

Strengthening Water, Sanitation and Hygiene in Schools

A WASH guidance manual with a focus on South Asia



A. Mooijman, M. Snel, S. Ganguly and K. Shordt

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IRC International Water and Sanitation Centre
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List of abbreviations

AEE	Assistant Executive Engineer
ARWSP	Accelerated Rural Water Supply Programme
CBO	Community-Based Organisation
CHAST	Children's Hygiene And Sanitation Training
CI	Corrugated Iron
C/N	Carbon/Nitrogen
CRSP	Central Rural Sanitation Programme
CSO	Civil Society Organisation
DIET	District Institute for Education and Training
DPEP	District Primary Education Project
EO	Education Officer
EE	Executive Engineer
FAO	Food and Agriculture Organization
FRESH	Focusing Resources on Effective School Health
ICDS	Integrated Child Development Services
IEC	Information, Education and Communication
IFPRI	International Food Policy Research Institute
IMR	Infant Mortality Rate
IRC	IRC International Water and Sanitation Centre
NCERT	National Council of Educational Research and Training
NGO	Non-Governmental Organisation
PoA	Plan of Action
PHAST	Participatory Hygiene And Sanitation Transformation
PHED	Public Health Engineering Department
PTA	Parent Teacher Association
PVC	Poly Vinyl Chloride
RCC	Reinforced Concrete
RCRSP	Restructured Centrally Sponsored Rural Sanitation Program
RGNDWM	Rajiv Gandhi National Drinking Water Mission
SC/ST	Scheduled Caste/Scheduled Tribe
SCERT	State Centre for Educational Research and Training
SIERT	State Institute for Education, Research and Training
SIRD	State Institute of Rural Development
SMC	School Management Committee
SSIC	School Sanitation Implementation Committee
SWASHH	School Water and Sanitation towards Health and Hygiene
SWSHE	School Water, Sanitation and Hygiene Education
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNGEI	United Nation's Girls' Education Initiative
UNICEF	United Nations Children's Fund
VEC	Village Education Committee
VIP	Ventilated Improved Pit latrine
WHO	World Health Organization
WASH	Water, Sanitation and Hygiene
WASH in schools	Water, Sanitation and Hygiene in Schools (formerly known as SSHE)

Glossary of terms

Anganwadi: Nursery centre.

Block: A number of local governments in India. This may vary from state to state.

Cluster: Also in India, a certain number of schools linked together for educational purposes, particularly for training.

Gender: Gender relates to the social and economic difference between men and women. Gender does not relate only to women, but to both women and men. The gender approach optimises the roles and responsibilities of both men and women.

Helminth infection: Worm infection.

MAPET: Refers to the Manual Pit Toilet Emptying Technology. This technology uses a piston pump with a flywheel and a 200-litre vacuum tank which are mounted on a handcart. The equipment provides a low-cost solution in areas where toilets are inaccessible to roads.

Local government: Official structure with an elected president and elected representatives from each ward. This also refers to the local government area and its population.

Project cycle: The different stages or steps from the beginning to the completion of a project. These stages can vary in the project.

Community committee: The political and administrative unit below the district such as a cluster of households at the neighbourhood level.

Rupee: A unit of money used in among others India, Nepal, Pakistan, and Sri Lanka.

Community leader: Head of the village community committee.

Sanitary mart: A shop where one can buy the parts required to make a toilet as well as other hygiene commodities such as soap, toothpaste and so on.

Superstructure: Provides shelter and privacy for the user of the toilet. The superstructure can range from a simple shelter of sacks or sticks to a building of bricks.

Ward: Sub-unit of the local government.

Foreword

The UNICEF water, sanitation and hygiene programmes in South Asia have identified Water, Sanitation and Hygiene (WASH) in Schools as a priority area, recognising that improved hygiene practices and a clean school environment are contributory factors to ensuring that children can enjoy an acceptable standard of health. The need for this is highlighted by the deprivation in primary schools which lack safe drinking water and toilet facilities. Many schools still do not have safe drinking water on school premises. An even smaller percentage has any kind of toilet or urinal or separate facilities for girls. Where they do exist, they are so poorly maintained or so few in number, that most children do not use them. Instead they find a place to relieve themselves in some corner of the school compound or behind the school in some vacant plot. Growing girls have to endure this hardship, and this often results in them regularly absenting from school for the full day or after recess when they go home and do not return.

This Manual is dedicated to all those in the Government, Non Governmental Organisations (NGOs) and Community-Based Organisations (CBOs), the private sector and professional bodies and interested individuals who wish to see children grow up with a better future.

Introduction

WASH in schools is globally recognised as a key intervention to promote children's right to health and clean environment and to influence a generational change in health promotion behaviour and attitudes. If school children have access to clean and appropriate toilets, functioning handwashing facilities with soap, sufficient and safe drinking water and have developed adequate hygiene skills, they will:

- Be healthier,
- Perform better in school,
- Positively influence the hygiene practices among their family members and the wider community,
- Have learnt to observe, communicate, cooperate, listen and to take and carry out decisions about their own hygiene conditions and practices and those of their friends and the younger siblings whose hygiene they are responsible for. They will also be able to apply these skills in other aspects of their lives,
- Change their current hygiene behaviour but also use better hygiene practices in future when they are likely to become parents, teachers, health staff or other workers,
- Learn about menstrual hygiene and physical and emotional changes during puberty, which will encourage girls to come to school during menstruation and will help to avoid menstrual odour, discomfort and potential urinal and vaginal infections,
- Learn about the equal division of hygiene-related tasks (cleaning of toilets, fetching and boiling water, taking care of sick people) between boys and girls.

This book is meant for managers and trainers involved in WASH in schools programmes operating at different levels, such as state, district or block level. It also provides many useful guidelines and activities that apply to similar programmes elsewhere.



Chapter 1 Introduction and WASH in schools overview

1.1 Using this Manual

Who is this Manual for?

This Manual is meant for managers and trainers involved in Water, Sanitation and Hygiene (WASH) in schools programmes operating at different levels, such as state/ province, district or block. It also provides many useful guidelines and activities that apply to similar programmes elsewhere.

The Manual can be used in various ways, such as to assist in the planning, designing, implementing and/or monitoring of WASH in schools programmes. Parts of the Manual can also be used for training and orienting officials and trainers from education, engineering and health departments as well as rural development officials and trainers.

The Manual can also be used:

- To learn about WASH in schools. In this case, this Manual should be read from cover-to-cover like a book.
- To learn about specific topics. In this case, read and dip into specific sections; it is not necessary to read the entire book.

The Manual contains:

- Information on different topics related to WASH in schools,
- A number of activity sheets that can assist managers and/or trainers of WASH in schools programmes.

Within WASH in schools programmes, this book can be used:

- For planning new programmes and setting strategies,
- For district training and planning workshops (select the topics and exercises that are most relevant for those who attend training),
- To train trainers from NGOs and other institutions focusing on WASH in schools,
- For orientation of district and department officials, education officers and head teachers, public health engineering staff and contractors, leaders of other institutions such as NGOs & CBOs,
- For setting up monitoring activities in the district, block, cluster and community,
- For training field workers to work with communities on group mobilisation, technology selection and design, and so on.

The Manual can also be used to prepare or adapt school teaching and learning materials. However, on its own it is not sufficient for classroom activities.

WASH in Schools as an integrated approach for quality education

UNICEF addresses barriers such as poverty with stipends, incentives, scholarships and micro-enterprises; household chores with technologies and services that reduce the burden of time for women; child labour with legislation and income incentives; and social norms/customs (e.g. early marriage) through advocacy, social mobilisation and legislation. UNICEF specifically looks to create positive synergies for children. School meals and other nutrition interventions, for example, are known to enhance both health and learning. Early childhood development programmes free older girls to attend school while offering younger ones a 'right start' to learning. Water and sanitation facilities improve health, and enhance the learning environment, while special protection measures address concerns for safety and security, including gender-based violence. Safe, inclusive, 'child-friendly' school environments contribute to quality learning experiences that integrate relevant life skills (health and hygiene; HIV/AIDS prevention) into education.

One of the ongoing challenges for the development of programmes like WASH in schools is the creation of approaches that truly cut across sectoral barriers. Such programmes aim for an holistic package of interventions that deal with the specific characteristics of school hygiene or health problems instead of isolated pilot projects with narrow sectoral and vertical approaches. The challenges are significant. However, an integrated approach is necessary to address key barriers, especially to girls' education, that often lie outside the education sector (Shordt and Snel, 2006).

An integrated approach to quality education means envisioning and designing schools to function as integrated service delivery/community resource sites. Multiple perspectives enrich debate, programmes and services, while participation enhances ownership and buy-in of sustainable development solutions. Integrated efforts are required to achieve the Millennium Development Goals (MDGs), as a whole, in order to focus on achieving multiple dimensions in WASH in schools and addressing the holistic needs of the schoolchild.

The obstacles to an integrated intersectoral cooperation approach

An integrated approach also refers to intersectoral cooperation, which means reaching out to different networks and forming partnerships within international, national and local organisations and groups.

Diverse constituencies require diverse approaches and materials: teachers and engineers, for example, have different technical reference literature and speak different 'languages'. The pursuit of individual goals can contribute to separate or 'sectionalised' priorities, supporting varied meeting schedules/reference points or international agreements (refer to section 3.3) and sector-specific accountabilities, with rare incentives and opportunities or intersectoral partnering. Opportunities and challenges in terms of intersectoral cooperation include strengthening and mobilising partnerships at all levels, which is a key to success and sustainability – and building on existing partnership frameworks, such as UNGEI (United Nations Girls Education Initiative), FRESH (Focusing Resources on Effective School Health), WASH, and others,

to maximise the synergy of comparative strengths. Building intersectorality into sector-wide approaches, planning and budgeting is also a key priority for successful cooperation.

Providing a platform for participation by civil society groups, teachers, children and young people as key stakeholders can be useful in mainstreaming gender perspectives into all partnerships and programmes and in bringing multiple perspectives to bear on the issue. UNICEF and key partners are working to design standards for 'child-friendly' schools that incorporate this integrated approach and seek to ensure an appropriate level of resources and investments, while expanding and strengthening indicators, data and evidence as a basis for planning, monitoring and evaluating.

1.2 Defining WASH in Schools

Water, Sanitation and Hygiene (WASH) in Schools refers to a combination of technical (hardware) and human development (software) components that are necessary to produce a healthy school environment and to develop or support appropriate health and hygiene behaviours. The technical components include drinking water, and handwashing and toilet facilities in and around the school compound. The human development components are the activities that promote conditions within the school and the practices of children that help to prevent water and sanitation related diseases and worm infestation. School sanitation and hygiene education depend on a process of capacity enhancement of teachers, education administrators, community members, village/ward water and sanitation committees, public health engineering and rural development departments, Non-Governmental Organisations (NGOs) and Community Based Organisations (CBOs). It seeks to use water/sanitation/hygiene learning as a bridge linking children, their families and communities.

WASH in Schools aims to make a visible impact on the health and hygiene of children through improvement in their health and hygiene practices, and those of their families and the communities. It also aims to improve the curriculum and teaching methods while promoting hygiene practices and community ownership of water and sanitation facilities within schools.

It is based on the belief that children are far more receptive to new ideas because they are at an age when they can be influenced to cultivate the habits of good personal hygiene. The promotion of personal hygiene and environmental sanitation within schools can help children to adopt good habits during the formative years of their childhood.

The WASH in Schools programme works toward several related **goals**:

- **Effective learning** – Children perform better if surrounded by a clean and hygienic environment.

- **Enrolment and retention of girls** – Lack of private sanitary facilities for girls can discourage parents from sending girls to schools and contribute to the drop-out of girls, especially of adolescents. Growing girls find it difficult to attend schools that have no or a few badly maintained facilities. They tend to go home during recess and not return.
- **Reduced diseases and worm infestation** – If sanitation and hygiene facilities are absent or are badly maintained and used, schools and pre-schools become health hazards. Children urinate and defecate behind and around school buildings in whatever vacant space is available. This is bad practice, a source of infection, and sends strong negative signals to the children and teachers that this is an accepted norm.
- **Environmental cleanliness** – Proper facilities will prevent pollution of the environment and limit health hazards for the community at large.
- **Implementing Child Rights** – Children have the right to be as healthy and happy as possible in their given circumstances. Good sanitation and hygiene practices lead to fewer diseases, better health, and better nutrition. As many children in South Asia fall into the “mildly malnourished” category, any measure to protect them from slipping further into malnourishment is a significant investment in human resource development and a happy childhood.

The specific WASH in schools objectives are:

- To make visible the value and impact of (pre-)school sanitation as perceived by the community and thereby raise the level of ownership,
- To promote importance of WASH in schools at national, state and district levels,
- To improve hygiene practices among school children, their families and communities,
- To develop, test and improve the curriculum, teaching methods, teaching aids and teaching programmes with a view to children learning the value of hygiene and health-promoting behaviour,
- To promote family and community involvement, and partnership in the sustainability of WASH facilities in schools.

The **principles** guiding the programme are:

- Programme convergence through mapping related development programmes and resources, for optimal utilisation of available resources, and better impact and outreach.
- Decentralised management with the community as a partner in implementation, operation and maintenance. This translates into a major emphasis on training and capacity building of local groups.
- Focus on reaching difficult-to-reach and under-served groups, including girls and marginalised communities.
- Potential for scaling up.

The interventions of the WASH in schools programme are both physical (safe drinking water, school toilets, water for handwashing and cleaning) and behavioural (handwashing, water handling, food hygiene, good use and maintenance of facilities, etc.). These interventions should take place through the assistance of three continuing activities: communication, advocacy/social mobilisation and cross-sectoral planning and implementation. Further, the programme is meant to reach out to the community and families, involving all local institutions.

1.3 The provision of safe water, sanitation and handwashing facilities

The provision of safe water and sanitation and handwashing facilities is a first step towards a healthy physical learning environment. However, the mere provision of facilities does not make them sustainable or produce the desired impact. It is the *use* of the facilities – the related hygiene behaviour of people – that provides health benefits. In schools, hygiene education aims to promote those practices that will help to prevent water and sanitation-related diseases as well as healthy behaviour when the children become adults (Burgers, 2000). The combination of facilities, correct behavioural practices and education are meant to have a positive impact on the health and hygiene conditions of the community as a whole, both now and in the future (Snel, 2004).

South Asia

Some 521 million more people have gained access to drinking water supply in South Asia between 1990 and 2006. Today, 84 per cent of the rural population and 95 per cent of the urban population of South Asia has access to drinking water. South Asia has seen good progress in terms of percentage of population served by sanitation as well: the sanitation coverage increased from 21 per cent in 1990 to 33 per cent in 2006. Progress has been mainly in rural settings with 23 per cent coverage while in urban areas there is a coverage of 57 per cent. However, there are still more than one billion people in South Asia without access to improved sanitation.

In South Asia, the primary education system is one of the largest in the world and is quickly expanding due to population increase and rising school attendance. More than 44 million children enter primary school each year and the total primary school population is more than 190 million children.

Source: UNICEF/WHO Joint Monitoring Programme for water supply & sanitation (2008); UNESCO Education for All Report (2008).

1.4 Improving hygiene practices

UNICEF has estimated that more than half of the world's schools lack clean toilets, drinking water and hygiene lessons for all schoolchildren. Safe water and sanitation are essential to protect children's health and their ability to learn at school – a fact dramatised by the tsunami catastrophe, which turned the spotlight on a global water

and sanitation crisis affecting more than 2 billion people. In this sense, safe water and adequate sanitation are as vital to a child's education as textbooks.

The availability of clean water, adequate sanitation and hygiene education has a profound impact on the health of children, on learning, the teaching environment, and on girls' education. It is directly related not only to physical, mental and social health, but ultimately to economic and political development.

Indeed, the campaign for safe water and sanitation in schools will bring the world much closer to achieving three of the eight MDGs: the goals of universal primary education, environmental sustainability – and particularly, the 2005 gender parity goal in primary and secondary education, which is the first of the MDGs targeted for implementation and will be watched as an early test of the commitments of the international community.

The record on providing safe water and sanitation and hygiene education is dismal, despite the efforts of many stakeholders over the past decade – from governments to development agencies to communities.



Figure 1.1: School and surroundings.

And yet there are rational, economic and humanitarian reasons for ensuring safe water, adequate sanitation and its corresponding hygiene education in schools. Diarrhoeal diseases, intestinal worms and other debilitating parasites affect appalling numbers of schoolchildren. About 40 per cent of an estimated 578 million school-age children are infested with worms and 88 million children under 15 years of age with schistosomiasis. Schistosomiasis (also known as bilharzia, bilharziosis or snail fever) is a parasitic disease. Although it has a low mortality rate, schistosomiasis often is a chronic illness that can damage internal organs and, in children, impair growth and cognitive development.

Such disease burdens, especially between the ages of 5 and 14, a period of intense physical and intellectual development, and has a negative effect on growth, nutritional status, physical activities, cognition, concentration and school performance.

There is a growing body of scientific evidence that highlights the critical importance of the early years and the cumulative nature of deficits that children can suffer if they do not get the best start in life. Good health, nutrition and development in those early years set the stage for learning potential in later years (Esrey, 1991). Safe water, sanitation and hygiene-care practices are essential to ensuring that children get the best start in life; that they are able to enter school healthy, alert and ready to learn. In fact, interventions that focus on improving hygiene practices seem to have the greatest impact, followed by improvements in water quality, sanitation and water quantity.

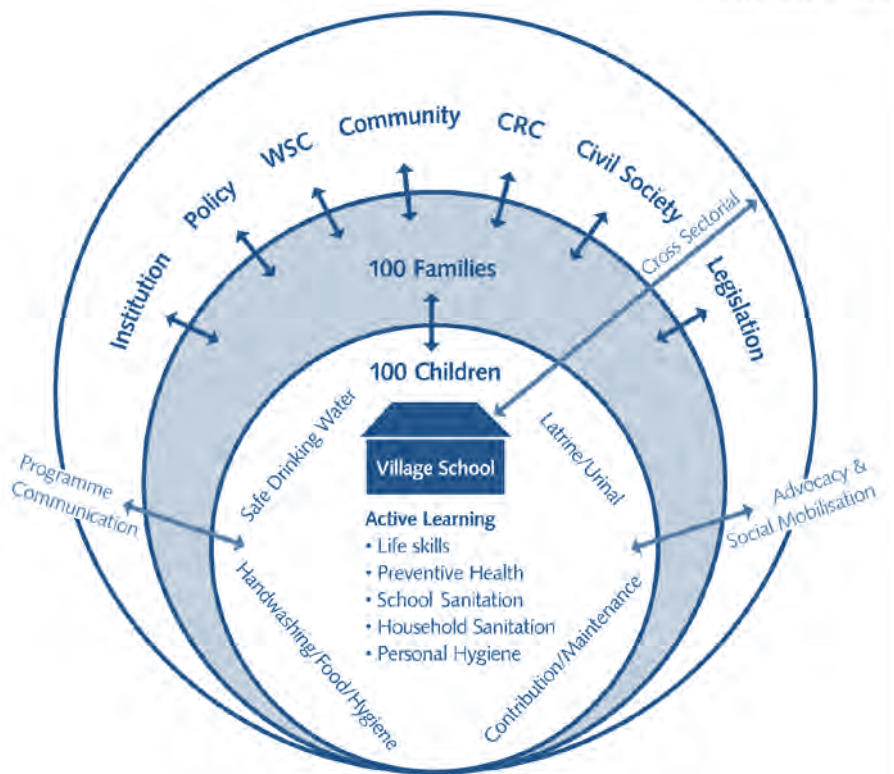


Figure 1.2: The 'WASH in Schools Balloon' – example from WASH in schools workshop India (2000).



Chapter 2 Training for teachers in WASH in schools

This chapter is intended for people who will use this Manual to organise training activities. It discusses methods used to train adults. It also provides examples of workshop training plans.

The words training, orientation and refresher are used in this chapter. Training is a longer programme. Orientation training is generally shorter than training, lasting for less than a day. The purpose is usually to help people understand the main lines of a programme and to win their commitment to it. Refresher training takes place several months or a year after an initial training. The refresher reinforces past learning and adds new topics. Refreshers are also useful for planning. For example, teachers can plan health club activities for the next year and compare their plans and past experiences.

2.1 Objectives and participants

Who is the training for? What is the purpose of the training?

Training needs to be targeted and have a specific focus, which needs to be carefully identified and kept in mind continuously. It is not about WASH in schools in general. The purpose of a training workshop is one or two of the following:

- **For interdisciplinary groups** (district representatives from education, Public Health Engineering Department (PHED), rural development, health, social welfare, NGOs)
 - a) to improve coordination and to learn to work together
 - b) to make a work plan based on a district Plan of Action (PoA)
 - c) to agree on key indicators and plan how to monitor these
- **For master trainers**
 - a) to be effective trainers of NGO community field workers who organise and train community groups
 - b) to be effective trainers of teachers
- **For different groups** such as district and department officials, education officers and head teachers; public health engineering staff and contractors; rural development officials, elected leaders, and representatives of other institutions such as NGOs and CBOs.
- **For teachers:** to help organise children in using and maintaining facilities and to help them organise active learning in the classroom.

An example of objectives for a Training of Trainers Workshop

The following objectives (purposes) were developed for a Training of Trainers (TOT) workshop held in Ranchi, India (2000):

- Develop an intersectoral team for building capacity in the WASH in Schools project.
- Generate a common understanding about the project concept and objectives and plans of action (PoA).
- Jointly develop/refine PoA, and transform them into functional work plans with checks and balances.
- Work on micro-planning exercises focusing on the school/community.

A number of factors should be kept in mind at a WASH in schools training:

- Who is being trained – what type of target group?
- At what stage of development is the group? How far advanced are they in terms of knowledge and practice in the area of WASH in schools?
- At what stage of development is the WASH in schools programme? Is it the design stage, implementation stage, or evaluation stage?
- What is the nature of the system in which WASH in schools is being implemented?

Experience has shown that training based on the project cycle works effectively. For example, at the Training of Teachers workshop the training plans were based on the project cycle of supervisors, WASH officers and teachers.



Figure 2.1: Group of trainees making a micro plan for the district level.

2.2 Training plans for different occasions

The following boxes give examples of training plans for different groups. Each plan has some suggested exercises which you will find in this book at the end of most chapters.

Four examples of workshop programmes

Initial district training: interdisciplinary groups	
Purpose	To make an agreed work plan that will successfully lead to the WASH in schools goals. To learn to work together.
Participants	Interdisciplinary groups such as: district and selected block/ cluster representatives from education, public health, NGOs, Integrated Child Development Services (ICDS) programmes, experienced teachers.
Learning Outcomes	Agreed definition of concepts and procedures Integrated work plan prepared and dedicated
Day 1	Concepts: Chapters 2, 4 & 5. Activity 2.1, 4.1 or 5.1
Day 2	Programme: Chapter 5, 6, & 8. Activities 5.2, 6.1, 8.2 and 8.3
Day 3	Field trip: Activity 4.2
Day 4	Management and technology: Chapters 9 and 11. Activities 9.4, 11.1 or 11.2 or 11.3 or 11.4, 12.2 & 12.3
Day 5	Planning: Activities 8.2, 8.4, 9.1 or 9.2 and 9.4
Day 6	Complete planning exercise from Day 5, review in plenary and agree on next steps

Training of trainers	
Purpose	To prepare for implementation and training. To train the master trainers. To learn to work together.
Participants	The participants are already familiar with the programme and have had some orientation or training. Training materials have been prepared. There is an agreed work plan with roles and work assigned according to a timeframe. District and selected block/cluster representatives from Education, teachers and NGO staff, representatives from Public Health Engineering Department (PHED), local government.

Training of trainers	
Learning Outcomes	Agreed definitions of concepts and procedures. Develop capacity to train teachers (with some continuing support and supervision).
Day 1	Concepts: Chapters 2, 3, 4. Activities 2.1, 2.2 and 4.1
Day 2	Concepts & programme: Chapters 5, 6, 7 & 8. Activities 6.2 and 8.1
Day 3	Field trip & debriefing: Chapter 4. Activity 4.2
Day 4	Management & technology: Chapter 11. Activities 11.1 or 11.2 or 11.3
Day 5	Follow-up: Chapter 12. Activities 12.2 and 12.3

Orientation	
Purpose	To orient district officials.
Participants	Key officials in education, public health, rural development departments and local government; leaders of education department.
Learning Outcomes	Agreed definition of key concepts and procedures. Commitment to support the programme locally.
Day 1	Concept and planning: Chapter 4. Activity 4.1. Chapter 8. Activity 8.1
Day 2	Field trip & debriefing: Chapter 4, Activity 4.2
Day 2	Management & technology: Chapter 11, Activity 11.3. Chapters 12. Activity 12.2

Teacher training	
Purpose	To train teachers who will be in charge of WASH in Schools in their schools.
Participants	Classroom teachers
Learning Outcomes	Agreed definitions of concepts and procedures. Improved capacity to carry out hygiene education (both within and outside the school). Capacity developed to ensure use and maintenance of facilities.
Day 1	Concepts and programme strategy: Chapter 2, 4, 5 and 8. Activities 2.1, 4.1, 5.1 or 5.2, 8.2 & 8.3

Teacher training	
Day 2	Programme: Chapters 6, 9 and 10. Activity 6.1, 9.1, 9.3 and 10.1
Day 3	Management, Technology and follow-up: Chapter 11, 12, and 13. Activity 11.1, 12.1, 12.2 or 12.3 and 13.2

The ideal number of participants in each case is no more than 25. This allows for intensive exchange of experiences and individual attention from the facilitator. For larger groups or when the training is over a longer period, it is very useful to have a team of at least two or three facilitators, since the training activities can be divided into small group work and facilitators have time for a break. Two or three trainers can use a blend of presentations, lectures as well as participatory exercises.

One challenge for these training exercises is to ensure that the intended group actually attends the training. In addition, the best training will lack effectiveness if the participants attending are unable or unwilling to take on needed responsibilities after the training. It is therefore worthwhile to take extra time to negotiate about this with the institutions that identify the participants for training.

2.3 Training methods and tools

Tips for trainers

It is said that people remember 20 per cent of what they hear, 40 per cent of what they hear and see, and 80 per cent of what they discover by themselves. This clearly suggests a change in the method of teaching, away from the typical lecture to a more participatory approach. These statistics tell us that adults learn by drawing on their past experience and knowledge. They learn by doing and by being involved (Brikké, 2000).

Therefore the overall approach of the workshop should be based on the way adults naturally learn. This means ensuring the active involvement of all the participants, building on their existing knowledge, facilitating exchanges of experience and feeding in new insights and knowledge. It uses hands-on exercises and helps participants to translate their new insights into action-oriented planning specific to their own function.

The participatory approach to training is based on the concept that professionals learn more effectively when they are presented with activities which take into account their knowledge and experience and which meet their needs. By being involved in this process, both individuals and the group gain a new awareness of their potential, develop greater self-confidence, and see new possibilities. They also become more critically aware of the reasons that underlie their perceptions, attitudes and actions.

The teaching/learning methods used should create an environment in which all the participants can express their interests and their own experiences in the programme. This requires participatory methods. These methods also provide participants with experiences in learning activities that they can, in turn, use in giving training at block and cluster levels.

Four common methods to stimulate participation in learning among adults are: a) group exercises, b) brainstorming, c) visualisation, and d) role playing.

a) Group exercises

Group exercises can be used to illustrate a concept, to stimulate thought and discussion, or to train participants in certain skills, and to help participants make their own plans for future activities.

It may be helpful to keep the following points in mind when undertaking small group exercises:

- Select exercises that fit the group and its goals, by being sure you know why you are using a particular exercise. Be familiar with the exercise, by previewing it before you use it; indeed, you should know what it accomplishes and how that happens. Don't present participants with a battery of exercises all designed to make pretty much the same point.
- Giving clear instructions is a very important part of using exercises. The way you introduce an exercise can make a big difference in what the exercise means to people; it should include an explanation of the objectives; a description of what exactly the participants are supposed to do, and an estimate of how much time the exercise will take.
- Group dynamics are important. Remind participants to give every person in the group a chance to talk. Small groups should not be dominated by one or two people. Ensure that women as well as men can contribute.

Role of the facilitator during small group activities

During group work, the facilitator should remain available to answer questions and to quietly observe the group working. Once the exercise has been completed, it is important to reflect on the results reached together with the participants, and how they relate to the participants' own day-to-day realities. Too often the reporting back from small groups is boring and monotonous. Instead, ask people to summarise, or compare their answers with those of other groups. This can improve the group reports.

b) Brainstorming

Brainstorming produces ideas, explanations and interpretations. In an organised "storming of thoughts", a small group of participants puts forward as many suggestions as possible about a precisely formulated theme. There is no discussion at

this point. This method stimulates an intuitive, spontaneous and creative search for associations between ideas or problems related to the theme.

Role of the facilitator

Hints on preparation: the topic must be formulated precisely. There is a time limit and it must be clear who is participating. For the actual brainstorming there are definite rules:

- Little or no discussion is needed during brainstorming.
- Ideas from each person should be accepted without criticism.
- Combinations and associations of ideas are encouraged.
- The contributed suggestions are usually written on cards and put up on a poster or board.

At the end, the facilitator helps the group to sort, analyse and evaluate the brainstorming exercise. Classification comments such as “immediately feasible” and “needs to be more developed” are useful.

c) Visualisation

In the visualisation method, participants use different types of written cards which are pasted or pinned on posters or on other surfaces. Appendix 1 shows the standard rules that should be given to participants about making cards. Visualisation facilitates a clear structure of discussions, workshops and the recording of statements in a concise and visible way. Concentration and attention are improved considerably and even shy participants are able to take part more actively. The discussion becomes more objective and is enhanced with regard to the preceding steps. Evaluations and prioritising of options are much easier when using such a visible presentation.

Role of the facilitator

Facilitators should brief participants about how to prepare cards and should organise the feedback sessions to larger groups. In training sessions where many participants prepare cards, the facilitator usually needs to make sure that each card is read out to all participants and that cards are grouped by topic. In short, the facilitator has an important role in helping to organise the information.

d) Role playing

Role playing is a training technique in which participants assume an identity other than their own, to cope with real or hypothetical situations and problems. It can be employed in almost any training context.

In playing their roles, participants act out behaviour patterns they believe are characteristic of those roles in specific social situations. For example, a role play can be proposed between two actors, “a teacher” and “Parent-Teacher Association member”, in order to reflect the process of resistance to change. Role playing permits experimentation with different ways of behaving in a given situation.

Role of the facilitator

A role-playing session should start by the trainer briefing all participants, by outlining

the situation which is the basis of the role playing, and by giving a concise description of the characters involved in the situation. Usually one set of people engages in role playing while another set observes and takes notes. At the end of the scene, the actors and the audience discuss what has taken place during the scene.

In preparing for a role playing session, you should keep in mind the basic principle, the problem to be covered, or the message to get across to the participants.

2.4 Overview of methods and tools

The following table identifies some of the methods that are frequently used by facilitators working with adults. This training should give participants practice in using several. Most appear in the training exercises that are described in this Manual.

