

# Child-Friendly Hygiene and Sanitation Facilities in Schools

*Indispensable to effective hygiene education*



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# Child-Friendly Hygiene and Sanitation Facilities in Schools: Indispensable to effective hygiene education

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2005



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Are the following statements true?

1. *It is stupid and ridiculous to make sanitation and hygiene facilities attractive because it glorifies something dirty and unworthy.*

2. *Spending money to improve sanitation and hygiene facilities at schools is a waste of money because children will make them filthy anyway.*

3. *Any latrine is better than no latrine.*

4. *Sanitation and hygiene facilities at schools must be uncomfortable because otherwise children stay in them too long.*

5. *Designs for sanitation and hygiene facilities should be as simple and cheap as possible so that they are replicable for households in the communities.*

6. *The design of sanitation and hygiene facilities is a technical matter and should be done by engineers.*

7. *The past has proven that hardware cannot change hygiene behaviour and that only software is the solution.*

*See next page for the answers!*

## Acknowledgments

This booklet was written based on our involvement as architect/planner and UNICEF programme officer in successful and less successful school sanitation projects when we lived in Guyana, Honduras and Central Asia. Some of the ideas reflected in this booklet were born when Annemarieke was involved in the School Sanitation and Hygiene Education Programme for six countries while working for the Water, Environment and Sanitation Section at UNICEF in New York. During the long and seemingly endless Kazakhstan winter in 2001, where we were residing at the time, we put this booklet together with the aim to promote a creative, child-oriented linkage between hygiene promotion and the design of hygiene and sanitation facilities. More people soon became involved, and their ideas and comments have contributed to making this booklet a complete overview of what should be taken into consideration when designing and evaluating school hygiene and sanitation facilities.

In particular we would like to thank IRC, who have decided to publish the booklet within the framework of their School Sanitation activities.

Further we want to thank Niki Abrishamian, Lizette Burgers, Paul Calvert, Sampath Kumar, Alka Malhotra, Leonie Postma, Mayling Simpson-Hebert, Margaret Stuart, Maria Elena Ubeda and Christine van Wijk for their inputs and extensive comments. Our thanks also goes to the UNICEF country offices and participants in the spring 2002 e-mail conference on school sanitation who provided feedback and expressed their interest in using and field testing the booklet.

Finally, we want to thank you for reading this booklet. We hope you find it interesting and useful.

Jaap Zomerplaaag  
Annemarieke Mooijman  
Meerssen, The Netherlands,  
November 2004

## What you will find in this booklet

This booklet takes a non-traditional look at school hygiene and sanitation facilities in pre-school, primary and secondary schools. It aims to provide guidelines for the design of child-friendly facilities that are part of the learning environment, and that not only 'facilitate', but also enable, stimulate and promote appropriate hygiene practices. Unfortunately, schools with unpleasant facilities that consist of a smelly dark space with just a 'hole in the floor' and without any integrated facility for hand washing or a water point are often the reality. The result is that children feel uncomfortable and are scared to use facilities, leading to unsafe conditions and unhealthy practices. These guidelines are also applicable in situations where existing school hygiene and sanitation facilities are being rehabilitated.

Experience shows that teaching children facts about hygiene does not automatically lead to changes in their behaviour and practices. Interaction is one of the most stimulating and effective ways to learn, and children in particular are eager to put their new knowledge and skills into practice immediately. In a school context this can only be realised when the 'hardware', the entire package of hygiene and sanitation facilities, is integrated with the 'software', activities aimed at teaching and promoting better hygiene practices. In addition to the direct health impact that will result, the planning, design, operation and maintenance of facilities will themselves become a valuable learning experience.

This booklet covers all the stages of a design project, from needs assessment to operation and maintenance, because effective child-friendly hygiene and sanitation facilities cannot be realised merely by improving designs. It stresses the importance of active involvement of children, teachers, parents and the community during all of these stages so that they themselves will be able to find solutions for their own problems and needs.

The scope of this booklet is limited to the design of the 'space' containing the hygiene and sanitation facilities. It does not focus on the different technical options for sanitation or the different methodologies for hygiene education. Within the context of this booklet the provision of water is addressed insofar as it is required to enable hygienic behaviour, e.g. to flush and clean sanitation facilities and for hand washing. Although considered essential, the provision of safe drinking water in schools has only marginally been addressed. The word 'toilet' is used for all kinds of technical sanitation solutions, i.e. flush toilets, pour flush toilets, VIP latrines, simple pit latrines, etc. Reference is made to a 'latrine' when the point addressed specifically reflects problems and solutions related to pits.

The booklet describes in ten points those issues that are important when dealing with children, hygiene and sanitation in the school environment and provides practical, easily accessible guidance to policy makers, programme designers and implementers at field level. The ideas presented should not be considered as blueprints for solutions. Rather, they are 'concepts' intended to stimulate discussions and creative thinking and that will need to be tailored to a particular project context. Moreover, they can serve

## Answers to the statements on the previous page:

1. *Not true: to defecate is a very normal and useful activity. Creating a taboo around it will not improve hygienic behaviour.*

2. *Not true: children can to a large extent be responsible for keeping facilities clean. An attractive facility will certainly promote this.*

3. *Not true: as long as there are barriers that block transmission of diseases, providing no toilet can be appropriate.*

4. *Not true: uncomfortable facilities do not promote hygienic behaviour. Long waiting time must be prevented by increasing capacity.*

5. *Not true: sanitation and hygiene facilities in schools can be more sophisticated than toilets at home, because they serve as important learning environments.*

6. *Not true: everyone can help to design a sanitation and hygiene facility and the technical aspects are only one aspect of it.*

7. *Not true: software and hardware are equally important and should be developed together as an integrated effort.*



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for both the construction of new facilities and the rehabilitation of existing ones. The booklet contains two annexes showing how to integrate the different concepts: a checklist and a 'sample set-up' for the implementation of hygiene and sanitation facilities in schools.

## Ten points towards child-friendly hygiene and sanitation facilities in schools

Child-friendly hygiene and sanitation facilities in schools...

1. Are 'interactive' spaces that stimulate children's learning and development.
2. Are designed with involvement of children, teachers, parents and communities.
3. Provide lowest-cost solutions with no compromise on quality.
4. Have operation and maintenance plans.
5. Have appropriate dimensions and features for children.
6. Address the special gender-related needs and roles.
7. Do not harm the environment.
8. Encourage hygienic behaviour.
9. Offer enough capacity and minimal waiting time.
10. Have well-considered locations.



