

PRELIMINARY LITERATURE STUDY

TO A

SCHOOL SANITATION AND HYGIENE
EDUCATION (SSHE)
STRATEGY

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1 Definition

School sanitation and hygiene education (SSHE) refers to the combination of hardware and software components that are necessary to produce a healthy school environment and develop or support safe hygiene behaviour.

School sanitation ...

The provision of safe water and sanitation facilities in schools is a first step towards a healthy physical learning environment, benefiting both learning and health. However, the mere provision of facilities does not necessarily make them sustainable or produce the desired impact. It is the use of latrines and the related appropriate hygiene behaviour of people that provides health benefits.

...and Hygiene Education

In schools, hygiene education aims to promote those practices that will help to prevent water and sanitation-related diseases as well as encouraging healthy behaviour in the future adult generation. Hygiene education at school helps children to learn about water and sanitation-related behaviours and the reasons why these lead to good health and bad health. It also examines the social context of hygiene practices. The idea is that when children understand and think together about their situations and practices, they can plan and act to prevent diseases.

Repeating general messages about hygiene practices does not usually change behaviour. Hygiene education programmes can support the development of new behaviours among children by creating a strong educational environment, by providing access to safe and operational facilities, and by reinforcement from the home. In this whole process, the key adults around the child have crucial roles to play.

2 Motivations to engage in SSHE

- **Urgent need:**
As a direct result of the decision by the Government of Uganda to promote Universal Primary Education (UPE) there has been a massive intake of school children. In 2000 it was estimated that 6.5 million children were attending 8750 schools in Uganda. This number is set to double to 13 million school children by 2015. For most (especially rural) schools this means that within the last couple of years there has been a doubling or tripling of pupils at school despite the fact that the infrastructure of classrooms, latrines etc. simply has not been adequate to cope with the sudden surge in numbers. In 2000, 98% of primary schools were lacking adequate sanitary facilities.
- **Effectiveness:**
Behavioural change is easier realised in a young public, and rural school populations represent a large share of PROTOS' target group of rural poor.
- **Multiplicator-effect:**
Children are potential agents of change in their homes through their knowledge and use of sanitation and hygiene practices learned at school.
- **Gender aspect:**
SSHE increases girls' enrolment and their more regular school attendance.
- **Health impact:**
SSHE reduces incidences of diseases and infestations. Especially in densely populated schools that run an overcapacity of pupils like most UPE schools there is a real and imminent risk of major outbreaks of cholera and other diseases linked to poor water, sanitation and hygiene.

- Guide for School Sanitation and Hygiene Education -

3 Creating a conducive environment at school

3.1 Demand based

The SSHE programme can be subsidised but should be demand-based. Schools and communities should therefore cover some of the costs and demonstrate their demand for the programme.

3.2 Budget allocation

The installation of water and sanitation facilities and the improvement of hygiene education cost money. Even if development programmes provide facilities and teacher training, funds need to be allocated for the operation and maintenance of facilities and the development of teaching aids.

3.3 Teacher commitment and team work

Teacher commitment is crucial; therefore training of teachers is a key issue, as well as refreshment trainings. Lack of follow-up after one short training seriously weakens the SSHE programme with time.

SSHE may be part of various subjects already taught at schools. In order to offer a comprehensive package and ensure the coherence and proper timing of the various elements of SSHE, teamwork among teachers is essential. A common vision with regard to SSHE needs to be developed, objectives need to be defined, an action plan made, tasks divided and a time frame made. During all stages of an SSHE programme it should be kept in mind that teachers must not be overburdened. If they are, they will lose interest in SSHE activities. This problem can only be solved if the input of teachers is sought for valid activities and if realistic goals are set together with them.

4 School baseline survey

4.1 Approach & methods

4.1.1 Participatory approach

Although any teacher or school committee member may point at the need for it, the problem analysis and needs assessment should be initiated by the headmaster. It can be executed under the guidance of any teacher having an affinity with SSH, with the involvement of other teachers. Doing the analysis or assessment in a participatory way means that students, community members and possibly health centre staff are actively involved in its design and execution. This not only has the advantage of getting useful and precise data, it also starts to motivate those involved to develop activities to improve SSH. The involvement of children in this stage is crucial. Experience shows that children's involvement may be the first step towards their ready participation in the programme. In addition, behaviour changes may already start to occur during the analysis and assessment period.

4.1.2 Methods

Assessment methods include discussions with teachers, students, parents and community members, direct observation and participatory exercises such as:

- drawing of maps of the neighbourhood, indicating water sources, latrines, solid waste collection points and possibly indicating areas which constitute a health risk
- unfinished stories
- three pile sorting cards (good, bad and not relevant)
- drawings

- sanitation ladder

4.2 Topics for school baseline

4.2.1 School identification

- Date
- Which grades are organised in the school (lower primary, lower and upper primary, primary and secondary)
- Number of shifts in the school? Give timings
- Name of administrator
- Name of school and address
- Number of students. Number of boys. Number of girls.
- Number of teachers

4.2.2 Sanitation

- presence of latrines within the school compound
- accessibility of the latrines for the entire school population
- appropriateness of the design
- How many girls use one toilet?
- How many boys use one toilet or urinal?
- Are toilets being used?
- Can children use the toilets during the school day?
- Are they easy to open or unlock?
- Do teachers have separate toilets from children?
- Are the toilets and urinals clean? (free from visible garbage, faecal matter on floor, not too many flies)
- Are they well lighted and ventilated?
- Are there puddles of water around the toilet pan or just outside?
- Are the toilets and urinals smelly in a way that may lead to stop its use?
- presence of cleansing materials
- Water for cleansing inside or beside the toilets?
- Do children help clean the school, including the toilets?
- How often are the toilets cleaned?
- Do the children take turns (rotate) in cleaning the toilets?
- Is there a jug for lifting water to flush and wash hands or any other hand washing facility?
- Is there soap or ash?
- Do children wash their hands correctly after using the toilet? (do they use soap or ash and do they rub both hands at least 3 times?)
- Is wastewater drained in such way that it will not breed mosquitoes?
- garbage disposal

4.2.3 Water supply

- Functioning water point within the school area? Or within about 150 steps from school?
- appropriateness of the design and accessibility for small children
- Functioning during whole school year?
- condition of the water point
- is the water apparently of drinking quality at the water point?
- Is there water storage that appears to be clean (water storage should be at least 1 water container per classroom or 20 litres per class)
- maintenance arrangements, including availability of spare parts
- When school water point is not functioning how do children drink water?
- How will children know if water quality is good or not?
- Are ladles or cups with handles used to take drinking water?
- How does the school ensure that the water container is clean?
- Who is responsible for cleaning the container and maintaining the facilities?
- How often are the water storage containers cleaned? Do the children assist in cleaning?

4.2.4 Hygiene behaviour

- safe drinking
- safe water handling and storage
- washing hands after defecation and before handling food
- children using latrines for defecation
- children using latrines or urinals for urination
- regular cleaning of facilities
- covering food

4.2.5 Health condition of the children

- Health inspection of the children through health inspection parades reveals condition of personal hygiene : teeth, hair, fingernails, hands, eye infections, clothes, ...
- In class at the occasion of explaining the faecal-oral route, teachers can ask how many children had diarrhoea last week.

4.2.6 School environment

- School yard, compound and classrooms clean? (free from visible garbage on grounds and in classrooms, classrooms with waste containers, solid waste disposed away from school)

4.2.7 Curriculum and teaching materials

- Do teachers have a guide book for hygiene and sanitation?
- Does that cover all relevant topics?
- Have teachers taught anything about hygiene? (safe water, household sanitation, personal hygiene)
- Any teaching materials, books or learning materials in school about SSHE?
- Hygiene education is part of the curriculum?
- Hygiene education is an examinable topic?
- Participatory methods are used?
- Hygiene education is based on living conditions and daily behaviour?

