Government of Bangladesh
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Water Supply and Sanitation Sector in Bangladesh

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Sanitation and Hygiene in Schools

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The working documents were used as background materials for preparing the Sector Development Plan (SDP). The factual information and views expressed in the working documents are of the authors and does not necessarily of the Policy Support Unit or of the agencies that the authors belong to.

Contribution to Sector Development Plan of Water supply and sanitation: Water, Sanitation and Hygiene in Schools (WASH In Schools)

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1. Introduction

All children perform better and have enhanced self-esteem in a clean, hygienic environment. Properly used and maintained sanitation facilities and an adequate supply of water for personal hygiene and hand washing prevent infections and infestations, while also contributing to overall public health and environmental protection.

School Sanitation and Hygiene Education Programme that combine improved sanitation and hand-washing facilities with hygiene education in schools can improve the health of children for life and can promote positive change in communities. Field assessments show that teaching children the importance of hand washing and other good hygiene habits promotes increased knowledge and positive behavior change, especially when the schools are equipped with an adequate number of safe latrines and sufficient water for washing. Therefore, investment in school sanitation and hygiene education is very much worthwhile for two reasons. Firstly, access to sanitation facilities is fundamental right that safeguards school children health and dignity. Secondly, early childhood is right age to develop hygiene related appropriate behavior. (Evidences on impact of WASH-in-Schools can be found in Annex C.)

The sanitary conditions of schools in rural and urban areas in Bangladesh are often awful, creating health hazards and other negative impacts; thus schools are not safe for children. Although water and sanitation facilities are recognized as fundamental for hygienic behavior and children's well-being, in practice, the sanitary conditions in most schools are woefully inadequate. Water supply, sanitation and hand washing facilities are either non-existent, too few or inadequate due to poor maintenance of water systems and toilets or latrines. Lack of facilities is only part of the problem. Where they are present, facilities are not adapted to the needs of children, in particular girls. Also the motivation of teachers and head teachers to provide offer skills-based hygiene education is not always evident.

In addition, WASH-in-schools focuses on the fact that schools have important roles to play in protecting children and their families from water and sanitation related diseases and illnesses through the development of life skills on hygiene and also by mobilising and involving parents, communities, governments and institutions to work together on the success of improvement of hygiene and water and sanitation conditions.

Providing adequate water and sanitation in schools is essential if the enrolment, learning and retention of girls is to improve and it is also key to meeting MDGs 2 and 3. Lack of appropriately private and sanitary facilities has a greater impact on girls than boys, contributing to decisions on whether they ever attend, and then influencing how long they stay in school. Girls sometimes do not attend school during menstruation or drop out at puberty because of a lack of sanitation facilities that are separate for girls and boys in schools.

WASH-in-schools is widely recognized for its important role in achieving water, sanitation and hygiene for all and achieving the Millennium Development Goals (MDGs):

- Millennium Development Goal 2 focuses on achieving universal primary education. The target here is to achieve a situation where all boys and girls complete primary education by the year 2015.
- Millennium Development Goal 3 focuses on gender issues and includes an associated indicator on schooling.
- UNICEF has specifically committed itself to the goal of water and sanitation facilities in all primary schools by 2015.

2. Present status and resource for improvement of school WASH facilities

A study on 4,333 schools in GOB-UNICEF project (2002-2005) area showed that there were on average, 246 students and 4 teachers per schools. There were no water sources in 19% schools; non-functional in 28% schools; functional in 53% schools. No latrine in 6%; not functional in 13%; one functional in 25%; two functional in 44%; 3 or more in 12% schools. 46% of schools had separate latrines for girls. On average, one latrine per 152 pupils; worst was one latrine for 479 pupils.

Also other sources confirm the big needs. According to the School Survey report 2007, published by DPE 43 % GPS and 65% RNGPS do not have separate *latrines* for boys and girls in the schools. The same report shows that there are only 385 schools, representing less than 100% of the total numbers of school have toilets accessible to physically challenged children. The situation regarding safe water is also miserable in the schools. As per the same survey report 89% of the GPS and 85% of RNGPS have *potable water supply* from tube-wells and in some cases from tap. However, 71% of these tube-wells are in working condition in GPS and 63% in RNGPS. In addition, there are areas where water is only available for six months during 3rd week of June 2nd week of December The rest of the period, there is no water for use and also for cleaning the facilities.

Not much costing information is available, but recently UNICEF calculated the following cost indication:

- In Bangladesh, there are 86,000 primary schools of different categories - government, non-government, community- and NGO-managed. About 40% of these schools need basic facilities and all others require upgrading to reach the Bangladesh standard of 1 toilet for 50-70 students. At the secondary level, the total number of schools is about 30,000. Over 50% of these need basic WASH facilities, while others also need upgrading
- The costs of new water and sanitation facilities are around US$ 3,000 per school, and $1700 is estimated to be needed for rehabilitation. On average another $1000 is needed for basic hygiene promotion training for school management committee members, teachers and education officers at different levels. This

means that total of US$320 million is needed for new facilities and hygiene promotion in schools: US$ 250 million in 34,000 primary schools and rehabilitation and hygiene promotion in 52,000 schools. Another US$ 70 million may be needed for new facilities in 18,000 secondary schools.

- School water qualities never test in Bangladesh. Provision should be made to test school water qualities, at least one comprehensive baseline survey over 3 years period of time considering existing capacity of the agencies and continue test school quality once a year at least sample basis prioritizing problematic areas such as arsenic affected area. The costs of water quality test are around US$ 50 per tube well. This means US$ 5.8 million will be needed for this purpose.

The actions undertake so far are:

- UNICEF is funding US$ 10 million in hygiene promotion in 9000 primary schools and 650 secondary schools during 2010-11. In addition, UNICEF plans to support construction of new facilities and hygiene promotion for schools in 15 upazila in seven convergence districts, and is aiming to find another US$ 1.5 million in funding to support Bangladesh in upgrading water and sanitation and hygiene promotion in schools.
- BRAC, through its WASH programme, is incorporating WASH-in-school programmes in 4500 secondary schools with special emphasis on adolescent schools. In December 2009, 2320 schools had been covered.

3. Key principles and desired features

The following key principles and desired features and standards that underlie successful WASH-in-schools programmes have been defined based on almost two decades of experience in developing UNICEF WASH-in-school programmes in Bangladesh:

a) Design and construct **child-friendly, gender sensitive, good quality and sustainable facilities in schools** for sanitation, handwashing, water supply, compound fencing and solid waste collection. Decisions on standard WASH designs such as protected wells, rainwater harvesting, piped water or pit latrines with slab, VIP latrines, flush toilets or ecological sanitation etc. are based on financial resources, physical condition, socio-economic circumstances, etc. For schools there are several design considerations that go beyond those technical considerations. A child-friendly, gender sensitive approach to WASH-in-schools aims to design and construct or renovate facilities that are part of the learning environment. The guiding principle of this approach is that facilities should enable, stimulate, and promote appropriate hygiene practices among children.

b) Develop adequate knowledge, attitudes and skills on hygiene **through life-skills based hygiene education and child participation.**

Experience shows that construction of WASH facilities is not enough to improve health. Improving hygiene behaviour can often be as effective as building toilets and is more effective than offering safe drinking water[1].
Life skills-based hygiene education is based on the principle that *new knowledge does not by definition translate into new practices*. Therefore, life skills-based education seeks to instil hygiene practices in children's daily reality, while helping them acquire both the knowledge of appropriate hygiene behaviours and the skills to use them. It takes into consideration that children's learning differs at various stages of their development. A hygiene education program that aims to enable children to translate knowledge into practice must make these developmental differences a key consideration in the program design.

It is important to engage the child's family and community to ensure that the knowledge and practices they learn in school can be transferred into practice at home. Worldwide, experience shows that children can act as potential agents of change within their homes and communities. They are often enthusiastic promoters of the new hygiene skills they have learned, and if the messaging and practices are consistent with the cultural environment, the child's advocacy can lead to better hygiene practices in their homes and communities.

c) **Incorporate parents and community** as target groups because there are several important roles they can play:
   - Key partner during planning and implementation
   - Coordination during emergencies
   - Financial controllers and/or fund holders
   - Operation and Maintenance
   - Community-based monitoring
   - Target group for educational activities

d) **Develop a planning process and management model** that addresses at national, local and school/community level and among different stakeholders important issues like long-term sustainability and going to scale through the set-up of appropriate plans and defining of roles for capacity building and human resources, selection of technologies and services, financial aspects, operation and maintenance and monitoring and evaluation.

e) Create **political ownership** to allow for a demand-responsive approach, scaling up and effective long-term interventions. A favourable policy environment in which government partners actively support and activate the initiative is essential to the success of any programme. Without this, a programme will remain highly subsidised and small-scale and will never outgrow the pilot or test-phase character.

[1] Esrey, S. et al. (1990), "*Health benefits from improvements in water supply and sanitation: survey and analysis of the literature on selected diseases",* WASH technical report no. 66

f) **Joint efforts and partnerships with non-governmental partners** dealing with school health/hygiene or other efforts to achieve child friendly schools. "Others" are not only traditional organisations working through schools, such as NGOs, UN and bi-lateral donors, but also the private sector[2] through for example soap and toothpaste producers who promote hygiene behaviour among school children. The main motivations for partnerships are:

- To jointly advocate for political and social commitments from the government as well as to create a community demand for the interventions. Where democratic leaders are chosen, the voice of the people and civil society influences the political decisions taken.
- To avoid conflicting messages being used by interventions from different organisations.
- To avoid duplicated efforts in the same region or even at the same school.
- To create interest to co-develop initiatives for joint program methodologies and expand the coverage of those methodologies.
- To create common agreements on financing and cost-recovery. If one program is highly subsidised and contracted while for another program there are pre-conditions related to financial and/or physical input from the parents, this can create frictions.