Table 2.1: Examples of teaching and learning methods.

Method	Description	Remarks
Group discussion / conversation	A discussion is a free exchange of knowledge, ideas and opinions on a particular subject. A conversation will be more structured and prepared in advance.	Optimal use: For introducing subjects; a structured conversation helps to focus thinking. Advantages: Group involvement; starting up thinking process. Disadvantages: Risk of unfocused discussions, time shortage and does not necessarily lead to a change in ideas; needs preparation.
Brainstorming	The facilitator or an assistant writes down <i>all</i> the contributions on a board. Quality and substance is evaluated by the group afterwards.	Optimal use: Common method used in groups to help members think of possible changes or give new orientations. Advantages: Stimulates creativity, expands imagination. Disadvantages: Provides answers which are not always implementable or realistic.
Feedback	Informing people what they have done on a certain exercise, role play or other action in order to let them know how things can be improved.	Optimal use: For creating awareness on participants' skills and performance. Advantages: Participants become eager to learn. Disadvantages: Possible distrust if feedback is not good.

Method	Description	Remarks
Lecture	An internally consistent, rationally clear presentation, adapted to a specific audience by using visual images, verbal illustrations and other tools.	Optimal use: For transfer of models, concepts or frameworks. Advantages: Opportunity for transfer of knowledge over short period of time. Disadvantages: Monologue; requires good preparation in order to keep attention; people may not listen or understand.
Demonstration	Letting participants go through an event that illustrates the theme of a session. Participants are asked to participate and at the same time observe what is happening.	Optimal use: Start of a session on a topic which needs sensitisation or awareness raising. Advantages: Effective way to raise awareness in a short period of time. Disadvantages: Easy failure if not adapted to the group.
Field visit	Participants are taken out into a real life situation and get the opportunity to observe some elements linked to the course and discuss about the findings.	Optimal use: To show real life situation. Advantages: Helps to clarify concepts and get a common understanding; excellent for group dynamics. Disadvantages: Organisation can be much work; takes time. Only works if a discussion on the findings takes place.
Reading assignments	During the course participants are asked to read relevant information.	Optimal use: Creating opportunity to digest written material; can be given for evening reading. Advantages: Easy way to have some material covered. Disadvantages: Slows down dynamics if done in class; check on understanding is needed.
Case study	A history or example with relevant details is examined by the participants. They come up with problems and alternative solutions.	Optimal use: To practise analytical skills and reflect on a situation as a group. Advantages: Good learning experience when successful; group reaches a common understanding. Disadvantages: Difficult choice or design of appropriate case study, needs preparation time and experience.

Method	Description	Remarks
Games	Participants are presented with information and rules about a particular situation, and the group goes through a simulation of this situation.	Optimal use: To practise and simulate a given situation. Advantages: Fun, dynamic. Disadvantages: Careful preparation needed with good and clear instructions; unsure outcome; risk of participants not taking it seriously.
Exercises	Participants are asked to undertake a particular task, following lines laid down by the trainer, in order to practise skills or test knowledge.	Optimal use: When complex skills or concepts are being taught. Advantages: Creates confidence; very practical. Disadvantages: Must be realistic, relevant and motivating.
Role play	Participants assume an identity other than their own, to cope with real or hypothetical problems and situations. Afterwards the content of the role play will be discussed in the group.	Optimal use: To demonstrate a situation or practice participants are likely to face. Advantages: Strong participation and surprising outcomes. Disadvantages: Hiding behind role description; needs 'actors' focusing on subject. Only works if there is a feedback and discussion session afterwards.
Small group work	Participants come together in small groups and come to a conclusion by brainstorming, identifying problems and formulating recommendations.	Optimal use: Have the group take decisions or make plans and formulate recommendations, at the end of a major event. Advantages: Shared vision. Disadvantages: Experience needed in using tools and facilitating.
Individual assignment	Participants are asked to think through their own situation, and to apply what they learnt in an action plan.	Optimal use: Integrate learning into own situation. Advantages: Participants think through, and prepare for going back. Disadvantages: Takes time and requires coaching.

Source: Brikké (2000).

2.5 Organising the training

There are a number of ways in which the facilitator can prepare for the training and ensure that it runs smoothly. Some ideas include preparing lesson plans, developing ground rules, planning refreshers and energisers, inviting guest lecturers, working with other facilitators, assigning roles for participants and organising timekeeping.

Preparing lesson plans

The lesson plan for a lecture only focuses on the content of the speech. For more participatory methods, the plans should include clear directions for each activity, plan how to debrief, and estimate the amount of time needed for each activity. Visual aids should be prepared in advance. Above all, enough time should be spent before a training session, to prepare for a 'good' lesson plan. This will improve the quality and effectiveness. Inadequate preparation could destroy the training.



Figure 2.2: Trainees work in a participatory way.

Developing groundrules for the workshop

At the beginning of the workshop, some basic rules could be set to help the workshop run more smoothly. Usually the participants themselves will suggest useful guidelines such as:

- Attending all the workshop sessions.
- Being punctual.
- Letting each person take her/his turn to speak.
- Avoiding domination by a few more vocal people.
- Listening carefully to everyone – letting people state their own ideas without immediately correcting them.
- Criticism (if at all needed) of ideas and not people.

- Stating points briefly – avoiding frequent interruptions.
- Helping to keep the training room neat and organised.
- Taking part in picking up papers and other training materials at the end of the day and preparing the room for the next day.
- Seeking clarification if there are doubts or something is not clear.

The rules that have been agreed should be posted somewhere in the training room as a reminder to everyone.

Planning refreshers and energisers

It is extremely useful to have some short, relaxing activities at hand to use when participants are fatigued and need a break or to warm up at the beginning of a day. These could be jokes, songs, stories or short exercises. Taking five minutes out for some enjoyable small activity can be very refreshing.

Examples of refreshers and energisers



Figure 2.3: Circle of people.

Buzz Ask people to turn to the person next to them and talk about what has just been covered, an issue that has just arisen, the agenda or a decision to be made.

Numbers Stand in a circle. Count in turn around the circle. Every time the number five or a multiple of five is reached, that person claps instead of saying the number. Every time the number seven or a multiple of seven is reached, that person turns around once instead of saying the number. If someone makes a mistake, they drop out of the circle and the next person goes back to 1 again.

Move As leader, simply change your position. Moving to another part of the room will help people shift their chairs and heads and wake up. Invite people to get up and look at a poster or chart more closely.

Form groups Ask people to quickly form groups to discuss a topic or an activity. Ask people to form groups of three, four or five. You can count people off ('One, two,

three, one...'), or ask them to form groups with people they do not know, from other organisations or other areas of work.

Song Singing songs that are easy to learn and join in with is always enjoyable. Action songs can be fun, or use songs that involve clapping or tapping out rhythms.

Mirrors Place people into pairs. One person is the actor, the other the mirror. The mirror does whatever the actor does, mirroring their actions. After a few minutes, change roles.

Writing Ask people to mime writing their name in the air with different parts of the body. Ideas include:

- right finger
- left finger
- right elbow
- big toes
- shoulders
- nose

Try to finish with the belly button!

What sound is this? Someone makes a sound and everyone else tries to identify it – the person who guesses right makes another sound. Sounds could include animal and bird noises, machines, vehicles or food preparation.

All move who... Sit in a circle with one person standing in the middle. Say: 'All move who...'

- 'are wearing something blue'
- 'can speak two or more languages'
- 'got up this morning before 6am'
- 'had egg/bread/fruit etc. for breakfast'
- 'have the letter s in their name' ...etc.

Those concerned (which will usually include the person in the middle) move quickly to a space left by someone else. The person left in the middle makes the next choice.

Gentle rain Make the sound of a rainstorm, starting gently, getting heavier and gradually stopping. Ask everyone to follow you in tapping the palm of one hand with one finger of the other hand; then two fingers, then three, then four, then the whole hand; and then back down again to one finger.

Trains Ask participants to make train noises and actions with their arms. Take them on a journey, gathering speed through a valley, slowing to climb a hill, speeding up as they come down the hill, putting on the brakes to stop in a station and slowly starting up again. Relate the journey to local place names.

Ranking One person secretly chooses something on which to rank everyone. This could be their shoe colour or size, the number of buttons, their age, their hair colour or length, their height, the number of pockets, the first initial of their name or their birthday, etc. Line everybody up according to the secret ranking system and let people try and work it out. For example, if you have chosen buttons, one end will have the person with most buttons on their clothing, and the other end of the line will have all those who have no buttons. You will need to be quite clever in not drawing attention to your secret. For example, if it concerns their shoes, try not to look down all the time!

Source: Tearfund website:

<http://tilz.tearfund.org/Publications/Footsteps+51-60/Footsteps+60/Useful+energisers.htm>

Inviting guest lecturers

There is a tendency for some workshops to have lots of guest lecturers who present their 'standard' speeches. This reduces the quality of the training and can be very frustrating for the participants. Guest lecturers should be few and carefully briefed. They should be told clearly about their timing, the participants and the objectives of their sessions. Guest lecturers should be encouraged to plan activities, to make detailed lesson plans and to discuss these with the course facilitators before the session.

Working with other facilitators

If there is more than one facilitator for a workshop, then it is essential that they work effectively together. It is useful for the facilitators to meet at the beginning and the end of each day to plan or assess activities. In this process, do not be afraid of changing the training programme to allow for activities that require longer than foreseen, or to spend more time on difficult issues. In some training programmes, it may be useful to change the curriculum slightly to reflect the skills of particular participants, some of whom may be highly skilled.

Providing cards for timekeeping

It is useful for the facilitator and a timekeeper, selected by the participants, to use time-keeping cards. The facilitator can write "5 minutes" on a green card; "1 minute" on a yellow card; and "stop" on a red card. These can be shown, at the right time, to the speaker by the facilitator or timekeeper to help the people who are speaking stick to their time limits. Having time limits and using time cards can also help participants to prioritise the content in their presentations.

Assigning special roles for participants: spokesperson and timekeeper

It is useful to assign a spokesperson for each group of participants. This person is responsible for keeping his/her fingers on the pulse of the participants, listening to their observations, reflections, comments or any issues that may be raised by the group and passing these on to the facilitator(s).

In addition to a spokesperson, it may be useful to assign a timekeeper. The timekeeper is responsible for helping participants stay within the time limits when for example making a presentation or sharing reflections. The timekeeper can also indicate to the facilitator when the session is coming to an end, thus helping him/her to conclude the presentation without having to stop abruptly. Assigning the task of a spokesperson and timekeeper allows the participants to become more involved in the training.

2.6 Assessing the training

Facilitators can assess the training in a number of ways. Assessments let the participants express how they feel about what is going on, in order to improve the training. Furthermore, assessments help to improve future sessions (including the quality of the facilitation material distributed, exercises, and course content) as well as to identify possible points that need to be reinforced during the remainder of the course. Assessments can give a clear indication of how the participants feel and also help to build ownership and interest among the group. The trainer can also undertake an assessment before the course (pre-assessment).

Undertaking (pre-)assessment

A pre-assessment takes place before the actual training starts. In a pre-assessment the trainer asks the participants questions related to their past work and personal experiences related to WASH in schools. A pre-assessment allows both the trainer and the participants to have an indication of the various interesting experiences related to WASH in schools found in the group.

A daily assessment can be carried out in different ways:

- Daily assessment by “ears” – volunteers who will listen to what participants are saying or feeling about the workshop to help the facilitators improve.
- An informal discussion.
- A focused conversation.
- A daily assessment form.

Daily assessment by “ears”

A few participants volunteer to act as “ears” for the group. This means they observe participants, listen to comments made by participants and informal chats during and outside the training room (responses which cannot be captured in the formal setting). Based on this, they debrief the facilitators at the end of the day on all aspects of the training, including the content, methodology used, the communication process, and the quality of participation. The “ears” can change every day, so that a new set of volunteers can provide feedback.

The focused conversation

A focused conversation could start with an exercise asking participants to write two positive comments and two critical comments about the day's (or several days') session(s). Each participant is given two cards for the positive comments, and two

cards for the critical comments (cards should be of different colours, for example green for positive and red for critical; and only one comment should be allowed per card). All cards are then pinned or taped on a board, and grouped by categories as they appear. The result is discussed with the whole group, asking for clarifications and comments. This technique allows for everyone to express him or herself. This evaluation takes time however, and might be recommended to use only once or twice during the course.

A daily assessment form

A daily assessment form can be prepared, asking participants to assess the content, relevance and presentation of each session, using a scale of value such as, for example, grading from 1 to 5 (1 = Poor; 2 = Limited; 3 = Reasonable; 4 = Good; 5 = Excellent) or any other grading which might be found appropriate. There can also be space for other comments at the end.

A final anonymous assessment form

A final anonymous assessment form can be administered in each training programme. These should be analysed and used to improve subsequent trainings. Keep the form short!

On the following pages you will find two activities (activity 2.1 and 2.2) that are designed for the beginning of training courses to help participants to think about their WASH in Schools projects.

Activity 2.1: Introduction to WASH in schools

Audience: This could be for a varied group ranging from those directly and indirectly involved in planning & implementing WASH in schools (refer to section 2.2)

Objective:

- To focus on the participants' own perception of where they stand in their WASH in schools project.
- To get a clear overview of the issues faced by participants in WASH in schools.

Material: Coloured cards for each of the participants

Time: One to two hours

Procedure:

This can be done as the first activity in a shorter training course.

- 1 Start the exercise by examining the purpose of the training objectives and perhaps look at some of the outputs expected during the course that help to achieve these objectives.
- 2 The facilitator provides an explanation of the exercise, stating that it will focus on the short- and long-term objectives and results of the WASH in schools projects so far. The words 'objective' and 'result' may need to be clarified for some of the participants.
- 3 The facilitator provides each participant with two cards of the same colour (e.g. two pink cards or two blue cards). On one card, each participant writes down one objective and on the other one result of the project in the long-term. Note, it may be useful to brief participants about how to write on cards (see Appendix 1).
- 4 In a similar manner, each of the participants receives two cards of another colour. On one card each participant writes down one objective and on the other one result in of the WASH in schools project in the short-term.
- 5 Each of the participants reads his/her card out loud. The facilitator asks for an explanation where needed.
- 6 The facilitator and participants have a debriefing of the information collected looking at both long- and short-term objectives and results in the programme.

Comments

WASH in schools is positioned with a long-term strategy towards health and health promoting behaviour. It includes looking at both long- and short-term objectives and results in the programme. (For example, it is useful to see that construction of facilities is really a result, not the objective of a project.). This exercise allows participants to reflect on what their colleagues consider short- and long-term points and can be a point of quality discussion towards understanding WASH in schools projects better.

Activity 2.2: Poster presentations

Audience: This could be for a varied group ranging from those directly and indirectly involved in planning & implementing WASH in schools.

Objective:

- To focus on the participants' ideas about their WASH in schools project.
- To get a quick overview of the participants' specific projects, objectives, main activities, main outcomes, involved parties and linkages in the project.

Material: Coloured posters, tape, glue, cards for each of the participants

Time: 1/2 to one day

Procedure:

This can be done as a first activity in a longer training course of, for example, four days or more.

- 1 Participants are asked before the training course to think of developing a poster, which explains their WASH in schools activities or their WASH in schools project. The poster should contain their objective and targets; present and past WASH in schools activities; strengths and weaknesses of current WASH in schools activities. Usually such posters are made by small groups of people who work in the same area, region or project.
- 2 Posters are completed at the training workshop on the first (or second) day of the training.
- 3 Posters can include photographs, technical drawings, bills of quantities and itemised costs of construction in addition to important forms, checklists or examples of contracts used to implement their WASH in schools programme.
- 4 After the posters are completed, the facilitator and participants examine the posters. Note that not more than 10 minutes should be allowed for participants to give comments on their posters. Questions and comments should focus on points of clarification. Participants should not make critical comments at this early stage in the training course.

Comments

Poster presentations are an excellent icebreaker to get participants talking about their own work more objectively. Posters are highly useful for sharing information. If possible, the posters should remain on the walls during the entire workshop period for reference.



Chapter 3 National/regional policy development and cooperation

The objective of this chapter is to give an overview of the historical context of the development of WASH in schools and relate it to existing national and regional level developments in school education.

3.1 Education for All

First, there is a need to take a look at the advancement of national policies in developing countries to achieve Education For All (EFA). A recent report by EFA (2009) reveals a clear picture of the conditions faced in working towards Education for All in 30 selected countries. The assessment was based on the following indicators: under-5 mortality rate (2005–2010), pre-primary education, primary education, number of out-of-school children, average repetition rates in primary education, number of illiterate adults (1995–2004), survival rate to grade 5, pupil/teacher ratio in primary education, gender parity index of primary education, gender parity index of adult literacy rate, gender-specific index and EFA Development Index.

EFA Assessment

The assessment highlighted some of the countries that made the greatest progress in one or more indicators, as well as countries that are still far from reaching one or more of the EFA goals. These countries include: Egypt, Morocco, Yemen, Albania, Mongolia, Tajikistan, Turkey, Cambodia, China, Indonesia, the Lao People's Democratic Republic, the Philippines, Viet Nam, Brazil, the Dominican Republic, Guatemala, Mexico, Nicaragua, Bangladesh, India, Pakistan, Burkina Faso, Eritrea, Ethiopia, Mozambique, Nigeria, Rwanda, Senegal, South Africa and the United Republic of Tanzania. Government policies and strategies in these countries were identified and organised into three main policy areas, depending on their aims: developing enabling institutions, assuring access to education opportunities and creating opportunities to learn.

Few policies, if any, are as universally accepted as that of raising primary school enrolment in poor countries. Virtually every World Development Report published annually by the World Bank has recognised, in one form or another, the importance of primary schooling as an input to the social and economic progress of poor countries. Within the overall policy goal of raising primary school enrolment, raising girls' enrolment has received special attention, due to the strong impact of female education on children's and adult's health, adult fertility, and infant mortality. And within the academic literature, a host of studies have documented the market and nonmarket returns that come from completing primary schooling, both in poor and rich countries alike.¹

¹ For developing countries see Glewwe (1999), and Lam and Duryea (1999). For developed countries see Rosenzweig and Schultz (1983).

3.2 National policies on WASH in schools

Many countries have clear school policies on, for example, protection from the sun, transportation, asthma, asbestos, drug prevention, HIV, mental health and reproductive health, among others. Despite its importance, the issues of hygiene education and sanitation get masked or diminished under a more comprehensive programme on school health, or in most countries, are just not considered important enough as to merit a policy or regulation of their own.

Sanitation considerations for children also appear within school building codes or regulations mostly related to construction specifications. These are more technically oriented and do not relate to codes or regulations on the use of the facilities by students, their maintenance, and most importantly, conduct and behaviours that uphold satisfactory standards of hygiene.

WASH in schools sanitation considerations also appear to become recognised, for example, as part of education reforms, such as free access to primary school education. However, these types of reforms, although positive, inevitably put pressure on the existing school infrastructure (hardware). Schools are expected to accommodate larger numbers of children than they were initially designed for. In other words, policies such as education reforms should coincide with further investments in school infrastructure to enable a healthy school environment.

The following box reflects some examples of national policies for WASH in schools.

Examples of national policies for WASH in schools

Burkina Faso: The National Policy regarding public hygiene and the development of basic hygiene education was established in 2002-2003 and adopted by the Government in 2004. Hygiene promotion in schools is a major component of this policy. A National Strategy Framework on school water, sanitation and hygiene education has been developed and adopted.

Kenya: Since the introduction of free primary education in 2003, national primary school enrolment has risen dramatically. The Ministry of Health has developed an environmental health and hygiene policy in 2007 that includes a school health programme component to address health issues at school.

Lao People's Democratic Republic: A Ministry of Education policy requires all newly constructed schools to have latrines and a clean water supply.

Nicaragua: A national policy for water, sanitation and hygiene in schools is being developed.

Tajikistan: There is a strong commitment from the President's office for improving the sanitary conditions in schools, and it is one of the main priorities of the Ministry of Education under the current education reform process.

Uganda: The Rural Water and Sanitation Strategy & Investment Plan 2000-2015 and the Operation Plan 2002-2007 are a direct result of the Sector Wide Approach (SWAp), applied as the main framework for managing water and sanitation. In the 2004-2015 Education Sector Strategic Plan, school sanitation is mentioned as a strategy for Uganda's development goals.

The UNICEF/IRC 2007 Manual on school sanitation and hygiene education programme guidelines has highlighted the following recommendations on school sanitation within the framework of national sanitation policies:

- 1 Latrine components need to be made a basic requirement prior to approval of a new school and for upgrading existing schools. The latrines need to be hygienic and sufficient in numbers for the students and teachers. The latrines should be constructed with attention to the privacy needs of the girl students.
- 2 Increasing students' knowledge about health is required. This entails that knowledge learnt is also practised in real life. Health and hygiene education up to secondary level needs to be a balance of both theory and practice. Groups such as school health clubs can play a critical role in this respect.
- 3 Children are very eager to learn and help others and are active, energetic and communicative. Childhood is the best time to learn hygiene behaviour and practise sanitation. Children have an important role in the household in taking care of younger brothers and sisters. Therefore, a systematic WASH in schools package needs to be developed and implemented through district level steering committees; this will facilitate uniformity, standardisation, effectiveness, efficiency and cost-sharing.
- 4 Primary school teacher trainings/workshops need to be included as a part of school sanitation programmes so that primary school teachers have the necessary training to focus on school sanitation and hygiene education.

3.3 WASH in schools: global commitments

Statements validating WASH in schools appear in the commitments of governments as well as international agencies and are reflected in international charters such as the:

- Convention on the Rights of the Child (1990)
- Millennium Development Goals (2000)
- Dakar Framework for Action – Education For All: Meeting Our Collective Commitments (2000)
- Economic and Social Council (ECOSOC) Programme of Action for the Least Developed Countries (2001-2010)
- Johannesburg Plan of Implementation (2002)
- International Decade on 'Water For Life', 2005-2015
- United Nations Decade of Education for Sustainable Development (2005-2014)
- International Year of Sanitation 2008
- Global Handwashing Day (15 October)

The level of interest in WASH in schools

WASH in schools enjoys widespread recognition for its important role in achieving water, sanitation and hygiene for all and achieving the Millennium Development Goals (MDGs). A glance at the international policy arena reflects the recognition of WASH in schools in several ways:

- MDG 2 focuses on achieving universal primary education. The target here is to achieve a situation where all boys and girls complete primary education by the year 2015.
- MDG 3 focuses on gender issues and includes an associated indicator on schooling.
- The Johannesburg Plan of Implementation (JPOI) from the World Summit on Sustainable Development specifically mentions the importance of school sanitation as a concrete step forward in tackling the MDG on water and the target on sanitation.
- The Vision 21 – Water for People document (presented and endorsed at the 2nd World Water Forum in 2000) outlined a series of targets for 2015 – including: 80 per cent of primary children educated about hygiene, and all schools equipped with facilities for sanitation and handwashing.

Looking beyond the international policy arena, it is possible to see that:

- Locally and nationally, there appears to be a wide body of anecdotal evidence of interest from politicians in promoting WASH in schools, primarily because its practical outcomes so readily attract voters.
- There is also considerable practitioner interest in WASH in schools, with a growing number of initiatives – although these need more coordination at all levels.

3.4 What are the constraints to greater progress?

Four factors, although not an exhaustive list, cover the main issues which need to be addressed in the context of WASH in schools:

- 1 **Policy:** There is a need to involve all stakeholders in developing an intersectoral approach to WASH in schools that includes education, health, water and sanitation sectors. In practice, the implication is that improved coordination between those with responsibility for WASH in schools must occur at the right times to ensure improved quality in WASH in schools programmes.
- 2 **Institutional ownership:** An institutional sense of ownership between the different actors working on WASH in schools is frequently lacking. Without such a mindset, WASH in schools programmes will continue to fall in the cracks between responsibility and implementation.

- 3 **Links between people and technologies:** It is important to link construction of facilities to the software aspects of WASH in schools. It is also important to align the interests of the schools with those of parents and teachers so that construction, education and participation are linked together and operate in a sustainable and cost-effective way.
- 4 **Education and capacity-building:** The resources required to provide teaching and learning, particularly in relation to hygiene education, are frequently absent in schools. Moreover, the use of creative techniques to convey key messages is rarely part of the teacher-training programme.

What can be done?

There are several key ways in which to push the WASH in schools agenda forward, including:

- Establishing platforms for collaboration on WASH in schools at local and national level: Coalitions of those working on, and committed to, WASH in schools are needed to review actions required to create a more supportive environment for WASH in schools.
- Stressing the interconnectedness of WASH in schools and development: There is increasing recognition of the interconnectedness between the Millennium Development Goals, and water, sanitation and hygiene. Such connections need to be stressed to raise political and practitioner interest in WASH in schools.
- Building a stronger evidence base: Applied research studies focused on filling in knowledge gaps are still required – especially to assess what hygiene promotion techniques have been applied and which ones work; to compile the technical designs for school sanitation in a compendium of appropriate technology solutions; and to focus on the blockages in regulatory, legislative and policy frameworks that act as a constraint to the uptake of WASH in schools programmes.
- Advocate all of the above to policy makers and to those responsible for programme implementation.

Based on the above recommendations, especially the first and second point, it is clear that the role of partnerships in WASH in schools is critical and will therefore be the focus of the following chapter.



Chapter 4 Lessons learnt from research and practice

This chapter is based on the principle that there is a rich body of national and international experience on which to build in developing WASH in schools programmes. If past experience remains unknown or unused, then we risk repeating past mistakes or using considerable effort to learn what is already known, that is to say, re-inventing the wheel. The wisdom of the present builds on lessons learnt from the past.



Figure 4.1: Teachers looking at a map of a village.

4.1 Lessons learnt from research

Research has much to say about the priorities in water, sanitation and hygiene programmes. It is relevant to school activities as well.

Lesson 1: The link between water supply, sanitation provision and hygiene in association with diarrhoea

One of the first investigations focusing on the direct links between water supply, sanitation provision and hygiene habits was undertaken in the 1990's (Esrey et al., 1990). This research showed that improvement of hygiene habits and provision of appropriate sanitation has more impact (about a 35 per cent reduction) than water supply provision (19 per cent) or water quality improvement (15 per cent). In 2005, a review (Fewtrell et al., 2005) of existing studies confirmed the findings but also discovered that different interventions at the same time (simultaneous water, sanitation and hygiene measures) were not more effective than interventions with a single focus: projects or activities focusing on either water, sanitation or hygiene behaviour.

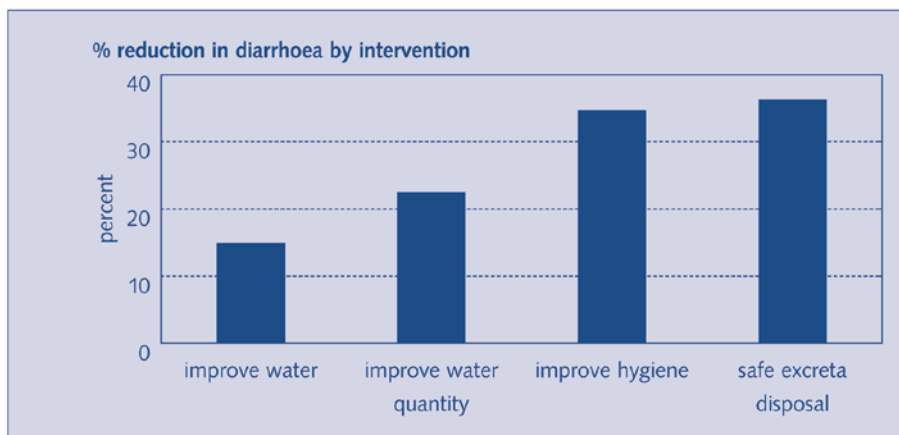


Figure 4.2: Reduction in diarrhoea by intervention.

A review study (Curtis and Cairncross, 2003) on the impact of washing hands with soap on the risk of diarrhoeal diseases in a community showed that washing hands with soap can reduce the risk of diarrhoeal diseases by 42 to 47 per cent.

The above studies show the importance of promoting handwashing with soap among children and their caregivers. It also highlights that there must be a balance between technical solutions of water and sanitation provision and the promotion of appropriate hygiene behaviour. (Refer to Appendix 3 on the result of a study on the impact and sustainability of WASH in schools in Kerala (India) and Kenya.)

Hygiene also means using enough water. Many skin and eye diseases can be prevented simply by washing hands, face and body. Many national drinking water programmes have laid down some daily per capita water needs for planning purposes and to serve as guidelines for communities. This is 40 litres per capita daily to be available within 1,600 meters. States have over the years made efforts to increase the per capita volume or reduce the distance of protected water sources in order to benefit rural households, and primarily women. However, there is a constant tension between increasing demand for more and better quality of water, and population growth combined with falling water tables due to unregulated extraction of water. To improve hygiene, the amount of water needed is usually said to be 20 litres or more per person each day. In South Asia, many households use far less due to lack of availability.

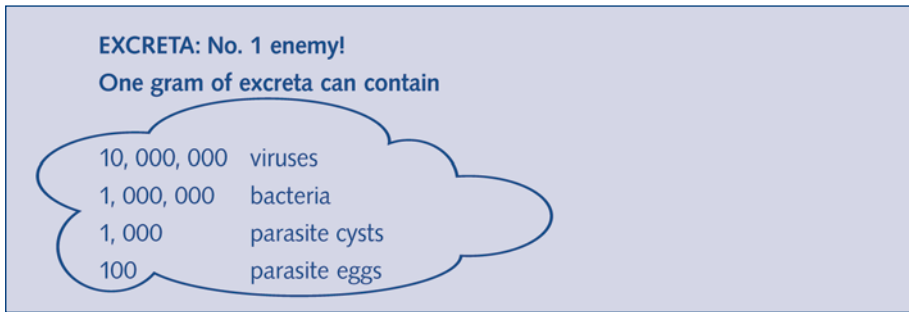


Figure 4.3: Excreta: No. 1 enemy (Curtis, 1998).

Lesson 2: The importance of eliminating worm infestation

Children are at particular risk from worm infections. These can be controlled by practices such as: the safe disposal of excreta, washing hands after defecation, wearing shoes or other footwear, and food hygiene. This includes avoiding eating food from roadside vendors who have poor hygiene practices, avoiding exposed food, cut fruits, milk-based sweets and other foodstuffs which invariably are exposed to flies and are sold in unsanitary environments.

The following figure from research in Jamaica shows how school attendance can be related to worm infestation (Nokes et al., 1992). The study showed that children with worm infestation tended to be more frequently absent from school. The study and figure below illustrate that healthy children perform better in school and can attend more regularly.