## 1. Are 'interactive' spaces that stimulate children's learning and development.

*Learning and development can best be stimulated interactively. When this is done in a stimulating, playful manner, children will be eager to put their new knowledge and skills into practice. Particularly in a school environment, the hygiene and sanitation facilities can provide the opportunity for this interaction and are a potential extension of the learning environment. This makes them a powerful tool for hygiene education.*

### How facilities can stimulate interactive learning and development

Children are stimulated by their surroundings in various ways. Besides visual perception, this also occurs through sharing spaces with others, being responsible for cleaning them, etc. The different means of stimulation can be categorised into the following types of development:

- **Environmental development:** Children receive information from the environment by seeing, smelling, hearing and touching and they use this information in their intellectual development. Spaces they encounter, including hygiene and sanitation facilities, can provide a range of positive and negative experiences related to colours, smells, shapes and sounds.
- **Social development:** The layout of spaces and the way they are used can encourage contact with others or offer seclusion. This is relevant for hygiene and sanitation facilities because they require both privacy and sharing with others.
- **Creative development:** Children's creativity can be stimulated by giving them the opportunity to make the spaces their own and letting them adapt them to better suit their needs. Children could decorate walls or solve functional problems themselves, which will encourage creative thinking.
- **Physiological development:** The use of hygiene and sanitation facilities can help to develop necessary motor skills in young children, such as fine-tuning of the physical movements. Using these facilities requires large motor skills (climbing stairs, etc.) as well as fine motor skills (opening taps, etc.).

### Appropriate designs for each age group

Effective hygiene education for children is not only about teaching children facts about health risks and bad hygiene practices. It also should focus on learning and developing essential life skills that will help the child to make decisions and manage its own life. Effective hygiene education can reinforce positive attitudes and behaviour and reduce or prevent risks. Life skills include social skills (for interpersonal contact and building self-awareness), analytical skills (for understanding societal aspects and decision making) and skills for coping with stress.

Children also learn through



The so-called 'life skills approach' can effectively link the development of children of different ages with the methods used for hygiene education and promotion. Younger children do not possess the same ability to learn complex concepts as older children, and they learn differently. This is not only important for the development of hygiene education materials, but also for the design of the hygiene and sanitation facilities. The implications are different for each age group. In smaller schools it might be necessary to combine facilities for different age groups, but also in those cases it is essential to keep their characteristics in mind.

### *Pre-school age (2-4 years)*

*Skills:* Two to four year-olds enjoy learning new skills. They gain control of their hands and fingers and enjoy playing with and manipulating objects. Their language develops rapidly and they become more independent. Three and four year-olds have a longer attention span and test physical skills and courage with caution. They can make choices and take up simple responsibilities when the opportunity is given.

*Knowledge & Attitude:* Adults are the ultimate role model and can help young children develop the habit of hand washing. They respond to praise and encouragement, are quite aware of how others respond to them, and they use these experiences to develop their own self-concepts. Parents have to be involved and must know why it is important that children are taught to use potties/toilets, and must also teach them at home.

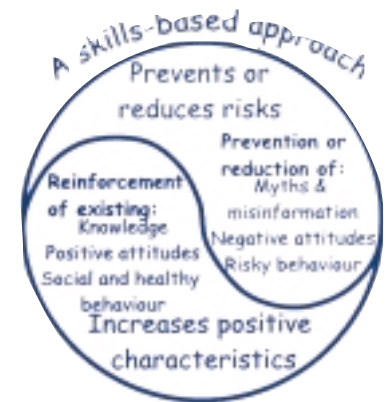
*Implications for the design of hygiene and sanitation facilities for this age group:* The facilities for this age group should be inviting and not frightening. For younger children who are just becoming toilet trained, provide potty chairs that can easily be cleaned and that have no cracks or crevices. Provide drawings of hand washing above the sink and use them to generate discussions. The hand washing facility should be adapted to the length of the children. An adult should accompany children at this age.

*Children's participation:* Children in this age group cannot be responsible for planning, operation and maintenance activities. Nevertheless they can help with the decoration of the facilities and playful activities could be initiated to clean the facilities or refill the water reservoir of a hand washing facility. The latter is meant to be a participatory learning activity rather than a responsibility.

### *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...



## Young and old together



*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. Themes used in hygiene promotion materials can be used for decoration to strengthen the link between education and practice. Facilities should be designed in such a 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.

### *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 some privacy, including from members of their own sex.

*Children's participation:* Children of this age can be involved (in groups) in activities to design, plan, maintain and operate facilities. They can also be given partial responsibility for implementation, operation and maintenance such as refilling of the hand washing facilities, painting and cleaning. The overall responsibility should be with adults or older children.

### *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.

### *Late secondary school age (14-16 years)*

*Skills:* Children are able to manage their lives and positions in society. The different skills are complementary to one another.

*Knowledge & Attitude:* This age group understands the complex concept of disease transmission and how proper hygiene practices can prevent this. They acknowledge that they are part of certain social groups (community, ethnic, caste, age) and are aware of social injustice. They can develop a strong sense of self-confidence, self-esteem, self-control and social responsibility.

*Implications for the design of hygiene and sanitation facilities for this age group:* Same as for early secondary school age regarding gender and privacy.

*Children's participation:* Children in this age group can, to a large extent, be responsible for operation and maintenance of the facilities, including monitoring use and practices and evaluation of the effects of the facilities on the health situation at the school. They can and should also be involved in the design, baseline studies and possibly construction. Linking this age group with the younger children in school might stimulate the learning and development of all the children involved. This is also an age where children are ready to help schoolmates or families in less fortunate positions than their own.

### Attitudes of the different age groups towards hygiene



## 2. Are designed with involvement of children, teachers, parents and communities.

*Active involvement of the users is essential in all phases of the design process. In general, when properly coached and guided, potential users are perfectly able to assess their existing practices and find solutions for their own needs. Their involvement during the design stage of hygiene and sanitation facilities will lead to better solutions and increased acceptance of these solutions.*

### Designing as a participatory learning experience

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'). A dynamic design process gives the opportunity to put new knowledge and skills directly into practice, increasing the feeling of empowerment and ownership.