4. Political commitment

On 15 November 2009, an Inter-departmental MOU on WASH-in-schools was signed between DPE, DSHE and DPHE (see Annex B). It defines the roles of all departments and the activities to be undertaken. Those activities are:

A. *Provision of new **water and sanitation facilities** and support for repair and maintenance of the existing facilities for boys and girls with special focus on the needs of adolescent girls.*
B. ***Sanitation and hygiene education** for boys and girls with effective IEC materials*
C. *Promote school as resource centre and enhance relationship between s**chool and community** of its catchments areas. Linkages have to be developed through various activities such as courtyard meeting with parents, mother's meeting and Teachers and Parents Association meetings etc. It is also important to create opportunity for children to understand their surrounding environments. WASH-in-Schools encourages participatory monitoring and motivation by Student Brigades under the guidance and support of teachers and members of School Management Committee community at large.*

As per organisational mandate, DPHE is responsible for offering quality water and sanitation facilities in schools ensure enabling factors that make it easy for the children to practice hygienic behaviours.

[2] See e.g. the public-private Global Handwash Initiative at www.globalhandwashing.org

DPE and DSHE have clear roles in promoting hygienic behaviours of schools children through ensuring life skills approach of teaching in schools i.e. developing a state of knowing, doing and feeling on hygiene. Knowledge cannot be practiced without quality water and sanitation facilities and good quality of facilities will not sustain without appropriate hygiene practice.

Therefore, involved agencies of the Government of Bangladesh, DSHE, DPE and DPHE should continuously play their complementary roles in achieving the goal of universal education focusing on better quality of life. The both organizations should take responsibilities to make sure that all aspects that contribute to healthy hygiene behaviours are being addressed at school level and ensure child friendly learning environment.

Further special roles and issues for policy makers (politicians and senior civil servants) in WASH-in-schools are:

a) **Political support and commitment** WASH-in-schools requires local decision-making (at region, upazila and union level). Communities, parents and school staff must be able to make decisions about the facilities they want and can afford to maintain, and not only contribute money and unskilled labour.

b) WASH-in-schools is more than construction and coverage. The impact of the programme comes through sustaining the facilities, using them as intended, operation & maintenance, and developing appropriate hygienic behaviours. Thus, WASH-in-schools is basically an education programme with construction. This point needs to be accepted and supported by national and local government, by WASH and education personnel and by the public at large. Politicians and policy makers have a crucial role in advocating for this. A first step on this has been taken by the signing of the MoU on 15 November 2009.

c) **Setting up minimum objectives, coverage and standards** Several stakeholders, including policy makers, help set the minimum objectives, coverage and standards. A first step has been taken by the signing of the MoU between DPHE and DPE/DSHE. Flexibility is needed to address local conditions and cultural demands. Experience has shown that one uniform construction plan and model cannot be relevant in all situations. The design *and* the decisions about who constructs facilities depend on the situation. Small schools in active communities may wish to have all the construction done locally. All schools should have a role in identifying their own designs preferably linked with a financial contribution depending on the overall costs of construction (e.g. lowest cost solution is for free or at very low-cost and a more advanced technology demand a high contribution from the (school) community).

d) Co-ordination and follow-up Stakeholders from different sectors (e.g. DPHE and DPE/DSHE, Health, Finance), including policy makers, can stimulate co-

ordinated approaches and commitment among different departments and specialisations. Implementation must be co-ordinated. Construction must be controlled so that it is timed correctly, of good quality and financial resources are used wisely. The policy makers have to make sure that the implementers follow the WASH-in-Schools standards and other related guidelines.

5. Progress monitoring indicators

Examples of progress monitoring indicators for WASH-in-Schools are:

Topic	**Indicators**
Hygiene risk practices of school-children and teachers	The hygiene behaviour among school-children and their perception on what are 'good' and 'bad' practices. The most important practices to be studied are: (1) methods of human excreta disposal and handling (2) hand washing, especially with soap (3) personal hygiene (4) drinking water handling and storage (5) female and male hygiene (6) waste management and water drainage (7) food hygiene
Current hygiene conditions in school	The presence and conditions of water supply, sanitation, hand wash facilities and solid waste disposal all influence to what extent the school children and staff can practice better hygiene. Physical conditions such as cleanliness, inappropriate drainage or hard-to-clean latrine slabs can also bring new health risks.
The primary, secondary and tertiary target groups	Changes in audiences, their quantities, living-conditions and socio-economic conditions, such as: Primary: school children, teachers, other school staff Secondary: parents and other family members Tertiary: wider community, primary health staff, local education officials
Causes that prevent change of hygiene behaviour for each target group	Constraints due to cultural, financial and living condition aspects
How the different target audiences are reached and main messages communicated	The relevance of the messages to both sexes in the different social and age groups, and the effectiveness of ways to get them across such as: through classes, word of mouth, social gatherings, radio, TV.
Hardware outputs	School children with access to facilities (girls/boys/teachers, young/older), number of facilities built, etc.
Type of technology and service level	Details on technologies chosen
System performance	Performance of facilities over time
Cost and cost recovery and operation and maintenance	Financial reports and O&M reports
Organization and management	Effectiveness of School WASH Committee, SMC or other WASH groups in the school or community and inputs provided by individual schools and government representatives
Overall outcomes/impacts of WASH-in-Schools	Health statistics, although impacts will only begin to show up after a critical mass of behaviour change has been achieved for a sufficiently long time. And…just a small proportion of people with diarrhoea or worm infections (who may not be typical) seek official medical care. Attendance rates, preferably specified by age, sex, race, casts

	and social classes
Overall cost-effectiveness of WASH-in-schools	Overall financial overview and if possible an analysis on the financial consequences of WASH-in-Schools (cost-benefits)

Some examples if monitoring exercises for WASH-in-schools are:

- Regular school visits by community committees, officials of DPE, DPE or DSHE, PTA and head master or WASH committee members.
- Regular review meetings at local, municipal, district and regional level
- Community visits to schools
- Quality inspection/review teams from Health and Education departments
- Conventional report system (formats and progress reports)
- Impact surveys by independent evaluator
- Documentation such as case studies and success stories

Annex A:

The Final draft

National Standards of Water, Sanitation and Hygiene for Schools in Bangladesh

Introduction

Water, sanitation and hygiene-in-schools (referred to as WASH-in-schools) are essential to the realisation of children's rights to survival, development and dignity. Through support to national or local interventions that increase equitable and sustainable access to, and use of, safe water and basic sanitation services and that

promotes improved hygiene in schools and increases access to quality education that is more inclusive and child-centred.

The word “school” is used in this document to include pre-primary, primary and secondary schools, boarding and day schools, rural and urban schools, and public, private and faith-based schools and also include all higher public and private educational institutes of the country.

Children spend long hours in schools, the school’s physical environment and cleanliness significantly determine these children’s health and well being. Too often, schools are places where children get infected. Diseases spread even faster where many children gather together for many hours a day in spaces with limited ventilation, unsanitary conditions, ill functioning hand washing facilities without soap, and toilets in poor repair. Good sanitation conditions and hygiene practices lead to less diseases, better health, higher school attendance and better nutrition. Impact of WASH-in-Schools are highlighted below.

If WASH-in-schools efficiently and effectively implemented, school children will:

- ✓ Be more healthy,
- ✓ Perform better in school,
- ✓ Positively influence the hygiene practices in their homes among their family members and the wider community,
- ✓ Have learned to observe, communicate, cooperate, listen and to take and carry out decisions about the hygienic conditions and practices of themselves, their friends and the younger siblings whose hygiene they care for (skills which they will also be able to apply in other aspects of life),
- ✓ Change their hygiene behaviour now and have better hygiene practices in the future when they likely will be parents, teachers, health staff or other workers themselves,
- ✓ Learn about menstrual hygiene and physical and emotional changes during puberty which will stimulate the girls to come to school during menstruation and will avoid menstrual odour, discomfort and potential urinal and vaginal infections, and
- ✓ Practice equal division of hygiene-related tasks (cleaning of toilets, cleaning of solid waste, fetching and boiling water, taking care of sick people), etc.
- ✓ Practice better waste management

In addition, WASH-in-schools focuses on the fact that schools have important roles to play in protecting children and their families from water and sanitation related diseases and illnesses through the development of life skills on hygiene and also by mobilising and involving parents, communities, governments and institutions to work together on the success of improvement of hygiene and water and sanitation conditions.

WASH-in-schools is widely recognized for its important role in achieving water, sanitation and hygiene for all and achieving the Millennium Development Goals (MDGs):

- Millennium Development Goal 2 focuses on achieving universal primary education. The target here is to achieve a situation where all boys and girls complete primary education by the year 2015.
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Concept of WASH in Schools (WIS)

WASH in School refers to promotion of sanitation and hygiene in and through schools to bring about behavioral change that will have lasting impact. It seeks to enable both boys and girls to realize their rights to a healthy and safe learning environment. WASH in Schools includes both hardware and software activities. The hardware component ensures improved water and sanitation facilities through installing or repairing water points, and hand washing and sanitation facilities including waste management. The software component addresses barriers and resistances to new behavior, provide information on health and hygiene and motivates key stakeholders to actions. It emphasizes capacity building of stakeholders and provides them with knowledge and skills to sustain positive hygiene behaviors and improves living conditions.

Evidences of Impact of WASH-in-Schools

Water, Sanitation and Hygiene Education in schools provides safe drinking water, improves sanitation facilities and promotes lifelong health for school children. It enhances the well being of children and their families and paves the way for new generations.

WASH in Schools Improves Children's Health: Water, sanitation and hygiene promotion in school is a first step towards ensuring a healthy physical learning environment. Schools with quality WASH facilities and effective hygiene practice can lessen the spread of disease. Studies showed that more than 40 percent of diarrhoea cases in schoolchildren result from transmission in schools rather than homes. Damage to children's mental and physical development is reduced when the spread of disease is stopped (Koopman, J. S. (1978) *Diarrhoea and school toilet hygiene In Call, Colombia. Am J* Epiderniol107:412-420.)

