable access to adequate as well as equitable sanitation and hygiene for all, eliminate open defecation, put particular attention toward the requirements of women, girls and other people remain in vulnerable positions. Other targets are to increase water

The Government is committed to achieving the targets of SDG-6. The targets of the SDG-6 are to ensure universal and equitable access to safe and affordable drinking water for everyone; confirm sufficient and equitable access to adequate as well as equitable sanitation and hygiene for all, eliminate open defecation, put particular attention toward the requirements of women, girls and other people remain in vulnerable positions.

quality by decreasing pollution, remove dumping as well as lower the release of hazardous chemicals and materials, make half the proportion of untreated wastewater and consequently augment recycling as well as safe reuse worldwide, improve the efficacy in using water, execute integrated water resource management, expand international cooperation and build capacity and ensure participation of local communities. Execution of these promises may demand a significant amount of physical as well as financial resources (United Nations 2018).

9. WASH Situation in Bangladesh

In the globe, about 1 billion people have a deficiency in accessibility to safe water and in the case of sanitation, 2.4 billion people of the universe lack improved sanitation. In that perspective, Bangladesh, a country of 170 million people has made significant progress in the WASH sector during the last two decades. As per the JMP 2014 published by WHO and UNICEF, 85 percent of the people in Bangladesh possess accessibility to safe water while amongst the population, 57 percent enjoy hygienic sanitation facilities. As per latest data, 87 percent of people have access to improved water sources.

Bangladesh has effectively decreased the proportion of the poorest people with no access to water as well as sanitation facilities. Despite successes, there are enormous challenges in ensuring safe, affordable, dependable as well as sustainable WASH services for all of the inhabitants of the country. Safety issues of drinking water undermine the quality of water in Bangladesh (LGD 2014). Critically, the country has been suffering from arsenic contamination in water and the situation is one of the worst ones in the globe.

The chemical carcinogen carries the characteristics of skin manifestation to deadly heart diseases, lung disease as well as multiple cancers. Nearly 1 in 4 households have water that bears arsenic content over global standards; it means that around 20 million people of Bangladesh drink arsenic-contaminated water and half of this exposed population lives in harshly affected regions. In the harshly affected regions over 80 percent tube wells have become injurious to contamination while 800,000 water points are identified as contaminated. Approximately, 42,000 deaths yearly are caused by fatal arsenic. Moreover, it is estimated that 3 out of 5 sources of water provide manganese over national standards and evidence indicates that the intellectual development of children is impaired by high levels of manganese.

Ensuring the use of safe drinking water still remains a challenge as 41 percent of the population drinks water from sources with fecal contamination. Only 61 percent of the population use improved toilet facilities and 59 percent have specific places for hand washing, equipped with soap and water. A significant component of good hygiene is hand washing. Hand washing is a must at times of after defecation, afterward cleaning the bottom or disposing feces of a baby, before preparing and serving food, before eating or before feeding the child. These are critical times of hand washing. In Bangladesh one-fifths of the households do not have hand wash facilities within five meters of the latrine while 21 percent of the rural households do not have any such hand wash facilities (BBS, IMED and UNICEF 2017).

As per the JMP 2014, over 50 percent of the latrines that are used in the country are unhygienic in design, operation or in maintenance. Amongst the total population, 3 percent defecates in the open. Regarding hygiene, the percentage of people wash hands by soap or ash and water following defecating is only 30.

Over 20 percent of areas of Bangladesh are rated as tremendously hard-to-reach with the water as well as sanitation services that cover around 28.6 million people. On the other hand, the scenario of urban areas regarding sanitation coverage and hand-washing is not still up to the mark.