4.2.8 Supportive framework

- Are teachers trained in School Sanitation and Hygiene Education?
- When and for how many days were teachers trained?
- Can teachers explain correctly what sanitation and hygiene means to him/her?
- What is teachers' opinion about hygiene teaching?
- Do the teachers and head master seem motivated and interested in the SSHE programme?
- Do the teachers and head master seem to get along with the community?
- Are parents' or other community groups involved in the school? In supporting the school?
- Is the parents' group active? Do they keep minutes? Have they met in the last few months?
- Do the parents know about the sanitation and water facilities provided by the school?
- Do the parents provide a financial contribution towards the sanitation and water facilities at the school?
- Are there household toilets (more than one out of ten households) in the community?
- Has the school planned or conducted events to promote SSHE in the community?
- Is there a district or sub-county SSHE implementation plan with budget?
- Is there any ngo or cbo involved in training of teachers or SSHE activities in the school?

4.2.9 Budget

- Budget available for a SSHE programme: amount school is willing to spend, amount parents might want to contribute, amount local government can contribute, NGO subsidy,...

5 Action plan for school sanitation and hygiene improvement

5.1 Analysis of base line survey and presentation of findings

It is important that information about existing facilities and hygiene behaviours is recorded in a way which is understandable, accessible for teachers, students and school committee members and that it is analysed through discussions with all these groups. The process of collecting, recording and analysing the information will probably lead to action already. Recording and analysis of data allows teachers of other subjects to liaise with SSH in their sessions. During mathematics, for example, calculations related to SSH, such as the percentage of students having a latrine at home or the ratio between the numbers of female students and existing latrines, could be made. Arts could help students to visualise data in graphs in order to make them accessible for the youngest students and illiterate community members.

The presentation of findings should clearly outline growth points/successes and challenges/problems.

5.2 Participatory planning for improvements

Improvements are designed with involvement of children, teachers, parents and communities. Active involvement of the users during the design stage of hygiene and sanitation facilities will lead to better solutions and increased acceptance of these solutions. The chance that people will adopt appropriate hygiene practices is much greater when they understand the importance of sanitation improvements and are allowed to find their own solutions. The process of designing hygiene and sanitation facilities can be seen as a participatory learning experience: facilitating a group of people in the analysis of their existing situation and guiding them to develop skills and obtain knowledge that enables them to set their own priorities and design appropriate solutions. Project staff involved in the development of facilities should see themselves as trainers and facilitators who guide the people through the design process and bring in background support with technical expertise and organisational and planning skills. The participatory design of facilities (the 'hardware') can be integrated as a powerful tool into the hygiene education programme (the 'software').

Some useful considerations for participatory design processes:

- It is impossible for the entire school community to directly participate in the design process. An elected committee could be put together in which not only teachers and students, but also parents and possibly other stakeholders are represented. It is important that the committee is equally balanced as regards sex, race, ethnic group, and that the committee reports on their findings at the end of each design phase.
- It is important to assess the readiness of the stakeholders. Do they see their water, hygiene and sanitation conditions as problematic? Are they interested in changing them?
- Inform the stakeholders about the sequence of the design process. Progress can be ensured by structuring the entire process in clear phases and by informing stakeholders of the expected outcome of each phase. Technical information is best provided in response to needs identified by the stakeholders. Providing external intervention with technical information and support too early can have a negative effect on the process.

Involvement of the principal users, the children, is also essential as they have a different view of the world than adults and therefore experience the use of facilities differently. Children can be frightened in situations that adults consider to be safe. When, for example, faeces are scattered on the floor around the toilet instead of ending up in the squatting hole, it should not immediately be interpreted as an act of misbehaviour. In many cases it indicates that children were afraid to squat above the hole.

Generally children are good designers: They are curious and interested in the world around them and they like to use their imagination. Moreover, they are good at finding solutions for problems that directly affect them.

Some considerations when involving children in the design process:

- In most cultures, hygiene, and more particularly sanitation, is a sensitive subject. It is therefore recommended to create an environment that allows an open dialogue. Better results can be expected from an informal group session than from a traditional classroom set-

up. It will sometimes be necessary to separate girls and boys and the children by age group, and to keep teachers and other adults that are 'close' to them away. Preferably, the facilitation of the group sessions should be done by neutral adults who, in order to build up trust, speak the local dialect or language; have in-depth knowledge of local customs and habits related to hygiene, water and sanitation.

- The technical drawings normally used for design and construction purposes can be confusing because they do not properly illustrate how the facilities are going to look. Presentations that are more realistic should be used, such as perspective drawings and scale models. The latter can be easily adapted and could be made by the older children.
- When an innovative solution is proposed, it is better to make a full-scale pilot model. Maybe similar solutions have been implemented at other schools or a temporary 'testing facility' can be used to see how it works. Experimenting and trying out often results in the best solutions.

At the planning stage one should take into account the typical school calendar with its busy periods, less busy periods and school holidays.

On the basis of the available information priorities for action can be set. It is crucial at this stage to formulate clear objectives, ensuring a proper mix of objectives related to hardware (water and sanitation facilities) and objectives related to software (their use, and behaviour changes). Objectives need to be Specific, Measurable, Applicable, Realistic and Time-bound (SMART). They have to take into account the available or expected budget and manpower. In order to stimulate collaboration with a health centre for example, the objectives should, whenever possible and useful, match with the objectives this centre has in the field of hygiene education.

After setting objectives, action plans can be made with all parties involved: students, teachers, parents, community members and project staff. The involvement of students and teachers again is particularly important, since they have a crucial role to play in implementing the programme.

5.3 Resource allocation

Should budget and manpower not be available, the action plan has to include activities geared towards obtaining them. It is advisable to have a substantial financial or manpower contribution from both school and community, because this will enhance the sense of ownership and responsibility for facilities. Of crucial importance are the setting of a time frame and the allocation of responsibilities.

Important issues to be considered are: what has to be paid and who will contribute? As sanitary facilities are an essential part of schools, the cost of their construction should be included in the budget. However, construction and the operation and maintenance of facilities are usually not included in a school's annual plan and therefore do not appear in the budget.

It is important in this regard to distinguish between capital costs and O&M costs. Schools and communities may get some donor support to cover the capital cost, although it is best when they also contribute to cover these costs. To make school sanitation programmes sustainable all O&M costs should be covered by schools and communities. To avoid any misunderstanding it is best to make this clear in advance.

6 Hardware options for schools

6.1 Choice of facilities

6.1.1 Criteria for 'appropriate' facilities

The involvement of students, community members and local craftsmen will ensure the most appropriate design. 'Appropriate' also means that community members can copy the sanitary and (if possible) water supply facilities constructed for schools for their own purposes.

Considerations to keep in mind when selecting the right technology for the school:

- required service level
- capital costs of technical options
- O&M costs

- ability to pay the costs for O&M
- local technical skills needed for construction and O&M
- need for intervention of external contractor
- need for and reliability of supply of spare parts.
- technical support capacity for maintenance
- ability and willingness to maintain facilities
- clarity on how maintenance will be arranged before construction starts
- training for caretakers
- number of pupils and staff
- estimated total consumption
- estimated peak consumption
- cultural aspects

6.1.2 Criteria for sustainable facilities

Despite higher initial investment costs, money will be saved in the long run when investing in good quality, sustainable hygiene and sanitation facilities because the facilities have a longer lifespan and require less maintenance.

One argument used for the reduction of financial resources earmarked for hygiene and sanitation facilities is that they are of a temporary nature. The reality is that due to budget limitations that exist in most countries for school buildings, facilities are used far beyond their intended lifespan. For simple pit latrines, the filling up and emptying of the pit largely determine its lifespan. For other types of facilities the lifespan is determined by the quality of the construction materials used, design improvements and operation and maintenance.

In this context suggestions to maximise the lifespan of the selected facilities are:

- Offer separate means of collection and disposal for cleansing materials other than water. Disposing of solid, and in particular non-degradable materials used for anal cleansing and menstrual hygiene accelerates the filling up of pits.
- Empty and re-use pits in order to maximise the lifespan of the facility. When a full pit is left unused for a length of time, allowing the excreta to fully decompose, the health risks are minimal.
- While there is a wide range of materials of varying costs that can be used for hygiene and sanitation facilities, good quality facilities demand the highest possible standards, should be durable and must be able to withstand frequent use and cleaning.
- Surfaces that will come into contact with faeces or urine must be impermeable and easy to clean. This is particularly true in situations where soap and simple cleaning supplies are not readily available. Moulds can be used to make smooth-shaped surfaces and corners. To facilitate cleaning of slabs, provisions can be made in the slabs to drain water used for cleaning

6.1.3 Criteria for child-friendly facilities

Facilities for children require different dimensions than those for adults. Nevertheless, 'adult-size' designs are all too often used for schools, and if adapted, the adaptations are minimal. This results in uncomfortable facilities with many unforeseen obstacles for children, and in turn leads to children using them in the wrong way or refusing to use them at all.