WASH in Schools Boost School Attendance and Achievement: Education and health work in synergy. Nutrition deficiencies, diarrhoea and worm infestations are all related to inadequate water, sanitation and hygiene and all affect school participation and learning. Adequate supplies of safe water, located near homes and schools, boost school attendance. Project evaluation and research found a 15

percent increase in attendance in Bangladesh when water was available within a 15 minute walk compared to one hour or more. Similarly a study in the United Republic of Tanzania shows a 12 per cent increase in school attendance when water is available within a 15 minute walk.[3]

A programme in Chinese primary schools to promote hand washing by the continuous provision of soap and selection of a 'student hand-washing champion' resulted in healthier children who had 54 per cent fewer days of absence.[4] Children in primary schools in Bogota who reported proper hand washing behaviours in school facilities were 20 percent less likely to report absenteeism than those in schools without good hygiene practices.[5]

Failing to curb infestations such as worms however, threatens children's cognitive development and allows a recurrent cycle of missed school, poorer school performance and increased poverty. Safe water, sanitation and hygiene are major factors in protecting children from worm infestations and other illnesses. The evidence is clear that WASH in Schools can have a positive impact on enrolment levels, ratios of girls to boys attending school, quality of education and achievements. By providing access to WASH facilities and encouraging behaviour change with the participation children, the burden of disease can be lifted and children's opportunity expand.

WASH in Schools Promotes Gender Equality: As in other parts of the society, gender discrimination is prevalent within schools. In many cases, this discrimination is related to cultural beliefs and traditions; sometimes, it is caused by unrecognised problems and also needs. Girls are vulnerable to dropping out of school, partly because many are reluctant to continue their schooling when toilet and washing facilities are not private, not safe or simply not available. When schools have adequate facilities – particularly toilets and washstands that facilitate menstrual hygiene – a major obstacle to attendance is removed. WASH in schools fosters social inclusion and individual self-respect. By offering an alternative to the stigma and marginalization associated with the issues mentioned above. It empowers all student – especially encourages girls and female teachers.

WASH in Schools Reaches the Community because Children Are Agent of Change: WASH in and through schools is one of the best routes to reach entire communities. Involvement of students can lead to community adoption of good WASH behaviours

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[3] Redhouse, David,*'No Water, No School'*, Oasis, vol.Spring/Summer, Water Aid, London, 2004,pp. 6-8, www.wateraid.org/international/about_us/oasis/springsummer_04/default.asp, accessed 29 November, 2009.

[4] Bowen, Anna, et al., *'A Cluster-Randomized Controlled Trial Evaluating the Effect of a Handwashing-Promotion Program in Chinease Primary School'*, American Journal Of Tropical Medicince and Hygiene, vol. 76. No 6, 2007, pp 1166-1173

[5] Lopez-Quintero, Catalina, Paul Freeman and Yehuda Neumark, '*Hand Washing Among School Children in Bogota, Colombia*', American Journal of Public Health, vol. 99 no.1 January, 2009 pp.94-11

and technologies[6] as well as improved Health[7]. Because schoolchildren are agents of change, education for good hygiene practices in schools links students, families and communities. They are first learners. Compared to adults, they can more easily change their behaviours as a result of increased knowledge and facilitated practices. Children and youth may question existing practices in their households and by demonstrating appropriate hygiene, they become agents of change within their families and communities.

Children are role models. What they learn at school is likely to be passed on to their peers and to their own children if they become parents. Teachers are also influential. When supported by school management, they have an important role in developing students' capacities to become community role models.

Basic National Standards of Water, Sanitation and Hygiene for Schools in Bangladesh

In 2009, the World Health Organization (WHO) and United Nations Children's Fund (UNICEF) jointly published the book *"Water, Sanitation and Hygiene Standards for Schools in Low-cost Settings"*, (Adams, J. et al, 2009, World Health Organization, Geneva, Switzerland and UNICEF, New York). These standards describe the minimum required for providing schooling in a health environment for schoolchildren, teachers and other staff. In the area of school water supply, sanitation and hygiene in Bangladesh, these standards can be used to:

- assess the situation in existing schools, to evaluate the extent to which those schools may fall short of the minimum standards;
- set specific targets at local level;
- plan and carry out any improvements required;
- ensure that the construction of new schools meets acceptable quality standards; and
- prepare and implement comprehensive and realistic action plans, so that acceptable conditions are maintained.

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[6] Onyango-Oum, W.,J. Aaggard-Hansen and B.B. Jensen, '*The Potential of Schoolchildren as Health Change Agents in Rurla Western Kenya*, Social Science and Medicine, vol. 61, no 8 October, 2005. Pp 1711-1722, and Rheingans, R., et al., '*Can a School Based Water, Sanitation and Hygiene Education Intervention Catalyze Changes in Household Behaviors and Environment? Evidence from a randomized trial in Western Kenya*; Paper presented at the International Research Colloquium of the Network to Promote Household Water Treatment and Safe Storage, Dublin, 21-23 September, 2009

[7] Bowen, Anna, et al., '*A Cluster-Randomized Controlled Trial Evaluating the Effect of a Handwashing-Promotion Program in Chinease Primary School'*, American Journal Of Tropical Medicince and Hygiene, vol. 76. No 6, 2007, pp 1166-1173

A series of consultation meetings discussed National WASH-In-Schools standards for Bangladesh since February 2009. The major actors of education and water supply and sanitation sectors belonging to government and non-government institutions participated in these consultations meetings. Finally, a one and half day workshop in December 2009 discussed the standards in detail and agreed WASH in School standards for Bangladesh. The workshop was participated by the Directorate of Primary Education (DPE), Directorate of Secondary and Higher Education (DSHE) and the Department of Public Health Engineering (DPHE), Education Engineering Department (EED), Water Aid Bangladesh, NGO Forum, BRAC, Education and Water and Environmental Sanitation Section of UNICEF Bangladesh. Participants of the workshop divided into four groups on the basis of their academic background and professional experience. Each group worked on two relevant issues to propose WASH In School standards for Bangladesh. All groups shared their proposal in the plenary and the draft standards were finalized in the large group. The Chief Engineer of the DPHE circulated the draft to 50 professionals of 5 government agencies DPHE, DSHE, DPE, EED and Local Government Engineering Department (LGED), 15 development partner's organizations for review and comments. Development partner's organizations include Japan International Cooperation Agency (JICA), Canadian International Development Agency (CIDA), GTZ, CARE Bangladesh, Oxfam, WaterAid – Bangladesh, Dhaka Ahsania Mission (DAM), NGO Forum, BRAC, Plan Bangladesh, World Health Organization (WHO), World Bank (WB), Asian Development Bank (ADB), UKAid and UNICEF. Comments received from all government agencies and 9 development partner's organizations.

The standards are designed for use in low-cost settings and deal specifically with:

1. hygiene promotion,
2. control of vector-borne disease,
3. cleaning and waste disposal, and
4. food storage and preparation.
5. water supply (water quality, quantity and access),
6. sanitation (quantity, quality and access),

The school WASH facilities provided should meet the definition of improved drinking water sources and improved sanitation as formulated by WHO and UNICEF in their Joint Monitoring Programme for Water Supply and Sanitation (JMP) [1]:

Improved Drinking Water Sources	**Improved Sanitation**
+ Piped water into dwelling, plot or yard + Public standpipe/tap + Borehole/tubewell + Protected dug well + Protected spring	+ Flush or pour–flush to: o piped sewer system o septic tank o pit latrine + Ventilated improved pit latrine + Pit latrine with slab

+ Rainwater collection	+ Composting toilet(Eco-sanitation/urine diversion toilets) + Urinals to soak pit (specifically for schools not in JMP definitions)[1]
Unimproved Drinking Water Sources	**Unimproved Sanitation**
- Unprotected dug well - Unprotected spring - Cart with small tank/drum - Bottled water - Tanker-truck - Surface water (river, dam, lake, pond, stream, canal, irrigation channels)	- Flush or pour–flush to elsewhere - Pit latrine without slab or open pit - Bucket - Hanging toilet or hanging latrine - No facilities or bush or field

Standards for Bangladesh

The WASH in School standards for Bangladesh is as follows. This includes standards indicators and guiding notes on indicators.

A. **Hygiene promotion:** Correct use and maintenance of water and sanitation facilities is ensured through sustained hygiene promotion. Water and sanitation facilities are used as resources for improved hygiene behaviors.
B. **Control of vector-borne disease:** Schoolchildren, staff and visitors are protected from disease vectors.
C. **Cleaning and waste disposal**: The school environment is kept clean and safe.
D. **Food storage and preparation:** Food for schoolchildren and staff (mainly in boarding schools and school and hostel's canteens) is stored and prepared so as to minimize the risk of disease transmission.
E. **Water quality**: Water for drinking, cooking, personal hygiene, cleaning and laundry is safe for the purpose intended.
F. **Water quantity**: Sufficient water is available at all times for drinking personal hygiene, food preparation, cleaning and laundry.
G. **Water Facilities and access to water:** Sufficient water-collection points and hand washing facilities are available in the school to allow convenient access to, and use of water for drinking, personal hygiene, food preparation, cleaning and laundry.
H. **Toilets and Unrinals:** Sufficient, accessible, private, secure, clean and culturally appropriate toilets are provided for schoolchildren and staffs.

A. Hygiene promotion: Correct use and maintenance of water and sanitation facilities is ensured through sustained hygiene promotion. Water and sanitation facilities are used and maintained as resources for improved hygiene behaviours.

Indicators on hygiene promotion

1. Hygiene education is provided at school (Included in the curriculum and also as supplementary reading materials and extra curricula activities)
2. Positive hygiene behaviours, including correct use and maintenance of facilities, are systematically promoted among staff and schoolchildren.
3. Facilities and resources enable staff and schoolchildren to practice behaviours that control disease transmission in an easy and timely way.
4. Promote student participation in hygiene promotion by having vibrant student brigades in school.
5. Promote community participation in maintaining environmental hygiene promotion in and around schools.
6. Establish one hygiene corner in each school.

Guidance notes on indicators

1. **Hygiene education is provided**

Hygiene education should be a core part of teacher training; refresher training should be carried out regularly to sustain knowledge and awareness, preferably by DPE and DSHE. Hygiene education, using a variety of participatory and other learning methods, should enable schoolchildren to develop the knowledge, attitudes and life skills they need for adopting and maintaining healthy lifestyles, particularly with respect to water, sanitation and hygiene.

