



*Draft working paper on an overview of school sanitation and
hygiene education in developing countries*

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1. Introduction

Over the next generation, what should life be like on our earth? A vision of what could – and should—be achieved was developed by the Water Supply and Sanitation Collaborative Council, following consultations around the world with people in communities, in NGOs, professional organisations and governments. *Vision 21*, as it is called, describes a future for water, sanitation and hygiene that could be like this by 2025:

Virtually every man, woman and child on the planet knows the importance of hygiene and enjoys safe and adequate water and sanitation. People work closely with local government and non-governmental organisations to manage water and sanitation systems so as to meet basic needs while protecting the environment.... Everywhere in the world, people live in clean and healthy environments. Communities and governments benefit from the resulting improved health and the related economic development (Vision 21, vi, 2000)

The children of today will be the adults of 2025, central to this vision of the future. By focusing on children today, by giving them tools and knowledge to change behaviours today, future generations can be stronger and healthier.

Despite all the progress reported world-wide in recent decades, more than 2,3 billion people still live without access to sanitation facilities and are unable to practise such basic hygiene as washing their hands with soap and water. Diseases related to poor sanitation and water availability cause many people to fall ill or even die. Children are the most vulnerable to health hazards and consequently are affected the most. In 1998 2,2 million people died because of diarrhoeal diseases, of which the vast majority were children. In addition poor sanitation has led to the infestation of nearly a billion people – largely children – with a verity of worm infections, with its corresponding cost in health and energy. It is obvious that lack of sanitation and hygiene is a public disaster that deserves the highest priority.

One of the major problems faced by hundreds of millions school aged children is infection by parasites and flukes. These parasites consume nutrients from children they infect, bringing about or aggravating malnutrition and retarding children's physical development. They also destroy tissues and organs in which they live causing pain and various health problems. Water and sanitation related diseases affecting children include diarrhoea, trachoma, Schistosomiasis, scabies and Guinea worm. All of these have compromise children's attendance and performance at school and, not uncommonly, can result in death.

2. What is SSHE?

SSHE refers to the combination of hardware and software components that are necessary to produce a *healthy school environment* and to *develop or support safe hygiene behaviours*. The hardware components include drinking water, handwashing and sanitary facilities in and around the school compound. The software components are the activities that promote conditions at school and practices of school staff and children that help to prevent water and sanitation-related diseases.

Basically the *goals* of SSHE therefore refers to social, environmental and individual health of pupils from both primary and secondary school. *School sanitation and hygiene education focuses on development of life-skills, a healthy and safe school environment and outreach to families and communities.*

In essence school health promotion is an investment in our *future*. Its benefits can include:

- **Effective learning:** Children perform better if surrounded by a hygienic and clean environment.
- **Enrolment of girls:** The lack of private sanitary facilities for girls can discourage parents from sending girls to school and contribute to the drop out and absence of girls, particularly at puberty.
- **Reduced risks for disease and worm infestation:** If school sanitation and hygiene facilities are absent, or are badly maintained and used, schools become health hazards.
- **Environmental cleanliness:** Proper facilities will prevent pollution of the environment and limit health hazards for schools, families and the community at large.
- **Implementing children's rights:** Children have the right to be as healthy and happy as possible. Good health and sanitation contribute to a happy childhood.

2.1 Health: issues and hygiene education

Having access to a safe water source or a latrine does not automatically mean that hygiene and health will improve. The crucial issue is human behaviour, that is, what people do. Investigations have shown that even in the absence of latrines, diarrhoeal disease can be reduced through improved hygiene behaviour such as handwashing (WHO, 1993).