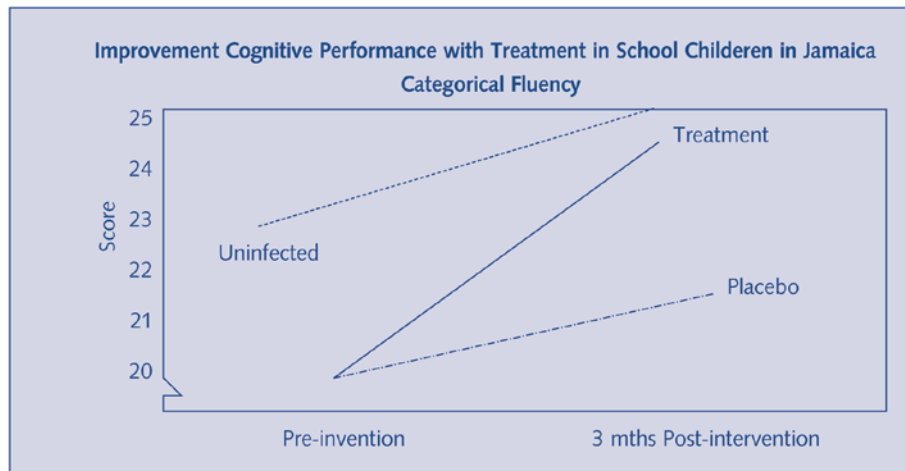


Figure 4.4: Improvement in cognitive performance with treatment in school children in Jamaica.

Lesson 3: Participatory research tools have a critical role in research on programme management in communities

Relevant research not only deals with hygiene issues, but also provides useful insights into programme design and management. The Methodology for Participatory Assessment (MPA) study is one example of this. MPA is a groundbreaking research study undertaken by the Water and Sanitation Project of the World Bank and IRC with 88 communities in 15 countries beginning with India. It examined the issues of effectiveness of services, management and institutional support, sustainability, gender, poverty, and demand-responsiveness.

What have we learnt about communities taking the lead in WASH?

Some of the major findings of the MPA study in relation to water supply are:

Decision-making: The most important factor for a better sustained service is the numbers involved in, and the democratic nature of local planning decisions. The more men and women community members (rather than just agencies, local leaders, or male community members) who participate in planning decisions and the greater the number of decisions thus taken, the better the performance of these water services. Choices are best made by men and women together, including decisions on location of the facilities, maintenance, financing and local arrangements about management groups.

Quality of management: Second in importance is the quality of management. This entails creating and supporting locally developed rules and functioning management committees that have recognised authority and that monitor the quality of construction and household contributions and account for (financial) management to the users/tariff payers.

Capacity building: Training should cover technical, social, managerial and environmental issues as well as health. It should be given to both women and men and include training for user households on health and hygiene and user rights. Training should be continued with refresher courses or courses for newly emerging service functionaries.

Community contributions: Surprisingly, the study shows that contributions from community households in cash and/or kind to construction are not directly associated with better-sustained services, although well-managed facilities did have higher community payments.

Gender: Agencies should change their interpretation of women-in-development and gender policies so that men and women community members do not only contribute to construction, but also participate equally in planning decisions, and service management and control.

Poverty aspects: Projects have not yet structurally considered poverty aspects. Key concerns are the composition of water management committees, using domestic water productively within households, and adjustment of tariffs to differential use, benefits and capacity to pay.

Source: Dayal, R., Wijk, C., and Mukherjee., N. (2000).

There are various other participatory tools used in programme management in communities such as PHAST (Participatory Hygiene and Sanitation Transformation) and CHAST (Children's Hygiene And Sanitation Training). CHAST is based on the proven premise that personal hygiene practices are usually acquired during childhood – and that it is much easier to change the habits of children than those of adults. Because the PHAST approach was initially designed for adults, it has been carefully revised and adapted to suit the needs of young children. While children have less knowledge and experience, fewer responsibilities and a different conception of time and the future, they are also naturally inquisitive and eager to learn. The CHAST approach takes advantage of these natural attributes. CHAST encourages children to actively participate in open discussions and, wherever possible, to share their experiences and ideas with their peers.

Lesson 4: Better understanding into early childhood care

In rural households, women spend substantial amounts of time processing, preparing and cooking meals for the family. Culturally, fingers are used for serving food, eating food, and feeding children and babies. Similarly, collection of drinking water, carriage and storage of water and actual dispensing is fraught with the hazard of frequent contact with unwashed hands. This is exacerbated by the cultural practice of drinking water in cupped palms directly from a source such as the spout of a handpump.

The above are examples of practices which are essentially “caring practices”. Frequently, the care-giver – mother, grandmother, an older sibling – uses fingers to mash food like rice with milk or “dahl” to make it suitable for feeding the infant. Even once the baby has a few teeth, mothers invariably mix the food with their fingers to feed young children. Handwashing is done mostly with water and not soap and water, thus increasing the risk of infecting the child.

Two practices that increase the risk of food contamination are 1) preparation of food several hours before it is consumed with storage at temperatures that promote growth of pathogens and 2) insufficient cooking or reheating of food. Foods for babies should not be stored unless they can be kept cold below 10°C or hot above 60°C.

Fruits like bananas, which can be peeled and eaten, are very safe unless again touched by improperly washed hands. Acidified and fermented foods (put in vinegar or made acid like pickled vegetables and yoghurt) may be lower in contamination as the acid helps prevent rapid growth of bacteria.

Washing dishes and cooking utensils with safe water and soap and keeping the cooking area clean also reduce risk of contamination.

In Bangladesh, one study found that mothers who used the sarees they wore to wipe a dirty child, blow their noses and also wipe dry cooking vessels and eating plates were more likely to have children with diarrhoea than mothers who did not. The saree as a medium of transmitting infection was not recognised by many of the women. (Murphy, Stanton and Galbraith, 1997)

In Lesotho, another study showed that the families who used only improved water supplies when their children were aged between 13 and 60 months had children who gained on average 235 g more in weight and 0.4 cm more in height over a six-month period than families who used mixed quality water supplies. (Esrey et al., 1994)

Hygiene practices directly affect the cleanliness of the environment and the number of infectious agents children ingest, either through contaminated food or water or by placing contaminated objects in their mouths. (Engle et al., 1997)

The World Bank (2005) has observed that studies in a variety of countries show that 70-80 per cent of health care treatment is performed at home by women, particularly mothers. Taking various preventive measures, early detection, seeking of diagnosis, and subsequent home treatment, are done primarily by mothers. Knowledge and simple skills of prevention and home treatment have a direct bearing on frequency of illnesses and rapidness of recovery. A striking example is malaria which has a major impact on nutrition. Families that decide to buy and use bednets demonstrate an important early childhood care behaviour.

4.2 Lessons from evaluations and programme experience

WASH in schools has a long history in South Asia. Evaluations of past programmes and reflection on past experience yield useful lessons that can be applied to the future. It is crucial to review and incorporate these lessons creatively and flexibly into future programming and policy.

However, not all of these past experiences are positive because, unfortunately, the promises of school health and hygiene programmes have not always been fulfilled. In many countries, schools suffer from:

- Non-existent or insufficient water supply, sanitation and handwashing facilities;
- Toilets that are not adapted to the needs of children, in particular girls;
- Broken, dirty and unsafe facilities;
- Non-existent or irrelevant health and hygiene education for children;
- Unhealthy and dirty classrooms and school compounds.

Under these conditions, schools become unsafe places where diseases are transmitted. Formal evaluations have been undertaken of school programmes in most nations. Lessons from a few of these as well as from programming experience are described below.

Lessons from programmes in schools

Use and maintenance

- Attendance of children, particularly girls, improves when they can use good sanitation facilities. The benefits of school facilities, beyond health, are probably greater for girls than for boys.
- Dirty facilities become unused facilities. Children need to be taught to use, clean and maintain facilities. Teacher training should give a prominent role to learning how children can be organised for this in school. Maintenance and use of facilities are great challenges.
- If the number of toilets is too few, then they tend not to be used. The use of toilets and handwashing facilities, in particular, will increase over time if they are maintained in good order. If the toilets are too few (for example, one toilet for 200 students as planned in some programmes), then they may not be used. If teachers tend to lock one toilet for their own use or because they want (and need) a toilet for themselves, that is another reason why toilets are not used by the students!

Children and teachers

- Children are potential agents of change in their homes through their knowledge and use of sanitation and hygiene practices learnt at school.
- Teacher commitment is crucial. Without teacher commitment to the programme, it will fail. Training teachers is a key issue. Refresher training should include organisation of children/staff for maintenance and use of school facilities, making work plans and activity plans for school health clubs. Giving too many responsibilities to teachers in a top-down way will not succeed. Teachers are often working in poor conditions. Planning should take account of this fact.
- Learning and teaching materials are important. Creative use of local materials for hygiene education is a subject to be incorporated into teacher training. These should be kept as simple and practical as possible. In WASH in schools, special attention may be needed not only for production but also for distribution of teaching/learning materials, which tends to be a bottleneck.

Programme planning and management

- **Sustainability** must be a major focus of the WASH in schools programme. A central objective is to achieve sustained behaviour and facilities that are consistently used.

- **Seemingly small improvements are important:** For example, research shows (Cairncross, 1992) that behavioural changes among 10 to 15 per cent of the population mean great savings in days sick and therefore savings in financial terms. This implies that this programme requires time, patience and continuing commitment over many years to result in very large changes.
- **Integration or coordination of inputs.** The inputs and cooperation of different groups, at the right times, result in a qualitatively superior programme. This is particularly necessary:
 - among different departments in government (education, health, water and sanitation),
 - among different disciplines,
 - among hardware inputs, educational software and community organisation.
- **Subsidised but demand-based services are one important key to success.** Schools and communities should cover some of the costs and demonstrate their demand for the programme. Finance often comes from various sources but must not be too complicated or bureaucratic to activate.
- **Flexible models and standards** work better because they can be adapted or developed based on local conditions.
- The **non-governmental sector** – NGOs, CBOs, private providers – can play a significant role in the development of school water, sanitation and hygiene education if they are given the scope and training.
- **Competition and control** are needed in construction. Construction monopolies (such as Government Public Health Engineering Departments (PHEDs) or large contractors) are not always the most efficient, least costly or most honest in the construction for school programmes.
- **Capacity building and monitoring** with appropriate learning methods is essential for school and pre-school teachers and their supervisors. Relevant learning materials are needed. Most important, however, is the follow-up by supervisors and trainers at school level. Lack of follow-up/monitoring after one short training event has seriously weakened programming in many places.

Lessons based on WASH in schools programme in Bangladesh

- Provision of WASH facilities increases attendance, particularly of girls
- Construction of facilities through School Management Committees (SMC) ensures quality construction, better use and maintenance
- Class-room and demo hygiene lessons could improve hygienic practices and the environment
- Student Brigade activities helped children learn life skills, and promoted sanitation and hygiene at school and in surrounding villages.

Source: Murphy, Stanton and Galbraith (1997)

Lessons based on the study on the impact and sustainability of WASH in schools programmes in Kerala (India) and Kenya (2006-2007)

The lesson learnt based on the study is that school programmes that combine software and hardware inputs in a timely fashion with adequate resources can have a significant and sustained impact. These inputs were:

- Construction of water, handwashing, toilet and urinal facilities, combined with:
- Emphasis on maintenance of facilities and organising teachers and children for good use and cleaning of facilities
- Teacher training and refresher training
- Child training and school health clubs
- Follow-up supervision for schools

Source: Cairncross, S., Biran, A., Karanja, B., Mathew, K., Njuguna, V., Schmidt, W., Shordt, K., Snel, M., Thurania, M., and Zachariah, S. (2007)

4.3 Key issues for policy makers

Policy makers – politicians and senior civil servants – have important roles in ensuring the success of the schools' water, sanitation and hygiene programme. The programme itself can be popular among politicians because it shows concrete results in communities and, if well managed, is similarly popular with their constituents. The following box therefore focuses on some of the main WASH in schools issues for policy makers.

Special roles and issues for policy makers in WASH in schools:

Political support and commitment

WASH in schools requires local decision-making. Communities and school personnel must be able to make decisions about the facilities they want and can afford to maintain, not only contribute money and labour. WASH in schools is more than construction and coverage. The impact of the programme comes through sustaining the facilities, using them as intended, and developing healthy behaviours. Thus, WASH in schools is basically an education programme with construction. This point needs to be accepted – and supported – by state and local government, by WASH and education personnel and by the public at large. Politicians and policy makers have a crucial role in advocating for this.

Coordination and commitment

Various stakeholders, including policy makers, can stimulate coordinated approaches and commitment among different departments and specialisations. Implementation must be coordinated. Both safe water and sanitation facilities are needed. Construction must be controlled so that it is timed correctly with training and community mobilisation. The policy maker can stimulate implementers to follow these guidelines.

Help from policy makers and managers

Numerous stakeholders including policy makers and managers can help in complicated situations. This could be needed, for example, in the case where financing comes from different sources, which can be complex. For the RGNDWM sanitation subsidy (which does not include water), the Government of India/State share is 60 per cent and 30 per cent respectively with the balance of 10 per cent coming from the local governments/beneficiaries.

Setting up minimum objectives, coverage and standards

Several actors, including policy makers, help set the minimum objectives, coverage and standards. Flexibility is needed. Experience has shown that one uniform construction plan and model cannot be relevant in all situations. The design and the decisions about who constructs facilities depend on the situation. Small schools in active communities may wish to have all the construction done locally. Larger schools may want to have a role in identifying their own designs.

Source: Snel, M., Ganguly, S., Kohli, C., and Shordt, K. (2002).

Activity 4.1: Brainstorming with participants on lessons learnt

Objective:

Participants share lessons learnt from their own experiences in WASH in schools.

Material: Flip chart and coloured cards

Time: One hour to two hours

Procedure:

- 1 Ask participants about their experience with hygiene education and school facilities for water and sanitation. The participants are asked to reflect on this and to write one lesson learnt on a card. Directions may be needed about how to write cards (See Appendix 1). The facilitator then groups the cards under headings. Participants can add more cards if important lessons are missing. An example of lessons is shown on the following page.
- 2 If this is the first activity in a workshop, it can be followed by a presentation on lessons learnt from research and project assessments (see Sections 4.1 and 4.2). Participants can then compare their ideas (on the cards) with the lessons learnt from international experience. They will see that there are several points in common. This means that there is a body of shared findings, lessons and concerns in WASH in schools.

Alternative method (3 to 4 hours):

- 3 Note: if the participants in the training course already have considerable experience with WASH in schools, then it is rewarding for them to share their experience in some depth. For this, a poster activity is useful. Groups of three to five people, who work together, can make and present a poster about their WASH in schools programmes. The poster should be attractive, including, for example pictures or drawings. After completing the poster, they may be presented. Presentations should be only five to ten minutes each. Also note that this poster presentation can be used as an icebreaker, as mutual training and as a way of identifying lessons learnt from participants' own experience.

Example of lessons learnt based on the Training of Trainers workshop in Ranchi

Lessons learnt from the participants' experience

Policy issues

- Need for a national/state policy on sanitation
- Lack of formal directives ensuring commitment of education / water and sanitation personnel

Community issues

- Need for people to take on responsibility
- Need to form new community groups only if similar groups do not already exist

Educational issues

- Need for learning activities for all children in hygiene education, not just a small group
- Behaviour takes time to change
- Curriculum must focus on sanitation, hygiene and life skills

Communication

- Need to orient parents on sanitation and need for mothers' participation in Parent-Teacher Association
- Need to share ideas between teachers and communities
- Need to orient school management committees and village education committees

Facilities

- Make sure toilets are accessible, not locked
- Boys and girls need separate toilets
- Need for maintaining water and sanitation facilities
- In water scarcity areas search for innovative designs, dry toilets, and alternative water sources such as rain water harvesting

Comments

Participants can share lessons learnt from their own experience. This builds interest, provides important information for the workshop and helps people to integrate new information with their current knowledge.

Activity 4.2: Field trip and debriefing

Objective:

- To put theory of WASH in schools into practice.
- To see the 'reality' of day-to-day situations faced by schools.

Material: Flip chart

Time: Half to a whole day (including field trip)

Procedure:

- 1 Participants visit one or a number of schools in the vicinity of the training course. As many of these schools as possible should have water and sanitation facilities.
- 2 Participants, working in groups of three or four people, can do two activities. First, they could assess the situation by administering a monitoring checklist related to hygiene education, hygiene practices, and water and sanitation facilities in the school. They could develop their own checklist before undertaking the field trip. The checklists should include observations as well as questions for teachers and for children. Secondly, the participants prepare, the evening before, some learning activities which they try out with children during the field trip.
- 3 The debriefing, after the school visit, can be an excellent learning experience. Participants may tend to give purely descriptive reports, reading out the data they collected without comment. They will not usually comment on which findings might be most important or what might be done to improve some of the crucial challenges that were observed.
- 4 The facilitator and participants can select at least one major problem (such as the toilets being locked so that pupils could not use them). They can then reflect and think of possible solutions to these problems. Recognising and acting on problems is the centre of good management. The participants can then vote on which solution from the group seems to be the best and most practical solution to the problem they have identified.

Comment

Collecting information is only one part of monitoring. As important (or more important) is understanding the data, finding the most important features and deciding, if possible, what might be done next.



Chapter 5 Hygiene and behavioural change

This chapter focuses on hygiene and behavioural change based on priority hygiene practices that give the greatest health benefits, as identified in the preceding chapter. These include: the safe disposal of excreta; personal hygiene, particularly handwashing; the quantity of water used for personal cleanliness; and the quality of water.

This chapter is based on the principle that the success of a WASH in schools programme is not determined only by the number of toilets constructed, the number of handpumps installed or water connections built. Nor is the success of a programme determined simply by what children know. Knowledge that is not applied to hygiene behaviours practice, leads to failure. Successful WASH in schools programmes are measured by a balance of hardware (e.g. facilities) with applied software aspects (e.g. correct behavioural practices and education).



Figure 5.1: Boys washing themselves.

5.1 The link between hygiene promotion and hygiene education

The purpose of both hygiene education and promotion is, through the widespread adoption of safe practices related to sanitation and water, to prevent diseases like diarrhoea, skin and eye infections and worms (parasites). There is, of course, overlap

between the concepts of education and promotion. Moreover, most programmes use both education and promotion approaches.

Hygiene promotion identifies and uses messages about what people know, do and want. Simple, positive and attractive messages are delivered through the most popular local ways of communication (Curtis, 1998). Hygiene promotion usually takes place in the community, particularly through IEC (information, education and communication) activities such as campaigns, wall writing, parades, but also through interpersonal communication such as home visits. In well-planned promotion activities, different messages are identified for men and women, children, young and old, and for different ethnic and economic groups.

Hygiene education helps people 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 people understand and think together about their situations and practices, they can plan and act to prevent diseases. One important actual situation for hygiene education is working with children within the classroom (Wijk and Murre, 1996).

National Hygiene Education and Promotion Policy from Afghanistan

The hygiene education and promotion policy shall result in:

- Raising awareness of the water- and sanitation-related diseases caused by unhealthy behaviour and practices;
- Supporting and providing hygiene education that will enable all people (particularly school children and mothers) to improve their health through correct hygiene practices;
- Leading to an increased demand and willingness to build appropriate sanitation facilities at family level.

Hygiene education and promotion:

- Must be an integral part of all community water supply and sanitation projects;
- Will be specifically targeted at high risk groups such as mothers and carers of infants and small children, especially school-age children;
- Will enhance the training of teachers and community health workers in effective hygiene education methods;
- Will be sensitive to specific local issues, rural and urban differences and cultural factors;
- Will be community-driven and lead to the empowerment of the communities; strategy will be developed based on field study and good understanding of a wide range of health problems, different communities and cultures;
- Will adopt various tools and techniques from abroad and within the country as appropriate based on the outcome of the field studies; and
- Will monitor and evaluate programmes regularly for effectiveness.

5.2 What motivates people to improve hygiene?

Repeating general messages about hygiene practices does not usually change behaviour, and information on disease transmission does not usually change practices. One well-known model that seeks to explain how adult behaviours change can be seen in the box below.

Model of behavioural change

What is it that brings adults to change risky practices and conditions in their own environment? What leads an adult to adopt a new practice?

A well-known model of behavioural change suggests that an adult will develop new health practices:

- 1 When he or she believes that the practice has net benefits, for health or for example the way they feel or smell, and considers these benefits to be important.
- 2 When significant people in his or her environment are positive about and support the new practice.
- 3 When the enabling factors for that behaviour are present. This means that the skills needed to do the practice, the time, materials and costs are sufficiently available. The costs, in terms of money and effort, should seem to be fewer than the benefits.

These determine if the practice is finally taken up and continued.

Source: J. Hubley (1993).

The following model was originally prepared for adults, but has been adapted to describe behavioural change for children as well. For them, the influence of significant people in the environment may initially be more important than their belief in the positive results of the practice. The enabling factors must also make the practice as simple as possible to perform. This adapted model for children might look something like the figure below.

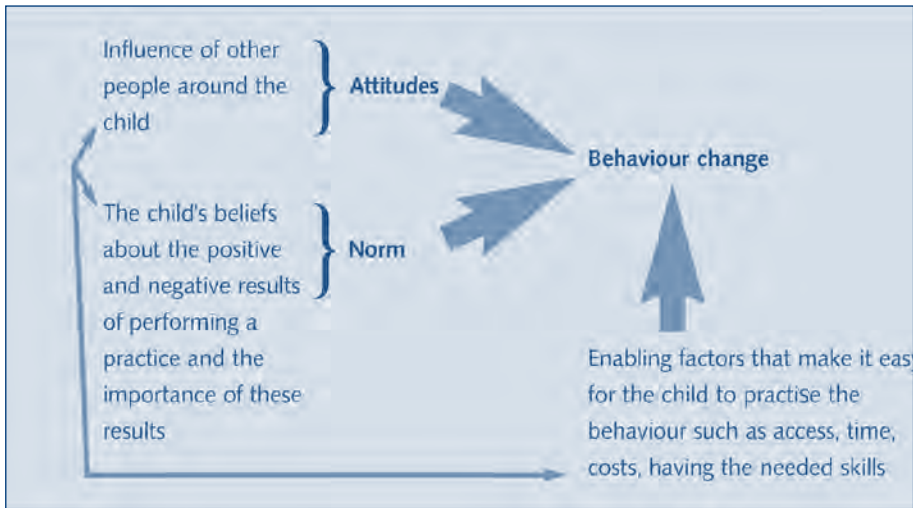


Figure 5.2: The Hubley model of behavioural change.

Adapted from J. Hubley (1993)

What can hygiene education programmes do to support the development of new behaviours among children? The answer is related to a strong educational environment, access to safe, operational facilities and reinforcement from the home. In this whole process, the key adults around the child have crucial roles to play.

This implies that many behavioural changes cannot be achieved by individuals alone, but require concerted action from larger groups and whole communities. Models of individual change have their limitations. Societal change is only possible when the community members themselves feel there is a problem and jointly undertake action that will permanently improve the conditions and the behaviours. Making collective choices, assigning responsibilities and monitoring action also increases the commitment of the members to achieve the agreed changes. Group (community and teacher) motivation and mobilisation must be built into the school programming from the beginning (Ryanna, 1995). These mobilisation and awareness-raising steps are essential to a successful programme.

Activity 5.1: Behavioural changes

Objective:

To show how the 'Hubley' model of behaviour change might be applied in a particular situation.

Material: Paper, pens/pencils

Time: Two hours

Procedure:

This activity begins with a review of the model of behaviour change shown in the previous pages.

- 1 The facilitator asks the participants to imagine that the objective of a sanitation project is that two out of three households will own and use a toilet.
- 2 Ask participants to think of a rural community that they are familiar with. Each participant should pretend to be a man or woman (not the richest) in that community. They put themselves in the place of a man or woman in the community and do the following exercise.
 - List at least five important people who can influence your decision to own and use a toilet.
 - Give one reason for the individual man or woman to want a toilet? One reason for not wanting a toilet? (not only reasons related to health)
 - List the most important enabling factors that make it easy to bring about the change.
 - List at least one possible factor that makes it easy to build and use a toilet, and at least one possible factor that makes it difficult to build and use a toilet.
- 3 As part of the debriefing, the facilitator asks participants to compare their answers.
 - Do the same important people influence the men and women?
 - Are the reasons for men and women to want a toilet different?
 - What could be done to have the enabling factors in place?
 - If the enabling factors are not present, should there be a sanitation project in that locality?
- 4 The facilitator should remind participants that it is important to make sure that the enabling factors are present. This means, to ensure that people can carry out the new practice (behaviour) easily.
 - Example: If there is not enough water, then you cannot tell people to wash hands with lots of water or bathe frequently.
 - You need to find out the reasons for taking on a new practice. What positive results can the person expect from this new practice? Try to help people solve the problems related to new practices and behaviours.
 - You need to convince significant people in the community and family about the new behaviour. Their support is important.

Activity 5.2: Hygiene practices

Objective:

To identify the most relevant (and practical) hygiene behaviours in relation to their knowledge of a given situation.

Material: Paper, pens/pencils, a flip chart for writing up the list of hygiene behaviours or else printed sheets with the list on them

Time: One hour

Procedure:

- 1 Ask the participants to go through the list of hygiene behaviours in the table below, which contains hygiene practices taken from programmes around the world.
- 2 Ask the participants to select only the most important practices (around five) for their school or for a particular community (or for an area they are familiar with) beginning with the easiest.
- 3 As part of the debriefing, ask the participants which behaviours they have chosen and why.

Universal hygiene behaviours/practices

Safe disposal of human excreta

- Where people defecate
- Where anal cleansing materials are thrown away
- Cleaning and maintenance of toilet
- Safe disposal of infants' and young children's excreta
- Handwashing

Hygiene practices

Personal hygiene

- Handwashing, facewashing, bathing: doing this frequently and using enough water
- Quantity of water for personal and household hygiene more than 20 litres per person per day
- Cleaning anus and washing hands
- Personal hygiene during natural events such as menstruation, birth, death, illness

Hygiene practices	
<p><i>Households</i></p> <ul style="list-style-type: none"> • Removing garbage • Managing of animals and animal faeces • Sweeping and cleaning of floors, compounds 	<p><i>Environment</i></p> <ul style="list-style-type: none"> • Good drainage to dispose of waste and storm water • Removing garbage and solid waste • Cleanliness of streets, paths and public places (markets, schools, community and health centres etc.)
Quality of water used	
<i>Use and protection of water sources</i>	
<ul style="list-style-type: none"> • Use of safe water source for drinking, cooking, washing babies • Keeping water clean during collection and transport 	<ul style="list-style-type: none"> • Drainage around the water source • Protecting and maintaining the water source • Dividing water use/rights between agricultural and household uses
<i>Water quality at home</i>	
<ul style="list-style-type: none"> • Keeping water clean during handling and storage • Water treatment: filtering, boiling etc • Disposal of waste water 	
Food handling and storage	
<ul style="list-style-type: none"> • Cleaning kitchen or food preparation area • Washing raw food, vegetables and fruits • Cooking well till food is properly cooked • Avoiding stale food and repeatedly reheated food 	<ul style="list-style-type: none"> • Covering food to protect from flies, insects • Clean place for storing food • Length/temperature for storage • Use of clean eating utensils • Washing and storage of utensils

Adapted from M. Boot and S. Cairncross (1993).

Activity 5.3: Case study on children's water-drinking practices

Objective:

Participants focus on possible solutions to the case study on water drinking practices.

Material: Paper, case study copied onto A4 sheets; enough for each group

Time: 30 minutes

Procedure:

- 1 Form groups of participants with four to eight people per group.
- 2 Ask the participants to work on the case study below.
- 3 Ask one of the participants in each of the groups to read out the case study. After the case study has been read, each group should be asked to focus on possible solutions to the problem.
- 4 After around 20 minutes all the groups should come together in a plenary session and share their answers.

Note that this type of exercise is an effective way of getting the groups to discuss their own experiences in terms of their problems and possible solutions regarding water-drinking practices in their area.

Case study on water-drinking and food practices of children in India

The water-drinking practices in India are extremely varied. One traditional drinking practice is based on the use of a water dispenser which in north India is known as a *lota*. It is used by adults in most rural areas. It is usually made of brass and is scrubbed with ash to keep it bright. It has a narrow neck to facilitate holding and is like a small pitcher but without a handle. The capacity is about 750 ml. The *lota* is filled with drinking water from a larger storage container. Its shape is such that it is easy to pour water into the mouth without touching the rim to the lips. This removes the need for individual tumblers and the need to wash them. But the *lota* is too heavy for children so they drink either from their cupped palms or in urban areas they use glasses. Both are hazardous as they do not wash their hands or the cup before drinking.

Activity 5.4: Identifying messages for key hygiene practices

Objective:

- To understand that it is important to identify common hygiene practices in order to pick out those which are healthy and those which are most risky.
- To comprehend that too many messages are confusing and not effective.

Material: Paper, pens/pencils

Time: One to two hours

Procedure:

- 1 Ask participants to think about all the messages and practices that they know about in hygiene education and WASH activities and note these down.
- 2 In the large group, each participant should suggest one different hygiene or sanitation message used in communities. The facilitator can write these on a flip chart so that everyone can see how long the list becomes.
- 3 Explain to participants what happens if 20 or 30 messages are used in hygiene education and promotion. What is the effect of these on a community?
- 4 Tell participants that too many messages are confusing and not effective. Two to four short messages are about the maximum for effective communication.
- 5 Ask the participants to work in small groups (of 4 to 6 persons) that are familiar with a particular community or area and negotiate with each other to identify the two to four key messages. It is important for participants to keep in mind one community with which they are familiar.
- 6 Participants return to the plenary and compare their selected messages. Their answers should refer to specific features of the community that are the basis for their chosen selected messages.

Activity 5.5: Field trip: Identifying key hygiene practices and baseline information

Objective:

To identify the types of hygiene practices that are prevalent in the community through a 'transect walk'.

Material: Paper, pens/pencils, copy of draft community survey

Time: The survey can take about half a day to one day with a team of two people who speak the local language.

Procedure:

- 1 Explain to the participants that the issues and messages for hygiene promotion can be identified by visiting the community and finding out what people do and think. The idea is to visit specific places and to ask and observe people's practices, stopping at different locations (called a transect walk).
- 2 Give a draft community survey to the participants (see next page). Check with the participants if they would like to add additional issues, for example, other factors that might put children at risk of diarrhoea and other illnesses.
- 3 Give the following directions to participants for the transect walk:
 - Take a walk within the community from one point to another.
 - Make your own observation/question list. As you walk, observe and ask about things such as:
 - the presence of key facilities like water points, toilets
 - functionality and quality of water sources
 - maintenance of arrangements for toilets, water facilities
 - presence of community organisations, e.g. Village Education Committee, PTA
 - Visit a few households and check/observe presence and condition of facilities, such as water and food storage and animal control.
 - Observe and talk with the children and women and/or men.
- 4 At the end of the survey, the major findings should be identified before leaving the community. The participants should have listed:
 - Key hygiene and sanitation issues for improvement,
 - What men and women see as benefits from having a toilet and hygiene education,
 - Any special problems.
- 5 In the debriefing, participants should discuss what a school programme might do in relation to the community. This could include activities of the school health club, the Parent-Teacher Association or the Village Education Committee,

among others. Explain that information could be used as a baseline. Keep these initial results and see if there are any changes over time. The baseline can show indicators about the desired health practices.