2. **Positive hygiene behaviours are systematically promoted**

A healthy school environment and appropriate use of water supply, sanitation and hygiene facilities should be systematically promoted through the application of clear regulations and the participation of staff, schoolchildren and parents in planning and managing facilities and the school environment.

One of the most important hygiene behaviors to promote among schoolchildren is hand washing with safe and adequate water and soap at least before eating and after using the toilet. As with other hygiene behaviors, such as correct use of toilets, this often requires helping younger schoolchildren and monitoring older ones to ensure that they perform the activity correctly and consistently.

In some situations, because of budget constraints, particular primary schoolchildren may be required to carry out activities such as cleaning toilets, carrying water to or within the school, and collecting solid waste. These activities should be organized fairly and transparently (e.g. with a publicly-displayed roster that does not discriminate between boys and girls, or between schoolchildren from particular socio-economic or ethnic groups), within the limits of schoolchildren's age and ability. These activities should not be used as a punishment. Schoolchildren are heavily influenced by the example set by school staffs – their teachers in particular – who should provide positive role models by consistently demonstrating appropriate hygiene behaviors.

3. **Facilities and resources enable control of disease transmission**

Staff and schoolchildren should not be expected to adopt behaviors that are inconvenient, uncomfortable or impractical. Appropriate facilities should be provided for menstrual cleaning. This is most important to encourage female teachers and older girls to attend school when they are menstruating. Toilets should be separate and provide total privacy, while also providing safety against possible harassment.

4. Promote student participation in hygiene promotion by having vibrant student brigades in school.

Student will be organized to learn, practice and monitor hygiene in and around school. School catchment area will be divided into 12 to 15 clusters. Primary school students of grade 3 -5 and secondary school student of grade 6 - 8 from the same cluster will form a brigade. Total 12-15 student brigades will be formed in a school. The brigades will be oriented to share school cleanliness activities and hygiene promotion in school and home as well as communities.

5. Promote community participation in maintaining environmental hygiene promotion in and around schools.

School Management Committee (SMC) and Teacher-Parents Association (PTA) have to play a very supportive role in maintaining environmental hygiene in and around school. They will be trained and make responsible for monitoring hygiene sessions in schools. They have to take responsibilities to ensure sustainable use of WASH facilities in schools. SMC and PTA will be responsible for day to day and periodical maintenance of school WASH facilities in terms of planning and allocating resources as well as ensuring monitoring at school level to sustain the facilities and hygiene practices.

6. Establish one hygiene corner in each school

To facilitate the process of promoting schools as resource centre for hygiene promotion, all schools will be encouraged to maintain a hygiene corner. IEC materials, stationeries and materials needed for practicing appropriate hygiene will be displayed in this corner. Students and staffs will be able to explain all information to anybody who visits this corner in a planned hour or any other way planned at school level. In addition, this corner can be used by the students those are early adopters to facilitate hygiene promotion among the rest of their peers.

B.	**Control of vector-borne disease:** Schoolchildren, staff and visitors are protected from disease vectors.

Indicators on control of vector-borne and water borne disease

1. The density of vectors in the school is minimized.
2. Schoolchildren and staff are protected from potentially disease-transmitting vectors.
3. Vectors are prevented from contact with schoolchildren and staff or substances infected with related vector-borne diseases.
4. Schools maintain water safety plan
5. Location of water points should be at least 10 meter away from latrines .

Guidance notes on indicators

1. Density of vectors in school is minimized

Appropriate and effective methods for reducing vector numbers depend on the type of vector, the location and number or size of breeding sites, vector habits (including places and times of vector resting, feeding and biting), and chemical resistance of specific vector populations.

Basic environmental control methods – such as proper disposal of excreta, food hygiene, drainage, solid-waste disposal and routine cutting back of vegetation – should be the basis of any strategy.

Mosquitoes and flies can effectively be excluded from buildings by covering opening windows with fly-screen and fitting self-closing doors to the outside. Resting sites for mosquitoes inside buildings should be minimized, where possible, by the use of smooth finishes. The use of chemical controls, such as residual insecticide spraying, in and around the school requires specialist advice, which should be available from the local authorities (union or municipal level). All these measures should be taken only considering the situation of the geographical areas where schools are located. All schools around the country may not need all types of facilities.

2. Schoolchildren and staff are protected from potentially disease-transmitting vectors

Schoolchildren and staff may be protected from certain vectors through the use of barriers (e.g. food storage being covered to prevent contamination by rats and flies, or – in boarding schools – insecticide-treated bed nets against mosquitoes).

3. Disease treatment

Schoolchildren and staff with vector-borne diseases such as malaria and typhus should be identified and treated rapidly. They should not attend school during the infectious period so that the related vectors do not transmit the disease from

them to other people in the school. In addition, regular inspections should be carried out to detect and treat body lice and fleas. The school premises and, to the extent possible, the immediate surroundings of the school, should be kept free of fecal material to prevent flies and other mechanical vectors from carrying pathogens.

4. **Schools maintain water safety plan**

A **Water safety plan** is a management plan to ensure the safety of drinking water from source to point of consumption. Water borne disease remains one of the major health concerns in the world. Diarrhoeal diseases, which are largely derived from contaminated water and inadequate sanitation, account for 2.4 million deaths each year and contribute over 73 million disability. On a global scale, this places diarrhoeal disease sixth in the list of causes of mortality and third in the list of morbidity. The objectives of a water safety plan are to ensure safe drinking-water through improved water supply practice, that is:

- to prevent contamination of source waters;
- to treat the water to reduce or remove contamination that could be present in the sources to meet the water quality targets; and
- to prevent re-contamination during collection, transportation, storage, distribution and handling of drinking-water.
- All schools should plan actions to prevent contamination of sources of water and to prevent re-contamination during collection, transportation storage, distribution and handling of drinking-water and if necessary to treat water to reduce or remove contamination originated from the sources.

5. Location of water points should be at least 10 meter away from latrines

The distance between the nearest latrines and tube wells should be at least 10 meter. Distance less then that can potentially effect the water quality in shallow tube wells.

C. Cleaning and waste disposal The school environment is kept clean and safe.

Indicators on cleaning and waste disposal

1. School compound, classrooms and other teaching areas are regularly cleaned, to minimize dust and moulds.
2. Outside and inside areas are maintained free of sharp objects and other physical hazards.

3. Solid waste is collected from school compound, classrooms, kitchens and offices daily and is disposed off safely.
4. Wastewater is disposed off quickly and safely.

Guidance notes on indicators

1. Classrooms and other teaching areas are regularly cleaned

Dust and moulds contribute to infectious respiratory disease, asthma and allergies; therefore, regular, correct cleaning of school premises is important for health. For cleaning of floors and walls, wet mopping with chlorine solution water/hot water and detergent is recommended, rather than sweeping. Floors and other washed surfaces should be made of a suitable nonporous material that is resistant to repeated washing with chlorine solution water/hot water and detergents. If this is not possible, then daily sweeping should be carried out.

2. Outside and inside areas are free of sharp objects

Schoolchildren and staff should not be exposed to unnecessary risk of injury during the time they spend in the school. This can be avoided by promoting proper disposal of solid waste in the school, regularly cleaning all inside and outside areas of the school, and monitoring and reporting on broken furniture, window glass and so on. Doing this means that temporary or permanent repairs can be made rapidly.

3. Solid waste is collected and disposed of safely

Most solid waste produced in schools is non-hazardous and can be collected, stored if needed and then either re-cycled or disposed of in the municipal waste-collection system (only in towns), or burned or buried in a suitable location onsite. If waste is burned in or near the school grounds, this should only be undertaken when the schoolchildren are absent.

4. Wastewater is disposed of quickly and safely

Schools may produce wastewater from one or more of the following: hand washing points, showers, kitchens, laundries and laboratories. If the school is connected to a properly built and functioning sewer system, this is the most appropriate wastewater disposal option. In other situations, soak away pits or infiltration trenches should be used. These should be checked weekly, and cleaned (if necessary) to ensure that the systems operate correctly. All systems that infiltrate wastewater into the ground must be covered and sited so as to avoid contaminating groundwater. There must be at least 1.5 m between the bottom of the infiltration system and the groundwater table, and the system should be at least 30 m (according to Sphere standards) from any groundwater source.

Wastewater (excluding wastewater from toilets and waste water from hand washing point if detergent used) may be used to water a school garden, provided it is done in a way that does not create health risks.

D. Food storage and preparation: Food for schoolchildren and staff (mainly in boarding schools) is stored and prepared so as to minimize the risk of disease transmission.

Indicators on food storage and preparation

1. Food is handled and prepared with utmost cleanliness (hands are washed with detergent before preparing and serving food).
2. Contact between raw foodstuffs and cooked food is avoided.
3. Food is cooked thoroughly.
4. Food is kept at safe temperatures at safe place and covered.
5. Safe water and safe raw ingredients are used.

Guidance notes on indicators

1. Food is handled and prepared with utmost cleanliness

Food handlers must wash their hands with detergent after using the toilet and whenever they start work, change tasks, or return after an interruption. Soap and water should be available at all times during food preparation and handling, to ensure that hand washing is convenient. Food handlers should be trained in basic food safety.

If kitchen and canteen staffs have colds, influenza, diarrhoea, vomiting or throat and skin infections, or have suffered from diarrhea and vomiting within the last 48 hours, they should not handle food unless it is packaged. All infections should be reported, and sick staff should not be penalized for reporting infections. Eating utensils should be washed with hot water and detergent immediately after each use, and then air dried. The sooner utensils are cleaned; the easier they are to wash. Drying cloths should not be used, as they can spread contamination.

Food-preparation premises should be kept meticulously clean. Surfaces used for food preparation should be washed with detergent and safe water and then rinsed, or wiped with a clean cloth that is washed frequently. Scraps of food should be disposed of rapidly, because they are potential reservoirs for bacteria, and can attract insects and rodents. Refuse should be kept in covered bins and disposed of quickly and safely.