For making facilities comfortable and accessible for all children the following dimensions should be determined: (standard dimensions are not given here because they differ from region to region and at every school, children of all ages are available for measuring and trials)

- Height of seats (if seats are being used)
- Height of urinals
- Height of hand washing facilities (and can taps, ladles, soap, etc. be reached?)
- Distance between the footrests of squatting platforms
- Distance from the squatting platform to the wall (women and girls need more space to squat comfortably than men and boys)

In addition to the obvious differences in length, children of different ages also have different levels of physical strength and motor skills, requiring different solutions. The following aspects have to be considered and measured:

- Height of doorknobs and locks

- Height of steps and handrails of stairs
- Weight of the doors and hole covers
- Strength needed to open taps, fetch water, etc.
- Diameter of the squatting hole (also consider children's fear of falling in)
- Special measurements when there are children with disabilities

In larger schools with a large age spread it is recommended to build separate facilities for the younger children, the older children and teachers. When the same facilities are used by different age groups, special provisions can be made to allow smaller children to make use of the facilities, such as a step in front of the seat or an additional seat cover with a smaller hole. Other special provisions for small children are handles for support while squatting, gently inclining paths and handrails for steep stairs to improve access to facilities. These provisions must not make cleaning more difficult and can sometimes have unexpected effects, therefore they can best be tried out first. It is best to monitor the use of sanitary facilities periodically and try out and experiment with new ideas.

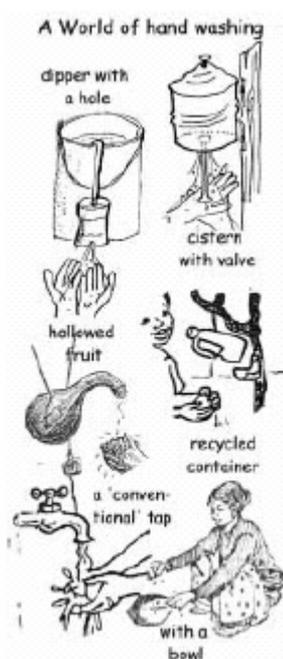
Special attention for girls is needed. Important topics for girls and female teachers are:

- Location of facilities: Girls will not use facilities that are situated in an isolated location because of the risk of rape or harassment.
- A proper environment for menstrual hygiene has to be provided for older girls and women. The needs and requirements are culturally determined.
- Dialogue on sensitive issues related to girls' hygiene should begin during design and continue into operation. In most countries talking about defecation, menstruation, etc. is surrounded by a big taboo. If unacceptable things happen when using hygiene and sanitation facilities, children should have access to a confidential school counsellor who could try to solve the problems together with the victim.

6.2 Water supply

If a school does not have its own water supply, students and teachers may be forced to use the local water source, which may be polluted. In Burkina Faso, this practice led to disputes with the local community. If a hand pump or piped supply does not provide sufficient water during peak hours, such as during breaks between classes, a storage tank may be required. Some schools in rural areas have built rainwater catchment systems consisting of gutters on the roofs and cisterns in which the water is collected. This is sometimes achieved without any external assistance.

6.2.1 Hand washing



Hand washing facilities have to be placed close to the latrines, since hand washing is most important after defecation. Hand washing facilities should allow for the placement of soap or other cleaning agents. Studies have shown that rinsing with water only is not adequate to remove pathogens. Washing hands is only effective when it is done with soap, ashes or clean mud. If properly applied these are all equally effective. These cleaning agents have to be provided and need to be located within reach and in a place where they cannot be lost. The entire facility should be designed in such way that the water source cannot be contaminated by contact with dirty hands. If there is no tap, a vessel should be provided to scoop water from a container.

A good hand washing facility for schools could be a permanent fixture of a pre-cast concrete tank placed above a brick plinth and complete with a top slab and lid, and taps below. A good practice observed is the addition of Omo washing powder to the water in the tank. This not only provides the best means of hand washing, it also overcomes the problem of soap bars being stolen. It also reduces the risk of children drinking the water, which may well have been collected from unsafe sources or may be rainwater.

Other important considerations:

- Avoid water wastage, especially in areas where clean water is scarce by e.g. use of a system that doses the quantity of water (small holes

- or a piece of rubber pipe inserted in taps). The use of rainwater can also be considered.
- Children of all ages should have access to the hand washing facility and be able to reach and operate taps or basins.
 - Washbasins have to be cleaned regularly.
 - To avoid the spreading of pathogens, water should be properly drained after each hand washing. Without proper drainage, including open drains, surroundings become muddy, discouraging people from washing their hands and attracting mosquitoes. Channelling wastewater to flush urinals helps conserve water and preserve hygiene.

6.2.2 Drinking

Storage tanks are to be provided with a tap to prevent water from getting contaminated by cups being dipped in. Ideally, each classroom should be provided with a 20 l water storage container for drinking.

Drinking water should be stored in containers with covers and should have at least one ladle and two tumblers. It is useful to have a platform to raise the containers off the ground and to have soap for washing the vessels and tumblers. In some schools the cups, buckets and soap are taken to a safe storage place at the end of the school day.

When no safe drinking water source is available nearby, there is a chance that water intended for hand washing and anal cleansing is also be used for consumption. As this water is not always clean and safe, children should be informed of the risk of drinking from these sources and should therefore have access to a safe drinking water source.

6.2.3 Pour-flush latrines and anal cleansing

If water is needed for flushing or anal cleansing, the water point should be located close to the latrines. If the water point is far from the latrines, the risk exists that the latrines are not sufficiently flushed, that blockages occur and that they are no longer used.

Anal cleansing is ignored in the design of hygiene and sanitation facilities even more frequently than hand washing. Often water for anal cleansing is not available at the facility itself and children have to collect water before defecating. Also other materials than water are possible for anal cleansing, see 6.3.1.i.

If the toilet is connected to a sewage system, flushing of the degradable material used for anal cleansing can be considered.

6.3 Sanitation

Pollution of the environment around places with a high concentration of people, like schools, is very likely. Therefore sanitary facilities are to be provided.

6.3.1 Excreta disposal

a. Types of latrines

Three types of excreta disposal systems are recommended for schools: pit latrines, ventilated improved pit latrines (VIPs) and pour-flush latrines. For schools in areas where no or insufficient water for flushing is available close to the latrine or where stones or sticks are used for cleaning, the VIP latrine is the most suitable. If a sufficient amount of water is available close to the latrine and the facilities are expected to be well-maintained, a pour-flush latrine may be considered. Among pit latrines, many options exist: ordinary pit latrine, lined pit latrine, raised pit latrine, and alternative pit latrine.

The conventional concept of the 10-stance latrine on top of one narrow, deep rectangular sleeve can be replaced by 10 separate circular pits lined with inter-locking cement blocks. Those blocks can easily be made locally thus enabling the school to start digging only when the blocks are ready instead of digging a deep trench and having to wait for a contractor to line the sleeve, with a high risk of collapse. Moreover, circular pits have an intrinsic strength in their shape, whereas those long and deep trenches collapse easily without lining. Separate pits are easier to ventilate than one big sleeve. If some lids are not replaced on the squat holes above the sleeve, the air flow inverses easily, producing a bad odour instead of reducing it.

An important element to make an investment in latrines worthwhile from the cost-effective side is their useful life. Pits that are filling rapidly due to a too high ratio of pupils per latrine and pits that collapse due to bad or no or use of maladjusted technology to the soil conditions, constitute the main problems that reduce useful life of latrines considerably, thus demotivating schools to invest in latrines.