Some useful considerations for participatory design processes:

- It is impossible for the entire 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 such as the community leaders and primary health care staff are represented. It is important that the committee is equally balanced as regards sex, race, ethnic group and social class. To obtain commitment and consensus from the entire (school) community, this committee should report 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? All stages of readiness require their own appropriate messages and learning strategies.
- 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.

### Involving all stakeholders



- In most countries standardised designs are used for hygiene and sanitation facilities in schools to reduce costs and control quality. This can be a good solution, but applying a standard design too rigidly can lead to ignoring specific local pre-conditions and needs. To avoid this, a package of various standardised options can be offered.

### Participatory design with children

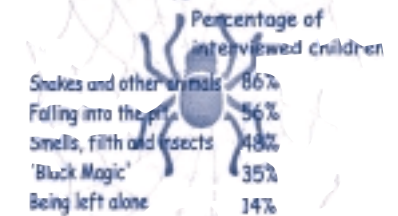
Involvement of the principal users, the children, is essential during the design and rehabilitation of hygiene and sanitation facilities in schools. Children have a different view of the world than adults and therefore experience the use of facilities differently. Children can be frightened in situations 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 in which children feel free to talk about issues such as urinating, defecating and menstruation. Better results can be expected from an informal group session than from a traditional classroom set-up. To enable the open discussions it will often 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 from the group. 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; and are of the same sex, social class and ethnic group as the participants.
- 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.

### Fear for hygiene and sanitation facilities

School Children in Kenya mentioned the following fears when using sanitation and hygiene facilities:

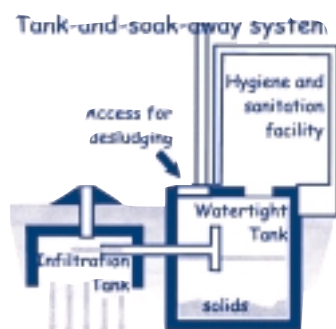


(Source: *Low cost sanitation*, J. Pickford, 1995)

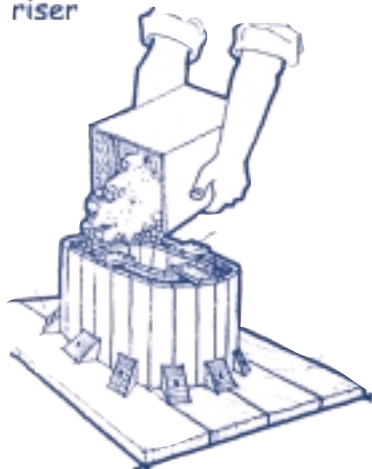
### Example of use of inappropriate presentation techniques







Use of mould for a seat riser



### 3. Provide lowest-cost solutions with no compromise on quality.

*It is common practice to construct the cheapest possible hygiene and sanitation facilities in order to increase coverage and to make them more affordable. Unfortunately this often results in poor quality facilities that require excessive maintenance and neither enable nor promote better hygiene practices. Investing in good quality, sustainable hygiene and sanitation facilities therefore means investing in overall public health. Moreover, despite higher initial investment costs, money will be saved in the long run because the facilities have a longer lifespan and require less maintenance. On the other hand, this does not mean that the most expensive options are best. Best are those facilities that are affordable, durable, encourage proper use, and are easy to maintain and keep clean.*

#### Establishing sustainable facilities

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 (paper, leaves, stones, sticks, etc.) accelerates the filling up of pits. These materials should be collected separately in a container with a lid and subsequently disposed of beyond the school grounds in an environmentally friendly manner. When toilets are connected to a sewage system, promoting the use of anal cleansing products that can be safely disposed of flushed in the toilet can lead to more hygienic surroundings. If it is culturally determined to use water for anal cleansing and sufficient water is available at school, it is important to design facilities in such a way that they are not affected by the water that is being discharged. Most simple pits will be affected by too much water.
- **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 (see point 6 for more details about this option). The design of the facility must accommodate emptying to avoid damage. Double or separate twin pits can be used and fitted with a removable slab to facilitate emptying.

### **Materials and durability**

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 (the moulds can be used for serial production of slabs, seats, etc.). To facilitate cleaning of slabs, provisions can be made in the slabs to drain water used for cleaning.

## Operation &amp; Management Plan



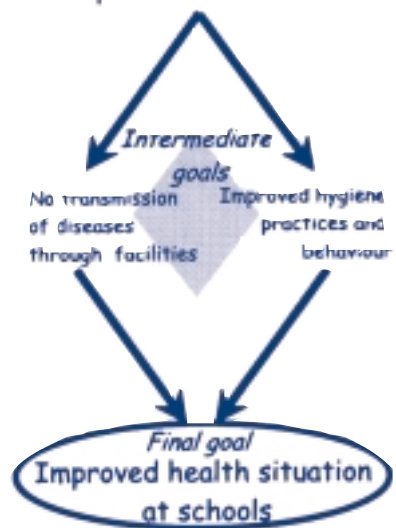
*A well-designed hygiene and sanitation facility will lose its effect if it is not properly looked after. A good operation and maintenance plan will not only indicate who is responsible for cleaning, maintenance and the costs involved, it will also ensure involvement of children, teachers, parents and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

#### What constitutes a good operation and maintenance plan?

Assessment of successful school sanitation programmes has shown that the overall situation in the school and the condition of its hygiene and sanitation facilities are closely linked, rather than merely being the result of the economic situation of the community. When students, teachers, parents and the community are proud of their school and the other school facilities are well maintained and clean, a well thought out operation and maintenance plan involving all stakeholders has a better chance of being accepted and contributing to the overall situation.