Food should be protected from insects, rodents and other animals, which frequently carry pathogenic organisms and are a potential source of contamination of food. In many situations, schoolchildren bring food with them from home to school. In these cases, the school hygiene committee or equivalent should work with the families of

the schoolchildren to ensure that food is prepared hygienically and that they avoid foods that carry a high risk if stored at ambient temperature.

Food sold to children by street vendors or in cafes may be unsafe. School authorities should seek local solutions to protect schoolchildren from disease from this source. Measures may include:

- discouraging children from buying open food items from such vendors,
- prohibiting vendors from selling unhygienic food near schools,
- Alternatively street vendors can be trained about hygiene and encouraged to sell healthy products such as fresh seasonal fruits

2. Contact between raw foodstuffs and cooked food is avoided in the kitchen of boarding schools and canteens of others

Separate equipment and utensils (e.g. knives and cutting boards) should be used for handling raw foods or they should be washed and sanitized in between use. Food should be stored in containers to avoid contact between raw and prepared foods. It is particularly important to separate raw meat, poultry and seafood from other foods.

3. Food is cooked thoroughly

All parts of foods cooked must reach 70°C to kill dangerous microorganisms. To ensure this, soups should be brought to boiling, and meat should be cooked thoroughly and serve hot meal in the schools canteen and hostel canteens cooked.

4. **Food is kept at safe temperatures, safe place and covered.**

Cooked food to be served should be kept hot (more than 60°C) before serving.
Cooked food and perishable food should not be left at room temperature for more than 2 hours, and should be prepared or supplied fresh each day. All food should be kept covered to protect it from flies and dust. Cooked food should be kept at safe place and covered.

5. Safe water and safe raw ingredients are used

Only safe water should be used for food preparation, hand washing and cleaning. Fruits and vegetables should be washed with safe water. If there is any doubt about the cleanliness of raw fruit and vegetables, they should be peeled just before serving, or cooked.

Non perishable foods should be stored safely in a closed, dry, well-ventilated store, and protected from rodents and insects. They should not be stored in the same room as pesticides, disinfectants or any other toxic chemicals. Containers that have previously held toxic chemicals should not be used for storing foodstuffs.

E. Water quality: Water for drinking, cooking, personal hygiene, cleaning and laundry is safe for the purpose intended.

Indicators on water quality

1. Microbiological quality of drinking-water.
   Escherichia coli or thermo tolerant coli-form (TTC) bacteria are not detectable in any 100-ml sample water.
2. Chemical, physical and radiological quality of drinking-water. Water meets national standards concerning chemical, physical and radiological parameters including arsenic Specific standard on arsenic (<50mg/L)
3. Acceptability of drinking-water. There is no tastes, odours or colours that would discourage consumption of the water.
4. Water for other purposes. Water that is not of drinking-water quality is used only for cleaning, laundry and sanitation

Guidance notes on indicators

1. Microbiological quality of drinking-water

Microbiological quality is of overriding importance. The water supplied must be free of pathogens and protected from contamination inside the school itself. Drinking-water supplied to schools should meet national standards and from an improved drinking water source.

The Department of Public Health Engineering (DPHE) should be involved in monitoring the microbiological quality of the water in the school, as part of a routine surveillance and control programme. All school water points should be tested in the beginning of every year preferably during January to March before finalizing annual work plan of the school. Test results should be shared with SMC/teachers/students to take further preventive action to prevent contamination, if any.

2. **Chemical quality of drinking-water**

Chemical constituents in groundwater supplies (e.g. arsenic, fluoride, chloride, iron, manganese and nitrates) may be present in excess of guideline levels, and it may not be possible, in the short term, to remove them or to find an alternative source of water. In circumstances where WHO drinking-water quality guidelines or national standards for chemical and radiological parameters cannot be met immediately, the school has the responsibility to assist children and staff to locate a safe water source and transport water to school. Children of all ages, particularly younger ones, are more susceptible than adults to the harmful effects of chemical contaminants.

Drinking water at schools should follow the same national standards for 50 micro gram per litre. For all schools water should be tested for arsenic contamination upon installation as well as once a year preferably in the beginning of the year during January to March.

5. Acceptability of drinking-water

The taste of drinking-water needs to be acceptable to schoolchildren and staff. Otherwise they may not drink enough, or may drink water from other, unprotected sources, which could be harmful to their health. Iron and manganese can both affect the taste of water.

6. Water for other purposes i.e use in school canteens and hostels

Water used for toilet flushing, laundry and cleaning floors and other surfaces need not be of the same high quality as drinking-water. However, water for hand washing and bathing and dishwashing should be of drinking-water quality, particularly if there are no specific drinking-water points. All water used for food preparation and washing utensils should be of drinking-water quality.

If water below drinking-water quality is used for certain purposes, it should be in separate, clearly marked containers or distribution systems, and necessary measures should be taken to ensure that the drinking-water supply cannot be contaminated by the lower-quality supply.

Schools should maintain the following National Water Quality Standard in school as per "The Environment Conservation Rules, 1997, Schedule -3B Standards for Water/Drinking Water" Government of Bangladesh, Dhaka

Parameters	Bangladesh Standard	Remarks
E. Coli and Sanitary inspection	0/100ml	Must be considered together to make judgement of water safety
Color	15 Hazen unit	Drinking water should ideally have no visible colour. The source of colour in drinking water should be investigated, particularly if a sudden or substantial change has taken place.
Odour	Odourless	Drinking water should ideally have no odour. The source of odour in drinking water should be investigated, particularly if sudden or substantial change has taken place
Arsenic	0.05mg/l	Needed to be sure whether this limit is hazardous for child's health
Iron	0.3-1.0mg/l	
Zinc	5.0 mg/l	
Nitrate	10mg/1as NO3 -N	
Fluoride	1.5mg/l	
Residual chlorine	0.2mg/l	
Chloride	600-1000mg/l	Water should have an acceptable taste

F. Water quantity: Sufficient water is available at all times for drinking, personal hygiene, food preparation, cleaning and laundry for residential schools

Indicators on water quantity:

1. Basic quantities of water required.

Day schools	5 liters per person per day for all schoolchildren and staff
Boarding schools	20 liters per person per day for all residential schoolchildren and staff
Non-residential schoolchildren and staff	5 liters per person per day

2. Additional quantities of water required.

The following should be added to the basic quantities as necessary. Figures given are for day schools. They should be doubled for boarding schools.

Flushing toilets	10–20 liters per person per day for conventional flushing toilets
Pour-flush toilets	1.5–3.0 liters per person per day
Anal washing	1–2 liters per person per day
Other cleaning and washing for pre-school children	1-2 liters per person per day

Guidance notes on indicators

1. Basic quantities of water required

The guideline figures given above include water used for drinking, hand hygiene, cleaning and, where appropriate, food preparation and laundry. The figures should be used for planning and design of water-supply systems. The actual quantities of water required will depend on a number of factors, such as climate, availability and type of water-use facilities, and local water-use practices. It needs might also differ per season and should be available throughout the school day.

2. Additional quantities of water required

The additional water quantities required for sanitation need to be adjusted for local conditions, including the exact type of toilets used (including the use of urinals),

prevalent practices, and the length of time that children and staff actually spend in school.

G. Water facilities and access to water: Sufficient water-collection points and hand washing facilities are available in the school to allow convenient access to, and use of, water for drinking, personal hygiene, food preparation, cleaning and laundry in case of residential schools

Indicators on water facilities and access to water

1. Reliable water point that produces water round the year.
2. Reliable water point or a suitable alternative, is available at all the critical points within the school, particularly in toilets and kitchens.
3. Reliable drinking-water point is accessible for staff and schoolchildren, including those with disabilities, at all times.
4. One shower is available for each 20 students in boarding schools (users include schoolchildren and residential staff). Separate showers, or separate showering times, are designated for staff and schoolchildren, and separate showers are designated for boys and girls. At least one shower should be accessible for people with disabilities.
5. Laundry facilities, with soap or detergent and water or chlorine solution (or both), are provided in boarding schools.

Guidance notes on indicators

1. **A reliable water point is available and easily accessible**

Basic hygiene measures taken by staff and schoolchildren (hand washing in particular) should not be compromised by lack of water or lack of access to hand washing basins or suitable alternatives. If soap is not available, then schoolchildren should be encouraged to wash their hands with water and a small amount of wood ash.

Water points should be sufficiently close installed in a suitable location and at a suitable height for users to encourage them to use water as often as required. Staff toilets and schoolchildren's toilets should be located next to hand washing points that have adequate drainage. A water point close to the classrooms may be useful for face washing and to supervise younger children while washing their hands with soap. There should provision for a safe water point for each 100 students.

2. **A reliable drinking-water point is accessible at all times**

If possible, water provided to the school should be of drinking-water quality and should be provided at clearly marked points. Water used for toilet flushing, laundry and cleaning floors and other surfaces need not be of such high quality as drinking-

water but if used at schools, its water points should be difficult accessible for children and clear to them that it is not for human consumption.

3. Sufficient showers are available (boarding school and hostels)

If the age range of schoolchildren is more than three or four years, separate showers or showering times may need to be designated for younger and older children. For younger children, adults might have to help them to take a shower.

Showers may be simple cubicles made from local materials, with stone or brick on the floor to provide a clean and draining surface. Users bring water to the cubicle in a bucket and use a large cup to pour it over themselves (or over the small child they are washing). The closer the water point, the larger the quantity of water is used for hygiene. Showers should be made accessible for users with disabilities.

One shower is available for each 20 students in boarding schools (users include schoolchildren and residential staff). Separate showers, or separate showering times, are designated for staff and schoolchildren, and separate showers are designated for boys and girls. At least one shower should be accessible for people with disabilities.

Laundry facilities, with soap or detergent and water or chlorine solution (or both), are provided in boarding schools.

H. Toilets and urinals : Sufficient, accessible, private, secure, clean and culturally appropriate toilets are provided for schoolchildren and staff.