Example of community survey

Where to go, who to meet	What to do
Observe community	Are garbage and faecal matter scattered around? Animal control? Cleanliness of children (also skin infections, eye infections)?
Meet local leaders	Ask about: Functioning, quality of water sources. Diseases in the community. Active organisations and groups (women's club, and so on) that could disseminate hygiene messages. Availability of people to construct and repair buildings.
Observe and talk with children	Do they look dirty/clean? Obvious nutritional problems? Do they appear to have worms? Lice? Skin problems? Eye infections? Ask the girls if they go to school? Do they learn about hygiene in school?
Observe school children and talk to community	Ask about: Their perception of hygiene, specifically personal and domestic hygiene.
Visit at least three households (not the richest) of families that are known for being neat and clean	Observe household sanitation. What benefits do women (and men) see in being neat and clean? Ask about the special beliefs and customs in the community: What can the community do to improve health/hygiene?
Visit at least two households that have toilets, if possible	See condition of toilets. Who uses the toilet? Ask the reasons for men and women liking a toilet and the benefits they see. Ask men and women separately. Who constructed the toilet and what costs were involved? Ask what community people could do to improve health/hygiene.
Visit the water points	Cleanliness, maintenance. Last repairs done? Who paid? Costs of water to users?
Visit the school, health centre, anganwadi centre	See water and sanitation facilities. Maintenance and cleanliness. Ask what should be done to improve health/hygiene in the community.



Chapter 6 Education

6.1 The life-skills approach; knowing, feeling and doing

The life-skills approach focuses on the knowledge (knowing), attitudes (feeling) and behaviours (doing) that support people in taking greater responsibility for their own lives (Postma, Getkate, and Wijk, 2004; Mooijman, 2006). It focuses on promotion, among children, of positive attitudes and skills as well as habits for risk reduction. Life-skills education recognises that it can be challenging for children to make healthy life choices, or resist negative pressures, or reduce risky behaviours. Since hygiene education also aims at changing risky behaviours, it is highly compatible with the life-skills approach.

LIFE-SKILLS = KNOWING + FEELING + DOING

A. Knowing is receiving practical and theoretical information on hygiene and working on the understanding thereof.

Example: all children know that illnesses, such as diarrhoea and worm infections, result from poor hygiene practices like not washing hands with soap after visiting a toilet.

B. Feeling depends on personal preferences on hygiene, and someone's judgements that influence one to act or respond to an unhygienic situation.

Example: Children want to keep themselves clean and healthy with no or few stimulation from adults. Or feel responsible and confident to help others, particularly younger children, to practise good hygiene.

C. Doing involves practical skills to carry out specific hygiene behaviours.

Example: Children wash hands to avoid illness and infection. Or children avoid contamination with solid waste and help to bury or burn it.

The purpose of the life-skills approach applied to hygiene, water and sanitation is two-fold:

- To enhance the already positive and healthy social characteristics of the majority of young people through reinforcing and building knowledge, and encouraging positive attitudes and values, and healthy and pro-social skills and behaviour.
- To prevent or reduce risks to health to support social and emotional development through reducing misinformation and preventing or reducing risky or harmful behaviour.

Life-skills education tries to give girls and boys the knowledge, attitudes, and skills that they need to lead healthy lives, and encourage others to do so. Its focus is the individual girl, the boy and the school, eventually reaching out to homes and communities.

Life-skills education uses teaching and learning methods that go beyond the transmission of information. They are interactive and participatory, with room for both information-focused sessions and child-centred sessions. Through the use of participatory learning activities, such as games, exercises, and group assignments, the students acquire a wider range of life skills including those of health and hygiene. For example, as part of the lessons on health and hygiene, children may develop respect for the opposite sex, for older and younger people and those who are weaker or less fortunate than they themselves. They can practise activities that show openness to, and respect for, the hygiene habits of other groups.

Three components of the life-skills approach

The life-skills approach has three components shown in the box below.

Components of the life-skills approach

(1) LIFE SKILLS	(2) CONTENTS and CONTEXTS	(3) LEARNING METHODS
The (life) skills, such as interpersonal skills, values clarification, decision-making, coping with pressure and management skills.	The contents and context to which the skills-based approach is applied. In this case, hygiene, water and sanitation. This will improve health, behaviours and provide benefits such as increased school attendance or reaching out to the home and community.	The methods for teaching and learning within the skills-based approach, including a wide range of methods beyond routine learning.

Each of these three (life skills, contents and context, and teaching and learning methods) is discussed on the following pages.

Types of life skills

There is considerable variation in the types of life skills and categories into which these may be divided. The table below provides some examples of a general life-skills approach that can be applied to hygiene or other content areas. Although the columns and categories in the following table appear to be distinct from each other, in practice, many of these skills are dealt with simultaneously. For example: decision-making is likely to involve creative and critical thinking components (what are my options?) and values clarification (what is important to me?).

Examples of life skills

Inter-personal skills	Skills for building self-awareness	Values clarification skills	Decision-making skills	Coping & stress management skills
Empathy building	Self-assessment	Skills for life	Critical and creative thinking	Self-control skills
Active listening	Identifying personal strengths and weaknesses	Understanding different norms, beliefs, culture, gender, tolerance, diversity, discrimination	Thinking and problem-solving skills	Coping with (peer) pressure
Giving and receiving feedback	Positive thinking skills	Skills for acting on discrimination and stereotypes	Analytical skills for assessing (personal and other) risks	Time management skills
Assertion and refusal skills	Skills for building self-image and body image	Identifying and acting on rights, responsibilities and social justice	Skills for generating alternatives	Skills for dealing with anxiety
Negotiation and conflict management			Information-gathering skills	Dealing with difficult situations
Cooperation and teamwork			Skills for assessing consequences	Help-seeking skills

Content and context of the life-skills approach

The life-skills approach can be used in many subjects. These include not only WASH, but also environmental education, peace education, or education for development, as well as livelihood skills, for instance, income-generating activities and vocational programmes.

The question for life skills related specifically to hygiene, water and sanitation is: *What knowledge (knowing), attitudes (feeling) and skills (doing) should be addressed?* The content reflecting this fundamental question should be selected in such a way that it fits with the existing curriculum and is relevant for the children and their environment. At the same time, the content must be feasible. Feasibility means that the teacher is able to deal with the contents in her or his class. There are different ways to identify the knowledge, attitudes and skills that will be addressed. The following shows one approach in three related steps.

Steps for the facilitator to identify the contents for life-skills hygiene education

- 1 Review the content of the curriculum within the state or district. A presentation can be made at state, district and cluster workshops.
- 2 Identify the contents relevant to hygiene-related subjects, including the aspects related to construction, maintenance and correct use of new water and sanitation facilities in the school. (Presentations at state, district and cluster workshops should be adapted to the 'lessons learnt' from past programmes and checked by field visits to schools. The lessons learnt and field visits can be developed by specialists or by participants at training workshops).
- 3 Review and list the contents that are currently taught in reality. Have the teachers identify what they can and will change or add to the content (knowledge, attitudes and skills). This can be done through workshop planning activities at the block and district levels.

Towards a curriculum framework for hygiene life skills

The life-skills strategy means going further than the traditional 'personal hygiene' approach with children. The contents need to reflect this as described below.

The National Council of Educational Research and Training (NCERT) publication Towards a curriculum framework (1998) gave suggestions for indicators, learnings and skills at three levels. The contents specifically related to water, sanitation and hygiene in the 'carrier' subject environmental education, and are shown on the next two pages. A different curriculum outline is attached after this for comparison, and to show the range of approaches possible in life-skills education.

Table 6.1: Water, sanitation and hygiene in the primary years curriculum.

Towards a curriculum framework		
<p>Objectives:</p> <ul style="list-style-type: none"> • Develop awareness and understanding about her/his personal wellbeing and ways to keep healthy • Demonstrate good health habits 		
Level 1	Level 2	Level 3
<ul style="list-style-type: none"> • Relates the habits followed before and after taking food. • Develops habits of safe handling of food and drinking water. • Acquires and practises the habits of personal cleanliness including toilet habits. • Keeps personal belongings and the classroom clean and in order. • Observes and reports lack of order and cleanliness in immediate surrounds. • Takes simple steps to correct these situations. • Knows about the sources of drinking water and its significance for human life. • Knows about different ways of purifying water and demonstrates them through simple experiments. • Practises simple habits of standing in a queue when required and waits for her/his turn in different situations/group activities. • Practises simple habits such as covering mouth and nose during coughing, sneezing, yawning. <p>Source: NCERT (1998)</p>	<ul style="list-style-type: none"> • Understands the need for, and follows, regular habits of taking food and cleanliness of hands and eating place. • Recognises the need for, and ways of, safe storing of food items and drinking water and shares them through role-plays, poems, songs, drawings, etc. • Associates good health with personal cleanliness and displays them in drama, drawing, etc. • Keeps a check on the habits of personal cleanliness of siblings and peers and encourages them to follow these habits. • Keeps immediate surroundings clean and participates in activities for cleanliness of school and neighbourhood. • Realises that each individual has a responsibility and role in keeping the surroundings clean. • Identifies the ways of collecting and disposing solid and liquid waste at home, school and the locality, and the agencies responsible for it. 	<ul style="list-style-type: none"> • Identifies the relationship between unclean food and water and occurrence of diseases. • Identifies the relationship between unclean habits/ unclean surroundings and occurrence of communicable diseases. • Knows about the common diseases, early signs, simple preventive measures and who to contact in case of occurrence of certain diseases. • Has accurate information and is able to explain to peers and siblings why certain communicable diseases occur. • Participates in community, neighbourhood and school activities; is able to mobilise peers to take steps to prevent certain diseases. • Identifies local communicable diseases as air borne, water/ food borne and insect borne and can offer ideas regarding their prevention.

Objectives: The child should
 (1) demonstrate skills related to taking care of the immediate environment; and
 (2) demonstrate through appropriate action, sensitivity to the needs and feelings of fellow human beings and other living things.

Level 1	Level 2	Level 3
	<ul style="list-style-type: none"> • Surveys and reports about some common essential facilities in the locality such as drinking water and who manages them. • Imagines situations about what would happen if there had been no rules and reports them through stories, illustrations, drama, etc. 	<ul style="list-style-type: none"> • Knows about the rights and duties of every member of the community and respects them. • Finds out about the agencies/ bodies and institutions that ensure the rights of every member in the community. • Cites examples of how information available through mass media helps her/him in different ways (studies, health habits, physical exercises, entertainment, values, etc.). • Draws sketch maps, not to scale, showing routes from school to nearby places, indicating landmarks and directions of movement.

Objectives: The child should:
 (1) identify and know about the natural resources and understands the need for their proper utilisation, conservation and preservation, and
 (2) develop skills related to taking care of the environment

Level 1	Level 2	Level 3
Identifies simple uses of water for human beings, plants and animals.	<ul style="list-style-type: none"> • Finds out the natural sources of water and shares with peers in appropriate ways. • Observes and records the different states of water (e.g. polluted, etc). • Demonstrates how the rainfall occurs through the story of a drop of water or in any other way. • Cites examples of activities that lead to water pollution and role of everybody to avoid it. 	<ul style="list-style-type: none"> • Examines the local environment, e.g, the school grounds, for signs of weathering, rainfall occurrence, streams, ponds and their characteristics and suggests ways of overcoming the problems. • Defines and compares renewable and non-renewable resources. • Shows concern for limited resources and the need to use them carefully.

Objective: The child should develop and demonstrate skills of life-long learning such as observing, comparing, and so on.		
Level 1	Level 2	Level 3
	<ul style="list-style-type: none"> • Accepts and respects differences between individuals. • Does not hurt the feelings of others. • Does not use strong language. 	<ul style="list-style-type: none"> • Is able to give examples about differences and similarities and equal rights. • Is able to define practices and habits to keep systems of the human body in proper form. • Respects the feelings of others; is tolerant to diverse ideas, beliefs and practices; distinguishes between harmless practices and those that hurt and harm others.

Source: NCERT (1998).

6.2 Methods for teaching and learning

The life-skills approach requires interaction among participants – both student-to-student and student-to-teacher. Traditional teaching is characterised by a focus on reproducing facts, an emphasis on lecturing, and written text (notes on slates, on chalkboard, in exercise books). It tends to focus on learning by heart. The emphasis tends to be on standard knowledge that is not adjusted to local conditions, with little attention to attitudes and skills development. Most activities are in plenary only, with children seated at desks or on the floor. In this, the teacher is central in the process, communication is from teacher to students and not between students themselves.

Life skills require different teaching and learning strategies. Children should be approached with teaching methods that arouse their curiosity, enhance their willingness to participate actively and promote self-learning. These are child friendly, practical, locally-specific, relevant, and creative.

For teaching and learning better there is a need for child-centred approaches that:

- are interactive and participatory; and that
- help children to practise skills with others



Figure 6.1: Students undertaking group work.

Participatory teaching in a classroom setting

Many professional educators agree about the desirability of interactive and participatory methods. However, some raise questions about their practicality or feasibility. Practical questions need to be addressed, such as “Will a teacher use interactive methods when he/she has minimum training, works in a dilapidated school with a class of 60 children?”.

This comment from an article on teachers as change agents, in 1983, may still be relevant to some schools today:

“Teachers are usually underpaid and inadequately trained for teaching in these conditions, let alone being trained for a wider role in the society. They find it difficult to follow the existing syllabus using a framework of textbooks and teachers’ manuals but at least they have a degree of security. Remove this security and expect an innovative animator role and many teachers naturally feel frightened. Knowing that promotion prospects are usually dependent on infrequent school inspections, that parents and community leaders as well as inspectors will assess him on grade tests and examination results, the teacher’s natural inclination is to pursue a restricted curriculum.”

Source: Watson (1983).

Participatory and interactive approaches can be used even in large classes. However, the methods must be simple and practical. Teacher training should provide teachers with the chance to demonstrate at least one or two of the most practical participatory/interactive strategies. Well-trained and well-supported teachers use a range of methods and resources to achieve quality learning outcomes.

Teaching life skills is best done by using participatory methods. In this way knowledge as traditionally received through teacher instruction can be transferred into feeling and doing. Why does it work better?

- 1 When children actively participate in the process of learning, they will understand the hygiene issues better. They will develop a feeling and opinion on the problem and own responsibility for their own hygiene conditions and behaviour.
- 2 At the same time, children will be encouraged to test/try what they learn at home and in the wider community. In this way, they will find out why appropriate hygiene behaviours are not being applied and how changes could be achieved.
- 3 Asking children to think about hygiene problems, to find out more about them and to plan action will help them to use the new knowledge in a different way. It will strengthen their self-esteem and confidence and create new interest to solve problems and undertake action.

What is participatory teaching and what is not?

IT IS:

- The teacher challenging children to think
- The teacher helping children to make their own decisions and to make hygiene actions interesting and funny

IT IS NOT:

- The teacher deciding on behalf of the children what action to take
- The teacher deciding who will be involved
- Dull and boring

Adapted from Child-to-Child Trust (2005).

Teaching for the whole group or in small groups

Participatory learning and teaching methods can be carried out with the whole group or with several small groups. Working with a whole class is best when dealing with a method in which students give each other positive feedback. Some methods for teaching the whole group are:

1. Class conversation

Questions from students can induce a class conversation. The whole class discusses the subject. Students can interact. As interaction proceeds, the children can be asked to summarise the discussion, giving the thread of the conversation. During the evaluation, the whole discussion is summarised. Subsequently, the teacher gives remarks about the discussion and the input of the students in order to evaluate the conversation. Through class conversations, all children are able to learn to formulate and defend their opinions and learn to respect the opinions of others.

In the context of hygiene education, this method can, for example, be used to discuss whether or not hygiene work is only for women and girls, or whether having or not having latrines is a family's individual responsibility. Younger children can sit in a circle and be asked to talk about a subject in turn, e.g. about how they wash: if they had a bath or a wash this morning or some other time, who washed them, if the water was cold or hot, if they used soap/a cloth/brush/sponge/certain leaves or a local 'sponge' such as a dried plant, etc. The other children may react as well, but the teacher will make sure that every child gets a turn and that no child is criticised or stigmatised by the other children. The teacher can then give information about the importance of washing and bathing. If the class is too big, the activity can be done with some of the children and be continued with a second group of children the next time, until everyone has had a turn in a class conversation.

2. Concentric circles

For this activity the teacher forms two equal groups. One group stands in a circle facing out and one group stands in a circle facing in, so that everyone is facing a partner. The class is asked a question. The students in the inner and outer circle discuss this question in pairs. After a few minutes the outer circle rotates to the left, so that each student is facing someone new. The process is then repeated, with either the same question or a new one. The types of questions that are asked will vary with the age of the group and the purpose of the activity. Younger children can, for example, ask each other, "Do you like to wash your hands, or your face, or take a bath?", "Why?", "Why not?" Older children may discuss, for example, "Is handwashing after using the latrine important?", "Why/why not?" or "Are home latrines only affordable for 'rich' people?", "Is it useful to purify water? And can everyone do it?". Through the use of this method the children are stimulated to exchange ideas and experiences in pairs. In plenary, the teacher may then ask the children what kind of answers came out, give information and facilitate discussions on how to solve any specific problems that came up.

3. Problem-solving discussions

The subject of the discussion has to be determined and delineated by the teacher and the students. The class decides which students are in the discussion. The other students will be observers. The students say why they want to talk about this subject and determine the goals of the discussion. The discussion starts and the students in the discussion group can express their viewpoint. Observers note the differences/ agreements between the viewpoints. Next, the students try to formulate the problem. Then they may brainstorm about possible solutions. Thereafter, arrangements are made for solving the problem, for instance: who will do what and when? Finally all students evaluate the discussion. Questions that can be added during this evaluation are: "Was the discussion useful for all the students?", "Has the goal of the discussion been achieved?", "Did everyone participate?" etc.

4. Forum discussion

This activity is for the older age group. The subject of the forum discussion is defined and expressed as a question. The class chooses three forum members. As preparation, the forum members get rules and information that they have to study in advance.

The teacher introduces the subject and gives an explanation if necessary. Each forum member is given some time to express his/her viewpoint on the subject. After this, the forum members publicly discuss the subject with each other. The 'listeners' can ask for information, place remarks or ask questions to which the forum members have to respond.

Through a forum discussion the children will be able to develop listening skills, as well as skills to react critically and ask questions. They will also learn that although sometimes opinions differ, this does not mean that one opinion is more 'right' than another.

Some of the topics that may be useful to discuss are, for example, which safe water sources exist in the community and how to keep them clean, how to prevent local diseases from spreading, and how to involve the community in hygiene issues.

Working in small groups is recommended so that every student has to participate more than once, which encourages the exchange of opinions. At the same time, group work helps the children to develop cooperation and teamwork skills. At the end of small group work, at least a few minutes should be dedicated to working with the whole class. The spokesperson of each group then reports to the class about what the group was doing and what conclusions and results they reached.

To make sure working in small groups is successful, there are a few basic rules that the teacher should establish with the students:

- All the children in the group work together.
- Cooperation is important, not competition.
- Each member of the group helps the other children to feel that they belong to the group.
- All participants in the group are equal and have the same rights. This can be stressed by sitting in a circle.

A group is doing well when all the children are involved in the activities and no child dominates, although different children will participate in different ways. To help the groups do well, the teacher can observe the process of each group and provide encouragement/positive reinforcement, noting what each of them is doing well.

The following box provides examples of some methods which may be useful tools in the participatory life-skills approach. There are, of course many more; these are meant to be illustrative.

Selected teaching and learning methods

Organising the children

Calling numbers: Each child gets a number, say from one to four. The children then split up into their groups of ones, twos, threes and fours. Alternatively, for organising the groups, pictures which have been cut into pieces can also be used. After the pieces have been distributed, the students will have to try to find a group in which all children have the same symbol on their piece of paper. This method can be used to introduce knowledge and is a way to reshuffle children during the exercise.

In these groups, they discuss – and learn – about an issue. After discussion they come back together in the original groups and give feedback to the others about what they have learnt. In plenary session, the teacher may select the speaker by giving the 'magic microphone'. Only the person who has the mike is allowed to speak (for plenary sessions). This allows for a controlled but also joyful atmosphere to organise the exercise.

Problem solving

Role play

Role playing in this context refers to two or more persons acting out a certain situation. This activity allows people to act out different situations. Role plays can be, for example, on food vending and other eating practices, on taking care of the hygiene and/or excreta of small brothers and sisters, on discussing the installation of a toilet with father, mother, grandparents (and so on) in the family, and on the way school toilets are used with regard to hygiene and gender. Always follow it up by discussion on what the group(s) showed. This exercise tests students' ability to take other perspectives and develop problem solving to conflict resolution skills.

Brainstorming

This method stimulates creative thinking. There are a number of alternative brainstorming exercises. For example, each child writes ideas on slates or cards such as on the topic: what can make water dirty. These are put on the ground, read aloud, and then grouped into an order. Another example is that each child may write his/her idea on the blackboard and then the entries are read out and grouped.

Contest/problem solving

The group can have a contest to see who could develop the best solution to a common problem. One example could be: what can be done when teachers lock toilets in schools? The contest can prove to be lively with a wide range of possible solutions!

Selected teaching and learning methods*Story with a gap*

The teacher tells a story which ends in the middle, and the children are asked to complete it. Example:

"Your older brother and you return from school. You are both hungry and want to eat some food. You wash your hands with soap, but your brother starts eating right away. What do you say? How can you encourage your older brother to wash his hands regularly and use soap?"

Initially, the answers can be discussed in small groups, or written on small pieces of paper. In both cases the different answers should then be reported back to the whole class.

Skills and knowledge*Demonstrations*

This method requires the students to practise hygiene skills such as washing hands. Demonstrators can be silent, with the comments and explanations coming from the observers. Alternatively, the demonstrators themselves may be asked to explain how they wash, when, and why. They might also discuss such issues as what to do when there is no soap or soap is too expensive or how to ensure that others also wash their hands properly.

Debates

This method requires students to clarify and articulate their points of view as well as to listen to other perspectives of the children in the group.

Continuum

In this method, the teacher draws a line on the ground. One end of the line represents strong agreement with a position or a statement, the other end represents strong disagreement. The space in between the two ends of the line represents gradations of opinions. A statement on a controversial issue is read aloud. An example is: 'Taking care of hygiene at home is for women and girls only.' Students are asked to stand on the line in the place that represents their position. The teacher then breaks up the line into two segments with equal number of students. The students in each group are asked to share their points of view with each other. Children then explain to the other group why they agree or disagree with the statement. By asking children to agree or disagree with a certain statement and making them explain to the other group why they agree or disagree, the children will learn to make decisions as well as to explain themselves.

Ranking

This method stimulates deeper discussion of an issue, and clarifies priorities. One example could be ranking of the local water sources from safest to most risky for drinking. This can be followed by discussing why one source is riskier than the other and what makes it so.

Voting

Voting may be done to learn about the different conditions or practices or to make decisions. An example is drawing all places where families in the community defecate: the fields, a bush, the beach, a hole in the ground, a toilet, the rubbish heap, etc. Give each child an item such as a bean, pebble or small piece of paper to represent one place of defecation. For privacy, the voting should be done secretly. It can also be done on papers without names that are collected and counted. The children place their token on the place where they usually go to defecate. The results are discussed: what is done most, what least? Do girls and boys use different places? What is best, what is worst? Why? What can be done? What problems may exist? How can they be solved?

Others

Broken telephone or whispers

Children form a line or circle. The teacher whispers a health message to one child and the children pass it on by whispering in each other's ear. The last child says the message that he/she has heard. Then the first child gives the original message which is often quite different! This exercise serves to analyse what happens when messages are communicated between people and how/why messages start to change. It is also fun!



Figure 6.2: Children learning through a puppet show.

When choosing a method for a lesson, the teacher should ensure that the chosen method is not just used for the sake of using a participatory method. Although the lesson might be joyful and activity-based, the method used may not necessarily lead to the planned learning. It is therefore important to ensure that the chosen method will effectively address and bring across the planned content and enable the child to learn in a fun and interesting way. An overview of potential teaching methods can be found in the table below.

Table 6.2: Teaching methods that can be used for life skills are:

Methods suitable for grades 1-2: children aged 6-8 years	Methods suitable for grades 3, 4 and 5: children aged 8-11 years	Methods suitable for grades 6, 7, 8 and 9: children aged 12-15 years
Listening to and telling stories Reciting poems and songs, and singing songs Drama/short role-plays Seeing and doing various types of puppet shows Simple sorting games Language and number games and assignments Reading, and reacting to, stories Walks, doing simple observations Skills demonstrations, with peer observation and analysis Movement games, competitions Conversations and discussions Drawing, painting, colouring, claying Doing simple hygiene tasks Presentation to parents and family members	Listening to and telling stories Reading and analysing stories Doing quizzes Conversations and discussions Singing and dancing Drawing and painting Making various types of models Writing compositions and creative writing Brainstorming Excursions Drama, role-plays, pantomime, skills demonstrations Peer observations and analysis Language and maths games such as crosswords All kinds of competitions	Listening to and telling stories Reading and analysing stories as well as writing stories Group and class discussions Singing and dancing Drawing and painting Brainstorming Drama, role-plays, pantomime, skills demonstrations Peer and family members observations and analysis of behaviour School/community observation and mapping or excursions Language and maths games, quizzes and puzzles All kinds of competitions Doing hygiene tasks (with an educational purpose) such as helping younger children visiting toilets and washing hands

Adapted from L. Postma, R. Getkate and C. Van Wijk (2004)

6.3 Some case studies focusing on the life-skills approach

The Janashala programme and the Nali Kali method

The Janashala programme and the Nali Kali strategy, both developed in Karnataka, India, provide an example of life-skills hygiene and environmental education in an education context. The Janashala programme started in 1998. It aims to make primary education universal through practical educational and community mobilisation. The Nali Kali method, on the other hand, began as an experiment designed to strengthen the formal education system. It seeks to resolve the problem of retention and dropout of primary schoolchildren.

The Janashala programme

The goal of the programme is: To create awareness about hygiene and environmental sanitation and bring about behavioural changes among children and, through them, among parents and the community in selected districts.

Its objectives are:

- To make hygiene education and environmental sanitation a people's movement through mobilising the network of local government institutions.
- To make school teachers catalysts in creating awareness, generating demand and inculcating personal hygiene practices among the children and, through them, among their parents and in the community as a whole.

A three-pronged strategy is planned to ensure that a WASH in schools package has an impact upon attitudes and practices rather than limiting itself to the mere provision of facilities. The strategy includes:

- Community partnerships for planning and monitoring;
- Inclusion of health, sanitation and environmental protection in the school curriculum;
- Provision of basic facilities to inculcate sanitary habits and environmental protection in schools.

Source: Sanitation Towards Health and Hygiene (SWASTHH) workshop (2001).

Nali Kali

The Kannada words 'Nali Kali' translate into 'joyful learning'. The main features of this method are:

- Reduced learning load
- Mastery at the minimum level of learning

The Nali Kali classroom gives autonomy to the teacher and creates a 'non-threatening' atmosphere for the child to learn in a child-friendly and fun-filled way. In 1998, the Nali Kali pilot project was adopted in ten blocks in six districts. Since then, it has improved as a result of experience gathering and regular monitoring. Gradually, the WASH in schools content has been integrated with Nali Kali.²

² The Times of India (21 May 2009) reports that the department of public instructions has decided to introduce Nali Kali schemes in all government primary schools in Dharwad district.

In schools that follow the Nali Kali methodology the emphasis is on child-centred, self-paced activities. The teaching/learning methodology in Nali Kali is specially suited to the implementation of a practical action-oriented sanitation and health curriculum.

More specifically, two interventions help schools move towards greater focus on sanitation:

- The introduction of health, hygiene and sanitation themes in the anganwadi and school curricula, and
- Introduction of special interventions that encourage children to focus on sanitation, monitor the use of facilities and track children's change in behaviour.

In terms of the introduction of health, hygiene, sanitation and protection in the school curriculum, the syllabus of environmental studies provides ample scope to introduce and develop healthy habits and environmental-friendly behaviour among children, as the table below demonstrates.

Table 6.3: Developing healthy habits and environmental-friendly behaviour

Grade 1 – age 6	Grade 2 – age 8	Grade 3 – age 10
<p>Our Village Introducing the civic amenities present in the village and the need to protect them – water, road, post office, school and so on.</p>	<p>Inculcating good habits Keeping books and body clean, punctuality, bathing, brushing, and so on.</p>	<p>Good practices Developing habits, responsibility: personal cleanliness, good citizenship, environmental-friendly behaviour</p>
<p>Recognising human organs Cleanliness: importance of keeping the organs clean</p>	<p>Rules for the house and school. Healthy food habits: preparing and eating clean food, washing before and after food.</p>	<p>Uses of water Need for and preservation of clean water</p>
<p>Cleanliness of toilets Use of water after using toilets, washing hands before and after food</p>	<p>Preservation of food and water Cleaning of food</p>	<p>Understand organs and their protective function</p>

Source: UNICEF- Karnataka (2000).

Little Doctors in Indonesia

Banjar Sari Elementary School in Banjar Sari village, East Lombok, Indonesia, has been supported by UNICEF since 1998, along with 34 other schools. The schools started an activity called "Dokter Kecil" (little doctor) with 30 volunteer students from grade 4 to 6, involving them in health promotion in the school and community through creative and innovative initiatives, such as the school/community theatre. Children in the Dokter Kecil programme have been performing role plays (about 15 minutes) on personal hygiene issues for the school and community: messages include boiling

water; defecating in a toilet, not in the river; washing hands before eating; and proper garbage disposal. A teacher who supervises the Dokter Kecil activity said: "People love drama, especially parents love seeing their children in the play. It is more effective than directly telling people to change the way they do things."

Dokter Kecil volunteers are also the driving force of the weekly "Jum'at bersih" (Clean Friday Movement), drawing villagers' attention to the importance of environmental hygiene, gradually expanding its clean-up areas to a village mosque, drains, and the school herb garden!

Under Dokter Kecil life-skills training is provided, including skills in communication, creativity, problem-solving, negotiation and analytical thinking. All members of Dokter Kecil are very expressive and proud of their work. One student said, "I can help the community and friends. I can change the community. I am very happy to make a healthy environment."

When mothers were asked if they ever learnt anything new from their children, they answered positively. One mother explained: "We started to pay more attention to health." Children also said they talk about health messages they learnt at school with their families and friends.

The schools have established a very close working relationship with the Sub-District Health Centres. A doctor visits the schools to organise weekly community health check-ups for villagers and school children; orientations for students, teachers and villagers on healthy and clean life; and distribution of free medicines at school. The Dokter Kecil volunteers are invited to the health clinic for monthly training on various health messages.

The case study shows how a school can become an integral part of community hygiene and sanitation promotion, and the significant role of children as partners in its promotion in the community.

Source: Izumi, N. (2001).

Health and hygiene education programme in Pakistan

The Water and Sanitation Extension Programme (WASEP) is implemented through the Aga Khan Planning and Building Service in the Northern Areas and Chitral, Pakistan. It aims to substantially reduce the risk of food- and water-borne diseases. The strategy is to provide water supply systems, sanitation facilities and health and hygiene education in three components: Community Health Intervention Programmes (CHIP), School Health Intervention Programmes (SHIP), and monitoring and evaluation.