See also
Ref 19 and Ref 20

b. Number of latrines

An indication for the number of latrines required is a ratio of one facility for 20 students. In addition, there are some other important factors when defining the exact number of facilities:

- Are separate urinals available for boys? If so, fewer latrines will be needed.
- What is the proportion of boys to girls? If urinals are available, boys need fewer latrines.
- Are children allowed to use the toilets during classes or only during breaks? When facilities are only used during breaks, there will be peaks in usage and therefore the capacity needs to be higher.
- How many breaks are there? When there are few breaks the capacity needs to be higher than when there are more breaks, because children have fewer opportunities to use the facilities.
- Do all classes begin and end at the same time? When timetables are different, fewer facilities are required. The 'highest peak' for usage has to be determined.
- Will the number of students expand considerably in the future? What is the expected ratio of girls to boys?
- Are there users with disabilities? Do they need specific design adaptations for sanitation facilities, hand washing or water access?
- Do teachers have their own facilities? If not, they may lock the students' facilities and thus prevent their regular use by the students.
- Do female and male teachers prefer to have separate facilities?

In Uganda, the official design requirements for school sanitation are that there should be 4 stances (squat holes) for the first 100 pupils (a ratio of 1:25) and thereafter the ratio could increase to 1:40. In addition, 2 stances need to cater for male and female teachers.

c. Special attention for girls' needs

Girls usually attach greater importance to sanitary facilities than boys. This is mainly related to their greater need for privacy. Studies have found a relationship between school sanitation and girls' attendance. Very often separate facilities are requested. In secondary schools, provision for sanitary napkins is needed.

d. Child friendly facilities

Besides the considerations mentioned under 6.1.3., it might also be useful to divide the latrines over different blocks for different age categories to cater for their different abilities e.g. having a block for the smallest pupils with small squat holes, nearer footrests, and lower hand washing facilities.

e. The benefits of urinals

Since school facilities are most often used during peak hours (breaks between classes) and facilities are mainly for urination, it may be helpful to design separate urinals. The provision of urinals has a lot of advantages. Complete and costly toilets can be partially replaced by cheaper urinals. Where pits are used, providing urinals will extend the lifespan of the pits considerably and will cause less overall odour if they are well designed. Urinals can also reduce waiting time. Although not yet common everywhere, installation of specially designed urinals for girls deserves serious consideration.

Instead of discharge in the pit, urine could be disposed in a soak pit. The urinals need to be cleaned regularly to reduce unpleasant odours. Sometimes rainwater can be used for flushing the urinals, or even the waste water from the hand washing facility.

It is recommended that at least half of the facilities are urinals.

f. Site selection

Site selection of latrines is important and needs careful consideration. If facilities are located far away from the school this may encourage misuse; if they are too close, stench may penetrate the classrooms. The following criteria should be considered when choosing a location for facilities:

- **Security:** Children have to feel secure when visiting the facilities without risking and fearing harassment by people or attacks by animals such as snakes. Access routes have to be open and clear and the facilities must be in hearing/visual distance of the school so that assistance can be called for if necessary.
- **Privacy:** Facilities should guarantee privacy. Facilities and their access routes can therefore better be located away from busy public places and roads, while still being open and clear for safety reasons.
- **Monitoring:** Facilities only contribute to health and hygiene improvements if properly used. Some locations will facilitate monitoring of proper use.
- **Supervision:** Someone has to be responsible and accountable for the facilities, including outside school hours and during holidays. The location of the facility should allow for proper supervision and reduce the risk of vandalism.
- **Environmental degradation:** Often facilities are located close to other 'odour and fly producers', such as garbage dumps. This will not motivate people to use the facilities. It is better to locate facilities elsewhere and/or design solutions that minimize the nuisance and environmental degradation.
- **Risk of groundwater contamination:** Facilities have to be located away from drinking water wells, at the lower side of a slope at least 30 m away from the well.
- **Accessibility:** It must be possible to reach facilities at all times, also after heavy rains
- **Indiscriminate use and vandalism:** This may be a problem outside school hours and during the holidays. When nearby households (sometimes the teachers' households) are likely to use the school toilets, involve them in the planning of the facilities.

Some of the criteria mentioned above can be contradictory, for example, the need for security and privacy. The final selection of the location has to be a result of comparing pros and cons and reaching a consensus between the different users. A good tool for site selection is the creation of maps together with the school community and, if relevant, the families living in the immediate surroundings.

g. Ecological sanitation

Ecological sanitation is part of a broader vision of bringing society in balance with nature to ensure a more sustainable future. Ecological sanitation consists of the following principles:

- **Prevents diseases:** The harmful pathogens in faeces can be treated and converted to a harmless state directly inside the facility. Dry disposal also eliminates pathogens.
- **Recovers and recycles nutrients and organic matter:** Urine can be diluted and applied directly to the soil, or stored underground in storage tanks prior to applying it to the soil. After being sanitised, faeces can be recycled and used as fertilizer without health risks. The taboos surrounding sanitation could make it difficult to convince stakeholders to utilise urine and faeces as fertilizer. In those cases burying the faecal compost and draining the urine to a soak pit are good alternatives.

The process of ecological sanitation can be divided into two steps.

- **The diversion of urine and faeces.** This is necessary because they cannot be sanitised easily if mixed. Urine is commonly almost free of pathogens. The urine can be diverted by using urinals or special pedestals or squatting slabs.
- **The collection and storage of faeces in a secure vault where pathogens are broken down.** The pathogens can be broken down by decomposition, a biological process in which bacteria, worms and other types of organisms break down organic substances to make humus, an excellent soil conditioner. Another process used is dehydration: Faeces can be dehydrated fairly quickly by diversion of urine, and in the processing vault with the help of heat, ventilation and the addition of dry material (such as ashes, lime and soil).

Both decomposition and dehydration require up to one year before all pathogens are killed and the contents of the vault can be handled safely. For this reason often two or more vaults are alternately used so that one can be left to sanitise while the others are used for sanitation purposes. Once the content of a vault has been sanitised, it can be used as fertilizer or buried.

Ecological sanitation systems require more promotion, support, education and training than conventional systems since they are more sensitive to bad design and management. Ecological sanitation systems are not necessarily more expensive than well constructed traditional systems. Money can be saved because excavation is often not necessary and the lifespan of the facility is longer than that of a traditional latrine. The system does not depend on water and pipe networks and operation and maintenance costs are low.

In practice the separation slab for urine and faeces causes a lot of trouble. Another version of the compost latrine, is a conventional pit latrine with in every cubicle a bucket filled with a mix of topsoil, ash and leaves or grasses. A little of this mixture should be sprinkled down through the squat hole after every visit. This practice would greatly speed up the process of digestion and would result in very good quality compost. This practice also helps to keep flies down to a minimum in cases where a fly-trap/vent pipe is not installed. A condition is of course that urinals are in place keeping the pit as dry as possible.

When opting for the compost latrine, extra pits need to be foreseen to cater for the one-year resting period of the full pits. The number of extra pits depends on their filling rate, which is determined by their volume and the ratio pupils per latrine. An example of such a calculation can be found in the annexes. (ref9 p14)

h. Light and ventilation

Natural lighting and ventilation of the shelters are important for cleanliness and removal of bad odours. There has to be enough light to inspect the cleanliness of the toilet. Therefore, it is recommended to use natural light in combination with light colours for the interior of the shelter. The facility should also be ventilated to prevent the build-up of heat and odours. To ensure proper ventilation at least two openings are needed. These should preferably be made in such a way that they block direct sunlight, such as by using shades. Young children appreciate small openings at eye height. An opening in the door allows a teacher to move the latch from the outside if a child locks itself in.