Indicators for toilets and urinals

1. Sufficient toilets or urinals are available address the needs of school children: one per 50 children and one for each 10 female staff and one for each 10 male staff. In general, 60% of the total amount of facilities can be urinals for boys.
2. Toilets are easily accessible to all, including staff and children with disabilities — no more than 50 m from all users. When possible, male and female toilets are completely separated.
3. Toilets provide privacy and security against harassment, rape, animals etc.
4. Toilets are child friendly including socio-cultural appropriate, age and gender appropriate, provide appropriate menstrual hygiene management facilities such as rag cleaning, drying or disposing facilities and accessible for children with disabilities or suffering from chronic diseases.
5. Toilets are hygienic to use and easy to clean.

6. Toilets have convenient hand washing facilities close by (soap and running water available all the time)
7. A cleaning and maintenance routine is in operation, and ensures that clean and functioning toilets are available at all school hours.

Guidance notes on indicators

1. **Sufficient toilets are available and address the need of all school children including physically challenged**

The number of toilets and urinals required for each school depends on the numbers of children and staff, but also on when the schoolchildren and staff have access to the toilets. If access to toilets is restricted to break times, then peak demand could be high, particularly if all the classes have breaks at the same time.

Urinals for boys and men are quicker and cheaper to build than toilets, they reduce the smells in toilets and they are easy and quicker to use. For older girls, there is a need for menstrual management facilities with privacy in toilet blocks.

At least one separate toilet cubicle should be accessible for staff and children with disabilities, preferably one for females and one for males. This includes level or ramped access, a wide door and sufficient space inside for a wheelchair user or helper to man oeuvre, and the provision of support structures such as a handrail and a toilet seat.

2. Toilets are easily accessible to all

Toilets should be as close as possible to classrooms and playing areas, to ensure that they can be used conveniently and safely. Entrances should be positioned to provide maximum privacy in entering and leaving a toilet block. In pre-school facilities, toilets may need to be adjacent to the childcare space, because young children frequently need supervision when going to the toilet.

The location of toilets should also take into account the need to minimize odours (taking account of prevailing winds) and avoid contamination of water supplies and food. Particular care should be taken when situating latrines and septic tanks with soak away pits or infiltration trenches. All latrines and infiltration systems should be located at least 30 m from any groundwater source, and at least 1.5 m above the groundwater table. Boys' and girls' facilities should be in separate toilet blocks, or toilet areas separated by solid walls (not lightweight partitions) and should have separate entrances. Doors should reach down to floor level.

3. Toilets provide privacy and security

To minimize the risk of violence, including sexual violence, and to ensure sufficient privacy, toilets should be carefully located, and they and their access routes should

be lit if they are used at night (in boarding schools). They should be lockable from the inside (to protect people while using them).

4. Toilets are appropriately designed for boys and girls considering needs

Segregation of boys' and girls' toilets is requiring because of privacy and security reasons. Younger children may require toilets of different dimensions than do older children and adults, and specific features need to be taken into account to make the toilets easy and comfortable to use. For example, the squatting hole in a pit latrine may need to be smaller, and footrests may need to be closer together for younger children. Because of physical differences, girls need a bigger squatting slab and hole (avoiding wetting their feet while urinating) than boys.

Girls toilet block should provided with menstrual management facilities such as rags washing and drying facilities, rags/pad disposal facilities.

5. Toilets are hygienic to use and easy to clean

Toilets should be designed and built so that they are hygienic to use and do not become centers for disease transmission. Surfaces that may be soiled should be of smooth, waterproof and hardwearing material that can be cleaned with water and is resistant to cleaning products.
In terms of cleaning, the slab is the most important part of a toilet; it should be made of concrete, plastic, fiber glass or some other hardwearing and smooth material. Other parts of the toilet, such as the superstructure, can be made with cheaper local materials. The design of the toilet should include measures to minimize odors, and control the breeding of flies and mosquitoes.

6. **Toilets have convenient hand washing facilities close by**

A toilet is not complete without a hand washing point with soap, water and adequate drainage. All toilet designs should include convenient hand washing facilities so that hand washing after using the toilet can become a routine activity for schoolchildren and teachers.

7. **A cleaning and maintenance routine is in operation**

Toilets should be cleaned whenever they are dirty, and at least once per day, with a disinfectant being used on all exposed surfaces. Strong disinfectants should not be used in large quantities, because this is unnecessary, expensive, potentially dangerous, and may damage the sanitation system. If no disinfectant is available, plain cold water should be used with a brush to remove visible soiling.

Annex B : MoU between DPE, DSHE and DPHE

Agreement Between the Department of Public Health Engineering (DPHE) and Directorate of Primary Education (DPE) of Government of People's Republic of Bangladesh to implement School, Sanitation and Hygiene Education (SSHE) in the primary schools under GOB-UNICEF (Sanitation, Hygiene Education and Water Supply - SHEWAB Project

JUNE, 2009

AGREEMENT BETWEEN DPHE AND DPE FOR IMPLEMENTING SCHOOL SANITATION AND HYGIENE EDUCATION (SSHE) IN PRIMARY SCHOOLS

1. INTRODUCTION

1.1 The Government of Bangladesh is committed to the centrality of education in the development process. For achieving our goal of Education for all, it is essential to increase access to, and improve the quality of schools. Education for All means ensuring that all children have access to basic education of good quality. This implies creating an environment in schools and in basic education programmes in which children are both able and enabled to learn. School environment must be inclusive of children, effective with children, friendly and welcoming to children, healthy and protective for children and sensitive**.**

1.2 Poor water supply and sanitation facilities are underlying factors for low school enrollment, absenteeism and early drop out as reflected in many studies around the world. Programs to ensure appropriate water and sanitation facilities at schools therefore, is essential to the promotion of basic education for all children.

1.3 Lack of safe school environment may damage the health and nutritional status of school children particularly if it increases exposure to hazards such as infectious disease carried by the water supply and unhygienic sanitation condition.

1.4 Hygiene message is part of Primary curriculum. However, hygiene education is meaningless without safe water and adequate sanitation facilities. Therefore, education system should ensure that all schools have access to safe water and hygienic sanitation facilities.

1.5 By provisioning these facilities, schools can reinforce health and hygiene messages and act as an example to both students and the wider community. This in turn can lead a demand for similar facilities from the community.

1.6 Sound construction policies will help ensure that facilities address issues such as gender access and privacy. Separate facilities for girls, particularly adolescent girls, are an important contribution factor to reducing dropout at menses and even before.

1.7 Sound maintenance action plans will help ensure the continuing safe use of these facilities.

1.8. A study on 4,333 schools in GOB-UNICEF project (2002-2005) area showed that there were on average, 246 students & 4 teachers per schools. There was no water sources in 19% schools; non-functional in 28% schools; functional in 53% schools. No latrine in 6%; not functional in 13%; one functional in 25%; two functional in 44%; 3 or more in 12% schools. 46% of schools had separate latrines for girls. On average, one latrine per 152 pupils; worst was one latrine for 479 pupils.

1.9 According to the School Survey report 2007, published by DPE 43 % GPS and 65% RNGPS do not have separate latrines for boys and girls in the schools. The same report shows that there are only 385 schools, representing less than 100% of the total numbers of school have toilets accessible to physically challenged children.

1.10 The situation regarding safe water is also miserable in the schools. As per the same survey report 89% of the GPS and 85% of RNGPS have potable water supply from tube-wells and in some cases from tap. However, 71% of these tube-wells are in working condition in GPS and 63% in RNGPS. In addition, there are areas where water is only available for six months during 3rd week of June 2nd week of December The rest of the period no water for use and also for cleaning the facilities.

2. PURPOSE

The purpose of the Agreement is to establish modalities for implementation of software and hardware of SSHE programme. It will enable both of the department DPHE and DPE, to maximize their contribution with technical and professional expertise in promoting quality of SSHE program including quality IEC materials, trainings, school level planning, designing, construction of water and sanitation facilities and to agree on the reporting mechanism as well as other responsibilities emerge in the process of implementation of SSHE.

3. SCOPE

3.1 This Agreement enables the both DPHE and DPE to implement school sanitation and hygiene education (SSHE) activities in a collaborative way and will cover implementation of software and hard ware activities at the school level.

3.2 Any amendments or extensions to this agreement must be in writing and signed by the authorized representatives of both parties.

4. ACTIVITY

The major activities under SSHE approach include:

D. Provision of new water and sanitation facilities and support for repair and maintenance of the existing facilities for boys and girls with special focus on the needs of adolescent girls.
E. Sanitation and hygiene education for boys and girls with effective IEC materials
F. Promote school as resource center and enhance relationship between school and community of its catchments areas. Linkages have to be

developed through various activities such as courtyard meeting with parents, mother's meeting and Teachers and Parents Association meetings etc. It is also important to create opportunity for children to understand their surrounding environments. SSHE encourages participatory monitoring and motivation by Student Brigades under the guidance and support of teachers and members of School Management Committee community at large.

4. Complementary Role of DPHE and DPE

It is not possible to achieve the goal of 'Education for All' without having safe and joyful learning environment in schools. Maintaining safe drinking water, clean toilets and hand washing facilities is one of the important pre-condition for creating such environment in school. To fulfill this condition, the following issues are important: (a) having good quality water and sanitation facilities with appropriate design for children including meeting needs of differently able children and girls. (b) organizing and training children to maintain and use facilities and practicing behavior such as universal use of toilets, washing hands after defecation and before eating.

As per organizational mandate, DPHE is responsible for offering quality water and sanitation facilities in schools ensure enabling factors that make it easy for the children to practice hygienic behaviors. DPE has clear role in promoting hygienic behaviors of schools children through ensuring life skills approach of teaching in schools i.e developing a state of knowing, doing and feeling on hygiene. Knowledge can not be practiced without quality water and sanitation facilities and good quality of facilities will not sustain without appropriate hygiene practice. Therefore, the both agencies of the Government of Bangladesh, DPE and DPHE should continuously play their complementary roles in achieving the goal of universal education focusing on better quality of life. The both organizations should take responsibilities to make sure that all aspects that contribute to healthy hygiene behaviors are being addressed at school level.

5. **Role of DPHE**

5.1 DPHE is thel national agency responsible for planning, designing and implementing water supply and sanitation activities throughout Bangladesh.