The curriculum developed for schools (SHIP) consists of eight topics: clean hands, safe disposal of faeces/toilet usage, diarrhoea, worms, clean and safe water, safe food, personal hygiene, and water usage and management issues related to water supply systems. The direct target groups are the children in grades 3–4 (aged 8–10). The

indirect target groups are children in other classes, younger siblings and parents, and other non-school going children in the communities. The hygiene education sessions in the schools are facilitated by female health and hygiene promoters (HHPs), using active methods like group discussions, posters, stories, role plays, surveys, demonstration, painting, and poems. The child-to-child approach is adopted in six steps:

- Choosing the right idea and understanding it well
- Finding out more
- Discussing what we are finding and planning for action to be taken
- Taking action
- Evaluating the results
- Doing it better next time

These six steps are incorporated in lesson plans prepared for each topic mentioned above, taking three days (one hour per day) per topic and carried out not only in school, but also in the home and in the village, until a new topic is introduced during the next round of visits by the HHPs. Preliminary analysis shows that the child-to-child approach has been very effective in facilitating children to take and plan actions in their schools, homes and villages.

Source: K. Alibhai and T. Ahmad (2001).

Activity 6.1: Planning for education and social mobilisation

Audience: This activity is most appropriate for teachers and teacher trainers.

Objective:

Participants develop a draft plan for social mobilisation/education activities.

Material: Paper, pens, flipchart for reporting back

Time: One to two hours

Procedure:

- 1 Divide the participants into groups, with four to eight people per group.
- 2 Ask the participants to work together and develop a list of activities that could be used to promote hygiene education and social mobilisation in schools.
- 3 Ask participants to compare their answer list with one of the other groups.
- 4 In a plenary, ask one participant from each group to report back to everyone on their results and the reasons behind their choices.

Below are some ideas developed during a similar workshop.

LEARNING AND DOING:

Plans for education and social mobilisation in a school (results of small group work)

Group 1

- Show handwashing by demonstrating.
- Ask the child to demonstrate to another child.
- Make posters of right and wrong behaviour.
- Keep handwashing materials (water, soap, mug).
- Some older children can show good practice and help to monitor community behaviour.

Group 2

- Use of posters.
- Some small skits.
- Demonstrate washing (how dirty is the water?)
- Songs/games.
- Keep all materials near household pump/water source.

In the community:

- Call a PTA meeting and let the children demonstrate to parents.
- Let children take away some materials like flash cards home to show their parents.

Group 3

- Show/demonstrate in groups (some children will wash, others will observe) washing both hands with soap/without soap.
- Discuss each method. Also discuss washing with ash.
- Observe what happens at home. Come to school and discuss.
- Discuss output at the home/community observing habits.
- Encourage family and community to dispose of waste correctly.
- Examine the impact/observe change in habits on a weekly basis.

Group 4

- Do a survey in the school. How many wash their hands correctly?
- Demonstrate to younger children.
- Do a survey in families and communities and report observations on hygiene practices.
- Link handwashing with timing before eating and after defecation.

Source: Sanitation Towards Health and Hygiene (SWASTHH) workshop (2001).

Activity 6.2: School health clubs

Objective:

To understand the importance of school health clubs in the context of their own work.

Material: Flipcharts, one with an example of the table below, pens

Time: 30 minutes

Procedure:

- 1 Ask participants to divide into groups of four.
- 2 Ask participants to think of various types of school health clubs and how they could create incentives for children to want to join. Then ask them to list the incentives for adults. These should be listed on a flipchart (one flipchart sheet per group). The following table could be used.

Incentives for children	Incentives for adults, communities
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.

- 3 As part of the debriefing, ask participants to report back to the larger group.
- 4 (*optional*). Put all the flipcharts on the wall. If time permits, ask the group of participants to prioritise the list of incentives (maximum five) for children and adults and give a brief explanation why they did so. This could lead to some interesting discussion!
- 5 (*optional*). A number of other issues could also be discussed. For example, which materials should be developed, what types of activities could be developed for the children at the school, etc.



Chapter 7 Key hygiene behaviours for school children

7.1 Key hygiene behaviours

The following key hygiene behaviours have been identified through scientific research and field testing as having the most impact on school-age children (although this may vary slightly in different settings):

Table 7.1: Key hygiene behaviours

Key hygiene behaviours	
1	Safe use of toilets and urinals Diarrhoea and worm infections are two main health concerns that effect people on a large scale and that can be improved through appropriate toilet and urinal use.
2	Personal hygiene Poor personal hygiene contributes to many diseases.
3	Promotion of handwashing with soap Handwashing at critical moments is important for good health because it reduces the risk of diarrhoeal diseases by 42–47 per cent and significantly reduces the cases of acute respiratory diseases.
4	Female and male hygiene Genital hygiene and menstrual hygiene is important for health conditions of women and for reproductive health in general.
5	Waste management and water drainage Appropriate handling of solid waste as well as handling of stagnant water so as avoid insects (such as mosquitos) and rodants (such as rats) from breading and transmitting harmful diseases.
6	Water treatment, handling and storage Basic concepts on water contamination, provision of safe water and water testing are known and implemented.
7	Food hygiene Eating healthy food is essential for the wellbeing and survival of each human being. Eating “contaminated” food (also known as “food poisoning”) can be an important source for diarrhoeal diseases.

These key hygiene behaviours for school children will be further explained on the following pages.

1. Safe use of toilets and urinals

Diarrhoea and worm infections are two main health concerns that affect school-age children on a large scale and that can be improved through appropriate toilet and urinal use. Diarrhoea causes children to lose too much fluid and essential nutrients from their bodies. This results in serious illness and sometimes even death. The causes of diarrhoea include a wide array of pathogens.

Worm infections are spread through unhygienic environments (soil or water) and unhygienic behaviour (through food or hands). The most common types of worms are: roundworm, whipworm, hookworm, pinworm and tapeworm. Worms are parasites that destroy the tissues and organs in which they live; and can cause pain, diarrhoea (but that is not very common), intestinal obstruction, anaemia, ulcers, and various other health problems. These infections also contribute to poor appetite and decreased food intake. Roundworms, pinworms and tapeworms can be seen in children's stools.



Figure 7.1: Signs of illness.

Children who have serious worm infections are more likely to be absent from school for a greater proportion of the time than those who are lightly infected or worm-free. In addition, such children perform worse at school than children who have no worm infections or who have been treated against them.

Improving sanitary conditions in the community, home and school, plus strengthening hygiene behaviour will drastically reduce the incidence of worm infections. These actions, in combination with drug treatment for those that are already infected, will stop the re-contamination process and end the spread of worm infections. Medical treatment should not just happen once. It has been shown that after one-time treatment for worms (without a strong education component), the infection tends to return.

Behaviours that can lead to worm infections

Unhygienic habits that allow worm eggs to enter the mouth from the hands include:

- Failing to wash hands before eating,
- Failing to clean anus and wash hands after defecating,
- Failing to wash hands after playing on the ground,
- Allowing dirt to remain under the fingernails,
- Sucking on fingers.

Behaviours that allow hookworms to penetrate the skin or enter the body include:

- Walking or working in the field without wearing shoes or sandals,
- Working in the field with bare hands,
- Eating unwashed raw vegetables.

Behaviours that allow eggs or young worms to be spread back into the environment include:

- Defecating on soil or in water with which others come in contact,
- Using untreated or partly treated human excreta as fertiliser for crops.

Behaviours that allow worms and eggs to enter the body with food include:

- Eating unwashed raw vegetables. This may lead to worm infection.
- Eating raw or undercooked fish, shellfish and meat can result in infection with flukes.

Behaviours that may result in continuation of infection or spread to others include:

- Not having stool samples examined.
- Failing to comply with treatment.

Source: World Health Organization (WHO) (1997).

2. Personal hygiene

There are many factors that can lead to illness, some of which are to do with poor personal hygiene, as the diagram below shows...



1. A man infected with parasites has diarrhoea outside.



2. A dog walks through the man's faeces.



3. One of the man's children plays with the dog and gets the faeces on himself.



4. Later, the child cries and his mother comforts him meanwhile cleaning his fingers with her skirt. She also gets faeces on her hands.



5. The mother prepares food for the family and forgets to wash her hands first. She uses her soiled skirt to keep from burning her hands.




6. The family eats the food. Soon everyone gets diarrhoea.

Figure 7.2: Personal hygiene and illness.


Drawing adapted from The Hesperian Foundation (1997)

In the table below, the main health risks (without going into all the medical details) and recommended habits for prevention are indicated from 'head to toe'.

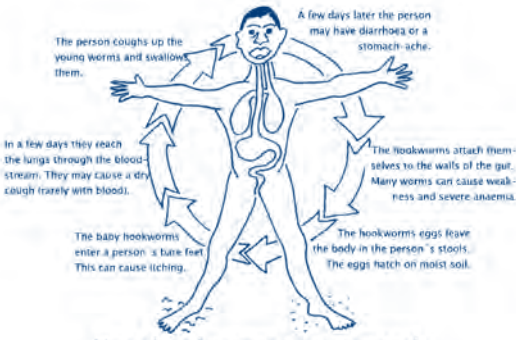
Table 7.2: Main health risks and habits for prevention.

	Health concerns in South Asia ³	Prevention related to hygiene practices
Head	<p>Respiratory tract infections: Virus or bacterial acute infections that affect nose, throat, ears, sinuses and lungs and are the most common diseases among children. They are the leading cause of deaths among all infectious diseases, and they accounted for 3.9 million deaths worldwide and 6.9 per cent of all deaths a year.</p> <p>Lice: Tiny, wingless parasitic insects that live among human hairs and feed on extremely small amounts of blood drawn from the scalp. They can cause itching, and sometimes skin infections.</p> <p>Eye diseases:</p> <p>Conjunctivitis or Pink eye is a very contagious eye infection caused by a virus which spreads from person-to-person by touching or flies. It develops slowly starting with redness, puss and mild 'burning' and gets worse and worse. Eventually it can even cause blindness.</p> <p>Trachoma is a chronic eye infection that slowly gets worse. It is the leading cause of the world's infectious blindness. It is spread by direct contact with eye, nose, and throat secretions from affected individuals, or contact with towels and/or (wash)cloths, that have had similar contact with these secretions. If left untreated, it will eventually lead to blindness.</p>	<p>Washing face and hair with water and soap as well as avoiding use of the same towel and clothes by different people.</p> <p>Washing body and hands with soap, and wearing clean clothes.</p> <p>Washing hands with soap can prevent spreading of the infection.</p>  <p><i>If an eye is healthy the white part is clear and the eye seems to shine</i></p>

* ³ Details on the characteristics of the different health concerns have been derived from the Hesperian Foundation publications *Where there is no doctor*, *Where women have no doctor* and *Where there is no dentist*. More on: www.hesperian.org

	Health concerns in South Asia	Prevention related to hygiene practices
Mouth	<p>Tooth decay and tooth loss: Cavities or holes in the teeth are made by an infection (or tooth decay) as the result of acid that touches the teeth and gums. The acid is made when sweet and soft foods mix with germs. Tooth decay can eventually lead to tooth loss.</p> <p>Gum infections: Red, swollen and painful gums that bleed easily caused by malnutrition or lack of dental hygiene.</p>	<p>All teeth and gums should be cleaned twice a day. Use a brush, stick or finger wrapped with a piece of rough cloth. If no toothpaste is available, salt, charcoal or just plain water will also work.</p>  <p>Figure 7.4: Tooth brush.</p>
Body	<p>Impetigo: A bacterial infection that spreads rapidly from person to person through sores or contaminated fingers. It mainly occurs on young children and appears especially around the mouth.</p> <p>Scabies: Causes very itchy little bumps that can appear all over the body. It is caused by mites which make tunnels under the skin. It is spread by touching the affected skin or by clothes and bedding. Scratching can cause infection, producing sores with pus, and sometimes swollen lymph nodes or fever.</p> <p>Ring worm: A fungus infection which grows in the form of a ring. Ringworm is a fungal infection of the skin in humans and domestic animals such as sheep and cattle. Fungi are organisms that survive by eating plant or animal material. It often itches and is very contagious.</p> <p>Yaws is an infection of the skin, bones and joints caused by a bacteria. It is transmitted by skin contact with infected individuals or flies.</p> <p>Lice live in the hairy parts of the body (see more above).</p>	<p>All these skin problems are very much related to personal hygiene and cleanliness. Bathing daily and washing the body <i>with soap</i> as well as changing clothes daily can very much reduce the spreading.</p>

	Health concerns in South Asia	Prevention related to hygiene practices
Hands	<p>Diarrhoea, food poisoning, colds: Very common sign of several diseases but which are mainly caused by viruses or bacteria spread from person to person (colds can also be spread through the air and by sharing pillows, washcloths, and towels).</p> <p>Intestinal worm infections: There are many types of worms and parasites that live in people's intestines and cause diseases. Generally they are spread from a person's stools to another person's mouth. A person may not feel sick right away.</p> <p>Dysentery leads to severe diarrhoea caused by parasites. The stools of infected people contain millions of parasites. Because of poor sanitation, the parasites get into food or drinking water and infect other people.</p> <p>Typhoid, Paratyphoid fever: A bacterial infection that is being spread faeces-to-mouth. It causes high fever and severe diarrhoea.</p> <p>Cholera is caused by a bacterial infection. Transmission occurs through food or water which is contaminated with cholera. In its most severe forms, cholera is one of the most rapidly fatal illnesses known, and a healthy person may become sick within an hour of the onset of signs. The disease progresses from the first liquid stool to shock in four to 12 hours, and if left untreated will lead to death after anywhere from 18 hours to several days.</p> <p>Hepatitis A and Polio are severe virus infections that can make people very sick. Polio is mainly a children's disease that can even lead to paralysed limbs.</p> <p>Avian influenza: caused by viruses adapted to birds. It is being spread to humans and is highly contagious.</p>	<p>Washing both hands, rubbing with plenty of water with soap/ash/mud after toilet use, before eating, before preparing food, after cleaning babies, after handling domestic pets and animals, after working in the field:</p> <ul style="list-style-type: none"> • Washing hands reduces the risk of diarrhoeal diseases by 42–47per cent.⁴ • Washing hands with soap also significantly reduces the cases of acute respiratory diseases among school children. <p>Cutting nails and washing under nails with soap.</p> <p>⁴ Curtis and Cairncross (2003). 'Effect of washing hands with soap on diarrhea risk in the community: a systematic review.' <i>The Lancet infectious diseases</i>, Vol 3 nr. 5, 1 May 2003</p>

	Health concerns in South Asia	Prevention related to hygiene practices
Feminine and male hygiene	Vaginal, bladder and kidney infections (women) and genital infections (men) are caused by bacteria that enter the body from outside (mainly due to lack of cleaning of the urinary opening and genitals). It causes painful urination and creates a sensation of needing to urinate often. In case of a kidney infection, it also can cause a fever and pain.	<ul style="list-style-type: none"> • Cleaning of genitals and surrounding skin (for women and men) and wiping from front to back after using the toilet. • Frequent drinking and urinating. • Urinating after intercourse.
Feet	<p>Hookworms: This infection can be one of the most debilitating diseases for children.</p>  <p style="text-align: center;">How hookworms are spread</p> <p style="text-align: center;"><i>Figure 7.5: How hookworms are spread.</i></p>	Worms can enter the body through bare feet that touch baby worms that live in moist soils. Particularly when feet have wounds, this can be a route of infection. Wearing shoes or slippers can avoid this contact.

3. Promotion of handwashing with soap

Although handwashing is also part of overall personal hygiene, it has its own entry because of the special emphasis that should be given to washing hands as an essential measure to improve people's health:

- Washing hands with soap after toilet use, before eating, before preparing food, after cleaning babies, after handling domestic pets and animals, and after working in the field reduces the risk of diarrhoeal diseases by 42–47 per cent.
- Washing hands with soap also significantly reduces the cases of acute respiratory diseases among school children.

Handwashing *with soap* is the critical component of this behaviour and handwashing with only water provides little or no benefit in reducing the amount of germs on somebody's hands. Clean mud or ash are as effective as soap and can be used when soap is not available.

4. Female and male hygiene

See Section 7.2 below.

5. Waste management and water drainage

Solid waste

Solid waste is left-over materials that result from human activities that are no longer wanted or needed by their users. Solid waste management is the collection, transport, processing or disposal of waste materials. In communities, solid waste generally consists of: organic waste (from agricultural activities, markets or left-overs during or after food preparation), paper (notebooks, books and wrapping material), plastic packing material and bottles.

If the community is not regularly cleaned, the solid waste left behind will attract rats, flies and cockroaches and other animals that can carry and spread diseases. This is also known as vector breeding. Therefore, from a health perspective, it is important that solid waste is collected and treated.

When solid waste is collected by a municipal service, it is often burned or buried. In order to get most 'advantage' from the waste that is left behind, it is essential that solid waste is being separated and as much as possible reduced, re-used and recycled, as follows:

- *Paper and cardboard*: In many areas, paper can be used for anal cleansing but paper and cardboard can also be collected separately by a recycling enterprise and sometimes it can even be sold to provide funds that can be used for school maintenance or school improvement. In addition it helps to save trees. E.g. for the production of 3600 kg of paper, 36 - 60 trees are needed!
- *Plastic bags, bottles and containers*: Just like paper, plastic can be re-used and recycled. When collected at school, the plastic could be sold to a recycling enterprise.
- *Glass bottles and metals*: Can also be separately collected and sold.
- *Organic waste*: Could serve as food for animals or also for *composting* organic waste in special bins.
- *Other waste*: Some of the waste cannot be used. This is just a fraction of the original amount of solid waste, and could be burned, safely buried or collected by the municipal services.

Wastewater

Especially in the rainy season, muddy paths, puddles and pools of stagnant water are common sights in communities. Most of the water will come from rain but also a significant amount comes from water run-off from taps, leaking pipes, pumps or even overflow from septic tanks.

Stagnant water provides a breeding site for mosquitoes which can cause diseases like malaria, dengue fever and filariasis. The water can also get contaminated with faeces and cause diarrhoeal diseases if people use this water.

According to the diagram below, the wastewater problem can be solved in several ways: (1) by decreasing the amount of surface wastewater (repairing leaking taps and pipes, preparing good drainage around taps, wells and pumps, clean septic tanks, reduce the amount of rainwater by collecting it for other uses); (2) by increasing the amount of water that seeps into the ground (e.g. through soak pits); (3) by increasing the drainage of wastewater out of the community (construction of drainage channels).

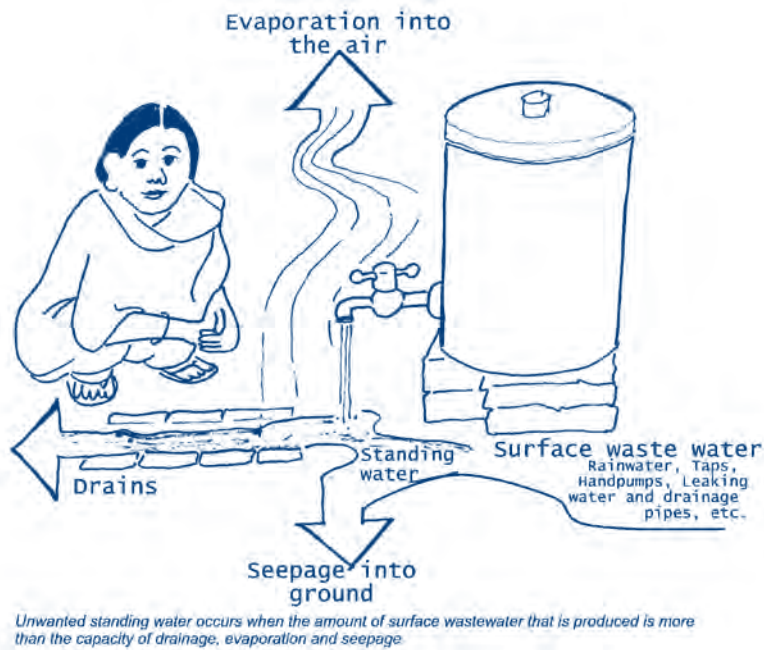


Figure 7.6: Solving the wastewater problem.

Source: B. Booth et al. (2001).

6. Water treatment, testing, handling and storage

The principal cause of contamination in relation to water pollution is *microbiological*, especially from human and animal faeces. While groundwater is generally of much higher microbiological quality than surface water, an increasing number of sources and systems used by people for drinking and cooking water are not adequately protected from faecal contamination.

Chemical contamination can also be a major health concern. Water can be chemically contaminated through natural causes (arsenic, fluoride) or through human activity (nitrate, heavy metals, pesticides). *The physical quality* of water (e.g., colour, taste) must also be considered. Water of poor physical quality does not directly cause disease, but it may be aesthetically unacceptable to consumers, and may make them use less safe sources. Finally, drinking water can be contaminated with *radioactivity*, either from natural sources or human-made nuclear materials.

Because of the negative health impacts of unsafe water, national government agencies have established drinking-water quality standards that public sources must meet or exceed (UNICEF, 2008). In most cases, private water supplies are not subject to national drinking-water standards and rural water supply programmes do not always follow those standards. When setting national drinking-water standards, most countries consider the standards set in other countries and the Guidelines for Drinking-Water Quality available electronically on the World Health Organization water quality web pages: www.who.int/water_sanitation_health/dwq/guidelines/en

If the water supplied through a water supply system is contaminated, some kind of treatment will be necessary. Only water that will be used for drinking and food preparation must be treated; for other uses such as washing hands with soap, mildly contaminated water can be used. Meanwhile, teachers and parents must make sure that children know the risks associated with this water and should not allow them to drink it.

At household level, the recommended options for microbiological water treatment are:

- **Boiling water:** A very safe and reliable form of treatment but because of the costs of fuel or firewood often too expensive for people in poor areas. WHO guidelines promote boiling mainly for crisis and emergency situations and state that generally bringing water into a rolling boil should be enough. After boiling, the water should be allowed to cool down on its own without the addition of ice. This procedure is effective at all altitudes and with turbid water.



Figure 7.7: Boiling, filtering and storing water.

- **Filtering of water through a sand filter:** Very safe if properly operated. This form of treatment requires trained staff and maintenance through regular replacement or cleaning of sand.
- **Solar disinfection:** This is a simple water treatment method using solar radiation and temperature to inactivate pathogens causing diarrhoea. It can treat small quantities of water at a time. Contaminated water is poured into transparent plastic bottles and exposed to full sunlight for six hours. It is a cheap option, but it is hard to detect if the water is safe for drinking (more at www.sodis.ch), creating a risk of use of unsafe water.

- **Chemical disinfection:** Ongoing research is taking place into reliable chemical disinfection of water. Traditionally, chloride is used for disinfection. When properly dosed, this is a very reliable way of treating water at a low cost. The disadvantages of the use of chloride are that the water does not taste so good and people are therefore reluctant to drink it and the fact that it is hard to detect whether the water has been safely treated.

Even if drinking water can be collected from a safe source, it can be contaminated if not handled properly during collection, storage and use. Therefore, it is always important to collect water in a clean container, cover the container during transportation and keep the water covered as long as it is stored. When water is taken from the container for consumption it should be taken with a clean cup with a handle, a ladle, or even better, using a jar.

There can also be problems with the contamination of drinking water that has a chemical origin (e.g. too high a level of salt, arsenic or fluoride). Regular testing should check that established levels are not exceeded. If they are, it cannot be used as drinking water. For chemical pollution, specialised treatment measures are needed. Often those measures are too expensive or too complex for a small and rural community. If this is not possible, alternative safe sources of water need to be found.

7. Food hygiene

Eating healthy food is essential for the wellbeing and survival of each human being. Eating 'contaminated' food (also known as food poisoning) can be an important source of diarrhoeal diseases.

In general, there are three sources of food poisoning that can be easily avoided with some simple measures:

- **Spreading of germs through food preparation** (1) Hands should be washed with soap before food preparation to avoid spreading of germs through hands. (2) Coughing or spitting on food should be avoided to stop disease spreading through saliva. This has become particularly relevant with the ongoing outbreaks of Avian and Human influenza.
- **Special precaution when handling raw food** (1) Fruits and vegetables that are eaten raw should be washed with safe water or peeled. (2) Raw meat, poultry or fish should not touch other food that is eaten raw. (3) Cooking utensils that have been in touch with raw meat, poultry or fish should be cleaned thoroughly with water and soap.
- **Food storage** (1) Cooking food kills germs. All meat, poultry or fish should be cooked well. (2) Where possible, freshly prepared food should be eaten immediately after preparation. (3) If food is stored, it should be covered. (4) Food should be kept as cool as possible. (5) When food smells bad, changes taste, changes colour, produces bubbles or becomes slimy, it should be thrown away because this can cause food poisoning. This can be biological or chemical and is the result of toxins produced by micro-organisms. These toxins cannot be destroyed by boiling and make people and animals sick.

The following table shows how the elements above relate to the 'knowing', 'doing' and 'feeling' of life-skills education from Chapter 6.

Table 7.3: Learning goals for life skills on hygiene

	Knowledge	Attitude	Skills
Safe use of toilets and urinals	Exposed excreta is the biggest cause of spreading diseases and makes people sick. Behaviours that can lead to worm infections.	The safe use of toilets and urinals including the safe disposal of faeces and hygienic anal cleansing followed by washing hands with soap.	The safe use of toilets and urinals including the safe disposal of faeces and hygienic anal cleansing followed by washing hands with soap. Maintenance and operation of school toilets and urinals.
Personal hygiene	Links between personal hygiene and diseases.	Appropriate personal hygiene: washing hands with soap (see separate point below), wearing shoes or slippers, cutting nails, brushing teeth, combing hair, regular washing of body and hair.	Appropriate personal hygiene: washing hands with soap (see separate point below), wearing shoes or slippers, cutting nails, brushing teeth, combing hair, regular washing of body and hair.
Promotion of hand-washing with soap	Links between handwashing with soap and drastic reduction of diarrhoeal diseases.	Handwashing with soap after toilet use, before/after eating, before preparing food and after cleaning babies.	Handwashing with soap after toilet use, before/after eating, before preparing food and after cleaning babies.

	Knowledge	Attitude	Skills
Female and male hygiene	<p>Menstrual blood is not dirty or unhygienic and unclean. It is simply blood and tissue from the lining of the uterus. The odour during menstruation is caused by bad hygiene of the genitals.</p> <p>Recognising and treatment of the symptoms of bladder and kidney infections.</p>	<p>Wash the genitals daily with mild soap and water (men and women) particularly during menstruation and using sterile pads as well as cleaning of genitals, wiping from front to back after defecation.</p>	<p>Wash the genitals daily with mild soap and water (men and women) particularly during menstruation and using sterile pads as well as cleaning of genitals, wiping from front to back after defecation</p>
Waste management and water drainage	<p>Health risks of non-collection of solid waste.</p> <p>Health risks of standing water.</p>	<p>Collection and treatment of solid waste.</p> <p>Avoiding standing water.</p>	<p>Collection and treatment of solid waste.</p> <p>Avoiding standing water.</p>
Water treatment, handling and storage	<p>Where possible collect water from a safe source and collect and store water safely.</p> <p>If the source is not safe always treat the water through boiling, filtering, solar or chemical disinfection.</p>	<p>If the source is not safe always treat the water through boiling, filtering, solar or chemical disinfection.</p>	<p>If the source is not safe always treat the water through boiling, filtering, solar or chemical disinfection.</p>
Food hygiene	<p>Links between food hygiene and diseases.</p> <p>Recognising common signs of spoiled food.</p> <p>Appropriate food storage.</p>	<p>Treatment of raw fruits and vegetables; raw meat, poultry or fish. Storage of food.</p>	<p>Recognising common signs of spoiled food.</p> <p>Appropriate food storage</p>

Recommended reading:

Child-to-Child Trust (2005). *Children for Health; Children as partners in health promotion*. Oxford, UK, Macmillan Education.

Healthy School Initiative Joint Programme (2007). *Teachers' Guide-Health Education*. Kabul, Afghanistan, HSI Technical Working Group.

Khamal, S., et al. (2005). *The Joy of Learning. Participatory lessons plans on hygiene, sanitation, water, health and the environment*. Delft, the Netherlands, IRC International Water and Sanitation Centre.

7.2 Female and male hygiene

Genital and menstrual hygiene (and management) are important for good health in women and men and reproductive health in general. If adolescent girls⁵ are to attend schools during menstruation, the availability of girls' appropriate toilets and water supply is essential so that they can comfortably change and dispose of sanitary pads and wash themselves in privacy. If these are not available, adolescent girls may be unable to remain in class. When they cannot use hygienic sanitary products, girls might be embarrassed by their own body odour caused by using the same cloth or rag without changing and washing.

Although so far not proven through scientific research, the lack of sanitary protection during menstruation is often mentioned by adolescent girls (and female teachers) as a barrier to their regular attendance in school. In rural areas, and often in poorer urban areas, there is very limited availability of hygienic (commercial) sanitary products; when they are available they are financially out of reach for most women and girls. Hence they have to find used cloth and old rags from which to make home-made sanitary pads.

Insufficient or inadequate sanitary protection can be very embarrassing for a girl while attending school during her menstruation. This is made worse if her school uniform is flimsy, worn and/or too small for her. Soiled uniforms can provoke ridicule from boys as well as from other girls, putting her at great risk of experiencing stigma and discrimination. For girls who cannot afford to buy washing soap, regular cleaning of her uniform or school clothes may not be easy. This means that for many girls and young women, it is preferable to stay at home during menstruation and not attend school at all. At home they do not have to worry as much about sanitary protection, or about having adequately concealing clothing.

Regular absence from school for several days a month can, even in the short term, have a negative impact on a girl's learning and therefore on her academic performance in school. Frequent absence may result in insufficient learning and therefore poor results in the long term. Eventually this can lead to dropping out completely.

⁵ The text has been adapted from: Kirk, J. and Sommer, M. (2006)

Another problem for adolescents is that school curricula typically do not cover the topic of menstruation and puberty in a very girl-friendly way, and so do not help girls to understand the changes in their maturing bodies. Girls and boys should have access to reproductive health education within formal education programmes. However, many biology text books instead contain diagrams showing sexless bodies, and make no reference to menstruation or reproductive health, leaving girls and boys ignorant on the topic. Progress is being made in some countries, but even there, the focus is on the biological and technical aspects of reproduction, rather than covering the social and emotional issues which adolescents in particular need to explore, such as feminine and menstrual hygiene, male hygiene, body awareness, the maturation process and changes during puberty.

Of course parents, and in particular women (mothers, older sisters) also have an important role to play in educating girls about their bodies. However, in many cultures, talking about menstruation and female hygiene is a sensitive issue. The school could play a supportive role in this by organising special meetings for parents to educate them to talk with their children and to teach them basic female and male hygiene, so they can pass this information on to their children.

Female hygiene

Most girls have their first menstruation (also known as menarche) between the ages of 11 and 16. Menstruation comes in a cycle of approximately 28 days and lasts three to six days. However, this can vary from girl to girl.