When they can come in direct contact with faeces, flies are one of the main transmission sources of diseases. Also mosquitoes, transmitters of diseases such as malaria and dengue, like to use the humidity inside a toilet as a breeding place. Tight fitting lids over squat holes are often used to prevent flies and mosquitoes from having access. Unfortunately they do not prevent insects from breeding in the pit if they have entered as a result of lids not being placed properly. The provision of a fly-screened vent pipe connected to the pit is more effective. The vent pipe should be high enough to ensure good air circulation and light has to enter the pipe to attract the flies and mosquitoes. Keeping the facility fairly dark is a condition for the functioning of this system, something that can be in conflict with the objective to offer a comfortable facility for children. A good balance can be found, however, by keeping doors shut at all times and blocking direct sunlight, and inspecting the vent pipe and screen frequently. This eliminates the need to keep the facility so dark that children will be frightened and unable to see where they squat. Other possible provisions are to make a small window at the bottom of the vent pipe to attract flies or to put floating polystyrene beads in the pit to prevent mosquitoes from breeding.

i. Anal cleansing

Materials for anal cleansing are often forgotten and children gather sticks, stones, leaves, etc. before defecating. Throwing these solid materials used for anal cleansing into the sanitary system leads to unnecessary filling up of pits, decreasing their lifetime considerably, and frequent blocking of water seals. To avoid this, appropriate cleansing material (especially leaves) or water should be available in each latrine. The material if other than water, should be put on a stand or be hung onto the wall to prevent it from being scattered on the floor and getting dirty. Used cleansing material should be put aside in a special container unless the organic matter is required for stimulating the composting process. The collection and disposal of anal cleansing materials has to be well organised to avoid unhygienic situations, contamination and nuisance caused by flies, odours, etc. Containers have to be emptied and cleaned on a regular basis and the waste has to be disposed of elsewhere, in a separate pit that will not allow it to come into contact with drinking water sources, or burned in a simple incinerator.

6.3.2 Drainage

Stagnant water due to poor drainage, blocked sewers, and overflowing septic tanks or soakaways may create adverse health effects. It is important to distinguish between sullage and sewage.

Sullage refers to wastewater from the kitchen, shower, etc. Sewage is water mixed with excreta or water which has been in contact with excreta. If possible, schools should not create an environmental hazard by polluting the environment with contaminated surface water, specifically with sewage. Schools with VIP or pour-flush latrines deal with the contaminated water on site and are therefore no danger to the environment. Preferably schools try to limit the amount of contaminated surface water. This can be achieved by choosing onsite dry disposal systems or wet systems which deal with any contaminated water on site, such as a pour-flush latrine with leaching pit. When a septic tank is constructed, the soakaway should have sufficient capacity to filtrate all contaminated water. Soakaways may also be constructed for sullage. Effluent from septic tanks can, if a soakaway is no option, drain into small-bore sewers.

Water which is not contaminated, such as excessive rainwater, can directly drain into a receiving water body, a river, lake or pond.

The type of drainage system to be selected depends on the level of filtration and evaporation taking place. Those in turn depend on the soil and weather conditions and slope of the terrain. In peri-urban areas, drains should be cleaned by the municipality. In rural areas, a soakage pit may be sufficient. For school compounds, unlined open drains may be considered. These are only advisable when the slope is less than 1 percent. Grass will help to hold the top soil. For slopes of more than 1 percent lining is needed. Closed drains can best be avoided, open drains should be cleaned and maintained regularly. Water should not remain stagnant in the drains to avoid health hazards.

6.3.3 Garbage disposal

Poor garbage disposal may lead to stagnant water due to blocked drains, to fly breeding and to the attraction of vermin. These situations can contribute to the transmission of diseases. Garbage therefore needs to be dealt with in a safe way.

The selection of a garbage disposal system is basically determined by the type and amount of waste being produced. In rural and peri-urban areas, garbage consists mainly of compostable matter. In such cases the establishment of a well-managed compost heap will suffice. It is not advisable to burn garbage, in view of health hazards such as respiratory diseases. In some schools, solid garbage disposal may be more complex because they have a wider variety of materials that need to be disposed of. Plastic and tin waste, for instance, will have to be dealt with separately. These can either be collected for recycling or disposed of through a municipal collection system. Waste bins placed in every classroom and around the school compound should be used to facilitate collection before treatment. Sometimes space for garbage disposal is a problem. An option is for the older pupils to collect the garbage and take it to the municipality if it is not collected. Older pupils can also help with the selection of material for recycling. Another option is to ask community members for their help.

6.4 Enabling factors for good use of facilities

In order for a SSHE programme to be effective, the messages that are spread and the practices that are promoted should be enabled to be put in practice at all times. If the latter aspect fails, behaviour change becomes very unlikely. Therefore:

- Allow sufficient time for the children to use the latrine.
- Fill water storage containers in the morning and refill them at mid-day or when needed. Provide at least one ladle and two tumblers, as well as soap for washing the vessels and tumblers
- Provide each latrine with cleansing materials, a container to dispose of used cleansing materials, a bucket with ash (in case of a compost pit) or a bucket with water and a mug (in case of an ordinary pit), and a cleaning brush.
- Provide each hand washing facility with soap.
- Provide urinals with a flushing system or a storage of water, a mug, soap, and a cleaning brush
- Provide classrooms with garbage containers

It cannot be assumed that all children know how to use a latrine or water point in a sanitary way. Children need to be trained about how to use drinking water facilities and latrines. This needs to be planned and supervised by the teacher. This should be done with periodic reminders and re-training especially after vacation. Older children can help monitor and remind the younger children. Examples of school rules to help children use the facilities correctly are shown below.

Latrines

- Put your feet on the footrests.
- Boys should hit the hole, not “spray” around.
- Leave the latrine as clean (or cleaner) as you found it.

Hand washing

- Pour a bit of water on both hands.
- Put soap on hands. You can usually do this just by picking it up.
- Rub hands well, at least 3 times all over.
- Rinse well. Rinse off all the soap. This will need more than 1/2 mug of water.

Drinking safe water

- Take cover off pot and use dipper to draw the water.
- Pour the dipper water into a cup or glass and then hang the dipper back up.
- Cover the pot of water.
- Drink the water from the cup or glass without putting your mouth on the cup or glass. (For little children this is difficult - after drinking someone helps them wash the cup or glass). Put the cup back in the right place.

To fetch water from a hand pump

- Check if your bucket or container is clean. Has it been washed out with soap and/or sand today?
- At the hand pump, pump slowly. Do not jiggle or slam the handle.
- Do not put your hands or fingers in the water you are fetching for drinking as other people will use it.
- Check that the drain is clear so that spilled water will not collect in puddles.

Solid waste

- Have a waste bin or waste box in each class. Children should put all solid waste in this.
- Once a day, the solid waste from the class should be deposited in the school’s waste pit.
- Once a day, the solid waste from the school compound should be deposited in the school pit.
- Once in a few days or once a week, the waste should be burned.

Eating hygiene

- All children wash hands with soap before eating in the school.
- Children should not throw around food.

6.5 Operation and maintenance of facilities

Too often school latrines and water points become dirty and run down. As a result, they are not used and create a health hazard. Lack of maintenance can in part come from lack of good teacher training and motivation.

The good organization of cleaning and maintenance of the water and sanitation facilities is of the utmost importance. It is not so important who cleans and maintains facilities, but that arrangements for it are made, and that this is done before construction starts. A good cleaning and maintenance system requires funds, spare parts, people and equipment, and a clear division of roles and responsibilities among the actors involved. A number of organizational options for maintenance exist: through a cleaning committee, by classes on a rotation basis, with or without a rewarding mechanism, or by individual students. Some schools plan to pay people for cleaning. This can be expensive. In any case, the children should help to maintain their own school environment and facilities. School health and hygiene clubs are usually involved in helping organise children for maintenance tasks.

Responsibility for cleaning and maintenance and involvement in it are often seen as being synonymous. Often teachers refer to students, who have been given the task to clean latrines, as being finally responsible for the latrines’ upkeep, whereas the final responsibility, involving supervision and corrective action if needed, should usually remain with the school management.

There are three kinds of maintenance:

- Upkeep: cleaning and maintenance activities to be done on a regular basis;
- Minor repairs and preventive maintenance such as greasing, bolts, fixing taps, cracks, and broken doors, once a week at least;
- Major repairs such as the repairs that have to be done by a mechanic.

Examples for upkeep activities:

- latrines: sweeping floors (daily), washing floors and pans (every few days at least), cleaning walls (once a week), emptying containers with anal cleansing materials (daily)
- water point: cleaning drains and removing visible garbage around water point (once a day), checking for preventive maintenance,
- water storage: cleaning inside of water storage containers (at least once a week), cleaning dippers and cups (once a day),
- hand washing facilities: removing visible garbage and draining puddles of water, cleaning drains, ensuring that soap and water are present (once a day),
- garbage pit: burning refuse (once a week).