A Survey was conducted during 2016 in the urban areas of Bangladesh by the Bangladesh Government, Bangladesh Bureau of Statistics and UNICEF, titled as 'Child Well-Being Survey in Urban Areas of Bangladesh 2016' which also dealt WASH and the results of urban areas are as such (BBS and UNICEF 2017):

- ☐ 99.2 percent households use drinking water from improved water sources
- ☐ Around 57.3 percent of urban population is using improved sanitation facilities (not shared with members of other households). But it varies by type of urban areas as such 51.3 percent in City Corporation non-slums, 18.9 percent in City Corporation slums and 62.4 percent in other urban areas. Use of improved sanitation facilities (not shared) is the highest in Barisal (80.7 percent), and lowest in Dhaka (47.1 percent)
- ☐ Overall 56.7 percent of urban population use both improved drinking water source and improved sanitation facility. In City Corporation non-slums the percentage is 50.5, City Corporation slums 18.2, and other urban areas 61.9 percent. It is found that in City Corporation slum areas the percentage is very low.
- ☐ In general, 55.4 percent of households has specific place for hand washing with water and soap available. But the percentage varies based on the nature of urban areas as such 67.1 percent in City Corporation non-slums, 35.4 percent in City Corporation slums, and 51.1 percent in other urban areas.

WASH in urban Areas



Sanitation facilities

57%

Only 3 in 5 households use improved sanitation facilities.



Only 2 in 10 households in CC slums use improved sanitation facilities compared to 5 in 10 non-slum areas-

19%

CC slum areas



51%

CC non-slum areas



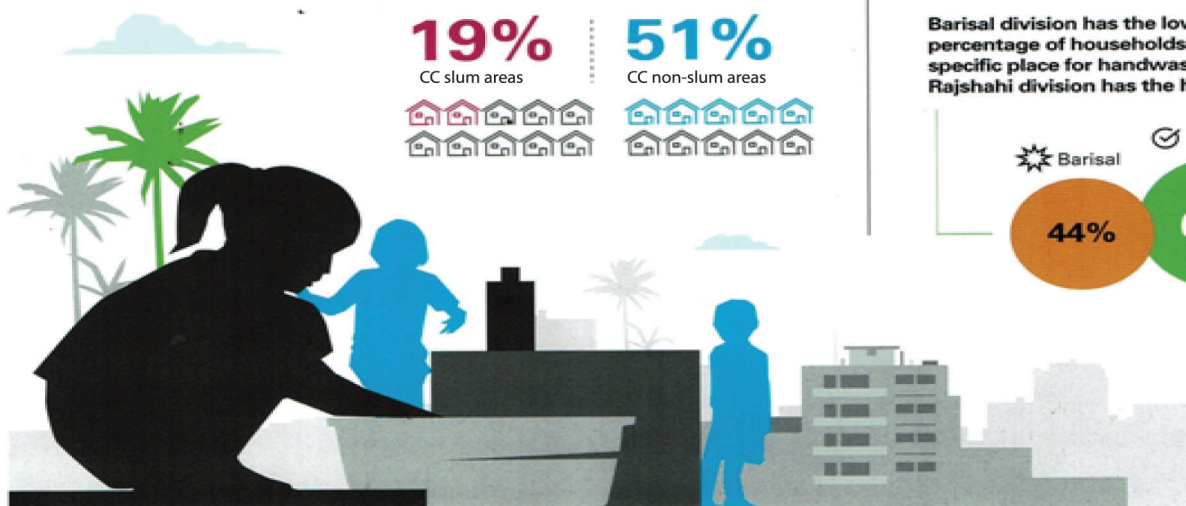
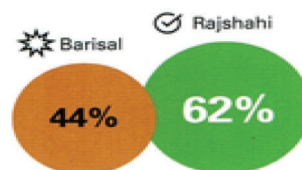
Handwashing

55%

of households have a specific place for handwashing where water and soap or other cleansing agent are present.



Barisal division has the lowest percentage of households with a specific place for handwashing, while Rajshahi division has the highest.



Data Source: BBS and UNICEF 2017

10. WASH - Study on Situation in Bangladesh Schools

A study report was published by HDRC during 2011 on WASH in schools which was supported by UNICEF. The survey was conducted on 992 schools in 12 districts out of total 97,074 schools of the country. The findings of the key indicators of WASH are as follows:

Sources of water: The study shows that 83.5 percent of the schools have water supply sources within the school campuses but access to functional water supply in the sample schools was 76.1 percent.