Studies suggest that around 66 per cent of girls know nothing about menstruation until confronted with their first menstruation event, making it a negative and sometimes even traumatic experience. Therefore it is extremely important that the subject is taught in school with sensitivity, creating a relationship of trust between the students and teachers.

Girls are often absent from school due to menstruation-related issues. Fifteen per cent of girls aged between 15 and 18 years are absent reportedly due to cramps and pains experienced during, and sometimes just before, their monthly period begins. This can mean that a girl misses between 10 and 20 per cent of her school days each year. This can also be true of female teachers. For students whose female teacher is absent during her own menstruation days, often no teacher or at best an improvised replacement teacher will be available. This will result in children not having classes for another 10 to 20 per cent of the time. If the student is an adolescent girl, the teacher's absenteeism will be added to her own.

Patterns of menstrual hygiene developed in adolescence are likely to be continued when the girls are adults. Therefore, girls should be taught:

- That menstrual blood is not dirty or unhygienic and unclean. It is simply blood and tissue sloughed from lining of the uterus every month due to natural cyclical hormonal changes.
- To recognise the symptoms of bladder and kidney infections caused by bacteria

which enter the body from outside (mainly due to lack of cleaning of the urinary opening and genitals): frequent urinating, pain while and just after urinating, urine smells and looks cloudy. When there is a serious infection in the kidney this can cause fever, nausea and vomiting.

- Knowing about home-based self-care that remedies the infection, such as drinking lots of water and also seeing a doctor and taking medicines.
- How to use and how often to change sanitary pads.
- How to effectively wash, dry and store their menstrual cloths if they need to re-use them in the absence of sanitary pads.
- Cleaning of the genitals and wiping from front to back after using the toilet and urinating within reasonable time after sexual intercourse to avoid bladder infections.
- Observing genital hygiene to avoid odour during menstruation, excessive vaginal discharge and kidney and bladder infections.

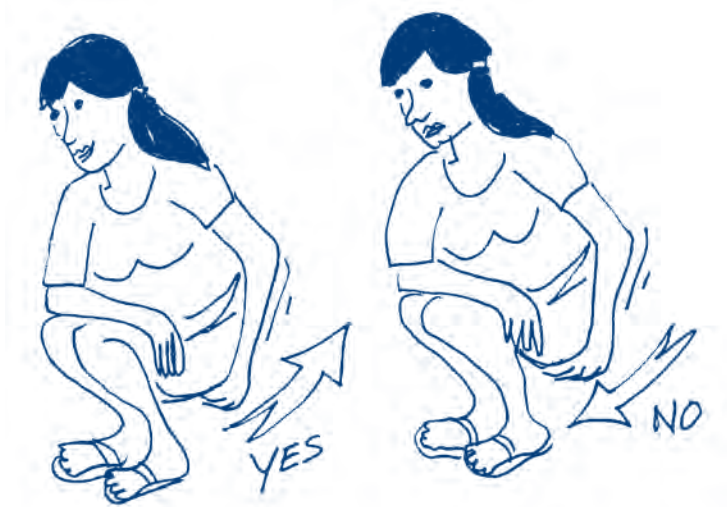


Figure 7.8: Girl cleaning herself.

As shown on the following page, girl-friendly design of facilities promotes proper hygiene behaviours.

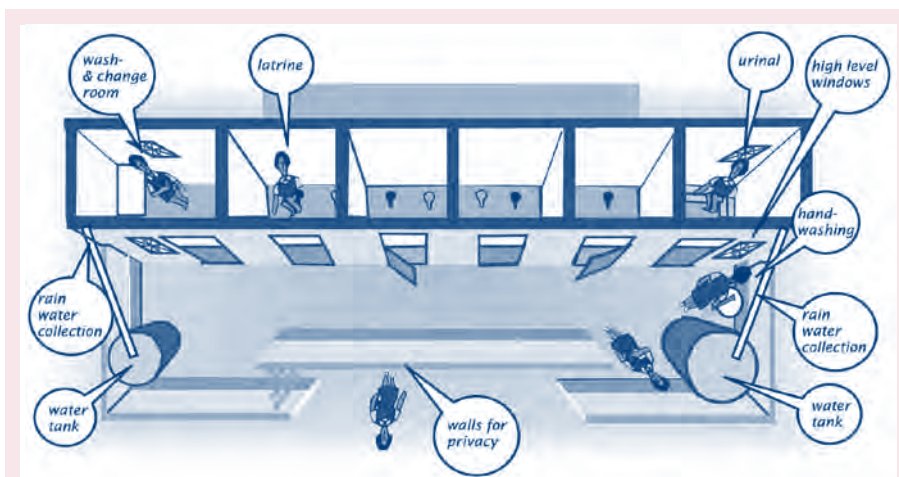


Figure 7.9: Example of a girl-friendly latrine.

© Drawing by Jaap Zomerplaag

The design

The latrines help the girls in several ways:

- There is a washroom that the girls can use to change or clean themselves in privacy, e.g. during menstruation.
- The latrine is specially designed to meet the needs of the adolescent girl in that the squat holes are slightly bigger to cater for the girls' physiological urge to urinate whilst defecating. A smaller-sized squat hole might make them soil the latrine slab with urine whilst defecating.
- There is a urinal with a door to allow for privacy when they urinate and four alternating-pit latrines within each unit.
- Rain water is being collected from the roof of the sanitary unit which makes it completely self-sufficient.
- Water and soap are provided within the washroom and at the exit of the urinal.
- There is provision for a disposal system for sanitary pads.

The design was developed in full consultation with the girls on their needs and ideas on how to accomplish their needs. The costs of each building were approximately US\$3,500.

Source: Case Study, Plan International, Ghana, in Notes & News on School Sanitation and Hygiene Education, May 2007, IRC, Delft

Male hygiene

Hygiene of the genitals is also important for boys. Genitals should be washed properly (with just water or mild soap) at least once a day. This is necessary because the last drops of urine usually remain under the foreskin where smegma, a lubricant, is produced. The mixture of urine and smegma is a good environment for bacteria reproduction. These bacteria can easily provoke various kinds of inflammations.

Recommended reading:

UNICEF India (2008). *Sharing simple facts. Useful information about menstrual health and hygiene*. New Delhi, India, UNICEF Child's Environment Section.
Available from: www.solutionexchange-un.net.in/gender/cr/res11030801.pdf



Chapter 8 Programme strategy in schools and in the community

8.1 Baseline studies

Baseline studies of schools are useful for planning at the beginning of the programme and monitoring at later stages. The purpose of a baseline study is to build on current strengths and get information to make plans that will prevent or solve problems. In school programmes similar challenges appear again and again. Therefore such a small survey will usually give sufficient information for planning (Snel and Shordt, 2005). A sample of 10 to 20 schools in different parts of a district is usually sufficient but it can also be used (by students and/or teachers) for an individual school.

Topics for a baseline study: suggested topics for investigation

School

- Are the school yard, compound and classroom clean?

Water

- Is there a functioning water point within the school area? Or within 150 steps of the school? Is it functioning during the entire school year?
- When the school water point is not functioning how do children drink water?
- What is the quality of drinking water at the water point? Is there safe water storage?
- How will children know if the 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?

Toilets, urinals

- Are there toilets within the school compound?
- How many girls use one toilet? How many boys use one toilet or urinal?
- Are the toilets and urinals clean?
- Are they well lighted and ventilated?
- Are there puddles of water around the toilet pan or just outside?
- Are the toilets and urinals smelly?
- Is there a jug for lifting water to flush and wash hands?
- Is there water for cleansing inside or beside the toilets?
- Is there soap, clean mud or ash?
- Do teachers have separate toilets?
- Are toilets being used?
- Do children wash their hands correctly after using the toilet?
- Do children help clean the school, including the toilets?
- Do children take turns (rotate) in cleaning the toilets?

Topics for a baseline study: suggested topics for investigation

Teachers

- Are teachers trained in WASH in schools?
- When and for how many days were teachers trained?
- Do teachers have a guide book for WASH?
- Does that cover all relevant topics?
- What are the teachers' opinions about hygiene teaching?
- Have teachers taught anything about hygiene?
- Are there any teaching materials, books or learning materials in schools about WASH?
- Can the teacher explain correctly what hygiene means to him or her?
- Can the teacher explain correctly what sanitation means to him or her?

Community

- Are parents, the Parent-Teacher Association (PTA) or other community groups involved in the school? In supporting the school?
- Is the PTA active? Do they keep minutes? Have they met in the last few months?
- Do the parents know about WASH facilities provided by the school?
- Do the parents provide a financial contribution towards the WASH facilities at the school?
- Are there household toilets (more than one out of ten households) in the community?

Using baseline information

In the districts of Ranchi and East Singhbhum in India, baseline studies were done in 10 to 12 schools in each district that had water and sanitation facilities. The baseline formats were adapted from simple indicative survey forms (observations-questions) developed by UNICEF (See Appendix 2).

The baseline reports were analysed and reported by the Directors of the District Institute for Education and Training (DIET) and coordinators of the Sanitation Towards Health and Hygiene (SWASTHH) programme in Ranchi and East Singhbhum. The more significant findings are reflected below.

Baseline reports: East Singbhum and Ranchi

Growth points/successes

- Most schools have some elements of hygiene education.
- Most parents have knowledge of the facilities.
- Teachers are aware of the issues and incorporate some hygiene/health education in their lessons.

Challenges/problems

- Poor working condition of water facilities within 100 metres of school.
- Poor maintenance, repair of toilets.
- Lack of access to and use of facilities (for toileting and handwashing) by children.
- Non-involvement of village education committees and Parent Teacher Associations.
- Focus was on block meetings and on administration rather than substance.
- Regular attendance by less than half the targeted schools.

Conclusions and recommendations were:

- Construction does not ensure use of facilities.
- Involvement of parents is crucial.
- Teachers must be motivated through good training and supervision.
- Clear operation and maintenance plans are critical to success.
- Material is needed in addition to current text books; good resource material, lesson plans and classroom activities are required.
- Block meetings need to be organised well to attract people to participate actively, and become good platforms for training in WASH in schools.

Information such as the above, should be fed into the district/block work plans and the training modules. It should take these lessons into account to prevent the problems/ challenges shown above from recurring.

8.2 A gender and poverty-sensitive approach

When assessing the possible actors and roles in developing WASH in schools programmes, it is important to take gender and poverty issues into account. Without this, it is easy to lose sight of the needs and interests, and the special skills and insights, of women and poorer families. It is also important to have an understanding of gender dynamics specific to the culture and social norms. How do boys and girls perceive each other's roles and responsibilities? What is their concept of sharing both the burdens and the benefits generated through the improved water and sanitation situation? It is important to take account of issues such as:

- Who decides on technology?
- Who collects water?

- Who is on committees?
- Who holds positions on the committee?
- Who decides on payments and collects money?
- Who provides free labour?
- Who participates in operations and management groups?
- Who teaches children how to use the facilities?
- Who decides on programme strategy in the district? In the village?
- Whose children benefit most? Benefit least?
- Who pays? How much? Who does not pay?
- Who serves the tea in meetings?
- Who washes the dishes?
- Who speaks the most?
- Who speaks the least?

Gender and poverty-sensitive approaches can help school water and sanitation projects succeed in achieving their objectives for all: girls and boys, men and women, rich and poor members of the community. Before agency and project staff can implement a gender and poverty-sensitive approach in policy making, the design of technologies, project planning and implementation, they should understand some basic aspects of gender.

Gender and poverty-sensitive approaches: some principles

1. Gender relates to girls and boys, men and women

“The gender and development approach focuses on men and women and on the relationships between them.” (Wakeman, 1995)

2. Gender is different from sex

While *sex* is the biological difference between men and women (what we are born with), *gender* is the set of roles and responsibilities men and women, boys and girls have learnt or end up playing in their family, community and in society at large (socially constructed and based on biology).

3. Gender is a social concept

Gender relations are shaped in homes, schools, and the labour market. They refer to social differences between girls and boys, men and women.

4. Men and women have different roles, tasks, responsibilities

In the water supply and sanitation sector, these differences in roles, tasks and responsibilities appear quite clearly. Women are the managers of water in the household. They collect water, transport, store, and distribute it for the various uses: cooking, washing, for hygiene of the family, for cleaning the environment, giving water to cattle and other domestic animals around the house. Men are more occupied with construction and general management. They may favour more complex technologies than women. Men are less likely to fetch water for the household. However, they often fetch water for irrigation and cattle. They prefer to use diesel run electric pumps for irrigation purposes if they can afford it.

Gender and poverty-sensitive approaches: some principles

5. Gender needs: practical (access) and strategy (control, sustainability)

It can be important for the health and convenience of children to have (and use) clean drinking water, handwashing facilities and toilets within, or near to, the school. These are practical needs. Girls and women tend to use sanitation facilities more than boys or men. Design differences can also be related to sex. For example, boys tend to urinate outside more often than girls. Therefore it might be useful to construct urinals that are easy to use for boys. For girls, sometimes it is more important that facilities are private but have enough light. Such differences should be discussed and taken into account in designing facilities. While practical needs refer more to the short term, meeting strategic needs will improve the position of women, making them more independent over the longer term.

6. Class differences: not all women and men are the same

The results of differences in wealth, class and caste in water supply and sanitation can mean that benefits and responsibilities are not always properly distributed among different people. Furthermore, wealth, class and caste differences are more important in some parts of South Asia (or the world) than others, and these differences change over time. Those who design programmes and those who are involved in them, such as headteachers and teachers, need to be sensitive to these differences, and act to avoid or solve problems which can arise because of differences in wealth, class and caste.

8.3 The actors and their roles

When working with local groups in communities, it is easiest, of course, to begin with those who are already involved. This means that in different communities, somewhat different groups may be involved in the programme. A way of stimulating this selection locally is an important point to include in the district programme plan. Consciously addressing this issue means that all groups will be included: the poor, social classes and women. Micro-plans must take this into account and stimulate their participation, not only in making contributions but also in decision-making.

The Vision: Main actors involved and their roles in a school sanitation, water and hygiene education programme

Child	→	a key resource
School	→	knowledge centre
Teacher	→	sensitive leader
Community	→	an equal partner
Government	→	committed facilitator

Before detailed district planning, it is important to identify the local actors and groups who should be involved. It is usually more effective to build the WASH in schools programmes with existing active groups, if these are representative of the community. Many people and institutions can participate in a school water, sanitation and hygiene programme. These can include:

Community members

- Children
- Parents
- Pre-school workers
- Teachers and headteachers
- Builders and masons

Community groups and institutions

- Parent-Teacher Associations (PTAs)
- Village Education Committees (VECs)
- Water and sanitation committees (WATSAN)
- Village/local government development committees
- *Gram sabha* (India)
- Local government members (India)
- Women's groups and self-help groups
- Youth groups
- Contractors
- Small entrepreneurs

Block and district institutions

- District officials: collector, chief executive officer
- PHED (Public Health Engineering Department)
- DIET (District Institute for Education and Training education department) - District education officers, Block education officers
- Teachers, Cluster Coordinators
- ICDS (Integrated Child Development Services) - Child development project officers, supervisors
- Health departments including district health officers
- Rural development department
- Various NGOs (non-governmental organisations) and their field workers

Below are examples of case studies of sanitation programmes in schools in a number of different countries.

Case study 1: School-Led Total Sanitation in Nepal (SLTS)

In Bajjalpur village in Kapilvastu, Nepal, school children lead the community sanitation drive. In a country where only 39 per cent of the population have access to a toilet, Bajjalpur village in Kapilvastu district is setting an example that others in the nation could learn from and replicate.

“Bajjalpur is a 100 per cent sanitation zone. Every home in our village has a latrine,” proclaim billboards in English and Nepali, on the dirt roads leading into the village.

Spearheading this community drive in sanitation and hygiene is a band of school children and teachers of the Shree Pancha Primary School.

“Earlier when we went to our neighbours and told them about the benefits of constructing a latrine, they would chase us out as if we said something offensive,” says sixth grader Manju Chaudhary, the president of the Srijanshil Children’s Club. “But now, everybody takes pride in the fact that there isn’t even cow-dung or dirt on the roads in our village,” says the 14-year-old, her brown eyes twinkling.

UNICEF and the Water Supply and Sanitation Sub Divisional Office (WSSDO) in Kapilvastu launched the School-Led Total Sanitation (SLTS) project in 2005. UNICEF and WSSDO trained the teachers and initially offered to provide a toilet pan, a 10 foot pipe and technical support to every household to construct a latrine. But eventually, the community members started buying their own materials.

The SLTS programme comes close on the heels of the School Sanitation and Hygiene Education programme, which was started in 2002 for school students and teachers. This ensured that the students were already aware of maintaining high standards of personal hygiene and keeping their school premises clean. According to the teachers, spreading this awareness amongst the community was a natural move.

“The children were ecstatic when we told them what we were planning to do in the village,” says Jagat Raj Regmi, the headmaster of the school. “We did all we could but it was ultimately children like Manju who could better convince their parents,” he says.

The SLTS programme also incorporates adult members of the community, such as members of the School Management Committee, the Parent-Teacher Associations and the mothers’ club, who are also part of the larger Cleanliness Committee.

After the child club members and other school students received training from their teachers, they began to campaign and educate their often illiterate parents and neighbours about the benefits of constructing a latrine and keeping their community clean.

“When we started out, I was quite embarrassed since I was the president of the child club and we didn’t have a latrine at home,” says Manju. “I argued with my parents who are very poor and were quite hesitant in the beginning. But soon they came

around when they realised how serious I was," she says, standing tall beside her mother.

Besides the construction of latrines, the joint committee of students and adult community members shares responsibilities for trash collection, sweeping roads and clearing the neighbourhood of animal waste. Bajjalpur has the distinction of being a model village in Nepal, having trash containers regularly spaced throughout, and some even strapped to tree trunks.

Within a year of beginning the SLTS programme, the residents of Bajjalpur had achieved the goal of constructing a latrine in all of the 314 homes. The community is an example in the region, and the school gets many visitors and teachers from other schools who want to do the same.

Manju's mother Shobha, who is a house-wife and from whom Manju inherited her shy smile, is proud that her daughter is at the forefront of bringing change into their village. "When I look back, I cannot imagine how we went into the forests to answer the call of nature," she says. "But because of Manju's insistence, now we have a toilet."

According to her teachers, Manju's grades have remained consistently high since joining the children's club, and this year the other students unanimously re-elected her as president for the second time in a row. When asked what she would like to become when she grows up, the confident teenager smiles and without a hint of hesitation quickly says, "I'd like to become a health worker – and join an organisation like UNICEF."

Case study 2: Institutional guidelines for schools in Afghanistan

Since 2004, the Healthy School Initiative programme is a joint initiative of three ministries: the Ministry of Education, the Ministry of Public Health, and the Ministry of Rural Rehabilitation and Development; and four UN organisations: WHO, WFP, UNESCO and UNICEF. UNICEF is the administrative agent.

These seven partners form the core group of this joint programme, but it does not limit partnership with other stakeholders such as civic societies, NGOs or other UN organisations and ministries (like MAIL/FAO for implementation of school gardens and food and nutrition education). This will be important especially when implementing activities at field level.

The Ministry of Public Health will lead on policy and strategy development and ensure that relevant preventive health measures for school children are in place. The Ministry of Rural Rehabilitation and Development will be responsible for the installation of suitable and child-friendly water and sanitation facilities in the schools. The Ministry of Education will be the leading agency in coordinating the overall implementation of the programme. The UN agencies will provide technical advice as required.

The Healthy School Initiative is being directed by a specific Project Steering Committee that is chaired by the Ministry of Education and with membership being drawn from the other ministries involved at Deputy Minister level and the UNICEF Senior Programme Coordinator/Deputy Country Representative. The Steering Committee is responsible for approving project plans, annual project budgets and fundraising strategies. A technical working group with members from all partner organisations has been established and is responsible for project planning, implementation and monitoring.

Among districts there is considerable variation in the strength and activity levels of the various institutions. For example, in some areas women's groups or local governments may be stronger or weaker. The point is to have a structure in the detailed local planning which allows the freedom to build on groups that are locally strong, and are also good representatives of the population.

Adapting the roles of actors and institutions to the local setting

Examples of adapting the roles of actors and institutions to suit the local setting are shown below.

The first is in a district in Orissa, India, where the local government system is still new and developing, while women's self-help groups and NGOs tend to be strong and popular. Here, NGOs and women's groups have taken the lead in both water and sanitation. One experienced and strong NGO serves as an umbrella organisation to help train, support and supervise others.

- In Ganjam District, Orissa, India, women's self-help groups exist in many villages and have proven to be successful. In about 200 villages the women's groups have formed the basis of water and sanitation (WATSAN) committees. These typically have about 15 members, with 10 to 12 women and three to five men. The women are drawn from the membership of the different local self-help groups. There are also sub-committees of three to five members, each responsible for one subject. Thus in a village there may be sub-committees for operation and maintenance, finance, anganwadis and schools, public sanitation, household toilets and so on.
- In Chitradurga District, Karnataka, India, the Village Management Resource Committee has two members from community-based organisations (CBOs), a representative of each of the 25 houses in the village, and frontline workers (headmaster, anganwadi worker, gram local government secretary, village accountant).
- In Kamrup District, Assam, India, the school committee is composed of the headmaster, one other trained teacher and three or more community leaders (two of whom are women). The block implementation committee has two representatives from Education and PHED from each of five blocks plus a project coordinator).

The examples from Orissa and Karnataka involve NGOs and CBOs. Indeed, NGOs, the civil society organisations, and community-based organisations can play an important role in ensuring the quality and sustainability of a programme.

8.4 Making a micro-plan

As noted in the earlier sections of this chapter, to make a local plan (known as a micro-plan) it is first necessary to have identified the key actors and to have information about the schools from a baseline, no matter how limited. It is also important to keep in mind the need to take account of gender and poverty issues (see section 8.2). The purpose of preparing a micro-plan at an early stage is to have a basis for the preparation of the district and block plans, and an idea of how human and financial resources should be allocated. This indicative micro-plan will form the basis for the district work plan. Thus, beginning with the survey (section 8.1) and analysis of the actors (section 8.3), the preparation of a draft micro-plan (section 8.4) leads to the formulation of a better quality and realistic district plan that is based on the real situation in the communities.

Because these local situations differ considerably, the micro-plans may also differ. Below are examples of school programme outlines in three different districts. The different community strategies are shown below, as described at the national Sanitation Towards Health and Hygiene (SWASTHH) workshop in Bangalore, India (SWASTHH, 2000). These plans were carried out in Mumbai, Mysore and Erode districts. It is interesting to see the difference in the strategies and the roles of the people involved.

Note: in a training session it would be useful to ask participants to study these examples and to identify the main differences between them, as an example of local variation in community strategies.

Table 8.1: Examples of school programme outlines

Strategy	Mysore district, Karnataka, India
Start-up activities	<p>Survey: Done by health department; showed lack of facilities, uneven knowledge and a low level of hygiene practices among children.</p> <p>School selection: 20 schools were selected to start the programme. It took two years to cover about 200 schools in one block as this was a pilot and success was obtained through the determination of a few district officials with cooperation from the school teachers and the District Institute for Education and Training.</p> <p>The school curriculum was changed to make it more relevant.</p> <p>Teacher training included motivating teachers to maintain school campuses.</p> <p>Awareness creation: Health and education officers and NGOs showed videos, wall writings, and undertook public activities.</p>
Facilities and construction	<p>Facilities (Public Health Engineering Department - PHED): All schools were given a water supply on the school premises. Later, toilets were provided to schools.</p>
Ongoing activities	<p>School children from a 'school cabinet' were involved in all sanitation and hygiene activities:</p> <ul style="list-style-type: none"> • Different 'ministers' in the cabinet came from different grades. Each 'minister' was attached to one teacher. • The headteacher held meetings with all teachers and the school cabinet. • All cabinet members received orientation. <p>Daily school themes focused on one aspect of sanitation: Monday: handling drinking water Tuesday: disposal of waste water Wednesday: disposal of garbage Thursday: personal hygiene Friday: the importance of toilets Saturday: home sanitation</p> <p>NGOs organised communication activities: street plays, public activities, health camps, competitions. Sanitation thrived in communities involving school children. In some cases local people helped plan and implement water and sanitation inputs.</p>

Strategy	Mysore district, Karnataka, India
Groups most involved	Health department, education officer, block education officer, local government, Village Education Committee, Public Health Engineering Department, NGOs.
Incentives	<ul style="list-style-type: none"> • One-time contribution to schools for gardening implements (sprinkler, mug/bucket, etc). Recurrent expenditure for repairs, soap etc., is the responsibility of school authorities with contributions from children. • Badges were given to cabinet members. • Water and sanitation facilities in each school. UNICEF provided handpumps, 45 per cent of the payments for protection of water/sanitation facilities, 50 per cent of the payments for the construction of toilets, all information, education and communication needs for health and hygiene and support to NGOs. • This programme became very popular with the Local government Raj institutions.

Strategy	Erode District, Tamil Nadu, India
	<p>Objectives:</p> <ul style="list-style-type: none"> • To ensure easy access to facilities in schools. • Inculcate hygiene practices. • Establish child-to-child/parent/community linkages for disseminating information.
Start-up activities	<p>Survey: done by Education Officers of almost 500 schools.</p> <p>Awareness-creation activities included rallies, exhibitions, programmes, wall paintings/booklets.</p> <p>Training and communication materials were provided.</p> <p>Training: youth groups, village task force, anganwadi workers, health workers. Also:</p> <p>Phase 1: training teachers, PTAs</p> <p>Phase 2: training students and teachers</p>
Facilities and construction	<p>Piped water was provided through extensions from existing schemes.</p> <p>School toilets were constructed from funds from rural development department/education/UNICEF/local government.</p> <p>Toddler-friendly toilets were provided for anganwadis.</p>

Strategy	Erode District, Tamil Nadu, India
On-going activities	Not indicated.
Groups most involved	Education Officers, PTAs, teachers, anganwadi workers, rural development department.
Problems	Coordination at State level, monitoring/supervision and lack of good NGOs.

Strategy	Aurangabad District, Maharashtra, India
	<p>Objectives:</p> <ul style="list-style-type: none"> • Promoting life skills with participatory learning. • Child learns hygiene practices. • Child is agent of change, motivating parents and community members. • Promoting interaction between parents and teachers. <p>Two elements in the strategy:</p> <ul style="list-style-type: none"> • Sensitising government functionaries (health, waterman, anganwadi). • Creating awareness of hygiene practices among teachers and children.
Start-up activities	<p>Training: five-day module for village workers (health, teachers, dais, waterman & community leader). This workshop was for people from the same village doing different jobs. This helped the people to work together. Topics: health, hygiene, waste disposal, low-cost options, field visit to see current status of sanitation.</p> <p>Training: headmasters: one-day orientation, focus on needs of child and PTA activities.</p> <p>Teacher training of three days focusing on hygiene practices; and community survey to learn about current hygiene practices.</p> <p>Learning materials: messages, stickers, posters, wall paintings.</p>
Construction	No construction of water/sanitation facilities
On-going activities	<p>Children's camp (five days) to help children understand the need for sanitation and how it affects their lives. Survey undertaken. Children learn about kitchen gardens, water quality, water purification with sunlight, soak pits, etc.</p>

Strategy	Aurangabad District, Maharashtra, India
Groups most involved	Stakeholders: children, teachers, parents, community members, health officials, district officials. Partnerships: chief executive officer, education officer, district health officer, UNICEF at district level.

It is highly useful to have an indicative timeline for the local level. This is then transformed into a more detailed plan, through consultations and planning sessions with stakeholders in the school, cluster and community. *The plans in various communities should differ somewhat, depending on local resources, interests, demands and needs. Thus a minimum micro-plan should only describe the minimum essentials and should allow for flexibility.*

Activity 8.1: Gender analysis and awareness quiz

The 'gender quiz' is a simplified gender awareness and analysis tool. It can be adapted to the project, district or community level. This is also an example of a participatory activity.

Audience: Participants whom are either directly or indirectly involved in WASH in schools

Objectives:

- The activity can serve several purposes. It can be used as:
- An awareness-creating technique for programme leaders and educators and other stakeholders.
- A tool for participants to start identifying their own indicators.
- A means to monitor these indicators. The monitoring activity leads almost seamlessly to motivating leaders and stakeholders to act or plan actions that will improve the situation.

Material:

For each participant, provide four cards: one pink, one blue card and two cards of another colour such as white and grey.

Time: More than one hour with discussion

Procedure:

1. The facilitator states that there is a wide agreement that gender and poverty issues are important in the sector. Yet many people in the sector still see these as abstract concepts or think that gender only has to do with women. This quiz helps to build understanding of how gender and wealth or caste issues can affect a WASH in schools programme. It stimulates the use of gender and poverty analysis in your work in general and in monitoring activities in particular.
2. The facilitator will read the following paragraphs and questions (see next page) or shows them on overheads. While the questions are being read, the participants are asked to imagine a project or programme that they know from personal experience.
3. The facilitator tells the participants the following:
 - When you think the answer to the question is women or girls, you raise the PINK card.
 - When you think the answer is men or boys, you raise the BLUE card.
 - When you think the answer is richer people raise the white card.
 - When you think the answer is poorer people raise the grey card.
 - If you think none of these are the case, do not raise a card.
 - You may raise more than one card.

(Note: the facilitator can point at examples written as legend cards: pink=women or girls, blue=men or boys, white=richer, grey=poor).

4. Tell the participants to not think long, just to raise the card that they think represents the best answer.

Understanding the need for facilities

It is important for parents to support the school water, sanitation and hygiene programme. If they support the programme then they may, for example, assist with construction, provide money for small recurrent expenses such as soap, and make repairs. In order to support the programme, they first need to appreciate or understand the need for it.

- Who in the community usually understands the need for water points in the school, men or women (or both or neither)?
- Who in the community usually understands the need for toilets in the school, men or women (or both or neither)?
- Who has the greater need and demand for toilets in the school, boys or girls (or both or neither)?
- Who in the family makes the decisions about giving money to the school for recurrent costs of water, sanitation, and handwashing facilities, the fathers or mothers (or both or neither)?

For discussion during debriefing at the end of the quiz: The people (men and women) who make decisions about supporting the school programme, both need to understand the need for school facilities. This may mean that different information, education and communication activities are needed to reach both men and women.

Involvement in repairs and construction

- Who participates in construction of water, sanitation or handwashing facilities in the school, men or women (or both or neither)?
- In construction, who has paid jobs, men or women (or both or neither)?
- In construction, who does voluntary (unpaid) work, men or women (or both or neither)?
- Who do you think would make repairs, men or women (or both or neither)?

For discussion during debriefing at the end of the quiz: Do women tend to have the unpaid jobs in water and sanitation?

Advocacy of health messages

- In many school programmes, children are asked to give messages about hygiene and sanitation at home. Who usually hears these messages, women or men (or both or neither)?
- Who is most likely NOT to know about the hygiene education their children receive in the classroom, fathers or mothers (or both or neither)?

For discussion during debriefing at the end of the quiz: Are special education or awareness activities needed to reach fathers? If so, how?

Use of facilities

- Who can most easily use the water point, poorer or richer children or both or neither?
- Who uses the toilet mostly, boys or girls (or both or neither)?