As stated earlier, a well-designed hygiene and sanitation facility will lose its effect if it is not properly looked after. A good operation and maintenance plan will not only indicate who is responsible for cleaning, for maintenance, and the costs involved, it will also ensure involvement of children, teachers, parents and the community in the continuous process of monitoring and improving hygiene practices at school. A good operation and maintenance plan:

- Is developed and agreed upon before the facilities are completed, as maintenance implications should be well considered during the design phase;
- Is a result of a participatory process;
- Defines responsibilities in operation, maintenance, and monitoring of O&M. The division of responsibilities among the different stakeholders should be clear and complete;
- Defines actions in the event of non-compliance;
- Allows for easy diagnosis and reporting of problems;
- Is non-discriminatory. All responsibilities should be shared. In many schools girls are responsible for cleaning the toilets, while boys have other or no tasks. The school is a place for children to learn about teamwork and cooperation between all in a non-discriminatory way;
- Is reviewed periodically as deemed appropriate;
- Is linked to other school improvement efforts. The operation and maintenance plan for the hygiene and sanitation facilities can be part of an overall plan to improve the entire school.

7 Software options suitable for children

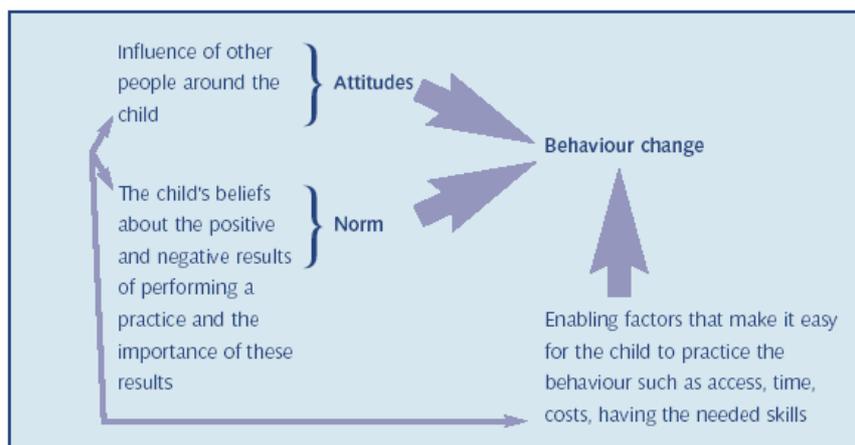
7.1 *Insight in child behavioural change*

The process of behaviour change is generally described as the following sequence:

- Raising awareness
- realizing the problem
- accepting and internalising the problem
- taking the discussion to change
- adopting change
- sustaining change

The Hubley model that explains how behaviours change was originally prepared for adults, but the model in Box 1 has been adapted to describe behavioural change for children.

Box 1.



Adapted from J. Hubley (1993)

Factors that promote behaviour change:

- active communication and participation in development activities
- enabling the people to work together as a community to plan and organise their activities
- receptive and kind behaviour
- use of self-discovering learning methods
- early care-seeking behaviour
- go slowly; allow time for community to think
- consulting
- bringing in people to help each other
- working with people

Factors that may hinder behaviour change:

- status quo may be threatened
- fear of enforceable consequences
- may have to learn new skills
- fear of criticism if they cannot cope
- possible loss of skills
- change is a disturbance to the normal routine

7.2 Activities per age category

Early primary school age (5-7 years)

- **Skills:** Children are very imaginative and discover the world and their own capabilities in a playful way, meanwhile gaining self-confidence and taking the first steps towards independence. They like to imitate older children and adults.
- **Knowledge & Attitude:** Children in this age group experience the positive effects of personal care on their appearance (washing themselves, combing their hair and brushing their teeth). They tend to value things in a simple way: looking and smelling good means feeling good...
- **Implications for the design of hygiene and sanitation facilities for this age group:** Facilities should reflect the sensation of being clean: light colours, sufficient natural light and ventilation. Facilities should be designed in such way that a teacher or older student can stand next to the child to teach it how to use the toilet properly. However, most children can complete simple actions or tasks on their own or with minor assistance. There is no direct need for privacy; children like to observe others and imitate their behaviours.
- **Children's participation:** In this age group children could become actively involved in design, planning, maintenance and operation of facilities. However, they cannot be held fully responsible and require close guidance of adults or older children.
- **Activities (5-6 yrs):** recognising insects, recognising important human organs, keeping the body clean, importance of toilet and washing hands
- **Activities (6-7 yrs):** keeping things neatly and carefully (books, body, ...), rules for the house and for the school, healthy food, preservation of food and water.
- **Methods:** surveys, discussions, crafts, songs, games, puppet shows, mimicry, planning, experiments

Middle and late primary school age (8-11 years)

- Skills: Children show responsibility and interest in their own well being, health and hygiene. They can work well with others and discuss experiences and practices with friends.
- Knowledge & Attitude: Children become aware of the consequences of poor hygiene practices, although they still find abstract concepts difficult to understand. They like watching and taking part in practical demonstrations and are very helpful. They also like to be given particular responsibilities. At this age children also learn that different measures or practices can lead to the same overall result, requiring the comparison of possible solutions. Some children begin to develop sexually. They want to know more, including about personal hygiene, but are often shy and insecure.
- Implications for the design of hygiene and sanitation facilities for this age group: Provide a clear and practical set-up of facilities with an understandable relationship between hygiene theory and practice. Hygiene and sanitation facilities must offer well-integrated solutions for hand washing, anal cleansing and waste disposal. They should also offer privacy, including from members of their own sex.
- Children's participation: Children of this age can be involved (in groups) in activities to plan, maintain and manage facilities. They can also be given partial responsibility for implementation, operation and maintenance such as refilling of the hand washing facilities, painting, cleaning, etc. The overall responsibility should be with adults or older children.
- Activities: personal cleanliness, good citizenship, environmental friendly behaviour, use of water for plants, electricity, etc, wastage of water and need for preservation of water, sense organs and their protection, clean and unclean water, purification of water, contagious diseases: causes and prevention
- Methods: discussions, surveys, songs, crafts, mime, games, reading, learning, experiments, planning

Late primary and early secondary school age (12-13 years)

- Skills: Children start to develop social and analytical skills and begin to explore their position in the community.
- Knowledge & Attitude: Children of this age group are aware of their own development and growth (girls start to menstruate), which leads to more sensitivity towards gender differences. This awareness creates a need for gender-related privacy. They start to understand abstract concepts around 'hygiene' and 'environment' and like to be given responsibilities and be trusted to carry things through.
- Implications for the design of hygiene and sanitation facilities for this age group: Ensure sufficient privacy for boys and girls, also inside facilities. The facilities for girls must have provisions for menstrual hygiene.
- Children's participation: Girls and boys can be actively involved in the planning, construction, operation and maintenance with more responsibilities than the previous age group.

7.3 Curriculum

It is important that hygiene education is incorporated in the school curriculum. Opinions differ as to whether it needs to become a subject in its own right, or whether it should be integrated into various parts of the curriculum, such as natural science and civic education.

SSH may be part of various subjects already taught at schools, without requiring extra hours. Health teachers can discuss the relation between hygiene behaviour and diseases. Mathematics teachers can teach statistics using 'research' among students in relation to the performance of hygiene practices or the prevalence of diseases. Science teachers can discuss environmental pollution and the consequences for groundwater quality. Arts teachers can stimulate students to develop visual material for passing on hygiene messages. In technical vocational training schools, students could be involved in the construction of facilities.

Water and environmental sanitation issues dealt with during 'science' are often treated in a too abstract way. It is doubtful whether students will relate what is learned during science with what happens at home. Behaviour changes will probably not occur. A team of teachers and staff of a water supply and sanitation project can develop lesson plans based on the official curriculum, but relating the theory to village reality. It is best to take daily practice as a starting point for treating

an issue in a more theoretical way. The lesson plans should be developed in such a way that they also answer the requirements of the official curriculum, and therefore do not require extra time allocation.

Example of a lesson plan: Students get a sheet to take home to observe and register how water is being stored and drawn. As a classroom exercise the students analyse the outcome after tabulation of the individual results. In a group discussion they draw conclusions and decide on necessary behavioural changes.