Table 1: Impact of the promotion of personal and domestic hygiene on diarrhoeal disease

Location	% reduction in diarrhoeal disease
Handwashing	
Burma	
USA	30
Bangladesh (urban)	48
Combination of practices	35*
Bangladesh (urban)	26

Bangladesh (rural)	>40**
Guatemala	14
Zaire	11

* Impact on Shigellosis

** Impact seen in both interventions and control areas; reduction due to interventions is approximately 17%

Source: WHO, 1993

The study, resulting of a comparison from different countries, shows reductions in diarrhoeal disease which range from 11% in Zaire to 48% in the USA. In Bangladesh, studies show that children with more contaminated hands were three times more likely to have diarrhoea than those with less contaminated hands (Henry and Rahim, 1990). There also is a strong correlation between mothers not washing hands before food preparation or following cleaning a child after defecation (Saran and Gaur, 1981) and an increased risk of diarrhoea. In addition research shows that the quantity of water used for domestic and personal hygiene plays a very important role in reducing the incidence of diarrhoea (Huttley, 1992). All of this demonstrates the importance of hygiene behaviour and the point that sanitation goes far beyond implementing hardware. Building facilities cannot be the single indicator to measure the success or failure of a sanitation and SSHE program (Samanta, B., and Van Wijk, C, 1998).

The following Box cites that water-related diseases caused an estimated 3.4 million deaths in 1998 alone.

Box 1: Data on water-related mortality

Disease	Death (x1000)
Diarrhoeal Diseases	2,219
Malaria	1,110
Trypanosomiasis	40
Intestinal worm infections	15
Dengue	15
Schistosomiasis	7
The majority of these deaths were children.	

Source: WHO 1999.

2.2 Important interventions about diarrhoea

Research (Esrey, 1994) showed which interventions were related to the greatest reductions in diarrhoea; in the order of their possible impact, these interventions are:

1. Safe disposal of excreta
2. Household and personal hygiene, especially handwashing
3. Quantity of water used
4. Quality of water.

It is clear that the disposal of excreta safely is often not a given priority at each school for a number of reasons¹. Many schools simply do not have the physical facilities (hardware) available for their pupils and staff. Pathogens infect people via the mouth or skin and are passed out in excreta. In addition, many pupils also lack the knowledge of ‘correct’ household and personal hygiene especially that of handwashing. Handwashing, in particular, is a major preventive measure against disease. Handwashing facilities, which need not be expensive, are essential in schools. Finally, not only is the quantity of water often missing (e.g. import for handwashing, etc) but also the quality of water which inevitably causes diarrhoea among many pupils, is often below standard.

2.3 Importance of eliminating worm infestation

Children are at particular risk from worm infections. These can be controlled by practices such as: safe disposal of excreta, washing hands after defecation, wearing shoes or chappals, food hygiene, such as eating food from vendors who have good hygiene practices.

School performance and school attendance has been co-related to worm infections as reflected in some studies. It was found that children with worm infestation pupils tended to be more frequently absent from school. (Nokes et al, 1992). Another study reflected that after de-worming, many pupils showed considerable improvement in growth and educational development (Curtis, 1998).

¹ There are a number of reasons for this, namely:

- Sanitation is not particularly appealing to deal with for a cultural-sensitive personal and communal waste perspective.
- The technical aspects of low-cost sanitation are often not very interesting for engineers.
- For Departments of Public Health and some donors, the level of finance and project time-lines are less attractive in the sanitation than in the water sub sector.
- Sanitation programmes are challenging to organize and control as they relate to small expenditures, over scattered areas, requiring repeated private individual behaviours.

3. SSHE experiences

3.1 SSHE experience: a world-wide movement

It is almost impossible to imagine a school system or preschool which is not concerned with the health and hygiene of children. Personal hygiene and hygiene education continue to be given prominent places in schools and pre-schools in most industrialized countries. The roots of this are to be found, among others, during the early 19th century in the Scandinavian continuing education movement and the early school curricula of North American schools. Education in these continents was initially based on personal hygiene and hygiene education and only later was there a focus on the facilities themselves.

The early programmes, developed in the post-colonial periods within many African, Asian and South American nations similarly emphasized learning about personal hygiene. There were many instances, for example, when children learned (and sometimes still do) about the importance of hand washing and using latrines or toilets when these were not available in the school.