Lessons learned from those experiences show that a good operation and maintenance plan:

## Good operation &amp; maintenance

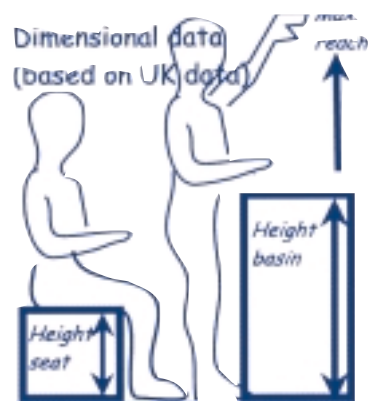


- **Is developed and agreed upon before the facilities are completed.** It is important to start thinking about operation and maintenance at an early stage. School management, teachers, parents and students should be made aware of the maintenance implications during the design phase, such as the availability and affordability of spare parts and cleaning supplies needed for the chosen solution and how their regular supply can be arranged.
- **Defines responsibilities and monitoring.** The division of responsibilities among the different stakeholders should be clear and complete, covering all the necessary activities from filling up water containers for hand washing and keeping the surroundings tidy, to purchasing spare parts and supplies and supervising maintenance activities. Allocation of one toilet for each class or a few classes helps to improve the use, cleanliness and maintenance because the responsibility is with a small clearly defined group. If the teacher has to use the same toilet as well, she or he will have an additional motivation to keep it clean (although this might not be appropriate if the toilet is designed at child-size). A, preferably already existing, committee representing students, teachers, parents and the community can be responsible for the final coordination. The plan also defines monitoring and actions in the event of non-compliance.
- **Is non-discriminatory towards sex, age, caste, nationality, religion, ethnic group and social class.** All responsibilities should be shared and not determined by any of the factors mentioned. 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 linked to other school improvement efforts.** A child-friendly, health-promoting and truly community-based school requires more than clean and well-maintained hygiene and sanitation facilities. The operation and maintenance plan for the hygiene and sanitation facilities can be part of an overall plan to improve the entire school.
- **Ensures an open and ongoing dialogue.** Problems related to operation and maintenance can be discovered before they can negatively affect the sanitation and hygiene situation at the school. The operation and maintenance plan should allow for easy diagnosis and reporting of problems. In addition, it should be reviewed periodically as deemed appropriate.
- It should not be forgotten that the overall objective of child-friendly hygiene and sanitation facilities is the improvement of hygiene conditions and related life skills, and healthy and safe schools and communities. **Monitoring and evaluation** should therefore go hand-in-hand with operation and maintenance, to ensure that the overall objective can be met.

## 5. Have appropriate dimensions and features for children.



Age group	Height seat	Height basin	Max. reach
3-5 year	26 cm	58 cm	105 cm
5-9 year	30 cm	70 cm	120 cm
9-11 year	34 cm	76 cm	140 cm
11-13 year	38 cm	76 cm	156 cm
13-16 year	42 cm	82 cm	167 cm

*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. Important details are overlooked and the fact that children have different physical abilities than adults is ignored. 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.*

### Making facilities comfortable and accessible for all children

It is impossible to set international standards for dimensions of hygiene and sanitation facilities in schools because the length and size of children vary per region. Standard dimensions are not necessary because at every school, children of all ages are available for measuring and trials. If a nice maths exercise is made out of this, they will often be very willing to assist.

The following dimensions should be determined:

- 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)

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 use of sanitary

Examples of special provisions for small children



facilities periodically and try out and experiment with new ideas.

As many as one in five of the world's poorest are disabled, for whom access to basic services is a daily struggle. Exclusion from basic services and facilities, such as sanitation and safe water, can result in reduced opportunities, isolation, poor health and poverty. All too often special adaptations for disabled school children are not incorporated into design of sanitation and water facilities. Also, if currently no disabled children attend school, such adaptations should be included to allow for the incorporation of disabled children in the community to attend school.

The three main types of disabled children for which adaptations in facilities have to be made are:

- Blind or poor-sighted children: special grips and guiding systems as well as proper lighting for the poor-sighted children
- Children in wheelchairs or with crutches: no entrance steps, wider doors, special grips or foldable seats
- Children with missing arm(s) or paralysed arms: lids, taps and knobs that can be opened with one hand, are not heavy or can be operated with the feet.

When incorporated in the original design, the above adaptations can be made at few additional expenses, using locally available materials while making a big difference in a disabled child's life and access to education.



Research has shown that men and boys have an urge to aim their urine on something while urinating. Some manufacturers of sanitary equipment in industrialised countries are, for this reason, providing their urinals and pedestals with small pictures of, for example, a fly or a hole they can aim. This results in much cleaner toilets because less urine is spilled.

JCF's suggest this behaviour is the same all over the world and that it was worst site in low-tech versions of durability work. For example, a screen can be pushed in the wet concrete while working on the wall and can be used as a perfect for get.

## 6. Address the special gender-related needs and roles.

*Hygiene and sanitation needs are very gender specific. Women and girls have different physical needs and culturally determined roles than men and boys and therefore each group demands different solutions. Attention should be given to preventing harassment during toilet use by people of the opposite and same sex. Sometimes women's and girls' needs, knowledge and opinions are ignored because they are not involved in decision-making. Gender-biased division of responsibilities during design, construction, operation and maintenance should be avoided.*

### Gender needs and roles

Besides having different physical needs than boys and men, women and girls have different roles in society and thus different knowledge and views. When women and girls are not adequately involved in design, construction and operation and maintenance of hygiene and sanitation facilities their opinions and needs may not be identified and included. This is unacceptable; girls and boys, female and male teachers, and mothers and fathers all have to be equally represented during every decision-making activity concerning hygiene and sanitation facilities. The school environment functions as an example in the community, and is therefore the place where children should learn about gender roles and cooperation between women and men.

In addition to the above, it is important to realise that harassment and molestation does not only occur between the sexes. It is also something that takes place among children of the same sex. Older children tease younger children, stronger children molest weaker children, groups clash with each other, peer pressure is exerted and even violence is sometimes used. Activities during life skills based hygiene education that raise such issues, e.g. in case histories (stories) and role plays, help to raise discussions and make it easier for children to learn how they can act in such situations.

### Special attention for girls

It is recommended to conduct participatory female sessions separately from the boys and men so that the girls and women can speak more freely. 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. In some cultures it is unacceptable for girls to be seen visiting facilities.
- **A proper environment for menstrual hygiene** has to be provided for older girls and women. The needs and requirements are culturally determined and could differ between ethnic groups or social classes within the same community.
- **Dialogue** on sensitive issues related to girls' hygiene should begin during design and continue into operation. In most countries talking about defecation, menstruation or reproductive health 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.

### **Urinals for boys and girls**

Most visits to a school toilet are for urinating only. Therefore, the provision of urinals has a lot of advantages. Complete and costly toilets can be partially replaced by cheaper urinals. This can also reduce waiting time which makes it very attractive for children to use. When providing urinals attention has to be paid to the local context. In some cultures boys and men refuse to use 'open' urinals for privacy reasons. Although not yet common everywhere, installation of specially designed urinals for girls deserves serious consideration.