In Uganda, Unicef has done great efforts to add SSH to the curriculum as a part of health and science. The subject of science has been completely reconstructed to encompass ideas on human behaviour and prevention and treatment of disease. Also interactive methodologies were introduced. To motivate teachers, new books and materials were developed and tested as well as assurances that the subjects would be on the national examinations. The developed textbooks and school 'kits' were approved through a two-year process, after which they were distributed nationwide to all primary and secondary schools.

However, a critical missing element continues to be a lack of physical facilities to put education into practice and a comprehensive behavioural study to find out whether children put their knowledge into practice.

7.4 Development of teaching materials

In general schools are provided with teaching materials developed at the national level. However, large differences in geographical conditions, social practices, housing and the way people dress may exist. Local adaptations of teaching aids and methods need to be strived for. Upgrading or developing material could be done with students. A competitive element, such as a drawing competition, may stimulate their participation.

For good quality SSHE teaching materials a number of basic criteria need to be taken into account:

- has to be practical and make the link between knowledge, attitude and behaviour
- should be based and built upon the existing situation in schools
- has to be action-oriented
- its messages need to be relevant in the local context
- its messages need to be simple and understandable in the local context
- its messages need to be locally acceptable
- should stimulate reflection by students about their behaviour
- should repeat and reinforce messages over time and in a variety of ways
- should make use of local communication methods.
- with many illustrations
- duly tested to make sure the message they are intended to convey is understood and accepted

These criteria need to be reflected in the teaching materials and imply that using traditional classroom methodologies for hygiene education is not appropriate. Instead, the methods used should stimulate children in understanding the hygiene issues in their daily life. Methods to find out about their daily practices include drawing of maps by the students, unfinished stories, matrix ranking, flexi-flans, etc. On the basis of this information, activities can start that aim at behavioural change.

Teaching methodologies could then include: demonstrations, practical exercises and participatory techniques.

Application and reinforcement of what has been learned can be organized through students checking each other for personal hygiene, through extracurricular activities such as essay or drawing competitions, quiz contests, plays and dramas, songs, debates, radio programmes, etc.

examples:

Ref 7: activity sheets

Ref 12 : teaching tools and techniques: pictures, flannel board, easel, chalkboard, posters, words, games, dolls, glove babies, drama, storytelling, songs, puppets

Ref 17: drama guidelines for sanitation promotion

7.5 School health clubs

School health clubs (or similar groups with other names) can be very useful for:

- stimulating safe hygiene behaviour among children
- helping to organise the children for neat use of the facilities
- maintaining facilities
- monitoring SSHE programme
- reaching out into the community

The school health club should only be set up when the idea is supported by the teachers and when students are willing to join the club. School health clubs can be organised in many ways:

- all pupils of a class are club members, for example, all class 5 and/or class 4 pupils
- five boys and five girls volunteer for the club from each class
- students are selected by the teachers

While the last approach may be more common, it is probably preferred to have a large group (such as all children in a class each year) or for membership to be voluntary. The first two approaches may lead to a better motivated and more representative school health club.

The member students are assigned specific responsibilities and are given orientation to perform their roles. One of the teachers of the school serves as chairperson.

Examples of school health club activities

In the school:

- water: maintenance and use of water storage
- hygiene education: teaching and monitoring children
- sanitation: maintenance, waste water, clean school surroundings and classrooms
- upkeep and monitoring of school sanitation including classrooms
- maintaining water points
- distributing drinking water to smaller children
- cleaning and ensuring availability of water in the sanitation blocks
- managing the disposal of waste from school premises
- monitoring hygiene behaviour among younger children
- reporting problems that need action to the appropriate teacher
- encouraging participation by all students
- organising regular supervision of sanitation of the school
- organising games and competitions on sanitation related issues.
- teaching and demonstrating hygiene behaviour to the junior pupils.
- must be role models for sanitation practices, construction of latrines, garbage pits and so on
- will carry out "baseline survey questionnaire" and practise compiling data with the support of the teacher (only senior students)
- prepare an annual plan of action for the programme
- use and properly store tools, equipment and materials
- develop educational materials for use in the school and the community
- establishing some linkage with the health clinic, so that the doctor/health worker may come to offer routine check-ups and give advice to the members of the school health club.

Out of school

- public awareness campaigns, contests
- support and action in areas that have particular sanitation problems, such as market places
- motivation for hygiene and sanitation in the home
- teaching and helping younger brothers and sisters

In Uganda, particular opportunity exists for these school health clubs as Uganda has a good cadre or health staff in the form of Environmental Health Assistants (EHAs). These field staff tend to be well trained and are based in every sub-county. It appears that many if not all EHAs already have motorcycles which makes them mobile. Therefore they should be able to readily introduce the school health club approach to health promotion if motivated, perhaps a little extra trained, and provided with didactical materials.

7.6 *Child-to-child approach*

The Child-to-Child approach is a way of teaching about health which encourages children to participate actively in the process of learning and to put into practice what they learn. It is based on the principle that children enjoy learning through active participation. Children enjoy being involved and it helps them to learn better. The Child to-Child Approach gives children new knowledge and skills and a better understanding of what they are doing. Instead of teaching children health facts about their own health, Child-to-Child encourages them to take health actions for themselves and others. This links school learning with home and community needs. It makes learning more interesting and more fun. The Child-to-Child Approach which was developed in 1978 has spread all over the world. It is useful for school health club work as well as for activities with children in classrooms.

Child-to-Child in school fits in well with health clubs that can plan and organise activities. In the Child-to-Child programme, the children in the club are usually paired, with an older child responsible for a young child.

Child-to-Child activities are best introduced in the following sequence:

1. Understanding. Examples:

- The main causes of diarrhoea and dehydration.
- Why dehydration kills.
- How to recognise dehydration.

Possible methods:

- Imaginative stories such as “My life as a fly”.
- Making a poster about washing hands.

2. Finding out. Examples:

- Find out the number of children who have had diarrhoea.
- How do people treat it?
- Find out from own family and the neighbours how many children have had diarrhoea in the past month.
- Find out where flies breed.

3. Planning Action. Examples:

- What can we do to prevent diarrhoea?
- What can we do if another child is affected?

Possible methods:

- Make a plan of action.
- Find out who can help with the plan.

4. Doing. Examples:

- Mixing the ORS special drink (Oral Rehydration Solution).
- Giving the special drink to others.
- Helping younger brothers and sisters to wash hands and use latrines.

Possible methods:

- Activities at home and in the community. Being a good example for others.

5. Discussing results. Examples:

- How many of us can make the special drink?
- How many of us have helped younger children to wash hands correctly at the right times?
- How many of us have passed on the ideas to others in our families and community?

The Child-to-Child programme has prepared many activity sheets that give detailed information about how activities can be planned and carried out. These activity sheets treat among others: hand washing, stools and hygiene, clean and safe water, diarrhoea, intestinal worms, and malaria. (ref2, p16)(ref7)

The efficiency of SSH programmes can be improved if children spread messages they have learned from teachers, health workers or other sources. When children become partners in promoting health they contribute something special to the partnership. Children have special advantages and special

roles in spreading health messages to others. Younger children often spend more time with older children than with adults. They admire them, copy them and listen to their advice. Groups of children, particularly influential and popular groups, can influence their peers in a way which adults never can.

When pupils become teachers they may 'train' fellow pupils or brothers, sisters, parents and other community members on health and hygiene. Child-to-child programmes can be developed where children who care for younger brothers and sisters teach health and hygiene.

Children can spread health ideas and practices to younger ones: they care for them, teach them, and show them a good example. Children can also help others of the same age: they learn from each other by doing things together, children who have been to school can help others who do not have the chance to do so. Furthermore, children can pass on hygiene and health messages and take hygiene and health actions in their families and communities.

8 Important actors in the SSHE programme

At the community level a number of actors can be mobilised to make SSHE successful. Actors can reinforce each others activities at mutual benefit. When other actors are active in the field of water, hygiene and sanitation, collaboration and coordination of activities becomes very important in order to prevent duplication of efforts and to ensure coherence in approaches and messages.