It is little wonder that many of the water and sanitation programmes for schools in the 1980s focused largely on construction and meeting construction targets. Some construction-oriented programmes did not sufficiently emphasize teacher training, the organizational needs of the school, and the hygiene education needs of the children, which are all crucial to effective use and maintenance of the water and sanitation facilities.

In addition to the above points, there are two further developments over the last 50 years which have made it difficult to create effective school sanitation and hygiene education programmes. First, school systems in many countries have retained a largely academic orientation, despite many efforts at reform. These are led, to a lesser or greater extent, by examination syllabi that do not include life skills such as hygiene or health education. As a result, these subjects are sometimes under-emphasised or omitted. Secondly, the growth of mass education has brought hundreds of millions of children into schools who would never have been able to attend in earlier generations. The influx has been so great that education systems could not provide sufficient facilities for hygiene and water.

Now this is changing. Many educational strategies which can support strong health and hygiene education are beginning to be implanted within the school. These include the development of the school as resource base, peer learning and peer teaching, programmes that stimulate child-to child education, child to family learning, school to community transfer. A good school sanitation and hygiene programme can benefit from these strategies *and* can support them (Hoffman, 1998).

3.2 SSHE experiences: UNICEF's role world-wide

Before 1982, UNICEF and its partners focused on hygiene education and school sanitation (that is, on software, children and linking sanitation directly to children's health). UNICEF itself became involved in sanitation construction projects for the

first time in 1982, when it initiated a rural sanitation programme with three NGOs in West Bengal (Samanta, and Van Wijk, 1998).

Currently school sanitation is an integral part of more than 30 UNICEF country programmes and in many more programmes schools are involved in one way or another. Different approaches have been tried by UNICEF in different countries, ranging from the mere provision of facilities to hygiene promotion and broader environmental education. Valuable experiences/lessons have emerged over the years on, for example: the development of children as potential agents of change within their homes and communities through their knowledge and use of sanitation and hygiene practices learnt at school; the training of teachers and other community members; the construction of separate schools sanitation facilities for boys and girls to increase enrolment and attendance of girls to name but a few examples. Another valuable lesson is the importance of working with schools which requires an integrated holistic approach with collaboration among different sectors, addressing issues of health, education, nutrition and water and sanitation.

One of the focus areas of UNICEF's intervention in this new decade is *“helping all children to enter and remain in school, by giving them the chance to learn in a child-friendly environment, to master basic education and to develop the social and intellectual skills needed for responsible life in a free society...”*. ‘Child-friendly’ and ‘girl-friendly’ school projects have already been initiated in a number of countries.

3.3 Other lessons learnt in SSHE

As reflected in the last section, the wisdom of the future builds on lessons learned from the past. For SSHE, there are a number of other key lessons from SSHE which are outlined in the box below. In several nations these lessons learned are being incorporated into policies and programmes:

Box 3. Lessons Learned from SSHE Programmes.

- ⇒ **Sustainability** must be a major focus of the SSHE programme. A central SSHE objective is sustained behaviours and sustained facilities that are consistently used.
- ⇒ **Safe water and sanitation facilities** should be in all schools.
- ⇒ **More actors** are involved in the successful programmes. These can include: PTAs, parents, children, religious groups, CBOs, education, health and NGO personnel, WES programme personnel. They need clear and feasible roles that share authority and responsibility.
- ⇒ **Integration or coordination of inputs and outputs.** The inputs and cooperation of different groups, at the right times, result in a programme which has qualitatively superior components for realistic investments (education, health, water and sanitation). This is particularly necessary:
 - among different departments in government,
 - among different disciplines,
 - among hardware inputs, educational software and community organisation.
- ⇒ **Subsidized but demand-based:** Schools and communities cover some of the costs and demonstrate their demand in the programme. Finance often comes from various sources but must not be too complicated or bureaucratic to

- activate.
- ⇒ **Flexible models and standards** work better because they can be adapted or developed based on local conditions and the water and sanitation and health environment.
 - ⇒ **Competition and control** are needed in construction. Construction monopolies (such as Government DPHEs or large contractors) are not always the most efficient, least costly or most honest in the construction for school programmes.
 - ⇒ **Capacity building and monitoring** with appropriate learning methods are essential for school and pre-school teachers and their supervisors. Relevant learning materials are needed. Most important, however, is the follow-up by supervisors and trainers at the school level. Lack of follow-up after one short training event has seriously weakened programming in many places.