5.2 Social mobilization and training was included in the DPHE activities in 1994. with the objectives of mobilizing inter-sectoral support, to raise people's awareness, to assist delivery of resources and services and to strengthen community participation for sustainability and self-reliance in water supply and environmental sanitation and promoting hygiene behavior. DPHE is now in the process of shifting its responsibilities solely from implementation to facilitation and currently playing important role in strengthening community capacity for ensuring sustainability of water and sanitation programmes.

5.3 DPHE as an specialized organization for safe water supply and sanitation is entrusted to provide technical support on options & designs of water and sanitation facilities at schools.

5.4 DPHE will train local masons and School Management Committees on construction.

5.5 DPHE will monitor construction work to maintain quality according to design and specifications.

5.6 DPHE as lead agency will ensure fund flow to schools informing DPE officials at upazila level**.** It will also transfer fund to SMC for water and sanitation facilities construction work.

5.7 DPHE will supply all IEC materials directly to school and UEO office.

5.8 DPHE will share all SSHE related information with all DPEO and DPEO will share all information with all of his field offices.

5.9 DPHE will invite DPE to attend all GOB_UNICEF Project meetings at different level to share progress of SSHE.

6. **Role of DPE**

6.1 DPE will ensure successful implementation of software part of SSHE. It demands expression of commitment on creation of safe learning environment in schools. Therefore, it is essential to take measures to involve all level officers including field level in planning, implementation and monitoring of SSHE approach in schools.

6.2 DPE will be responsible to form an inter-agencies SSHE Working Group and chair its bi-monthly meeting to follow up on progress and resolving problems emerge in the process of implementation.

6.3 DPE will form a Core Trainers Team consisting of appropriate professionals from its own relevant wings.

6.4 DPE will authorize all members of Core Trainers Team to allocate time for conducting training at the district level and trainers at district and upazila level will be allowed to allocate time to conduct training at school level.

6.5 DPE will provide instruction to all teachers and representatives of school management committee to attend SSHE training and accomplish follow up activities accordingly such as complete school level planning, if needed apply for water and sanitation facilities, form and orient student brigades in all project upazilas under 31 project districts in two batches.

6.6 DPE will take necessary measures to incorporate sanitation and hygiene education sessions for all classes and effective use of IEC materials appropriate for sessions.

6.7 DPE will incorporate SSHE aspects in their regular monitoring systems and DPEO, UEO and AUEO will monitor schools to review SSHE. (Re. School Inspection format).

6.8 UEO will submit quarterly reports to SSHE working group to review progress.

6.9 Based on Selection Criteria schools will be selected jointly by SAE of DPHE and UEO of DPE. UEO will send the list of selected schools to SSHE working group.

6.10 UEO will facilitate jointly with DPHE the process of school needs assessment and school level planning for creating safe learning environment in schools.

6.11 AUEO will assist school management committee in preparing action plan for regular use and maintenance of water and sanitation facilities and to maintain safe and clean environment including safe waste disposal.

6.12 Head Teachers will assist teachers to engage all students of grade IV and V of primary schools in Brigade activities.

6.13 School Management Committee (SMC) will raise fund for maintenance of the water and sanitation facilities of school. Before receiving fund for construction/repair works, SMC have to deposit minimum 1000 Tk in their account and then sign an agreement with local DPHE and DPE before accepting the fund for construction of facilities as advance (80% of total fund).

6.14 AUEOs will collect SOEs including invoices and UEO will verify and certify the expenditure. Subsequently it will be forwarded to SAE, DPHE

6.15 UEO and SAE will jointly evaluate school performance at the end of the year and best performing school will be awarded.

Annex C Evidences of impact of WASH-in-Schools

Article originally published in the December 2009 issue of UNICEF/IRC Notes & News on WASH in schools

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Introduction

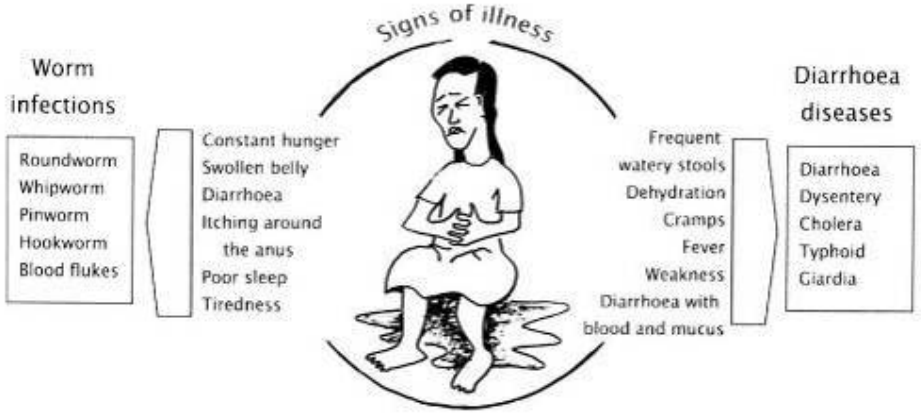
Several studies have focussed on the health and learning impact as well as issues related to socio-emotional impacts, and focus on dignity of WASH-in-schools. This article gives a summary of a selection of those studies, including very recent studies and can be used for advocacy purposes with authorities and organisations focussing on WASH and education. The studies highlighted focus on: (1) the impact on health and learning, (2) household tasks and absenteeism (3) the needs of adolescent girls (4) long-term impacts.

Impact on health and learning

Learning, hygiene and health are all linked. Schools are also places where children get infected. Spreading of diseases can go very fast when schools are places where many children gather together for many hours a day in bad hygienic conditions. As illustrated in a study in Colombia from the 1970s there is a direct link between diarrhoea and hygiene[8] in schools. In this study, more than 40% of the cases of diarrhoea in schoolchildren were being attributed to school transmissions rather than transmission in homes. As a result, children miss school because they are sick or perform worse at school because they are not completely healthy and cannot concentrate etc. like they potentially could do.

Within WASH-in-schools, the focus is generally on *diarrheal and worm infections* because in magnitude these are the two main diseases that affect school-age children most *and* which can be drastically reduced through improved WASH-in-schools. Worldwide an estimated 1863 million schooldays can be gained annually due to less diarrhoeal illness if everyone in the world had access to a regular piped water supply and sewage connection in their houses[9][10].

[8] Koopman, J. S. (1978) *Diarrhoea and school toilet hygiene In Call, Colombia. Am J* Epiderniol107:412-420.
[9] The definition of infectious diarrhoea in the WHO 2004 study includes cholera, salmonellosis, shigellosis, amoebiasis, and other protozoal and viral intestinal infections
[10] WHO (2004) - Hutton, Guy. and Laurance Haller. 2004. Evaluation of the costs and Benefits of Water and Sanitation Improvements at the global level.



The *causes of diarrhoea* include a wide array of viruses, bacteria, and parasites. Diarrhoeal disease affects far more individuals than any other illness, 88% of diarrheal disease is caused by unsafe water supply, inadequate sanitation and hygiene[11]. And although diarrhoea seldom kills children above the age of five, it is certainly also an important issue for school-age children: it is the primary source of morbidity[12] and therefore an important reason why children are absent from school. It is also an important reason for chronic under-nutrition and growth retardation[13].The synergistic relationship between malnutrition and infection is clearly exacerbated in diarrhoeal episodes as children tend to eat less during episodes and their ability to absorb nutrients is reduced. Each episode contributes to malnutrition, reduced resistance to infections and when prolonged, to impaired growth and development[14].

Improving sanitation facilities has been associated with an estimated median reduction in diarrhoea incidence of 34 %[15]. Washing hands with soap is another important barrier to transmission and has been cited as one of the most cost-effective public health interventions[16]. It can reduce the incidence of diarrhoeal disease by almost 40%[17]. Accessible and plentiful water has also been shown to encourage better hygiene[18], and handwashing in particular.

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[11] Prüss-Üstün A, Bos R, Gore F, Bartram J. Safer water, better health: costs, benefits and sustainability of interventions to protect and promote health. World Health Organization, Geneva, 2008.
[12] WHO (2004) http://www.who.int/healthinfo/global_burden_disease/GBD_report_2004update_part3.pdf
[13] Lancet 2004. Dillingham and Guerrant. Childhood stunting: measuring and stemming the staggering costs of inadequate water and sanitation. The Lancet • Vol 363 • January 10, 2004
[14] Ejemot RI, Ehiri JE, Meremikwu MM, Critchley JA. Hand washing for preventing diarrhoea. Cochrane Database of Systematic Reviews 2008, Issue 1. Art. No.: CD004265. DOI: 10.1002/14651858.CD004265.pub2.
[15] 3IE. 2009. Water, sanitation and hygiene interventions to combat childhood diarrhoea in developing countries International Initiative for Impact Evaluation (3IE). Synthetic Review 001. Hugh Waddington,. Birte Snilstveit, Howard White, Lorna Fewtrell.
[16] Jamison, D.T., et al. (editors), Disease Control Priorities in Developing Countries (Second Edition), London School of Hygiene and Tropical Medicine, London, 2008, http://www.dcp2.org/pubs/DC
[17] 3IE. 2009. Water, sanitation and hygiene interventions to combat childhood diarrhoea in developing countries International Initiative for Impact Evaluation (3IE). Synthetic Review 001. Hugh Waddington,. Birte Snilstveit, Howard White, Lorna Fewtrell.
[18] Curtis, V.A., and S. Cairncross, 'Domestic Hygiene and Diarrhoea, Pinpointing the Problem', Tropical Medicine and International Health, vol. 5, no. 1, 2000, pp. 22-32.

Interventions to improve water quality at the source, along with treatment and safe storage systems at the point of use, reduce diarrhoea incidence by as much as 29%[19].

How hookworms are spread

Worm infections are spread through unhygienic environments (soil or water) and unhygienic behaviour (through food or hands). 100% of all the annual cases worldwide of roundworm, whipworm and hookworm infestation are attributable to inadequate sanitation and hygiene[20]
Those are the 3 main worms most commonly associated with malnutrition and disease in children. At times these worms are referred to as soil-transmitted helminthes, referring to their mode of transmission, as open defecation causes worms' eggs to be present on the soil. The hookworm, however, is the only one to enter a human host by a (now) larvae penetrating through the human skin. Infection with the roundworms and whipworms happens when mature eggs are ingested through food or fingers. The impact of worms on nutritional status is more because of a myriad of damage caused by a worm's harm done to the tissue of the gut, than due to the absorption of a hosts' food[21]. Worm infections can be reduced by stopping the spread of infections by improved hygienic conditions in combination with treatment.