Availability and Adequacy of Water: The study reveals that 84.5 percent of the schools have all the year round water supply. All the year round water supply facility is higher in secondary schools compared to primary schools that are 95.4 versus 79 percent. No considerable variation on constant water supply is found between the general education schools and madrasahs. Continuous water supply is 100 percent both in government boys' and girls' general schools, but the percentage is higher in boys' schools compared to girls' ones among non-governmental schools that is 93 versus 81 percent. It is learnt that water points in maximum of the schools are not child-friendly. At the same time, ratio of the water points to number of students in primary schools is 1:229 and in secondary schools is 1:257 which is very high.

Quality of Drinking Water: Groundwater needs test to identify harmful components and pathogenic microbes. Out of the total 975 shallow tube-wells surveyed, 57 percent were tested for arsenic where 7 percent were recognized as arsenic contaminated. It is found that water in 80 percent primary as well as secondary schools is suitable for drinking considering photoreceptive requirements.

The distance of Drinking Water Source from the Latrine: The study shows that latrines in 64 percent of the sample schools are located within 15 metres of the water sources.

Sanitation Facilities: The study states that around 94 percent of schools have latrines within their own campuses, 90.7 percent of them being functional, and 9.3 percent of the schools do not have any latrines. Around 19 percent of schools have single functional latrines, 28.5 percent 2 latrines, 14 percent have 3, and 29 percent have 4 or more. Flush or pour flush latrine connected to a septic tank is the most common variety in 85 percent schools. There is one latrine or urinal for 80 students on an average in the sample schools. The ratio is low compared to the agreed national standard which is 1 latrine/urinal for 50 students.

Access to Latrines: In 75 percent of the schools, generally students have open access to the latrines and do not find any problem in using the latrines at any time during school hours. 61 percent that is in maximum of the schools possess unclean schools. At the time of requirements of use, preoccupation of latrines by others occurred in 19 percent and no door or broken door in 10 percent schools. Amongst the 930 schools, 12 schools have latrines for the children with disabilities that mean 1 percent. It is found that no school have user-friendly latrine for the young kids who need closed footrest as well as smaller squatting hole.

Gender Friendliness: It is found from the study that 35 percent of the coeducation schools have separate latrines for boys and girls. Commonly latrines are not separated by gender in primary schools but have separate in 26 percent schools. In two-thirds that is in 66 percent of the co-education schools at the secondary level have separate latrines for boys and girls. The rate of separate latrines is higher in secondary general schools (73 percent) compared to madrashas (48 percent).

Cleanliness of Latrines: Latrines as well as urinals are relatively unclean in maximum schools. Latrines and urinals of secondary schools are comparatively cleaner (54 and 50 percent) compared to those in primary schools (46 and 48 percent). The latrines are generally cleaned by cleaners/sweepers, the staff as well as the students.



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The distance of Latrine from the Hand-washing Places: 22 percent of the schools have water supply inside the latrines. In other cases in the surveyed schools, the average distance between latrines and hand-washing places is 15.1 metres.

Education for Hygiene Promotion: The study states that 90 percent of the surveyed schools have proviso for education on hygiene promotion to students although pertinent issues of hygiene in the curriculum of education are not appropriately addressed. Special advice relevant to WASH matters is given by the teachers during morning assemblies as well as on other occasions. It is learnt that students also get hygiene education during World Hand-washing Day. Merely 19 percent schools arrange separate periods for promoting hygiene education in the class routines. Around 2 percent of schools possess teachers who are trained on sanitation as well as hygiene promotion education while the madrasahs do not have any trained teacher on sanitation and hygiene promotion (HDRC 2011).

11. National Budget and WASH

Bangladesh has achieved significant progress in financing the WASH sector. Allocation in the WASH has risen to Tk. 65.09 billion in the Financial Year 2017-18 which was Tk. 25.63 billion in the 2007-08 Financial Year. It is important to note that allocation in the WASH sector in the budget of 2018-19 Financial Years has increased to Tk. 680.49 crore. But this increase is low compared to the considerable GDP growth as well as the growth of the National Budget. Besides, geographical inequality is found where cities and towns receive maximum allocation despite acute wants of the char, hilly, coastal and rural regions. And there is also under-utilization of the allocations (WaterAid no date).

12. WASH - Supports of UNICEF

UNICEF has a big support toward WASH sector in Bangladesh. The agency works to progress sanitation coverage and promote hygiene practices. It is learnt that UNICEF has a budget for WASH sector for 2019 US\$ 21.22 million of which US\$ 8.5 million for Cox's Bazar.