In case toilets with a pit are used, urinals can easily dispose the urine outside the pit which will extend the lifespan of the pit considerably. Instead of discharge in the pit, urine could be disposed in a so called soak pit (see point 7 for more details). In addition, if the urinal is cleaned regularly, unpleasant odours will be reduced.



## 7. Do not harm the environment.

*Hygiene and sanitation systems can be a hazard to the environment. The so-called flush-and-discharge systems require vast amounts of water and generally discharge their wastewater directly into open water sources. The 'drop-and-store' systems, such as simple pit and VIP latrines, do not have these disadvantages, but pose considerable risks for soil and groundwater contamination. They are also more likely to result in bad odours, unhygienic surroundings and insect breeding. This section looks into two options to reduce the negative environmental effects and hazards to public health, how these can be achieved by improving 'traditional' sanitation systems such as pit latrines and how these effects can be prevented by using ecologically sound solutions.*

### Conventional sanitation



### Ecological sanitation



### Improving 'traditional' sanitation systems (pit latrines, flush toilets)

The following principles should be applied to reduce negative environmental effects:

- **Conserve valuable water resources:** Scarce water resources should not be wasted. Pour-flush toilets can be used to minimise the volume of water needed to flush and discharge. Hygiene education in class can raise the awareness of children and teachers on the importance of conserving water while hand washing, washing clothes, cleaning, watering plants, etc.
- **Prevent soil and groundwater pollution:** Pits should be well lined and properly located to avoid seepage into the surrounding soil and groundwater. To minimise pollution a sand filter can be provided around the pit.
- **Avoid possible environmental hazards during disasters:** Pits can overflow as a result of extreme rainfall and floods, causing severe health risks. Suitable solutions, such as construction of the toilets at an elevated level, should be provided in areas where these hazards are likely to occur.

### Ecological sanitation

Ecological sanitation is part of a broader vision of bringing society in balance with nature to ensure a more sustainable future. This requires looking at systems in a completely different way. 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. After this 'sanitation' process (making them harmless for health and environment), the faeces can be disposed of or recycled without environmental or health risks.
- **Protects and conserves water:** Keeping excreta dry and dehydrating them eliminates the need to use scarce water. Moreover, dry disposal will further enhance the elimination of 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. 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. Often when the initial resistance has been overcome, stakeholders will be prepared to use the residues.

### How does ecological sanitation work?

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

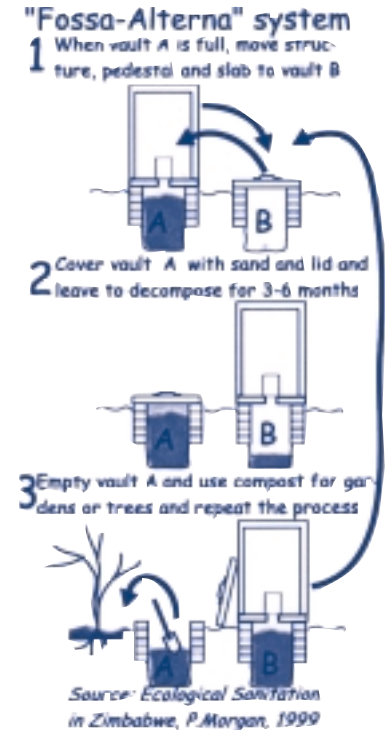
1. The diversion of urine and faeces. This is necessary because they cannot be sanitised easily if mixed. Urine is commonly almost free of pathogens. The urine can be diverted by using urinals or special pedestals or squatting slabs, and then collected to be used as fertilizer or infiltrated into a vegetation bed with plants that feed on urine, located in close proximity to the toilet. Depending on the construction for younger children using urine diversion might be difficult because they do not have full muscle control and might spill urine at the wrong place.
2. The collection and storage of faeces in a secure vault where pathogens are broken down. The pathogens can be broken down by decomposition (composting), 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). A solar collector can be integrated to generate heat to accelerate the dehydration process.

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.

### Promoting ecological sanitation

Only when all users and other stakeholders support and promote ecological sanitation can it be a feasible option for school facilities. Handling the waste, even though it has been processed and is harmless and odour free, may not be directly acceptable in all cultures. There are, however, many cultures around the world that traditionally use ecological sanitation. This shows that the unfamiliarity can be overcome and that systems can be adapted to suit cultural and religious practices.

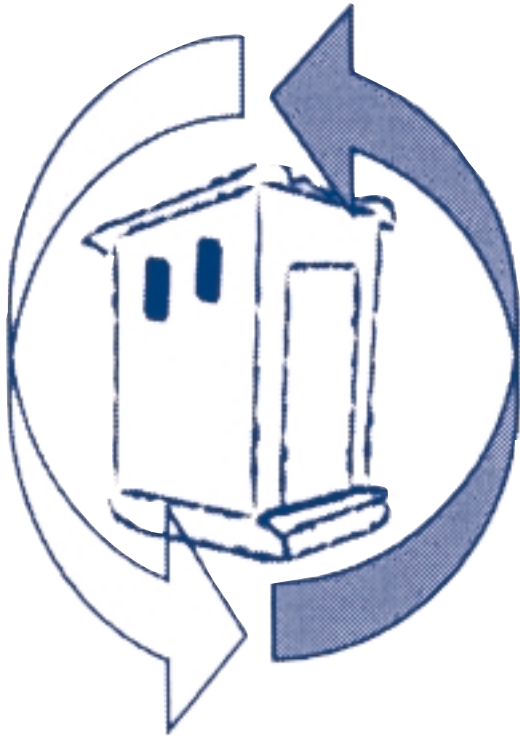
Nevertheless, ecological sanitation systems require more promotion, support, education and training than conventional systems since they are more sensitive to bad design and management. School sanitation and ecological sanitation can go hand-in-hand if design, operation and maintenance and



environmental awareness are better integrated. Hygiene education can, for example, be combined with environmental education.

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.