8.1 School committee

Often school committees are established in schools that plan and implement school sanitation programmes. Committees usually consist of students, teachers, and parents. Their roles:

- Take a lead in co-ordinating and preparing action plan of SSHE programme.
- Involve other actors in mobilising local resources and support special activities like fund raising, construction, maintenance and repair.
- Organise various activities periodically to collect funds for various programmes.
- Budget and allocate funds
- Supervise funds

8.2 School health clubs

- Club members must be role models for sanitation practices, use and maintenance of toilets and urinals, waste pits, etc.
- Prepare an annual action plan for the School health club
- Organise school activities in planning, teaching, monitoring, and maintenance
- Conduct community activities with the help of headmaster and teachers.

8.3 Teachers

School hygiene education is usually the task of primary school teachers. If outside educators are involved, teachers, and specifically head teachers, usually have a coordinating and stimulating role. The roles of teachers in a SSHE programme are very crucial:

- Become role models by giving high priority to hygiene and sanitation in the school and community
- Use and make educational materials within the class
- Encourage the activities carried out in accordance with the action plan through follow up and evaluation activities
- Check whether or not students have been equipped with skill oriented education and have translated the skills into their lives.
- Lay emphasis on constructing properly and maintaining facilities
- Assist clubs in making annual work plan
- Assist clubs to conduct innovative activities for promoting sanitation
- Conduct health inspection parades

- Inspect for cleanliness of facilities and school compound
- Monitor food and food hygiene
- Conduct hygiene education geared towards behaviour change
- Reinforce discussions by practical demonstrations
- Repeat messages during prayer sessions and sport events
- On-the-spot correction of unsanitary practices
- Stimulate use of sanitary facilities inside (garbage container, drinking water) and outside (latrines, urinals, hand washing facilities) classrooms

In order to become effective promoters and implementers of SSHE, teachers require a certain level of hygiene awareness and commitment. This includes:

- a working knowledge of the relation between water, sanitation, hygiene behaviour and health;
- awareness about their importance as a role model, resulting in proper hygiene behaviour;
- skills to work with students in a participatory way;
- commitment to bring about improvement themselves, or to get third parties involved if necessary.

Therefore, it is necessary to include SSHE in the curriculum of teacher training institutions, but this is in many cases a long-term objective. Teachers already in service have to get the opportunity to upgrade their knowledge and skills in this respect. Regular interdisciplinary workshops involving school teachers, health workers, planners, etc., can contribute significantly to the necessary cooperation and coordination of activities.

Training of teachers for effective hygiene education should also include effective teaching methodologies, e.g. the use of participatory techniques or the Child-to-child approach. For bringing about or facilitating improvements in the water and sanitation situation, teachers will need to know how and where to apply for assistance, how to mobilize community members, etc.

Teacher training and supervision too often overlook the specific details of how to use the facilities and how to organise the children (and parents) to clean and maintain them. Construction of a latrine at the teacher's premises will help enhance the teacher's appreciation of sanitary facilities and at the same time be a motivating factor.

Investment in refresher training is also needed in order the first training to be effective.

Selection of teachers for training should be done carefully. Selection criteria include: the teacher can act as a role model and has good contacts in the community, the teacher has a genuine interest in SSHE and the teacher can be allocated some time for taking SSHE activities in the school a bit further. Care should also be taken that male as well as female teachers get involved in SSHE.

8.4 Community and parents

Schools are an integral and important part of a community and therefore do not operate in isolation. The challenge is to make best use of the interrelationship between the school and the community for improved sanitation and hygiene. Parent-teacher associations could be important intermediaries. There are three important reasons for community involvement in SSHE:

- Streamlined SSHE and community sanitation and hygiene activities will increase the effectiveness of both programmes.
- Involved communities may support SSHE programmes, or at least not work against them.
- Community involvement may facilitate a broader impact of an SSHE programme.

It is hoped that an SSHE programme will initiate a process of passing on health information and behavioural changes from school to household to community, or in other words, from students to siblings, friends and neighbours. Peer pressure can be instrumental in this process. School children, from their side, may be involved in activities at the community level, for instance by collecting environmental data, surveying homes, counting latrines, distribute materials etc. Their involvement may also go one step further, to the promotion of community sanitation and hygiene.

8.5 Health workers

If opportunities arise, it may be a good idea to involve health workers in SSHE programmes at the local level. The impact of the health practices and messages brought home by students can be increased if there is close collaboration between the school and health workers. Parents and grandparents may be resistant to new ideas brought home from school. However, when these coincide with what they just heard from the health worker at the health post, or during a meeting of the mothers' group, their resistance is likely to be reduced or eliminated.

In Uganda, the Environmental Health Assistants in the sub-counties might provide a useful opportunity for involvement of both government and health workers in the SSHE programmes.

8.6 Local government:

SSHE is in fact an education programme with construction. This point needs to be accepted and supported by state and local government. Following the Kampala Declaration on Sanitation (Oct 1997), all districts have a responsibility to promote sanitation as the corner stone for improved health and development. The roles of Local government include:

- Exemplary leadership: be role models in their own home stead
- Community mobilisation
- Take responsibility to support schools that may lack facilities, or need certain repairs, cater for these activities in the Development Plans and allocate budgets
- Mobilise locally available resources and solicit for external support
- Provide adequate staff and motivate them to carry out sanitation initiatives
- Develop ordinances and byelaws where necessary and ensure their compliance
- Promote private sector and ngo involvement
- Raise the profile of sanitation: put sanitation on the agenda of all important meetings, organise campaigns, conferences and sanitation days
- Monitor, co-ordinate and evaluate sanitation activities
- Promote School Sanitation, with special attention to primary schools

8.7 Ngo's and cbo's

NGOs and CBOs, like religious groups, cooperatives and scouts can reinforce SSHE activities, either because of their status in a community or because their own campaigns coincide with what is being promoted at the school.

They can play a role in implementing the SSHE programme, monitoring the SSHE activities, in networking with different actors and in the provision of documentation and information.

Extension staff of ngo's can mobilise school authorities for SSHE, help monitoring SSHE activities, can carry out hygiene and sanitation talks and demonstrations, and can train teachers if necessary.

9 Monitoring and evaluation of SSHE programme

Monitoring the implementation of SSHE activities implies finding out, first, whether planned activities are carried out, and secondly, whether the output of our activities is of the required quality. Carried out as a continuous process, monitoring helps to immediately detect deviations from what was planned. Whereas deviations may be positive or negative, they always help to improve future planning and to identify the corrective actions needed.

Monitoring of the SSHE programme needs to be done at different levels:

- Hardware
- Software

... and at different implementation phases:

- before construction starts
- after construction is completed
- before software activities start
- after software activities have taken place

Some monitoring tasks can be done by the pupils, the School health club, the teachers, the school committee, local government, and the assisting ngo.

Monitoring the impact of SSHE activities requires indicators describing the minimum necessary conditions for programme success. These indicators are related to changes in hygiene behaviour and in environmental conditions as well as to completion and condition of facilities. Indicators should not only relate to quantity but also to quality.

The use of check-lists by an outsider to monitor an SSH programme may be artificial and may not contribute to programme improvement, but if monitoring is done in a participatory way this will increase its effectiveness. To make monitoring effective, the information obtained should be accessible to all persons involved.

An example of a participatory monitoring exercise is self-monitoring. Students could for instance make their own monitoring chart, posted visibly in the classroom. In this manner data can be collected on, for instance, who suffers from a disease. This type of monitoring does not necessarily require a lot of extra work from teachers, since students are involved and collect the information themselves. Sometimes this self-monitoring will already enhance improved hygiene behaviour related to SSHE and increase motivation for it.

It is often necessary to strengthen self-monitoring to ensure follow-up action; for instance, data can be reported to a teacher who writes the information on the board. Self-monitoring can also serve as a concrete reminder to practise new behaviour.

Feedback on monitoring information is also an important mechanism for helping children to remember what they have learned and to positively reinforce changed behaviour. Whereas behavioural changes are usually monitored through observation, the monitoring of related knowledge can also be useful.

Several ways of monitoring can be used: monitoring charts, questionnaires, checklists, reports, sanitation ladder, or some form of competition: essay competition, quiz contest, plays, etc. To help assessing the impact of SSHE activities, health institutions could also take up monitoring of disease prevalence in schools.

See also

Ref 1: chapter 11

Ref 4: appendix 1

Ref 6: chapter 6

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