The Sanitation, Hygiene Education and Water Supply in Bangladesh (SHEWA-B) project of UNICEF intended to cover 30 million people. The project is executed through 10,000 CHPs in 19 districts of the country.

Sanitation for health and comfort: Families are encouraged by CHPs to spend money in improved latrines. Improve latrines isolate excreta from the human environment. The hygiene promoters inspire the masses to defecate in a permanent or fixed place as well as remain away from the sources of water. The hygiene promoters encourage attaining this first step of proper sanitation.

Mapping toilets: For mapping toilets, community members of Meet for Water and Sanitation Assessment visited their village and prepare maps showing all houses, pumps, toilets as well as waste sites and the map is being used for making plan for the improvement of sanitation in future. Around 1.3 million latrines had been installed by 2010 by the communities by their own money under the SHEWA-B Project.

Community hygiene promoters: 10,000 CHPs of SHEWA-B project in 19 districts were trained to educate their neighbourhoods regarding health as well as economic benefits of appropriate sanitation, disposing of wastes and good hygiene. The promoters visit the women at their homes, arrange courtyard, tea-stall as well as school sessions. It needs to be mentioned here that the CHPs include both male and female, they were young and belong to local communities.

Hand-washing with soap: A national campaign on hand washing was launched by UNICEF observing the International Year of Sanitation 2008. A campaign song as well as other few programmes were broadcasted on TV and radio explaining the benefits of appropriate hand washing. The CHPs highlights the essence of hand washing with soap or ash especially after defecation and before eating in the education sessions (UNICEF 2015). After a formative research report published in 2010, project strategies as well as approaches were made sharpened. Mothers of under-5 years children as well as the primary school students brought under the project to address the issues of WASH and a rigorous hygiene promotion campaign was organized in 2010 reaching 10 million more people.



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School sanitation and hygiene: Based on the success of the school sanitation, it has been included in the Primary Education Development Programme. Schools having appropriate sanitation, students miss fewer days of class. The CHPs carry on working with local schools to interpret hygiene behavior as well as supporting the improvement of WASH in the plans of the schools.

13. WASH in Bangladesh– Key Challenges

1. Viewing safe water as well as access to decent sanitation as human rights is a key issue for countries like Bangladesh. Need to remember that these rights are inevitable for life as well as dignity and also the base for obtaining a wealth of the right to health, development and other human rights.

2. Other main challenges prevailing in the WASH sector are ensuring quality water, accessibility to safe water for the whole time of the year, insufficient facilities of sanitation and poor hand washing practices which harshly affect the welfare of the children as well as their bodily

and mental development. The deficit of knowledge regarding the impact of WASH on health and nutrition is momentous. Other critical factors i.e. poverty, quick urbanization, water levels declination, and vulnerability to natural disasters including climate change compound the exigent WASH situation. Furthermore, the condition of WASH in the slums of urban areas is mostly insecure and has low access that seriously requires strong sludge as well as solid waste management practices. On the whole, reaching to around 28.6 million people of extremely hard-to-reach areas (over 20 percent areas of the country) with services of water and sanitation is a key challenge.

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3. Solving the issue of arsenic contamination of water along with various diseases burden from this known carcinogen is a severe challenge in ensuring safe water for the children as well as the adults.

4. There is a considerable link as well as the effects of the WASH sector to nutrition. A strong correlation prevails between household drinking water and under-5 child stunting, wasting and underweight. Therefore, the WASH sector requires special attention.

5. Increasing allocation to WASH sector in the national budget aligning with the growth of GDP and the national budget, removing spatial inequities between urban and rural areas or hard-to-reach areas are prevailing as critical challenges. Conversely, although the rate of utilization of expenditure against allocation in the WASH sector has been rising over the recent years, the use of the allocated budget still exists as a challenge since it has been hovering approximately 80 percent for the last few years.

6. DPHE has been made responsible to provide safe water and to ensure sanitation in every part of Bangladesh except the WASA covered areas in Dhaka, Chattagram, Rajshahi and Khulna. The department has a lack of expert manpower, technically sound mechanics, adequate allocation, logistic support and proper training for the district and Upazila level employees. To overcome all these issues is not so easy.