# Ecological sanitation



No contamination:  
Recycling of  
faeces into  
harmless compost

## 8. Encourage hygienic behaviour.

*Hygienic behaviour comprises a sequence of small actions, each with its own range of necessary preparations: collecting materials for anal cleansing (such as paper, waste paper, stones and leaves); defecating; collecting water, soap/ash/mud; and hand washing; etc. The complexity of these actions does not always enable and encourage hygienic behaviour. Therefore, hygiene and sanitation facilities must be simple to use, provisions for hand washing and anal cleansing should be integrated into the entire package of facilities, and water should be available.*



### Hand washing facilities

Hand washing facilities come in a variety of shapes. As can be seen in the figure, most standard solutions are improvised solutions that can easily get dirty, break or get stolen, and that do not reflect the importance of washing hands. To achieve a maximum impact, hand washing facilities should be designed and located in such a way that they work as hygiene barriers between the 'dirty and clean hand areas'.

The supply of water for hand washing is crucial. When there is no direct supply by (stand) pipe, or pump, water should be stored close to the facility. 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 a 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.

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. 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.
- When no safe drinking water source is available nearby, there is a chance that water intended for hand washing and anal cleansing will 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 have access to a safe drinking water source.

## Anal cleansing

Anal cleansing is ignored in the design of hygiene and sanitation facilities even more frequently than hand washing. Often materials for anal cleansing are not available at the facility itself and children have to collect water or gather sticks, stones, leaves, etc. before defecating. Moreover, throwing 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 discharge pipes. To avoid this, the material should be put aside in a special container. 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. If the toilet is connected to a sewage system, flushing of the degradable material used for anal cleansing can be considered.

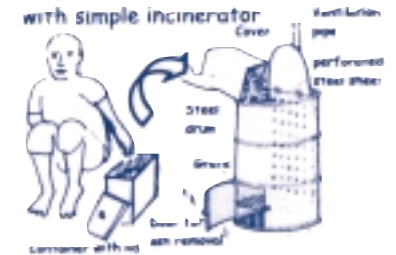
When adolescent girls attend the schools, pads used during menstruation also have to be washed or disposed of in separate containers. Similar arrangements as those for the disposal of anal cleansing materials have to be made.

## Natural lighting, ventilation and insect control

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.

Disposal of anal cleansing material with simple incinerator



Ventilation, natural lighting and fly-control



Other possible provisions are:

- Making a small window at the bottom of the vent pipe to attract flies.
- Placing a mosquito trap over the squat hole or floating polystyrene beads in the pit to prevent mosquitos from breeding.
- Water seals can be used between toilet pans and pits. This solution implies a risk of blocking when solids are used for anal cleansing and when there is too little water for flushing.

## 9. Offer enough capacity and minimal waiting time.

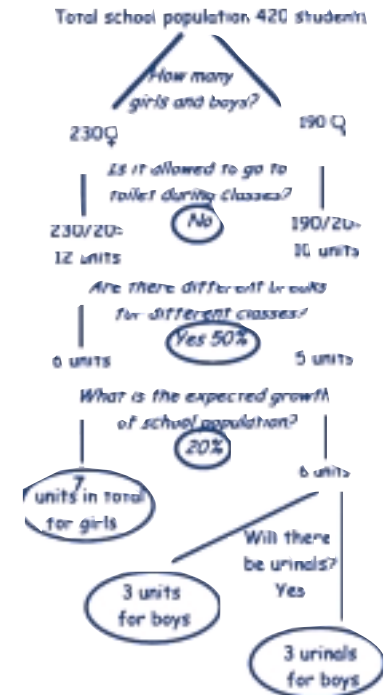
*Shortage of facilities (including for hand washing) will cause children to search for other places to urinate and defecate and to 'forget' to wash their hands. Ensuring the right capacity is usually not a matter of applying a simple ratio. There are some other important factors that determine the capacity besides the total number of students, such as the school timetable, ration of girls to boys and the future growth of the school population. In nursery and branch schools (for children up to age 8-9), sharing by boys and girls may be possible.*

### Definition of the necessary capacity of facilities

In some references, a rough standard used is a ratio of one facility for 20 students although in some countries the standard might be as high as one facility for 50 students. In addition, there are some other important factors when defining the exact number of facilities necessary:

- How many girls and how many boys are there? It is recommended that at least half of the facilities are urinals. They are much cheaper than toilets and have a shorter waiting time. 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.
- 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 proportion between girls and boys?
- Are there users with disabilities? Do they need specific design adaptations for sanitation facilities, hand washing or water access?
- Do female/male teachers prefer to have their own facilities with sufficient privacy?

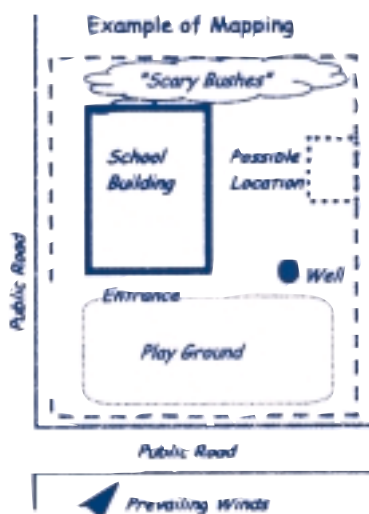
### Example of calculation of necessary capacity





### Evaluating possible locations by table

Priority	Aspect	Valuation	
		Option 1	Option 2
1	Privacy	**	+/-
2	Safety	+/-	*
3	Environment	-	*
4	Supervision	-	**
5	Accessibility	*	*



## 10. Choose well considered locations.

*Finding the right location requires looking at different practical, environmental and cultural aspects. It also requires balancing different considerations, setting priorities and participatory decision-making. This can become difficult when these aspects conflict and different users have different preferences. The final selection has to be made carefully. Even a well-designed facility faces the risk of not being used if it has a poorly considered location.*

### Criteria for selecting location

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. In some cultures it is important not to be seen entering or leaving the facility. 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, e.g. for the younger children: a hand washing facility near the door of the classroom rather than near the toilet.
- **Supervision:** Someone has to be responsible and accountable for the facilities, including outside school hours and during holidays. The person will have to be remunerated for this task. 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 minimise 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, as groundwater usually flows away from a well.
- **Accessibility:** It must be possible to reach facilities at all times, also after heavy rains and snowfall.
- **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.