School children are often the group that has the highest infection rate (an estimated 47%[22] of the children ages 5-9 in the developing world suffer from a worm infection) as well as the highest worm burden[23] because worms are easily spread among groups of children who play together and touch each other, visit toilet and do not wash hands with soap afterwards. Worms are one of the world´s most *important*

[19] 3IE. 2009. Water, sanitation and hygiene interventions to combat childhood diarrhoea in developing countries International Initiative for Impact Evaluation (3IE). Synthetic Review 001. Hugh Waddington,. Birte Snilstveit, Howard White, Lorna Fewtrell.

[20] Prüss-Üstün A, Bos R, Gore F, Bartram J. Safer water, better health: costs, benefits and sustainability of interventions to protect and promote health. World Health Organization, Geneva, 2008.
[21] Maternal & Child Nutrition 2008 - Andrew Hall, Gillian Hewitt, Veronica Tuffrey, Nilanthi de Silva (2008). A review and meta-analysis of the impact of intestinal worms on child growth and nutrition. Maternal & Child Nutrition 4
[22] Maternal & Child Nutrition 2008 - Andrew Hall, Gillian Hewitt, Veronica Tuffrey, Nilanthi de Silva (2008). A review and meta-analysis of the impact of intestinal worms on child growth and nutrition. Maternal & Child Nutrition 4
[23] WHO (1995) cited from the Bulletin of the World Health Organization, 1995, 73:510)

causes of physical and intellectual growth retardation[24]. It is estimated that over 200 million school children suffer from iron deficiency anaemia (IDA) caused by worm infestation. The impact of worm reduction programs in schools has been remarkable: a study in Jamaica found that children who were treated against a worm infection perform much better in school than children who did not received treatment[25].

Lack of handwashing in primary schools

- In Kenya a WASH-in-schools evaluation reports that only 5 out of 100 schools had soap available for children. Less than 2% (only 21 out of 951 of the children) were observed to wash their hands with soap[26].
- An evaluation conducted in India shows that handwashing before eating in the school was far more frequent in districts with UNICEF WASH supported WASH-in-school programmes than in control districts. However soap was very seldom used when washing hands (2% or less of the children), which seriously compromises the effectiveness of handwashing[27].
- A 6 country evaluation a WASH-in-schools pilot programme in Burkina Faso, Colombia, Nepal, Nicaragua, Vietnam and Zambia the availability of soap was a major problem in most of the schools. "This jeopardizes the educational effort promoting the use of soap and results in a low proportion of students washing hands with soap. Soap is not available for various reasons such as for fear of it getting stolen or because it is too expensive for the school to buy. This is an area of great concern"[28].

Household tasks and absenteeism

Many children arrive late to school because they have to walk long distances in order to fetch water. Project evaluations and research has found a 15% increase in school attendance in Bangladesh, when water was available within a fifteen-minute walk compared to one of an hour or more. Similarly, a study in Tanzania showed a 12% increase in school attendance when water was available within 15 minutes instead of being more than an hour away[29]. It is also interesting to cite that when the teacher sends children to fetch water, typically girls are being sent. When other family members become sick, often due to water and sanitation related diseases, girls are more likely to be kept home from school to help[30].

Needs of adolescent girls

Increasingly, evidence is available that the absence of toilets or of separate toilets in schools for girls is an important reason for parents not to send girls to school[31]. If

[24] Lancet 2006 - Bethony et al 2006. Soil-transmitted helminth infections: ascariasis, trichuriasis, and hookworm. In The Lancet, Volume 367, Issue 9521, Pages 1521 – 1532

[25] [25] Nokes, C; Bundy, Donald A. P. (1993*), "Compliance and absenteeism in school children implications for helminth control"* ,Trans R Soc Trop Med Hyg;87(2):148-52, Mar.-Apr.

[26] IRC (2009). *The sustainability and impact of school sanitation, water and hygiene education in Kenya.*

[27] IRC (2009) *The sustainability and impact of school sanitation, water and hygiene education in Kerala, Southern India*

[28] IRC (2007).*Towards Effective Programming for WASH in Schools: A manual on scaling up programmes for water, sanitation and hygiene in schools*. Delft, The Netherlands, IRC International Water and Sanitation Centre. (TP series; no. 48). 93 p.

[29] Redhouse, D. (2004). 'No water, no school'. In: Oasis, no. Spring/Summer 2004, p. 6-8.

[30] UNGEI 2003. A Fair Chance: Attaining gender equality in basic education by 2005 (2003). ttp://www.ungei.org/infobycountry/1612_598.html

[31] Another School Barrier for African Girls: No Toilet By Sharon LaFraniere The New York Times, Friday 23 December 2005 http://www.truthout.org/issues_05/122305WA.shtml; Lack of Sanitaries Force Girls Out of School . New Vision (Kampala), January 6, 2004, http://allafrica.com/stories/200401060305.html;

adolescent girls[32] attend schools during their menstruation, the availability of girls-appropriate toilets and water supply is essential to comfortably change and dispose of sanitary pads and wash themselves in privacy. If not available, adolescent girls may be unable to remain comfortably in class. Although so far scientific evidence is limited, the lack of sanitary protection during menstruation is often mentioned by the girls as a barrier to their regular attendance in school (in reality this might also be motivated by religious and cultural beliefs and habits).
This situation means that for many girls and young women it is preferable to stay at home during menstruation and not attend school at all. At home they do not have to worry as much about sanitary protection, nor about having adequately concealing clothing. Regular absence from school for several days a month (10-20% of all school days) can, even in the short term, have a negative impact on a girl's learning and therefore on her academic performance in school. Frequent absence will lead to insufficient learning for most girls and therefore poor results in the long term. Eventually this can even lead to dropping out completely.

Besides dignity, the lack of girls in school is particularly damaging to the economy of a country. Research shows that for every 10 percent increase in female literacy, a country's economy can grow by 0.3 percent[33]. Educated girls are more likely to raise healthy, well-nourished, educated children, to protect themselves from exploitation and AIDS, and to develop skills to contribute to their societies. Educating girls is good economics, and you can't do it without improved water and sanitation.

The number of children across the world subjected to sexual abuse is shocking[34]. The World Health Organization (2002) estimated that 150 million girls and 73 million boys under the age of 18 had been raped or suffered other forms of sexual violence. There are currently no reliable estimates of how much of this abuse takes place in or around schools. This is in large part due to the shame felt by the victims and the lack of confidence that reporting the incident will lead to action against the perpetrator.

In many schools girls face threat of sexual violence from both male teachers and older male students. Studies show that girls are most likely to be abused on their journey to or from school, in or near toilets, empty classrooms and other isolated places. Research in Uganda found that eight per cent of 16 and 17 year-old boys and girls questioned had had sex with their teachers and 12 per cent with ancillary. In Zambia, one third of students aged 13 to 15 years reported having been physically forced to have sexual intercourse. A Latin America consultation found that, like their

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Not only girls' toilets, but clean and safe girls' toilets in Notes and News No. 3, 2001, www.irc.nl; Afghanistan: Girls' school attendance doubles in two years, by Mary Kate MacIsaac - Communications Manager, Afghanistan, World Vision, May 17, 2006; Benson, Carol, Girls, Educational Equity and Mother Tongue-based Teaching, United Nations Educational, Scientific and Cultural Organization, Bangkok, 2005.

[32] This text has been adapted from: Kirk, J. and Sommer, M (2006), *"Menstruation and body awareness: linking girls 'health with girls' education"* Gender and Health Special. Royal Tropical Institute (KIT), Amsterdam, Netherlands

[33] Brocklehurst 2004. The case for water and sanitation. World Bank Water and Sanitation Programme, Africa 2004

[34] All information in this paragraph comes from the learn-without-fear-campaign from Plan International http://plan-international.org/learnwithoutfear/learn-without-fear

peers in Africa, girls in the Dominican Republic, Honduras, Guatemala, Mexico, Nicaragua and Panama experience sexual coercion from teachers, sometimes with threats that their grades will suffer if they do not cooperate. There is limited information about sexual abuse in schools in Asia, but there is evidence that also there there is a problem with sexual abuse in schools . This all shows that it is important to construct toilets at safe locations.

Another problem for adolescents is that school curricula typically do not cover the topic of menstruation and puberty in a very girl-friendly way, and so do not help girls to understand the changes in their maturing bodies. Many biology text books instead contain sexless bodies and make no reference to feminine and menstrual hygiene, male hygiene, body awareness, maturation process and changes during puberty, leaving girls (and boys) ignorant about the topic.

Long-term impacts

In a study[35] on the long-term effect of community hygiene education programs for both adults and children, it was found that new behaviours do not fade as years go by, with people reverting to earlier, less hygienic practices. Rather, data demonstrate that hygiene behaviours are sustained beyond the end of an intervention. For five countries, 25 comparisons were made between hygiene behaviour and the end date of the program. The results showed that even where the program had ended 7 or 9 years before the survey, about 4 out of 5 (80%) of the women were reportedly still consistently using their latrines.

Researchers suppose that handwashing, like toothbrushing, occurs as component part of daily routines and that these routines are often established from childhood[36]. Therefore, schools form an ideal setting for hygiene education to take place, where children can learn and sustain adequate livelong hygiene practices.

[35] Bolt, E. and Cairncross, S. (2004), "Sustainability of hygiene behaviour and the effectiveness of change
interventions. *Lessons learned on research methodologies and research implementation from a multi-country research study"* IRC International Water and Sanitation Centre, Delft, the Netherlands

[36] Valerie A. Curtis , Lisa O. Danquah , and Robert V. Aunger (2009). Planned, motivated and habitual hygiene behaviour: an eleven country review. Health Educ. Res. 24: 655-673