For discussion during debriefing at the end of the quiz: What are the implications of the participants' answers to these questions for the design and organisation of the school programme?

Use and maintenance of facilities

- If water must be carried to the school, who usually fetches it, boys or girls? Poor or rich (or both or neither)?
- Who keeps the area around the water point clean? Or if the water is stored in the school, who cleans the containers and cups? Boys or girls or both or neither?
- Who cleans the toilets, girls or boys? Poor or rich children or both or neither?

For discussion during debriefing at the end of the quiz: Do the participants' answers to these questions point out any problems that require special responses in a school programme?

Adult roles

- Who shows younger children how to use a toilet, male teachers or female teachers (or neither because other people do it)?
- Should a leading WASH in schools teacher be male or female?
- In a community, men and women choose a male chairman and a female treasurer for the PTA or water supply/sanitation committee. Both were chosen for capacity and trust. Both were trained. Who controls the money and decision-making, the man or the woman?

For discussion during debriefing at the end of the quiz: Do the participants' answers to these questions point out any problems that require special responses in a school programme?

Children's roles

- Who benefits most from the programme, boys or girls? Rich or poor?

For discussion during debriefing at the end of the quiz: What are the implications of the participants' answers to these questions for the design and organisation of the school programme?

Comments

There are no 'right' and 'wrong' answers to these questions. However, participants should see how they vote as a group. This will start spontaneous discussion and reflection on the key issues. As part of the summary and debriefing the facilitator can add:

With your answers you have shown that gender deals with both men and women and that gender is an important aspect of programming. You have also seen that class and poverty issues may need to be seriously considered in organising the school programme. A real gender and poverty analysis is more thorough, but in summary, it will help you look at:

- *Who does the physical work: men, women or both?*
- *Who makes decisions: men, women or both?*
- *Who gets benefits, training, jobs: men, women or both?*
- *Who controls the benefits: services, income, training: men women or both?*
- *What are the implications of this for school programmes?*

The debriefing can continue with participants, using the questions in the quiz, listing issues that should be taken into account when planning a school hygiene and health education programme at the community and district level.

Activity 8.2: Preparing indicative micro-plans

Audience: Participants who do not already have a plan for WASH in schools

Objectives:

- To prepare an indicative plan for WASH in schools at the community level, for one school.
- To practise limiting plans and making them flexible.

Material: Cards of two or more colours, poster paper and markers for displaying the work in the plenary.

Time: One hour plus time for reporting back and reflection

Procedure:

1. The facilitator asks the participants to form small groups of not more than four or five persons who work together and are familiar with the same area.
2. The participants select one stage of their WASH in schools programme, depending on how their programme is currently operating. The stages can be either: programme start-up including social mobilisation, technology selection and construction, or ongoing activities (hygiene education in the school, health/sanitation clubs, use and maintenance of water and sanitation facilities).
3. Participants prepare a plan showing the main actors, the various activities and possible time frames. Do not forget to include preparatory actions such as training and orientation (including who will facilitate these). After the plan is prepared, the small group should review it and simplify it by discussing: What can be omitted? What can be planned locally? What activities will involve poorer families/children? Women and girls?
4. The small groups report back to the plenary session. In this reporting the groups should describe:
 - What can be planned locally?
 - In what ways might the plans be different from one community or school to another?
 - What activities will involve poorer families, women and girls in decision-making?
5. In the debriefing, the facilitator and participants can reflect on issues such as:
 - Taking gender and poverty aspects into account.
 - Attempting to build on the strongest local institutions.
 - Clear coordination between school committees and local government or other local committees such as the village development committee.
 - Management of contributions, funds and resources.
 - Understanding and accepting the meaning and importance of the programme for children.

Activity 8.3: Identifying actors and their roles in the school programme

Audience: Participants who have a block Plan of Action and a work plan

Objective:

This exercise helps people to reflect on assigning responsibilities and estimated dates for accomplishments. This means:

- Checking the roles of the key actors and their coordination,
- Helping participants solve common planning and implementation problems in WASH in schools programmes.

Material: Poster paper; copies of the table below

Time: Two to four hours

Procedure

1. Those who have already written a WASH in schools strategy plan can form themselves into groups of people working in the same block or district. Groups may focus on what roles they hope the key actors will carry out.
2. Each group has a copy of the table and should complete it during their discussion.
3. Note that completing the table is a way for participants to check their work plans and strategies. They should:
 - Change the activities to reflect their current work plan.
 - Identify the key actors, that is, people who have final responsibility for the activity. Note that it is more effective to assign responsibility to only one actor or group. Too much sharing of responsibility can mean that no one really takes responsibility.
 - Identify the people or groups who are to be involved, and without whom the activity will fail.

Comments

In preparing the said table, participants tend to write the same names for many activities. The facilitator should select two to four of the people or groups that have the most responsibilities and ask: Is their workload realistic? Do they want to do all this? Who else might want to be responsible? What can be done if the person responsible for these activities is not motivated?

Table 8.2: Identifying actors and their roles.

Activities	People responsible	People involved
Start-up		
Make a plan		
Baseline survey		
Form a Village Education Committee (VEC) or activate a PTA and management group		
Raise awareness among community members		
Organise community contribution		
Transfer money for the programme		
Train teachers and headteachers		
Train other community people (VEC, PTA, water committees, health workers, and so on)		
Develop hygiene/sanitation education materials		
Keep school compound and classrooms clean		
Adapt and test training materials and teaching aids		
Facilities and construction		
Discuss and agree on design options, preferably in consultation with children and teachers		
Select technology, keeping in mind availability of water for flushing		
Calculate bill of quantities and select contractor / supplier		
Agree on specifications and quality checks and who will certify		
Organise construction of the facilities: community inputs		
Help with construction		
Construction quality and timeliness		

Activities	People responsible	People involved
Ongoing activities		
Organise children to fetch water, filling tanks and receptacles so that enough water is always available at all times		
Organise children to maintain and clean toilets, water points, school grounds		
Teach children proper use of toilets and handwashing		
Monitor use of the toilets		
Supervise and monitor WASH in schools		
Have or (make) educational materials		
Do repairs and replacements in schools		
Solve problems when the school facilities are not maintained or break down		
Organise learning activities in classroom		
Lead and plan activities for the groups		
Organise learning and communication activities outside the classroom: camps, campaigns, etc.		
Form groups or clubs of pupils in their school		
Organise various activities periodically to collect funds for activities and repairs		
Cover recurrent expenditures for soap, repairs, etc.		
Organise refresher training each year		

Activity 8.4: Defining and checking the roles of actors

Figure 8.1: Defining and checking the roles of actors.

Objective:

To focus on the role of the various actors involved directly in WASH in schools.

Material: Copy of the table below.

Time: Two hours

Procedure:

1. The facilitator asks the participants to examine the table of those stakeholders who are directly involved at the school level with WASH in schools. They are asked to critically assess the main roles and responsibility that are defined for teachers, school management committee, and district level steering committee.
2. As part of the debriefing, ask what they agree and do not agree with, why and possible changes and/or additions.

Table 8.3: Some roles of actors involved in WASH in schools.

Actor	Main role and responsibility
Teachers	<ul style="list-style-type: none">• To become role models by giving high priority to hygiene and sanitation in the school and community.• To use and make educational materials within the class.• To encourage the activities carried out in accordance with the action plan through follow-up and evaluation activities.• To check whether or not students have been equipped with skills-oriented education and have translated these skills into their lives.• To emphasise properly constructing and maintaining facilities like toilets, waste pits, vegetable gardens, flower gardens, water-tap platforms and drainage.• To assist groups/clubs in making an annual work plan.• To assist groups/clubs in conducting innovative activities for promoting sanitation.
School Club/ group	<ul style="list-style-type: none">• Club/group members must be role models for sanitation practices, use and maintenance of toilets and urinals, waste pits, etc.• Prepare an annual plan of action for the programme implementation.• Use and properly store tools, equipment and materials when necessary.• Develop educational materials for use in the school and the community.• Conduct additional/extra curricular activities with the help of the headteacher and teachers.
School Managing Committee	<ul style="list-style-type: none">• Be role models in the school and communities in giving high priority to hygiene and sanitation.• Take a lead in coordinating and preparing the action plan of the WASH in schools package.• 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.

Actor	Main role and responsibility
District Level Steering Committee	<ul style="list-style-type: none">• Design policy, instruction and module.• Take responsibility to support schools that may lack drinking-water facilities, urinals and toilets or need certain repairs, which are provided by the district level steering committee, donor agency or any other organisation.• Produce and distribute educational materials.• Prepare, conduct and participate in training workshops.• Assist in realising programme budgets and providing other financial support.• Support the operation of the programme with the coordination and support of various central and district level governmental and non-governmental organisations as well as other relevant bodies.• Monitor, supervise and evaluate the programme activities by using participatory methods.



Chapter 9 Programme planning and management

Chapter 8 dealt with strategy, roles and micro-planning to provide basic input into the district plan. This chapter is about designing and managing the programme at the district (or block) level.

9.1 District planning and Plans of Action

The District Plan of Action (PoA) is an official document required to launch a WASH in schools programme in various South Asian countries. The Plan of Action defines the rationale for the programme, the overall strategy, main actors and the financial allocations. The case study below is an example of how such a work plan can be carried out.

Case study of a work plan in West Bengal, India

In September 2001, the Minister-in-charge of Education, Government of West Bengal, India, led a discussion on a Master Plan of Action for fully covering around 52,000 primary schools in West Bengal with drinking water and sanitation facilities by 2005. A consensus on convergence of programme funds was hammered out among representatives of Education, Local government and Rural Development, Public Health Engineering, Social Welfare and Forest and Environment Departments. The arrangement was later formalised through a Government Order published on 14 January 2002. A State Level Coordination Committee and a Task Force were constituted to facilitate the District Plans of Action in the framework of the State Master Plan and assist in fund allocation from the participating departments. With additional resources available from the centrally funded 'Total Sanitation Campaign' to districts, the state is in a position to accelerate progress towards this goal. Toilet blocks consisting of one lavatory and one girls' and one boys' urinal each with an attached water tank have been installed already in about 8000 schools at a cost of Rs. 15,000 a unit at 2002 prices.

Source: Govinda, R. (2007)

A Plan of Action is an important document, but it is not sufficient to guide implementation. *A plan is needed that details exactly how the programme will be carried out and who is responsible at each point.* Thus, the PoA needs to be transformed into an interdisciplinary district work plan, showing activities, responsibilities, inputs and dates.

The district work plans should be prepared with sufficient knowledge of the local context, the local institutions and status of the schools. Chapter 8 dealt with these issues. It is also important to prepare the district (or block) plan in consultation with the groups that will be responsible. This ensures action and ownership. In a workshop setting, it might require two days to prepare and finalise such a plan. If the district plan is prepared in a workshop, it is important that it is reviewed and officially approved, rapidly. The question which then arises is: who should review and approve the work plan?

Policies and regulations

In addition to agreed work plans, it is necessary that the key policies and regulations be formulated and shared with the stakeholders from district to community level. Without this transfer of information, it will not be possible to carry out any plan, as intended, for WASH in schools programmes. Examples of these policies and regulations are:

- A policy promoting the use of schools as a platform to strengthen the sanitation programmes in the country.
- A policy to universalise safe water, sanitation and hygiene education in all schools.
- A government order about providing incentives to trainers.
- A regulation or order allowing some time off for training teachers and trainers.
- Agreed regulations and procedures to speed the flow of funds as the resources for WASH in schools programmes can come from several different sources.

9.2 Partnerships with others involved in WASH in schools

Active partnerships with others involved in school water, sanitation and hygiene generates synergy and helps in pooling resources and energy for achieving a shared goal. 'Others' are not only traditional organisations working through schools, such as NGOs, UN and bi-lateral donors, but also the private sector⁶ with an agenda to serve a social cause in addition to their core business. This is also known as 'corporate social responsibility'. Some examples are soap and tooth paste producers who promote hygiene behaviour among school children.

The main motivations for partnerships are:

- To **jointly advocate** for political and social commitments from the government as well as to create a community demand for the interventions. Where leaders are chosen democratically, the voice of the people and civil society influences the political decisions taken.
- To **avoid conflicts in concepts and methods** in interventions from different organisations, to prevent overlaps and duplications that lead to wasteful use of scarce resources.
- To **avoid duplication of efforts** taking place in the same region or even at the same school.
- To create interest in **co-developing initiatives** for joint programme methodologies

⁶ See e.g. the public-private Global Handwash Initiative at www.globalhandwashing.org

and expand the coverage of those methodologies.

- To create common agreements on **uniform methods of financing and cost-recovery**. If one programme is highly subsidised and contracted while for another there are pre-conditions related to financial and/or physical input from the parents, this can create frictions.

One of the key challenges when starting a WASH in schools programme is the level of interest and commitment from key decision-makers. The government has an important role to play in ensuring success. Experience shows that the programme can be popular among politicians because it is highly visible, provides concrete results, involves children, enables schools and communities; and is therefore popular with the voters. Some of the ways in which policymakers can support success and sustainability of WASH in schools programmes are:

- Advocating the idea that WASH in schools is more than construction and water supply and sanitation coverage.
- Planning for the resources required: investment costs for facilities, staffing, recurring costs.
- Organising a continuing coordination mechanism for the different line departments, supporting monitoring, reviews and oversight.
- Clearing blockages in implementation.

A key to success is to create ownership by multiple stakeholders at national level and to build on existing experiences. WASH in schools programmes can effectively create interest by organising national consultations and workshops and reaching consensus before and during implementation.

The actors and their roles

When working with local groups in communities, it is easiest to begin with those who are already involved and are playing responsible roles. This means that in different communities somewhat different groups may be involved in the programme. It is important to include a way of stimulating this locally in the district programme plan. Consciously addressing this issue means that all groups will be included: the poor, the marginalised, all ethnic groups and women in particular. District plans must take this into account and encourage their participation, not only in making contributions but also in decision-making.

9.3 Selecting the schools

Selection of schools comes early in the process of developing the programme, usually soon after the completion of the district plan. Three issues which can have a strong impact on school selection are: the readiness of the community, the quality of existing school infrastructure and political interference. The following describes each of these issues in more detail.

Readiness of the community: As a principle, it is useful to start with communities that are prepared and want to participate. This means, among other things, that there should be sufficient community cohesion and adequate linkages between the school and the community. It is important that the headteacher can relate to the community and that the local government is operational, and does not have major conflicts. In projects that operate on a demand basis, it is easier to determine if the school and community are ready for the programme. The communities, the VEC (village education committee) and Parent-Teacher Association (PTA) are asked to submit simple plans and prepare contributions. If this is not done then they cannot enter the programme. If the school programme operates effectively, in general, then one almost always sees that the communities will start to show more interest and will even compete to enter the programme. The challenge, when this happens, is not in selecting the communities, but in making every effort to serve them, without the long delays that are all-too-frequent in community-based programmes with government inputs.

Existing school infrastructure: In many schools, the quality of basic infrastructure is very poor. For example, roofs are not intact, walls are cracked or falling apart and the classrooms lack furniture (blackboards, chairs, desks). In such situations, it would be highly advisable to create water and sanitation facilities at the same time as basic improvements are made in the total school infrastructure. This will probably make more sense to the parents and provide better motivation for the teachers. If this strategy can be followed, then school selection (and budgeting and fieldwork) need to take account of this additional work.

Political interference: In many cases, of course, elected officials have a good overview of their constituencies and the demands/needs of different communities. In other cases, political interference is not in the best interest of the programme and will not improve the programme's credibility.

9.4 District management and organisation

Good coordination is essential for school water and sanitation programmes, as indeed, it is for all community development efforts. For WASH in schools, the challenge is to ensure that education, engineering, health, non-governmental and local government institutions really work together. This applies to the state, district, block and community level; and, theoretically, programmes should begin by organising a strong coordination mechanism at each level.

Coordination serves at least two purposes. The first is to ensure that the programme is given priority. This means that the key agencies (Education, Health, Public Health Engineering Departments, Rural Development, Local Government, NGOs) want the programme, release funds for it and demonstrate commitment by working well and on time. Assigning priority to WASH in schools also involves providing, motivating and supervising the staff. Secondly, coordination should serve to ensure that both the software (human resources) and hardware (technical side) programmes are integrated as intended.

The pivotal point for achieving this is usually a District Coordinating Committee (or similar committees with other names). These include representatives of all key stakeholders such as the community committee, education, health, public health engineering departments, rural development and any other related departments. Representatives of locally active non-governmental organisations should also be included. Capable development NGOs, the civil society organisations and CBOs require places in the coordinating committee insofar as they can play effective roles in, for example, organising communities, monitoring and reaching out to schools.

At least some members of the coordinating committee, or its local equivalent, need training or orientation. This can also provide the occasion for the committee to experience how to work together effectively. The training/orientation can take many forms, for example:

- A half-day programme for two weeks,
- A five-day workshop,
- A planning session with training in which work plans are produced and approved,
- Exchange visits to other districts to observe how the programme works.

This senior-level capacity building, if overlooked, can severely limit the quality of the school health programme. And for this, capable facilitators are needed from the state level, organisations such as UNICEF and professional agencies, resource institutions, administrative training centres and NGOs.

Coordination, in itself, is an abstract word that can cover many things. It needs to be made concrete. Setting up a committee is not sufficient to ensure that it is effective. The key challenge is to develop clear, agreed roles with one person or group having oversight and overall responsibility. In other words, coordination needs to be defined to answer the question: *What are the specific actions that different groups take together, or one after another, without which the programme may fail?*

9.5 Creating a WASH in schools environment

Building commitment: To expand and scale up the programme, demand has to be strong among a wide range of actors – headteachers, teachers, and staff of local authorities and various government departments. They must be convinced and brought together to plan WASH in schools interventions. From the beginning of the programme, partnership-building and the adoption of team approaches are needed.

Collaboration: Implementing WASH in schools in a comprehensive way requires the active involvement of a large number of groups and institutions. The parties involved could include the Ministry of Education, Ministry of Health, Public Works Department, international organisations, NGOs, technical and professional institutions and teachers' organisations.

At community and school levels, it should involve the headmasters, teachers, students and their parents and community organisations.

There are many examples of collaboration at national level. In these examples, national committees, with representatives from various ministries and international institutions, such as the World Health Organization, UNICEF, and the School Network, have been established to guide implementation and also shape policy from a variety of experiences.

Leading agency: Which agency should lead? WASH in schools is not normally central to the work of any single ministry or department. The Ministry of Education may be more concerned with education reform. The Public Health Engineering Department may be more focused on constructing community water supply. The Health Ministry may be more involved in curative medicine than in preventive health education programmes for children. Given this reality, one approach is to combine available resources under one agency and to demonstrate that WASH in schools can be important for the specific ministry or department to achieve their respective objectives. For example, in Rajasthan, a large Indian state, the Education Department became the lead agency, which enabled it to deploy national sanitation funds for school facilities, indicate where water facilities should be built by the Public Health Engineering Department and so on. The Education Department provided the overall coordination and also made the programme part of its total education reform. The nature of the lead institutions will, in part, determine the strategies for deploying WASH in schools, and will bring certain advantages and potential problems. Examples of how the lead institution can influence the strategies can be found in the table below.

Table 9.1: Examples of lead institutions and how these influence WASH in schools strategies.

If the lead institution is	Examples	Focus and advantages can be	Problems to watch out for
Community	Village development committee etc.	Good community involvement	Small scale Difficult to disseminate
The school	School health committee, PTA	Programmes are sustained. Behavioural change. Good fit with local situation.	Small-scale

If the lead institution is	Examples	Focus and advantages can be	Problems to watch out for
Education	Education Department	Focus on behaviours. Suitable school curriculum. Hygiene can appear as examination subject. Easier access to teachers and trainers. WASH in schools can be a vehicle for educational reform.	Quality of construction. Maintenance and use of facilities. Community involvement.
Health	Health Department	Focus on worm infestation, diarrhoeal, eye and skin infections. HIV/AIDS education can be integrated into WASH in schools.	Education inputs in classroom. Quality of construction. Community involvement. Maintenance and use of facilities.
NGO	NGO working in sanitation or social sector programmes	Flexibility in planning and implementation.	Weak links with Education or local government. Maintenance and use of facilities after NGO leaves.
Mass organisation (CBO)	Red Cross, women's organisations	Volunteers can be mobilised. Community involvement.	Weak links with Education, Health, WASH authorities.
Water and sanitation	UNICEF - WASH, Public health or water department	Rapid construction. WASH in schools can be entry point for increasing latrine coverage and use in the community.	Weak links with Education. Community involvement. Maintenance and use of facilities.
Project	Externally-supported project	Funding assured in the project area.	Links with Education, Health authorities. Maintenance and use of facilities.

Activity 9.1: Preparing a district or block work plan (Alternative 1)

Audience: Participants (can include a range of persons from district officers and teachers to selected students) who do not have a detailed block or district work plan.

Objective:

To transform the Plan of Action (PoA) into a detailed intersectoral work plan that is subsequently used to guide the WASH in schools programme.

Material: Coloured cards, markers, tape and paper so that all members of the working group can visualise the work plan as it is being prepared.

Time: Two days

Procedure:

1. The facilitator should state that this is a major activity. Preparing the work plan can be a central part of the district-level training workshop. This will require at least 1 - 5 days of preparation and a half-day of reporting back and revision. The work plan should not be forgotten after the workshop. It needs to be formally approved and distributed to all stakeholder institutions involved in the programme. Because the work plan shows the activities that each agency and group agrees to carry out, an approved plan can later be used to monitor the progress of the WASH in schools programme and to resolve problems.
2. Groups of participants should be formed of people who work together in the district or block.
3. The group might begin by listening to the major stakeholders and actors in their WASH in schools programme. Thus, the following types of groups could be involved in some districts: District Institute for Education and Training officials, officers responsible for the WASH in schools programme in the district, education officers, health staff, NGOs, Integrated Child Development Services project officers, teachers/headteachers (or other staff) who will become trainers, executive engineers and assistant executive engineers (who will be involved in the actual implementation), and/or representatives from local government (including Community committee).
4. The group then prepares its joint work plan. The following types of information should be included:
 - Activities at district, block, cluster, community levels,
 - Approximate time (in weeks / months) with an end date for completion of most activities,
 - Identification of the groups or individuals who are responsible for the success of that activity,

- Inputs needed, including time by which finance should be released,
 - Expected outputs, both quantitative and qualitative (e.g number of schools and teachers; quality of trainings, and so on),
 - Review and approval of the work plan before it will be used to implement the programme,
 - Reporting systems and responsibilities,
 - Indicators for monitoring,
 - Points of quality check and how to go about it.
5. The facilitator should help those preparing the work plans to balance their work between too much and too little detail. The participants should also be reminded only to prepare plans that are feasible and realistic.
6. After the plan is prepared and agreed by all participants in the group, they should reflect and answer the following:
- Which policies, regulations, permissions have been approved and disseminated in your district?
 - Which important ones are still missing?
 - Who should be approached, and how, to issue and disseminate these missing policies, regulations or permissions?
7. A formal presentation of the completed work plan and policy is very useful for the entire group. This presentation can serve to check the feasibility of the plan and how gaps in policies or regulations can be filled in.

Comments

Experience shows that it is possible to make detailed work plans for the short-term, for example, over four to six months. Beyond this period, the work plans will be less detailed, but should still identify the main activities and approximate time of completion.

Activity 9.2: Developing a district or block work plan (Alternative 2)

Audience: Participants who do not have a detailed block or district work plan.

Objective:

- To draft a work plan.
- To refine ideas on what should be in a district strategy.

Material: Poster paper

Time: Two to four hours

Procedure:

In small groups, participants are asked to prepare their own district or block plan using a timeline like the one shown below. The plan should include:

- When the activity will take place (in weeks / or months) or write “ongoing after June” if the activity is meant to take place continuously, after the month of June.
- The key actors, that is, people who have final responsibility for the activity. Note that it is more effective to assign responsibility to only one actor or group. (Too much sharing of responsibility can mean that no one is really responsible.)
- People or groups who will be involved, and without whom the activity will fail.

Example of a time line

Activities	Time (weeks/ months)	People responsible	People involved
Start-up 1. 2. 3. etc			
Facilities and construction 1. 2. 3. etc			
Ongoing activities 1. 2. 3. etc			

Examples of specific tasks for coordinating committees are:

- Preparation of agreed inter-agency work plans.
- Sharing necessary directions, guidelines and regulations with all relevant departments.
- Timely release of funds and transparency of finance including the role of ensuring that construction is of good quality and that costs are kept under control.
- In general this all refers to quality control of the programme with a view to ensuring sustainability of the educational inputs and use of the new facilities. This also includes stopping programmes in some schools or an area if funds are not raised or misused or basic agreements are not carried out.
- Ensuring the correct timing of programme inputs, including:
 - timely tapping of Central Rural Sanitation Programme, Accelerated Rural Water Supply Programme, District Primary Education Project, and others for release of funds,
 - starting construction soon after community contributions have been made and training of community members and teachers has taken place,
 - acquisition of materials and their distribution on time.
- Planning the training of trainers, other training and orientation and retraining.
- Deciding about incentives and payment for trainers, NGOs and supervisors.
- Joint supervision across sectors, for example, ensuring that teachers make the facilities accessible to children or that construction is of good quality. Supervision includes monitoring and actions to be taken in response to monitoring information.
- Deciding which NGOs will be involved and organising their training.
- Planning refresher training and ways of bringing people on board after key people leave or are transferred.
- Sharing transportation among departments and cooperating in the distribution of educational materials (e.g., engineers who have a supervisory role could also take books with them to the schools).
- Establishing agreed indicators for monitoring.

Activity 9.3: Work tasks of WASH in schools coordinating committees

Audience: Participants at the school and community level such as teachers and selected students

Objective:

- To define the work programme of a coordinating committee clearly.
- To identify specific tasks that the committee can undertake.

Material: Paper and pencils

Time: About one hour

Procedure:

1. This activity can be done in plenary or in small groups who report back.
2. The task is to make a concrete list showing:
 - Who are the members of the district or coordinating committee for the WASH in schools programme. If this is not known, then the names of the institutions represented on the committee could be listed.
 - Specific tasks that they may need to undertake to ensure that the programme develops well.

The facilitator could use the list of tasks in Activity 9.2 as an example. Participants should be reminded to be as specific as possible, avoiding general phrases.
3. Note that the participants can review their list and improve it by asking feedback from others. If possible, they may plan how to secure the missing elements.

Activity 9.4: Adapting the strategy and work plan to solve problems

Audience: Participants who do have a block Plan of Action *and* a work plan that assigns responsibilities and estimated dates for accomplishments.

Objective:

- Help participants address common or typical planning and implementation problems in WASH in schools programmes.
- Help participants gain experience in changing work plans and strategies in order to solve frequently occurring problems.

Material: Poster paper or sheets with the list of problems below

Time: Two to four hours

Procedure:

1. The facilitator explains that there are many similar problems that occur in school water and sanitation programmes. From the list below, the facilitator asks the participants to pick two problems that might occur in their district, block or local government.

Select two problems from this list

- Lack of continuous coordination.
 - Teachers and headteachers are not very motivated to carry out their work in this programme.
 - Quality of training is not good.
 - Some school facilities are dirty, not maintained and not well used.
 - Girls do not use the school toilets.
 - Key officials are frequently transferred.
 - Funds are not released on time or in the correct amount. It is difficult to access funds.
 - It is difficult to ensure support for recurrent costs (such as soap, repairs) from the community.
 - Teachers complain that they do not have teaching/learning materials for hygiene and health education.
2. In small groups, the participants decide how these problems should be solved, report on their preferred strategy and on how the strategy, the work plan or budget for WASH in schools in their area would need to be changed.
 3. As part of the debriefing, the facilitator asks the participants to report their solutions, in five minutes or less, to a large workshop group for comments and feedback. In addition, if time permits, the facilitator asks the plenary workshop group to assess whether the solutions suggested seem realistic and workable.



Chapter 10 Starting up and social mobilisation

Once schools have been selected, a large number of activities take place long before any construction. These activities focus on minds and hearts, that is: capacity building, social mobilisation and planning for facilities in schools.

The social mobilisation objectives at the beginning of the programme usually relate to:

- Mobilising, group formation and training,
- Awareness-raising and promotion in the community, including IEC (information, education, communication activities),
- Building commitment to and understanding of WASH in schools.

10.1 Mobilisation, training and orientation

Social mobilisation

Social mobilisation is the process of bringing together all feasible and practical intersectoral social allies to raise people's awareness of and demand for a particular development programme, to assist in the delivery of resources and services and to strengthen community participation for sustainability and self-reliance (McKee, 1992). It raises people's awareness of and their demand for WASH in schools. It also helps in getting resources and in having cooperation in implementing the programme.

Social mobilisation is the glue that binds the activities and the programme. It seeks to provide wide-scale participation and ownership.

The methods of social mobilisation include:

- Stimulating demand through household visits and public meetings about the need for and benefits of water and sanitation facilities in schools,
- Assisting with planning exercises with local government officials and local leaders,
- Assisting with training NGOs and government officials about social mobilisation and management aspects of the programme, and
- Assisting in block coordinating committee meetings.

Mobilisation in a community usually begins with a set of community meetings, leading to identifying partners, selecting or nominating members for committees, orientation and training. It includes some preparatory Information, Education and Communication (IEC) activities, planning, discussing various aspects of a suitable design and technology and materials, as well as assembling materials and funds for construction.

It also includes public information meetings, parades, school awareness activities and camps. In addition, person-to-person communication is an opportunity to address

individual concerns and doubts. This means, for example, visiting some homes and neighbourhoods and having personal discussions with the headteacher and other key school teachers.

Committees⁷

The process of local organisation should be based on the groups that are strongest locally, most respected and representative of the whole school catchment, including the rich and poor, all castes and religions, women and men, girls and boys.

Setting up education committees

A working committee is usually needed to be the motor for decision-making, finance and implementation. This committee and school staff are seen as a bridge between the school, outside organisations and the community. The committee can be organised in many ways. It can, for example:

- Be formed from an already existing Village Education Committee (VEC) or school management committee,
- Be developed from an existing community-based-organisation (CBO) such as the WASH committee or women's groups,
- Be set up as a new committee that includes the headteacher, members of the local government and parents or representatives from locally active groups.

The responsibilities of a school education committee, in consultation with parents and local government are to:

- Inform families and parents about the programme. Win their support.
- Together with teachers, select the technologies and designs for water and sanitation facilities.
- Organise community contributions for construction.
- Monitor the construction.
- Organise activities to collect funds for construction and ongoing activities.
- Monitor the use and maintenance of facilities.
- Help to inform the parents (men and women, parents and grandparents, aunts and uncles) about the hygiene education that their children receive in school.
- Help to organise repairs.
- Assist teachers with hygiene education activities.

NGOs, in particular, have an important role to play in mobilising and supporting local groups. If a WASH in schools programme is to work, the local committees will need assistance. They will need to develop some skills and an understanding of the major tasks at hand. Although committees may be able to take on a very substantial share of the management and implementation, the involvement of support organisations such as NGOs, CBOs and civil society organisations will usually be required. Committees and school staff can turn to them in case of problems they cannot solve themselves. The communities (and their local government and committees) often need some support for establishing management arrangements and building capacities.