### Participatory site selection

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. These maps can include practical considerations (prevailing wind direction, location of wells, existing pathways), as well as cultural and psychosocial (privacy, safety) considerations. Mapping will also help to develop different options for locations and make it easier to compare them.

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## Annex 1: Checklist child-friendly facilities

### 1. Are the facilities 'interactive' spaces that stimulate children's learning and development?

- Can the facilities be characterised as 'inviting and stimulating', or are they just functional or even dysfunctional?
- Is there an appropriate approach for each age group, taking into consideration their skills and knowledge?
- Are there opportunities for children to give their own input and participate in the final design of the facilities as well as in the operation and maintenance?
- Is the concept of hygiene evident in the design of the facility by use of colours, materials, natural lighting, etc.?
- Are the educational and promotional materials used for hygiene education clearly linked to the type of facilities offered?

**Creating stimulating spaces that invite children of all ages to practice and develop the knowledge and skills, reinforcing a good attitude and behaviour towards hygiene.**

### 2. Are the facilities being designed with involvement of children, teachers, parents and communities?

- Are students, teachers, parents and the community actively involved in the design of the facilities?
- Has some kind of a body such as an association or a committee been set up that facilitates participation and represents all stakeholders? If so, does the body reflect the composition of the group of stakeholders it represents (e.g. children and parents of both sexes, different age groups, all social classes, religions, castes, ethnic groups, etc.)?
- Are stakeholders given the opportunity to obtain knowledge and skills before making important design decisions?
- Are the stakeholders able to assess their own practices? Are they ready to learn and to find solutions to their problems?
- Are children consulted about their needs and practices? Does this occur in an open and unconstrained manner, such as through informal group sessions?
- Are efforts made to illustrate designs through clear representations, such as scale models and perspective drawings?
- Have similar solutions been implemented in nearby schools? If so, is it possible to make a project visit?

**Empowering all stakeholders, enabling them, through participatory processes, to assess their own hygiene and sanitation situation and find solutions for their own problems and needs, eventually resulting in more appropriate designs and increased ownership.**

### **3. Are the facilities lowest-cost solutions with no compromises towards quality?**

- Have efforts been made to extend the lifespan of the facility?
- Have the implications of the design for the operation and maintenance costs been considered?
- When solid materials are used for anal cleansing, are they disposed of in the pits?
- How are menstrual pads disposed of?
- Are pits emptied when they are full? Have provisions been made to facilitate emptying?
- Have more sustainable options for systems been considered, such as septic tanks, sewage connections and 'tank-and-soak-away systems'?
- Has enough attention been paid to the durability of the materials and the sustainability of the design solutions?
- Can surfaces that get dirty be cleaned easily? Are those surfaces strong enough to allow for frequent cleaning?

**Finding a good balance between cost and quality, without compromising the final goal: Offering effective child-friendly hygiene and sanitation facilities leading to improved hygiene practices and health situation.**

### **4. Do the facilities have operation and maintenance plans?**

- Have the implications for operation and maintenance been considered during planning and design phases?
- Have all stakeholders been mobilised in the operation and maintenance plan? Are everyone's responsibilities clear and has everyone agreed to the plan?
- Is the plan non-discriminatory? Are the least desirable tasks equally divided between rich and poor, older and younger, boys and girls?
- Has operation and maintenance of hand washing and water facilities, drains, surroundings of the facilities, etc. been taken into consideration?
- Is monitoring and evaluation of the operation of the facilities an ongoing process? Is there a platform where issues that arise can be addressed? Is the operation and maintenance plan reviewed periodically and are any alterations approved by those involved?

**Complementing facilities with a plan to ensure their proper use, operation and maintenance, with a clear definition of everyone's responsibilities and continuous effort for monitoring and improving facilities and their operation and maintenance.**

### 5. Do the facilities have appropriate dimensions and features for children?

- Does each age group have facilities with appropriate dimensions?
- Are the appropriate dimensions for the different age groups determined by actual measurement of the children in the project school?
- Are heights of steps, washing basins, doorknobs, etc. appropriate for the target age group?
- Are small children able to use the facilities without assistance? For example, can they operate the taps, and close and secure the doors?
- Are special facilities for disabled children or teachers needed? If so, what are the specific design needs?

**Ensuring that appropriate solutions are offered for girls/women and boys/men, by giving both equal opportunities to participate in all decision-making processes during all project stages making sure their needs, knowledge and opinions are included.**

### 6. Have the special needs and roles of girls and boys, as well as female and male teachers been addressed?

- Have gender aspects been sufficiently stressed during assessment, design, construction and operation and maintenance phases?
- Did girls and women, boys and men participate equally in the decision-making processes?
- Have the facilities been designed in such a way that privacy is guaranteed while preventing molestation and harassment inside the facilities?
- Are there appropriate facilities for menstrual hygiene for older girls and female teachers and is their privacy adequately guaranteed?
- Are urinals available for boys, male teachers and girls?

**Making efforts to minimise negative environmental effects within the possibilities of the local context, such as availability of resources and cultural acceptability of ecological sanitation, etc.**

### 7. Are the facilities not harmful to the environment?

- Are efforts made to save water and protect other natural resources?
- Are the environmental risks for soil and ground/surface water pollution minimal? Is this also true after extreme situations such as flooding and severe rainfall?
- Has ecological sanitation been seriously considered by offering it as a design option to the stakeholders?

**Organising and designing the whole package of hygiene and sanitation facilities (including for hand washing, anal cleansing and waste disposal). in such a way that it can be used, cleaned and maintained easily and properly, inducing hygienic behaviour.**

### **8. Do the facilities encourage hygienic behaviour?**

- Are hand washing facilities located at the location found most convenient by all stakeholders?
- Can basins for hand washing be easily kept clean? Do they have a drain to safely dispose of wastewater?
- Is availability of water, material for anal cleansing, washing agents (soap, ash or mud) and basic cleaning supplies sufficiently secured?
- Are materials used for anal cleansing and menstruation collected separately and disposed of safely away from the facility (for example burned or buried in a separate pit)?
- Do the facilities have openings for ventilation and natural light? Do surfaces have bright colours, drawings or other design features that are attractive to children?
- Are flies effectively controlled by, for example, use of lids on squatting holes and/or ventilation pipes connected to the pits?