It is crucial to review and incorporate the lessons from national and local programmes creatively and flexibly into future programming and policy.

4. Issues regarding those involved in SSHE

4.1 Education: issues hygiene education

After the family, schools are most important learning settings for children and are central to life in the society and community. Schools can – and should- be stimulating environments for children. Schools can also influence communities through outreach activities, through their students, who are in touch with the whole community. Through schools, children can develop as learners, teachers, development agents and responsible adults. For SSHE, this implies that the programme should be organized within and outside the classroom with clear roles and tasks for all children in maintaining personal cleanliness, using facilities correctly, helping younger children to do the same, in cleaning the facilities themselves, among many other possibilities.

Children are future parents and what they learn is likely to be applied in the rest of their lives. They have important roles in the household, taking care of younger brothers and sisters, and depending on the culture, they may also question existing practices in the household. If children are brought into the development process as active participants, they can become change agents within their families and a stimulus to community development. They are eager to learn and help, and if they consider environmental care and their role in this as important, they will take care of their own health and the health of others. Being tomorrow's parents, children are also likely to ensure the sustainability of a programme's impact. To achieve this, teachers must be able, in simple ways at least, to become *guides* and *motivators* fulfilling the promise of the school as a resource base, providing opportunities for peer learning child-to-child, school child to non-school going child, child to family, and school to community support.

The SSHE programme can also help education systems achieve their own goals. SSHE will improve school facilities, can improve the health education programme, and enrich the opportunities for personal growth among children by bringing life education into the classroom. At the same time, there are weaknesses and challenges that appear in many programmes. These include: rapid run-down of facilities, irrelevant curriculum, poor organization so that maintenance does not take place, lack of interest among supervisory staff in education department, little ability to visit schools for supervision because of weak organization or lack of transportation.

The following are some of the main special issues which educators in relation to SSHE need to keep in mind.

Box 5: Key issues for educators

- ⇒ *Focusing on sustainability*
At the school level, those facilities must continue to function, remain clean but be used as agreed by children. This implies a major focus among head-teachers and selected teachers in organising and training the children. School health clubs can also be useful here.
- ⇒ *Identifying and emphasising hygiene behaviour*
Identify and emphasise the most important **hygiene behaviours**. In some schools, for example, there is emphasis on nail-cutting but not on washing both. The priority should be reversed. At the community and school level, plans need to be made and carried out for repair of facilities, payment for repairs, preventive maintenance, and ensuring participation of all children in cleaning (not just the poor children or low-cast children).
- ⇒ *Developing capacities*
High quality training of teachers, headteachers and community representatives is needed that uses appealing and effective methodologies. This implies that the old-fashioned ‘guest lecturer’ way of organising training needs to be changed. Experience shows that periodic training is far more effective in a programme than one-time events. Orientation of supervisors and headteachers who support the programme is also essential.
- ⇒ *Focusing on supervision for teachers*
This includes follow-up through a supervisory system and periodic visits to schools.
- ⇒ *Developing education methods in the classroom and outside*
 - Active learning including child-to-child experiences.
 - Development and production of teaching materials.
 - Develop and produce hygiene educational materials, which can be reproduced on large scale, so that these are not too costly and allows for easy adaptation to suit circumstances.
 - Promote a structured, child centered curriculum appropriate to the child’s developmental level, abilities and learning style.
- ⇒ *Concentrating on links to curriculum and testing*
This includes reviewing the syllabus and examination questions: teachers, head teachers and supervisors must believe it is important

4.2 Policy and programming issues

The literature regarding policies reveals that many countries specifically in the Asian context do not mention schools or teachers in their WES programme objectives. The ‘Community Water Supply and Sanitation in South-East Asia Region’ reviewed achievement and prospective policies for the 1990s among ten nations in Asia including India. Only two countries (Bhutan and Nepal) mentioned the theme of schools and teachers (WHO, 1993). Although changes have emerged over the years,

persons involved in policy and programming which include policy makers should pay extra attention to the emerging needs in SSHE.