7. Local Government Institutions are expected to plan and execute WASH activities, help in executing and coordinating the planning as well as development functions of the WASH projects of Government and also the activities of the sector partners. However, at local levels, there is inadequate human resources and acute need for strengthened technical solutions.

8. To include women hugely in WASH sector mainstream activities may be a big challenge. In families, women play a vital role in managing water and sanitation and sometimes women are regarded as the guardians of hygiene enforcement. To involve women widely in planning, execution, operation as well as maintenance of WASH services will require intervention that is needed to empower women and augment their representation in the organizations of the community and existing committees of WASH sector.

9. The duty bearers at the community level i.e. water user groups, community latrine user groups, committees of water & sanitation, SMCs & CHPs can play a critical role in water quality & sanitation matters. The CHPs generally highlights more on the issues of health while giving small focus on promoting hygiene. However, there might be a deficiency in the field of skills on quality of water, the infrastructure of latrines, required mechanisms on the operation as well as maintenance amongst the duty bearers.

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10. In the meantime, technological innovations occurred in WASH sector i.e. smart hand pumps by using ICTs for measuring, monitoring and improving water security of rural areas and the engineering for improvement of water quality through application of nanotechnology as well as biosensors.

It could be mentioned that the country has the opportunity to set up a water-secure risk framework by the use of state-of-the-art integrated modeling from local to national levels for predicting water risks as well as consequences which will notify better investment for reducing poverty, improving child health as well as deliver value for money. Other innovations, for instance, managed aquifer recharge as well as solar pumps may bring good results. To use technological innovations in all areas is a gigantic as well as challenging task.

11. Field administration has a noteworthy role in promoting, coordinating and monitoring the WASH activities. At the field level, Deputy Commissioners and Upazila Nirbahi Officers can expedite the WASH activities vigorously. Simultaneously, District, Upazila and Union WatSan Committees have critical roles in supervising, coordinating and monitoring WASH activities. It is very crucial to accelerate the activities of the field administration and the committees in this regard.

12. Developing as well as implementing vigorous coordination, monitoring as well as evaluation system is central to determine the track of the WASH sector in accomplishing its goals as per its sector plan 2011-2025 and the SDG-6. The sector plan 2011-2025 and the prevailing strategies need to be aligned with the SDG-6. Various benefits may be obtained from a robust coordination and monitoring system. The benefits may be the avoidance of duplication, synergy creation amongst concerned ministries, escalating mechanisms in finding out the causes of good or poor performance; creating easy and more accountability of the service providers in respect to their performance transparently and supplying of better and real-time information to assess the efficacy of policies, plans and strategies.

14. Underlying Causes of Key WASH Challenges

There are various root causes behind the challenges of WASH sector in Bangladesh which have been identified as follows:

- Poverty
- Arsenic as well as E. coli contamination in water extensively
- Quick urbanization along with issues of accessibility to hard-to-reach areas
- Absence of low-priced water quality testing services as well as technologies for the households
- Viewing sanitation as a secondary requirement in life as well as inadequate allocation to sanitation projects especially for rural areas along with slums of urban areas
- A high proportion of shared sanitation facilities
- Insufficient gender-sensitive as well as disability-centred products of sanitation or hygiene
- Knowledge gap regarding the impact of WASH on health along with nutrition
- Inability to translate hygiene knowledge into practice
- Scarcity of technology including systems for management of solid waste
- Non-availability of climate-resilient technologies; recurrent devastation of WASH infrastructures by natural disasters
- Some harmful social norms as well as cultural beliefs which persuade the practices of WASH

- A capacity gap of LGIs and other public institutions.
- Entrance of Rohingyas with huge number of children in Bangladesh from Myanmar.