**Offering sufficient capacity at all times, looking at the composition of the school population (gender and ages), school hours and future growth of the number of students.**

### **9. Do the facilities offer enough capacity and minimal waiting time?**

- Have the school hours (breaks, morning and afternoon shifts, etc.) been considered in calculating the required capacity?
- Have urinals been installed to reduce the required number of toilets?
- Has the estimated future school size been considered when calculating the required capacity? Was it gender segregated?

**Offering appropriate solutions to all ages as regard their size, their dimensions and physical abilities, making children feel comfortable to use hygiene and sanitation facilities.**

### **10. Do the facilities have well considered locations?**

- Have all the different aspects regarding the location been discussed and prioritised by the stakeholders before making a decision?
- Has a consensus been reached on the location as a result of a democratic consultation with the stakeholders or representative committee?



- Have all the considerations been sufficiently stressed? Are the facilities always accessible? Do people feel safe and do they have enough privacy when visiting them?
- Is there a risk of environmental contamination?

**Selecting the location for facilities through involvement of all stakeholders, balancing aspects such as safety, privacy, supervision, accessibility and environmental quality.**

## Annex 2: Sample set-up for the development of hygiene and sanitation facilities

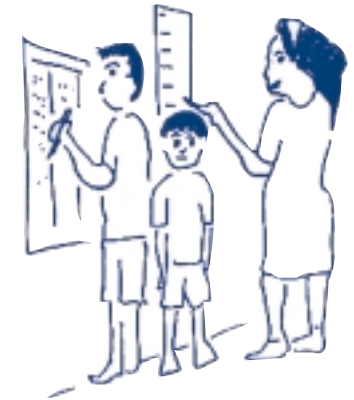
### Preparation & Mobilisation

- Presentation of project set-up to women and men from all stakeholder groups, including children. What is expected from them and what outcomes do they expect? Make sure poor families will also be present.
- Assessment of the existing skills, knowledge and attitude of the different groups towards their own hygiene practices and their readiness to change.
- Identification of key stakeholders and setting up of a representative committee with equal representation of all stakeholders, e.g. children, teachers and parents of both sexes, different age groups, all social classes, religions, castes, ethnic groups, etc.



### Self-Assessment & Identification

- Participatory consultations with the stakeholders separated by target group (students, teachers, parents and community), gender and age to discuss hygiene practices.
- Interactive workshops with the committee to introduce the participating groups to hygiene and sanitation principles.
- Self-assessment by the committee on current hygiene and sanitation facilities and practices and identification of problems and needs.
- Formulation of key problems, needs and priorities and presentation of the outcome of the self-assessment to the other stakeholders.



### Design & Formulation

- Formulation of preconditions for design solutions: necessary capacity, funding, approaches for different age groups, availability of materials, etc.
- By the use of appropriate participatory tools, review of possible options for systems, materials, layouts and locations, including their implications on costs, operation and maintenance.
- If possible, a project visit to other locations with similar hygiene and sanitation facilities as those proposed.
- Design of several alternatives and preparation of accessible presentations (perspective drawings, scale models, etc.).
- Presentations of designs by the committee to all stakeholders and joint selection of the most appropriate design.





### Formulation of Final Proposal

- Preparation of the final design, integrating possible feedback from other stakeholders.
- Preparation of the action plan by the committee: planning, construction and installation.
- Formulation of operation and maintenance plan for the hygiene and sanitation facilities by the committee.
- Presentation of the final design, action plan and operation and maintenance plan to all stakeholders.

### Construction & Installation

- Involvement of the community in construction of the facilities: labour, quality control, etc., taking all equity aspects into consideration.
- Training children in simple construction skills: measuring, curing concrete, making soak pits, making drying racks for utensils, etc.
- Organisation of promotional activities to celebrate completion of facilities.

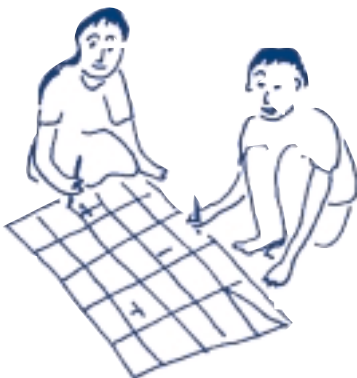


### Operation & Management

- Monitoring of use, operation and maintenance by the committee and identification of problems with the design of the facilities.
- Check if there is a fair division of the workload between sexes, social and ethnic groups.
- Operation and maintenance, and when needed, improvements to the facilities.

### Evaluation

- Group sessions with the stakeholders separated by specific target group (students, teachers, parents and community), gender and age to evaluate the improvement of hygiene practices after the installation of the new facilities.
- Physical evaluation of the hygiene and sanitation facilities, their use and operation and maintenance.
- Evaluation of impact of the improved facilities on the health situation at the school, attendance, etc.
- Evaluation of the functioning of the arrangements (for operation and maintenance, and provision of human, natural and financial resources) and school sanitation policy as well as the diffusion of the effects to the community and households.
- Formulation of the outcome of the evaluation and recommendations for improvements to design and operation and maintenance of the facilities.
- Presentation of outcomes to all stakeholders and follow-up.







## Child-Friendly Hygiene and Sanitation Facilities in Schools: Indispensable to effective hygiene education

*Jaap Zomerplaag and Annemarieke Mooijman*

This booklet takes a non-traditional look at school hygiene and sanitation facilities in pre-school, primary and secondary schools. It aims to provide guidelines for the design of child-friendly facilities that are part of the learning environment, and that not only 'facilitate', but also enable, stimulate and promote appropriate hygiene practices.

Unfortunately, schools with unpleasant facilities that consist of a smelly dark space with just a 'hole in the floor' and without any integrated facility for hand washing or a water point are often the reality. The result is that children feel uncomfortable and are scared to use facilities, leading to unsafe conditions and unhealthy practices. Therefore, these guidelines are also applicable in situations where existing school hygiene and sanitation facilities are being rehabilitated.

The booklet describes in ten points those issues that are important when dealing with children, hygiene and sanitation in the school environment and provides practical, easily accessible guidance to policy makers, programme designers and implementers at field level. It covers all the stages of a design project, from needs assessment to operation and maintenance, because effective child-friendly hygiene and sanitation facilities cannot be realised merely by improving designs. It stresses the importance of active involvement of children, teachers, parents and the community during all of these stages so that they themselves will be able to find solutions for their own problems and needs.