The policy maker has an important role in ensuring the success of SSHE. SSHE can be a popular programme among politicians because it shows concrete results in communities and is often popular with the constituents. The following box therefore focuses on some of the main SSHE issues which policy makers may find useful.

Box 4: Key issues for policy makers

Some of the special roles and issues for policy decision-makers in SSHE are:

⇒ *Political support and commitment*

- SSHE is *demand-based (not free)*. Communities must contribute and participate.
- *SSHE is more than construction and coverage*. The impact of the programme comes through sustaining the facilities, using them as intended, developing healthy behaviours. Thus, SSHE is basically an education programme with some construction. This point needs to be accepted – and supported—by state and local government, by WES and education personnel, by the public at large. In successful programmes, people agree that SSHE is more than construction and includes hygiene education, continued maintenance, development of new behaviours, links with community. The politician and policy maker has a crucial role in advocating for this.

⇒ *Co-ordination and commitment*

Policy makers can stimulate *co-ordinated approaches and commitment* among different departments and specialisations. At same time implementation must be co-ordinated. Both safe water and sanitation facilities are needed. Construction must be controlled so that it is timed correctly with training and community mobilization. The policy maker can stimulate implementers to follow these guidelines.

⇒ *Clearing blockages*

Policy makers and managers can *clear away blockages*. This could be needed, for example, in the case where financing comes from different sources which can be complex. In the RCRSP sanitation subsidy (which does not include water), the GOI/State share is 60% and 30% respectively with the balance 10% coming from the Panchayats/beneficiaries.

⇒ *Setting up minimum objectives, coverage and standards*

Policy makers help set the minimum objectives, coverage and standards. Flexibility is needed. Experience has shown that one uniform construction plan and model can not be relevant in all situations. The design and the decisions about who constructs depends on the situation. Small schools in active communities may wish to have all construction done locally. Larger schools might want to identify their own designs.

4.3 Organisational and management issues

There are a number of aspects to be considered in terms of organisational and management issues. Key issues for the SSHE manager, at the national, state or district level include:

- ⇒ *Defining clear roles of all the actors directly or indirectly involved in SSHE;*
- ⇒ *Focusing on close monitoring of these actors*
- ⇒ *Organising regular visit to schools to monitor and evaluation the SSHE situation*
- ⇒ *Developing and implementing refresher training courses for teachers*
- ⇒ *Ensuring efficient release and deployment of funds for water and sanitation facilities as well as training*

More specifically, there is a variety of support which the health department can give at the institutional, financial, and/or social level. This includes policies which need to be in place and ensure that the health department policy enables support for SSHE. Those working in the health department should also be empowered to take action on the part of the school. Problems related to the physical school building as well as the training of health staff who can then train and orient school educators and/or assist school children themselves also need to be tackled.

4.4 Monitoring and evaluation issues

Monitoring is too often limited to the collection of information for the purposes of reporting through, for example, Management Information System (MIS) and frequently monitoring is not done at all at schools. There are examples of national latrines programmes, which have failed as data was collected on implementation, but monitoring was not subsequently carried out. Consequently problems, which did arise could neither be identified nor acted upon. Beyond the collection of data for reporting purposes and audits, monitoring should be used to improve the operation of a programme and its effectiveness has been developed and initiated in whole or part within sanitation and water programmes.