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15. Water, Sanitation and Hygiene-Way Forward

Despite significant achievements in the WASH sector during the last two decades, Bangladesh needs to do a lot for confirming universal accessibility to safe water, sanitation as well as first-class hygiene practices. Worldwide, presently the actual challenge is to realize WASH as human rights meaningfully in the states of the globe. To achieve this in Bangladesh, the following recommendations may be executed:

Policy/Strategy

- ▶ WASH sector needs to be declared as a highly prioritized sector.
- ▶ Allocation in the WASH sector should be increased proportionately, adequately and equitably in the budget. In allocating resources in WASH, spatial inequities may be addressed where issues of rural, hard-to-reach areas, lagging regions, water-challenged areas, and standard WASH practices at schools for children will be highly prioritized.
- ▶ Need to revise the ‘Water Supply and Sanitation Sector Development Plan (2011-2025)’ and the ‘National Strategy for Water Supply and Sanitation 2014’ and aligned with SDG-6. Issues of children must be considered in doing so.
- ▶ Harmonized approach for arsenic mitigation needs to be adopted.
- ▶ Importance should be given on the neglected issues like Faecal Sludge Management as well as hygiene.
- ▶ Additional priority to Integrated Water Resources Management may bring a good result.
- ▶ In the school curriculum, the contents of the WASH sector should be included appropriately and there should be practical aspects.
- ▶ Linking all activities of the WASH sector to SDG-6, 16,17 and a multi-pronged approach for all with special consideration to the needs of children.

Institutions/ Governance	▶ To avoid the gap between allocation and expenditure and to utilize the allocation fully and more effectively, institutional capacity development at national and field levels i.e. LGD, DPHE and its field offices, WASA, and LGIs. Work culture should also be changed. ▶ Need to strengthen Field Administration & WatSan Committees at field level. Field administration should be made effective and prompt in the WASH sector considering the issue of the children. Need to engage the local communities in the WASH activities.
Programmes/ Projects	▶ To speed up WASH service delivery, sectoral programme approach. ▶ In schools as well as in health centres WASH facilities together with the facilities of menstrual health management. ▶ Stress on awareness and promotional programme especially on safe water, better sanitation and hygiene practices like hand washing with liquid soap or soap at vital times. To increase the percentage, social as well as behavioural change along with health messages widely. C4D activities can play a critical role. ▶ In urban slums and hard-to-reach areas, ‘100 percent coverage approach’. ▶ In the field of improved sanitation, creating a strong linkage between hand washing and solid waste management. ▶ Early emergency preparedness on safe water and improved sanitation for managing disasters. ▶ More support to involve women in WASH planning, execution, operation as well as maintenance. ▶ To support persons having disabilities, compulsory proviso on public water supplies as well as toilets. ▶ Intensive training to enhance capacity building both at national and local levels.
Monitoring & Evaluation Data/Knowledge Management/Innovation	▶ Strong support for nationally quality surveillance as well as reporting structure. ▶ Strong supervision, coordination, monitoring along with reporting structure emphasized on equity and children at all levels. ▶ Encouraging climate-resilient WASH technologies. ▶ Promoting new technologies to tackle challenges of water quality, all-time access, operation including maintenance as well as gearing up pilot measures on substitute technologies. ▶ Developing a strong evidence base regarding the impact of arsenic, manganese, salinity as well as faecal contamination on health for effectual advocacy. ▶ With a view to generating available ‘Real-time data’ adopt changes in knowledge as well as practices including the changes of norms.

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Annexure-1

SDG-6. Ensure availability and sustainable management of water and sanitation for all

Target	Indicator
6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all	6.1.1 Proportion of population using safely managed drinking water services
6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations	6.2.1 Proportion of population using safely managed sanitation services, including a hand-washing facility with soap and water
6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing the release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally	6.3.1 Proportion of wastewater safely treated 6.3.2 Proportion of bodies of water with good ambient water quality
6.4 By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity	6.4.1 Change in water-use efficiency over time 6.4.2 Level of water stress: fresh water withdrawal as a proportion of available freshwater resources
6.5 By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate	6.5.1 Degree of integrated water resources management implementation (0–100) 6.5.2 Proportion of transboundary basin area with an operational arrangement for water cooperation
6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers, and lakes	6.6.1 Change in the extent of water-related ecosystems over time
6.a By 2030, expand international cooperation and capacity-building support to developing countries in water and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies	6.a.1 Amount of water and sanitation-related official development assistance that is part of a government-coordinated spending plan
6.b Support and strengthen the participation of local communities in improving water and sanitation management	6.b.1 Proportion of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management

Arsenic Contamination In Bangladesh

Percentage of Contaminated Wells (Union level)