A SSHE programme should be subject to a range of monitoring activities that are used to various purposes such as:

- Reporting
- Controlling and ensuring transparency of financial operations and flow of materials
- Controlling the quality of construction
- Checking the understanding of health concepts and hygiene practices so that interventions can be better targeted
- Improving maintenance and use by families

- Checking cost recovery and identifying ways in which it can be improved
- Check students and teachers satisfaction with facilities so that aspects of the programme can be improved
- Ensuring that actions respond to problems which the monitoring has identified

Clearly, there is a literature gap in the monitoring and evaluation which is decidedly scarce and information on costs often absent. A conclusion is therefore that more insights and guidance are needed on how SSHE inputs, results, costs and impacts may be monitored, also in view of the need to get more support to SSHE from higher level authorities (van Wijk, 2002).

4.5 Facilities: issues regarding quality and standards

Many countries have focused on developing standard school and classroom designs. Yet results have often been poor either because their authors did not recognise that conditions on the ground are not standard, or because provision for complementary aspects such as water and sanitation facilities, security, furniture and maintenance were neglected (WHO, 1997).

In terms of facilities for schools, the focus should be on 'sustainable' use. The focus of SSHE facilities should be a 'minimal' design. A 'minimal' design in this context means that it is simple and can easily be adapted. By having a 'minimal' design it is possible to adapt the facilities according to the specific school. At present most schools have standardised/minimal models. These models are characterised by easy operation and maintenance, year round operation, as well as being user friendly.

In term of construction, there are a number of issues, namely:

- ⇒ costs and cost control
- ⇒ construction quality, spares, repairs,
- ⇒ who constructs
- ⇒ training of small contractors and masons
- ⇒ varying the plan: availability of water, difficult conditions

The underlining issue is that poor or deteriorating school environment is not conducive to the good health of pupil.

Clearly there is a gap of integrating information and tools on the range of technologies and designs along with strategies for participatory decision making and management with 'all stakeholders'. There needs to be ways for students from the different age groups -girls as well as boys- and parents -fathers as well as mothers and other caretakers- to take part in decisions, information sharing and skills development. Education and the planning, design and construction are not really integrated as long as these activities are merely carried out side-by-side in a parallel manner. A sample procedure in which cross-cutting activities and linkages are given at each step may be a helpful tool. Such a procedure could be shaped as a participatory tool, very similar to the 'integration of hardware and software' tool developed by Lyra Srinivasan and colleagues [26]. When students, SHCs and/or parents participate in SSHE programs need to avoid using them merely as 'free labour'. Only dialogue, joint decisions, clear responsibilities as well as right for each party and shared control and

accountability create commitment and ownership and add to the students' development. (van Wijk, 2002 – Summary of the e-conference)

5. Conclusion

As this is a draft working paper, a number of overall concluding remarks have been made below. However it should be noted that this is not an exclusive list but rather cites some important issues which should be considered for those involved in SSHE. These include a need for:

- **More focus on the major links between school sanitation and hygiene education and development.** If SSHE continues to improve, various healths, social and economic benefits would also accrue. Besides the number of deaths which would be avoided, children will have the chance for a better education. Increasing number and standard of school latrine facilities would decrease the dropout rates especially for adolescent girls. Together, these improvements would also result in increased personal dignity and a greater sense of national pride. No other single intervention could do so much to improve health and socio-economic development.
- **More research** is needed to solve the following SSHE problems specifically regarding
 - ⇒ **Hygiene promotion techniques** which emphasis the role of the child. Until now little research exists focusing on the various types of techniques which could be used to promote hygiene education specifically related to the school child.
 - ⇒ **Technical designs for difficult water and sanitation conditions** as some schools require special attention due to high water table areas, hard-rock areas or other difficult topographical issues. More focus should also be placed on recycling options for excreta, solid and liquid wastes at schools. In addition a focus needs to be placed on developing participatory tools which are specifically meant for schools to assist in participatory decision making and management at schools.
- **More emphasis on national level work on legislation, policy and guidelines which should focus on** increasing inter-sectoral collaboration between the various stakeholders in SSHE. This would include research and development in SSHE, technical designs and hygiene promotion techniques.

As a final remark it should also be stated that this paper continues to be developed further based on on-going SSHE research and literature which will add to this evolving paper on SSHE.

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