⁷ This section is adapted from Bolt and Fonseca (2001) and WaterAid India (1998).

Selecting committee members

The committees (Village Education Committees (VEC) or PTAs), together with the teachers, are meant to manage the planning, implementation and sustained maintenance and use of school facilities. However, these committees often function poorly or not at all. This may be to do with the fact that the selection process is not based on clear criteria, resulting in the selection of people who do not necessarily have the right qualities for the job in hand. The establishment of a committee is often done too quickly, so that the most outspoken or most powerful community people become members. However, they might not have the skills to do the job. For this reason, it is useful if a new committee is being formed, to make special efforts to set up a careful selection process. External facilitation may help guide a stepwise process to select committee members and, later, to provide support such as training.

A VEC or school management committee is often a voluntary body. If it is going to work smoothly and meet the needs of the school and families, it should represent all the major local institutions and all segments of the community including the better off and the poor, men and women and groups living in different areas.

As mentioned it is important not to leave out women and poor people as their participation will ensure that their perspectives are included in management decisions. Sometimes the obstacles to the involvement of women and poor people in committees have to be confronted and solutions found – frequently this requires the facilitation by NGOs and CBOs. Examples are meetings being held at times when women are not available, or when poor people working for richer families are asked to attend during their hours of paid work. Meetings a long way from the community or where it is unsafe for women to travel, may also result in exclusion of women.

The time to establish the committee should be flexible. Sometimes this can be done near the start of a programme, sometimes it can come after the initial survey or community training.

The committee may find that its tasks change over time or that some committee members cannot continue so that new ones have to be selected. There should be a well publicised set of rules and regulations that are known about the representatives of committees, covering how to drop or add members, and stating under what conditions the entire committee can be dissolved and by whom.

Transparency of finance

Financial management and transparency are among the more difficult aspects of community management. Some of the more common problems are:

- Influential individuals are placed in positions of financial responsibility and run things without accounting for their actions to the school or parents.
- Committee members do not receive adequate training on how to perform their job.
- Committee members who are trained in finance or bookkeeping leave the committee.

- Lack of clarity about how allocated resources have to be spent and accounted for; lack of understanding that public resources are subject to audit and that any irregularity will damage the committee's image and the programme.

10.2 Training

Training and orientation are important elements in social mobilisation. A wide range of people require training (more than one day) or orientation (less than one day). These include: education department staff, teachers, village education committees, PTAs, block and district personnel from various departments, trainers, NGO staff, CBO members, builders and masons, and so on. Often training events are organised about technical or theoretical issues for education, such as bookkeeping or repairs. However, training is also needed on many more issues related to good management. These tasks include preparing plans, how to hold consultations with the community, how to do hygiene education and information, education and communication (IEC) for behaviour change, community decision-making, preparing tenders and contracts for services and supplies, and mobilising and handling contributions for the operation and maintenance of school facilities and education.

Below are two examples of local WASH in schools capacity building plans in India.

Two examples of local WASH in schools capacity building plans in India

In Tumkur district, Karnataka

- Three days training of a block local government and project implementation team.
- Three days training of 'frontline workers': headteachers, anganwadi worker, local government secretary and village accountant with a refresher after six months.
- Cluster representatives trained for three days in the village with a further one day every two months for ten months.

In Aurangabad District: Mumbai

Two elements of the strategy are:

- Sensitise field functionaries (health workers, waterman, anganwadi).
- Create awareness on hygiene practices among teachers and children.

Training:

- Five-day module for village workers (health workers, teachers, anganwadi worker, waterman, community leader). This workshop for people from the same village helps people to work together well. Topics were: health, hygiene, waste disposal, low-cost options, and a field visit to see current status of sanitation.

- Training for headteachers: one-day orientation, focused on the needs of the child and PTA activities.
- Teacher training: three days focused on hygiene practices and community survey to learn about current hygiene practices.

In both cases, training and orientation focused on a range of groups. In both cases, the headteacher and education officers received training.

There are several methodologies for training, but in general training methods that invite participants to reflect on their own work and capacities are most fruitful. (See Chapter 2, Section 2.3 on training methods). Role-playing, problem-solving activities, and building on existing knowledge are helpful approaches. It is also essential that the participants understand the objectives of the training and that other capacity building measures, such as on-the-job learning and, especially, exchange visits, should complement the training. Teachers and VEC members can, for example, visit a community that has successfully implemented its WASH in schools programme to find out what they have done, what problems may arise and how these can be solved.

Community and committee meetings

Social mobilisation is meant to involve large sections of the school community and their families in making decisions and managing their facilities in support of the school. Many times the social mobilisation is incomplete. For example, only a few people are involved in a few meetings. This gives them little sense of ownership or commitment. The result can be facilities not used as intended and hygiene education that does not result in changed behaviour. Many formal and informal meetings usually take place during this preparation stage, eventually leading to the construction and education inputs. The example below is adapted from an official WASH in schools publication in Bangladesh. In this programme, communities are meant to plan and provide about 25 per cent of the resources needed for water and sanitation facilities. This is, of course, only an indicative list which would probably work out somewhat differently in reality, depending on the situation.

Example of meetings in the community for WASH in schools construction and community contribution (Bangladesh)

1. Introduction to parents, committees, teachers, organised by school management committee (SMC).
Contents:
 - Specific problems with existing sanitation and water supply facilities/ situation in school.
 - Behaviour and health benefits.
 - The programme: how it works, inputs from outside and responsibilities of community.
2. Steps to improve the situation in the school (SMC). Also: Behaviour and health benefits and how the programme works.
3. What is the present situation? What is wanted? (SMC) Visit school to collect detailed and specific information on the condition of the present toilets and water supply, and information on the type of soil, etc. Specific needs for construction and rehabilitation of sanitation facilities and water supply facilities.
4. Design and technology? Who is on the committee? (meeting organised by SMC)
Purpose:
 - To jointly formulate the specific goals, and the expected results and outputs.
 - To select the School Sanitation Implementation Committee (SSIC).
5. Technology selection and costs: sanitation
Purpose:
 - Decide on the type of toilets.
 - Calculate the costs of construction. This meeting should be organised by the SSIC to decide on technology selection and costs for water supply (or storage) and handwashing facilities.
6. Decide on type of water facilities for construction or rehabilitation and agree on the costs. SSIC organises a community discussion of proposals. Decide together with all the stakeholders on type of facilities and the amount of labour, local materials and cash money the school/community can make available. This meeting should be organised by the SSIC.
7. Final proposal preparation
Purpose:
 - To prepare a proposal for implementation of improvements and identification of resources. This activity should be carried out by the SSIC and the SMC together.

Many of these meetings were facilitated by NGO field workers.

Adapting communication to audiences

Unfortunately most information, education and communication (IEC) activities are not

planned with particular audiences, or even specific messages in mind. Some of the most common IEC activities used for WASH in schools are as follows:

Information, education and communication activities at the village level

campaigns
competitions
exchange visits
wall painting/writing
rallies
street plays
folk media such as puppet shows/drama
interpersonal communication (house-to-house)
newspaper (depending on literacy status)
announcement by drum beating
weekly market stalls displaying products/posters
poster/flip charts
songs /slogans
folk dance
cultural programmes

It is often not known what the real impact of these media and activities are for different audiences (men/women, rich/poor, different caste groups and religions, old/young) in South Asia. This is complicated by the fact that these media and activities could have different effects in different parts of South Asia. For example, where literacy is high, a newspaper will probably reach more people. Research is needed to investigate the effect of these media and IEC activities. In the absence of this research, it is suggested that more careful thought (and discussion with members of different audiences) takes place before selecting the specific activities. In other words, the selection of messages and media/activities must be done with knowledge of (and preferably discussion with) some of the target audiences (men/women, rich/poor, young/old).

Often materials such as posters and booklets are prepared rapidly, before their use and channels of distribution have been worked out properly and before people, including teachers, have the skills to use them properly. Such materials may give visibility to a programme, but are often not carefully timed with other aspects of a programme, thus wasting resources (McKee, 1992).

Information, Education and Communication (IEC) links in Bhutan

In Bhutan, peoples' perceptions of illness are linked to traditional beliefs. Most people will turn first to spiritual and ritual remedies in case of illness. Efforts are made by the health sector to educate people on the importance of good hygiene to maintain good health. A 1993 Knowledge, Attitudes and Practices (KAP) study conducted by the Information, Education and Communication for Health (IECH) programme under the Department of Health revealed a noteworthy trend that traditional healers were no longer viewed as the main source of health information. The study revealed the most common sources of health information for the rural masses to be health sector personnel (39 per cent), national radio (35 per cent) and the village health workers (12 per cent).

Source: UNICEF Bhutan (2002).

Interpersonal communication

Experience in South Asia and elsewhere indicates that mass activities should be combined with face-to-face contact, that is, interpersonal communication such as home visits.⁸ The interpersonal communication usually goes beyond awareness-raising and includes advocacy and educational content as people can begin to learn about the reasons for the WASH in schools programme and the basic issues of hygiene behaviour. Interpersonal communication is usually undertaken by committee members from the school, by local professionals and members of active CBOs.

10.3 Programme communication

The purpose of programme communication is:

1. To help the community understand and support the school hygiene programme.
2. To promote the safe hygiene behaviours integral to the programme and central to achieving a life style change.

It can begin with simple, understandable products/messages such as:

- Support your schools with toilets
- Clean and safe water and health education helps your children to grow up healthy.

⁸ This was, for example, noted in the study on the impact and sustainability of WASH in schools (2006-2007) which took place in Kerala (with the assistance of SEU-Foundation) and Kenya. Refer to www.irc.nl/page/48277 for papers of this study.

Programme communication is the process of:

1. Identifying specific groups and audiences,
2. Targeting them with particular strategies, messages or training programmes,
3. Working through various media and interpersonal channels, traditional and non-traditional.

Communications strategies should promote people's understanding of the issues. Messages must go beyond slogans to address the 'whys'. Nonetheless, messages should be simple.

The idea behind programme communication is to identify audiences, such as parents and people in the household, who support or hinder a behaviour or programme. These opinion leaders should be identified and separated into different groups such as: mothers and grandmothers; fathers, uncles; teachers, PTA, local government, women's groups, religious leaders and social leaders.

Source: McKee (1992).

Finding out what the community and children perceive and understand about the new programme of water, sanitation and hygiene can become part of the communication package to reach the community and children. (Curtis, 1998)

Finding out the reasons why different groups of people want this change can assist in developing the messages for the different groups. For example:

- For fathers, a reason could be that the family contribution for toilets and hygiene in schools will improve the education and comfort of their children. It is not expensive.
- For mothers, a reason could be that their children will develop good habits and their girls will have the privacy of toilets in school. This will bring a sense of dignity and relief.
- For children: they will have ready access to water and toilets. For girls especially the hardship will be reduced in terms of privacy.

These reasons can be discovered through focus group discussions or through interviews. In conversations and interviews, listen to the themes that come up again and again. For example, research in Burkina Faso has found the following responses (table 10.1) among mothers of young children to the question: 'Why teach a young child to use a toilet at home?' (Curtis, 1998).

Table 10.1: Why teach a young child to use a toilet at home?

Short-term advantages	Long-term goals
<ul style="list-style-type: none">• Household compound looks nice• Gets rid of bad smells• Feels comfortable with visitors• People don't walk on the stools• Husband likes it	<ul style="list-style-type: none">• Live in an attractive environment• Behave with dignity• Respect from the neighbours• Family harmony

Source: Curtis (1998).

These advantages can be transformed into simple, positive messages, for example:

- Using a toilet makes the household look nice.
- When children use toilets, families enjoy good health, respect and dignity.

There are many possible messages for different target groups. Make sure that the price implied by the message is reasonable, in terms of both money and effort for the schools and parents.

These ideas need to be delivered to the target group in the most efficient ways. For this, we need to think about the communication channels. This means communicating the messages through channels that reach the intended audiences. For example, fathers may be more likely to attend school meetings. Mothers might be easier to reach through house-to-house contacts or during community festivals.

For communication, note that each audience has its own characteristics. There are different target audiences and it may be useful to think about:

- Where can they be found? How many are there in all?
- Who can read?
- What organisations do they belong to?
- Who do they listen to and trust?

Putting all the information together, a decision needs to be made on how to reach the various groups. It is crucial to be creative. The use of communication supports such as theatre or teaching aids is also important. They can involve stories or home visits, or dramas performed by children and so on. (Curtis, 1998)

It is also important to think about who should be the actor(s) or promoter(s). Activities undertaken by children always attract attention. The PTA can also be useful in promoting health awareness among parents, children and the community at large. This paves the way for effective two-way communication.

Steps for programme communication

Steps for programme communication borrowed from the concept of social marketing (which will be explained in the next section), include deciding on:

- The principle message
- The target audience

- The motivation (immediate advantage and long-term goal)
- The promoter (child, teacher, health agent, NGO worker)
- The tone of the communication (e.g. fun or serious)?

10.4 What is 'social marketing'?

Social marketing uses a marketing approach to match available resources with social needs. Social marketing may be applied to service provision and utilisation, the development and acceptance of products, or the adoption of new behaviour. It can be product- or behaviour-focused. Consumer orientation is fundamental to social marketing and demands that social programmes respond to people's perceptions and aspirations. Finally, social marketing is not based on individual financial motivation alone but is concerned with achieving a social objective.

Defining social marketing

Social marketing is a systematic strategy in which acceptable concepts, behaviours or products, and how to promote, distribute and price them for the market, are defined. More specifically, it applies commercial marketing techniques to social programmes in order to improve their effectiveness.

Social marketing:

- Is greatly influenced by modern advertising and sales techniques,
- Emphasises the transfer of information believed to be needed by the people.

Social marketing's 'Four Ps'

Social marketing consists of the 'Four Ps' which form the basis of commercial marketing: Product, Price, Place and Promotion, which can also be used in social marketing campaigns.

1. Product in social marketing may be a physical product, such as a home toilet or school toilet or a change in behaviour, such as handwashing after defecation.
2. Price in social marketing may be physical exchange of value, such as a commercial transaction, but it can also refer to the price involved in changing behaviour. For example, there is a price in terms of time, if, for example, time is needed to carry additional water for handwashing.
3. Place in social marketing means the distribution channels used to make the product, service, or concept available to the target group. If a physical product or service is being marketed, the place may mean the actual point of purchase or access. The place could also refer to the media through which the target group learns about the concept.
4. Promotion covers the broad range of channels through which the campaign messages are directed to the target group. Channels for promotion include mass media (television, radio, magazines and newspapers), and traditional methods such as plays, folk singers, and interpersonal communication.

Table 10.2: Applying the 'Four Ps' in your own WASH in schools programme.

'Four Ps' of social marketing	Examples for sanitation
<p>PRODUCT Decide on what the product is, its form, format, presentation, in terms of packaging and characteristics</p>	<p>Product (tangible outputs): home toilets. Practice or behaviour: Using and cleaning toilets, washing hands after using the toilet. Idea: Clean environment, good sanitation for health/hygienic excreta management.</p>
<p>PRICE What are the consumers willing to pay, both regarding direct and indirect costs? What perception do they have of the benefits that make the product worth getting?</p>	<p>Monetary: Cost of products (with or without subsidies). Opportunity cost: Time lost from other activities, missed opportunities, transport, loss in production or income. Psychological or physical: Stress in changing behaviour, effort involved in regularly using toilet instead of open fields, in maintaining toilet or in obtaining additional water.</p>
<p>PLACE Where will the product be available for the consumers, including where it will be displayed or demonstrated?</p>	<p>Delivery of product: Health centres, pharmacies, households, clubs, local governments, schools, sanitary markets, extension counters, women's group meeting place.</p>
<p>PROMOTION How will the consumers know the product exists, its benefits, costs, and where and how to get it?</p>	<p>Delivery of message: Television, radio, newspapers, posters, billboards, banners, folk singers or actors, public rallies, interpersonal/group counselling.</p>

Activity 10.1: Activity plan for community mobilisation

Audience: Participants can include members from the Village Education Committee, Parent-Teacher Association, selected teachers and students from schools, as well as other interested community members.

Objective:

Participants get a better understanding of community mobilisation by developing their own basic social marketing plan.

Material: Poster paper, copy of the table below

Time: One hour

Procedure

1. The facilitator explains that the participants will put together a draft social marketing plan. This will encourage them to start thinking about how to 'market' a product, behaviour or idea within the context of their project on WASH in schools.
2. The facilitator asks the participants to form small groups. The facilitator gives each group a specific theme to make into a social marketing plan, e.g. using and cleaning toilets, etc. Each group also receives the following table, which they are asked to fill in (refer to the table on the next page).
3. As part of the debriefing, each group reports back in the plenary session. Questions such as: "Why should the community be involved in mobilisation?" could be discussed. In addition, the participants can give their own experience of programme communication/social marketing that did not seem to work. Discussion about where the problems and bottlenecks existed could also lead to some interesting insights.

Table 10.3: Applying the 'Four Ps' in your own water or sanitation programme.

'Four Ps' of social marketing	Examples for sanitation	For your programme or project:
<p>PRODUCT Decide on what the product is, its form, format, presentation, etc. in terms of packaging and characteristics</p>	<p>Product (tangible outputs): Toilets Practice or behaviour: Using and cleaning toilets, washing hands after using the toilet Idea: Clean environment, good sanitation for health/hygienic excreta management</p>	<p>Product: Practice or behaviour: Idea:</p>
<p>PRICE What will the consumer be willing to pay, both regarding direct and indirect costs? What perception do they have of the benefits that make the product worth getting?</p>	<p>Monetary: Cost of products (with or without subsidies) Opportunity cost: Time lost from other activities, missed opportunities, transport, loss of production or income Psychological or physical: Stress of changing behaviour, effort involved in maintaining toilet or obtaining additional water</p>	<p>Monetary: Opportunity cost: Psychological or physical:</p>
<p>PLACE Where will the product be available for the consumers, including where it will be displayed or demonstrated?</p>	<p>Delivery of product: Health centres, pharmacies, households, clubs, sanitary markets, schools, local government</p>	<p>Delivery of product:</p>
<p>PROMOTION How will the consumers know the product exists, its benefits, costs, and where and how to get it?</p>	<p>Delivery of message: Television, radio, newspapers, posters, billboards, banners, folk singers or actors, public rallies, interpersonal/group counselling</p>	<p>Delivery of message:</p>



Chapter 11 Water, sanitation and hygiene facilities

The previous chapters have focused on dealing with key activities in the WASH in schools project cycle. This chapter on sanitation facilities and water supply facilities looks at the hardware aspects of WASH in schools, namely the construction side. At the end of the chapter you will find a section on financing and paying for facilities, which is applicable to both water and sanitation facilities.

This chapter could be used for training, and may also be used by engineers who are called on to explain technical issues to the public in simple and transparent ways.

This chapter is based on the principle that special emphasis should be placed on involving the families of children (men and women, rich and poor) and their teachers in making decisions about the technology and construction of their water, sanitation and handwashing facilities. This builds a strong sense of ownership. It helps to ensure good use and maintenance of facilities, including the continuing community contributions.

11.1 Child-friendly, gender-sensitive, demand-based design of school WASH facilities⁹

Technical design choices are often based on the available financial resources, physical condition and socio-economic circumstances, but there are several design factors that go beyond those technical considerations. These include, for example, special attention to the needs of girls, boys, teachers and children with a disability as technical designs need to be modified accordingly for the specific needs.

The minimal package of facilities needed in any school consists of:

- Toilets and urinals (for both girls and boys) for safe excreta and urine disposal.
- Water provision for drinking water, handwashing, flushing and cleaning, school meal preparation, etc.
- A system for solid waste collection and safe disposal.

⁹ The text of this chapter has been inspired by: Zomerplaag, J. and Mooijman, A. (2005).

Not child-friendly

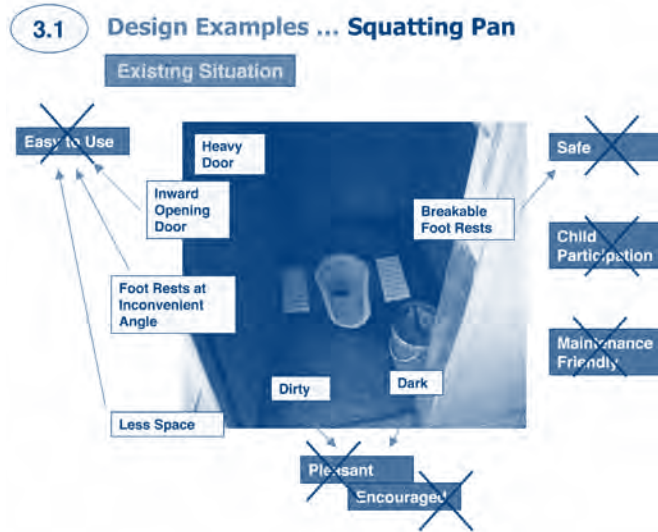


Figure 11.1: Example of a toilet that is not child-friendly.

Sheet from presentation on child-friendly WASH facilities by Eng. Suranga De Silva, UNICEF Sri Lanka

Child-friendly

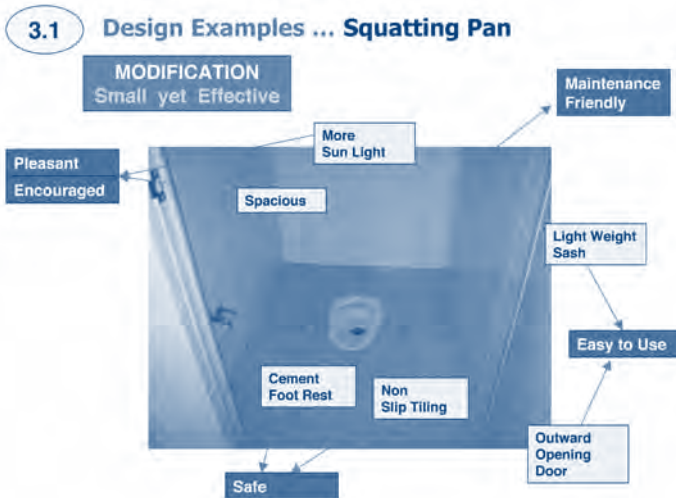


Figure 11.2: Example of a toilet that is child-friendly.

Sheet from presentation on child-friendly WASH facilities by Eng. Suranga De Silva, UNICEF Sri Lanka

In schools where new facilities have to be provided or the existing facilities have to be renovated because they do not meet the minimal required conditions, a child-friendly, gender-sensitive, demand-based approach should be applied. This approach to WASH in schools aims to design, construct and maintain facilities that are part of the learning environment, are hygienic and safe to use and can be sustained and maintained by the school community itself. This approach would normally not require more financing than a traditional approach. It would for the most part demand participatory planning, better designs and more construction supervision and follow-up.



Figure 11.3: Pilot approach to sustainable development.

Sheet from presentation on child-friendly WASH facilities by Eng. Suranga De Silva, UNICEF Sri Lanka

A child-friendly, gender-sensitive, demand-based approach leads to facilities that:

1. Encourage hygienic behaviour,
2. Are designed with the involvement of key stakeholders,
3. Have appropriate dimensions and adjustments for children's use,
4. Have enough capacity and minimal waiting time,
5. Address needs specific to girls and boys,
6. Address special needs of children with disabilities,
7. Stimulate children's learning and development, and ensure that educational tools are designed in an age-appropriate way,
8. Have appropriate locations for toilets and water supply,
9. Are low-cost solutions without compromising quality,
10. Prevent harm to the environment,
11. Have a system for drainage / recycling of waste water,
12. Have operation and maintenance plans, and
13. Have financial means to keep the facility clean.

Facilities should encourage hygienic behaviour

'Facilities' refer to both facilities for water provision and handwashing, and toilets and urinals. Hygienic behaviour often comprises several small activities, each with its own range of necessary preparations. If these are difficult, complex or time-consuming to undertake, then children will skip some, taking potential health risks. Therefore facilities must be close to the schools, have sufficient capacity, be simple to use, provide for handwashing and anal cleansing, and water and soap should be available at all times.

Going to the toilet

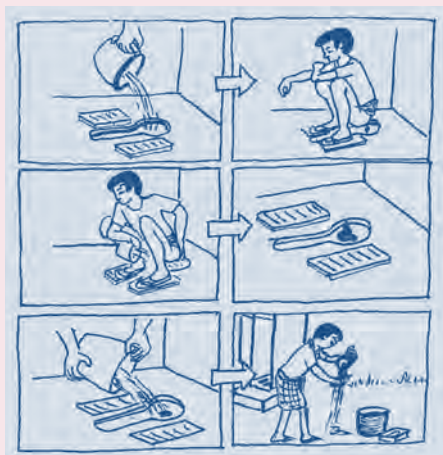


Figure 11.4: Using the toilet.

Going to the toilet in low-income areas in developing countries demands a series of smaller tasks or activities:

1. **Collecting materials for anal cleansing** (such as paper and leaves, often finding a plastic bottle to carry water). If materials or water are not readily available, children have to try and collect the materials from near the toilet or opt to not use any material at all. Not cleaning after defecation can lead to irritation of the surrounding skin, cystitis (mainly for girls and women), embarrassment because the child might smell bad, difficulties with cleaning underwear, as well as being a source of future transmission of diseases.
2. **Waiting for one's turn** for defecating.
3. **Wiping and anal cleansing:** human faeces are the primary source of diseases, particularly for diarrhoea and worm infections. It is at this point that people's fingers get exposed to faeces (to what extent depends on the method/materials being used) and they can then be the source of disease transmission directly to somebody else or through the handling of food.

4. **Safe collection of used anal cleansing materials:** If other methods than water are used, there will be anal cleansing materials that have to be safely disposed of. Because pits will fill up too quickly if they are thrown in, and pipes can get blocked if no or insufficient water is available, a container with a lid should be available, preferably inside the toilet. The lid is very important to avoid flies landing on human faeces and being potential transmitters of diseases. If adolescent girls and women use disposable pads or materials during menstruation, the containers should also be appropriate for the collection of these.
5. **Collecting water for handwashing** with soap (preferably before the toilet visit to avoid contamination while getting water).
6. **Washing hands** with soap after disposal of anal cleansing or menstrual materials.
7. **Drying hands.**
8. **Safe disposal of anal cleansing materials:** Once the anal cleansing materials are safely collected in a container with a lid, these containers have to be regularly emptied and cleaned. The materials can be (1) buried in a hole that has to be covered with enough soil to prevent animals from excavating them or (2) burned in a safe place. After emptying the containers, they have to be washed with soap. Because the task is not a very attractive one, the operation & maintenance plan should clearly spell out this responsibility and monitor regularly.

It is obvious that the complexity of these activities does not always encourage hygienic behaviour. To make it even more complex...there are times when it is dark or it is the rainy season or unsafe because of animals, snakes and insects, or school rules are such that the children might have to visit the toilet during their free play time. At these times a child often foregoes critical hygiene actions.

Facilities are designed with the involvement of key stakeholders

Active involvement of the users is essential in all phases of the design process. In most countries, standardised designs are used for water and sanitation facilities in schools to reduce costs and control quality. For example, the Government of India recently published a book with standard designs (DDWS, DEEL and UNICEF, 2008). This can be a good solution, but applying a standard design too rigidly can lead to ignoring specific local pre-conditions and needs. In general, when properly coached and guided, potential users are perfectly able to assess their existing practices and find solutions to their own needs. Their involvement during the design stage of hygiene, sanitation and water facilities will lead to better solutions and increased acceptance of these solutions.

Some useful considerations for participatory design processes:

- In most settings, it will be impossible for the entire community to directly participate in the design process because that would lead to too many participants. Instead, for example, an **elected committee** could be put together, in which not only teachers and students, but also parents and possibly other stakeholders such as community leaders and primary health care staff are

represented. It is important that the committee is equally balanced with regard to sex, race, ethnic group and social class, as well as representing specific groups, e.g. mothers of girl students. To obtain commitment and consensus from the entire (school) community, this committee should report their findings to the community at the end of each design phase.

- It is important to **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 outcomes of each phase. Technical information is best provided in response to information needs identified by the stakeholders.
- **Involvement of children** is essential during the design and rehabilitation of WASH 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.
- In most cultures, **sanitation is a sensitive subject**. It is therefore recommended to create an environment that allows an open dialogue in which children and adults 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 women and men and girls and boys and children by age group, and to keep teachers and other adults that are 'close' to them away from the group.
- 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. If possible, a demonstration unit can be constructed at a convenient location. This can serve as a prototype and suitably adapted to meet specific needs. Older children can also use this experience to create scale models with new ideas. When an innovative solution is proposed, it is better to make a full-scale, 'working' pilot model.

If a safe water point is provided in the school, it is important that the community as a whole also has access to safe water. If they do not have access to an adequate water supply, then it will be difficult to stop them from fetching their household water from the school supply. If no simultaneous water provision to the community is possible, a system whereby the water point is managed judiciously and water is sold at an affordable price to households in need of drinking water can be put in place. The money collected can be used for monitoring and evaluation and other school hygiene and sanitation needs such as buying soap. This cannot be done without making formal arrangements with community and schools. If the community wants to share water, this is acceptable as long as it does not affect the water provision to the school.

Appropriate dimensions and adjustments for children

Adapting designs for children is about making facilities accessible and comfortable for them. Children are smaller and have less physical strength than adults and therefore facilities should be adapted to this.

In larger schools, it is recommended to build separate facilities for younger children, the older children, girls and boys (particularly important for adolescent children) and female and male teachers. In small schools, 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.



Figure 11.5: Maths exercise to determine sizes of toilets, heights of water points, etc.

The following child-size dimensions should be accounted for in the design:

- Height of taps and handwashing facilities,
- Height of doorknobs and locks,
- Height of steps and handrails of stairs in toilets and for water and handwashing facilities,
- Height of toilets seats (if seats are being used),
- In urinals, distance from the squatting platform to the wall (girls need more space to squat comfortably, while boys will stand up when urinating),
- If elevated urinals are being used: height of urinals,
- Diameter of the squatting hole (also consider children's fear of falling in).

Because children also have different levels of physical strength and motor skills than adults the following aspects have to be considered and measured:

- Force needed to open toilet doors,
- Strength needed to open taps, fetch water, etc.,
- Adaptations for children with physical disabilities.

For the youngest children, up to the age of eight, facilities and adaptations should be made to allow adults to supervise and/or help when children use the facilities.

It is impossible to set international standards for dimensions of facilities because children's height and size may vary from region to region. A good way of determining dimensions is by doing a participatory mathematics exercise in which children measure their height while standing and sitting.

Enough capacity and minimal waiting time

When there are not enough facilities for the number of school children, then children inevitably search for other places to urinate and defecate, 'forget' to wash their hands, throw garbage on the ground or drink water from unsafe sources. Ensuring the right capacity is usually not a matter of applying a simple ratio. There are other factors that determine the required capacity besides the total number of school children, such as the times when children are allowed to go to the toilet/drink water/wash hands, the number of classes, and the future growth of the school population.

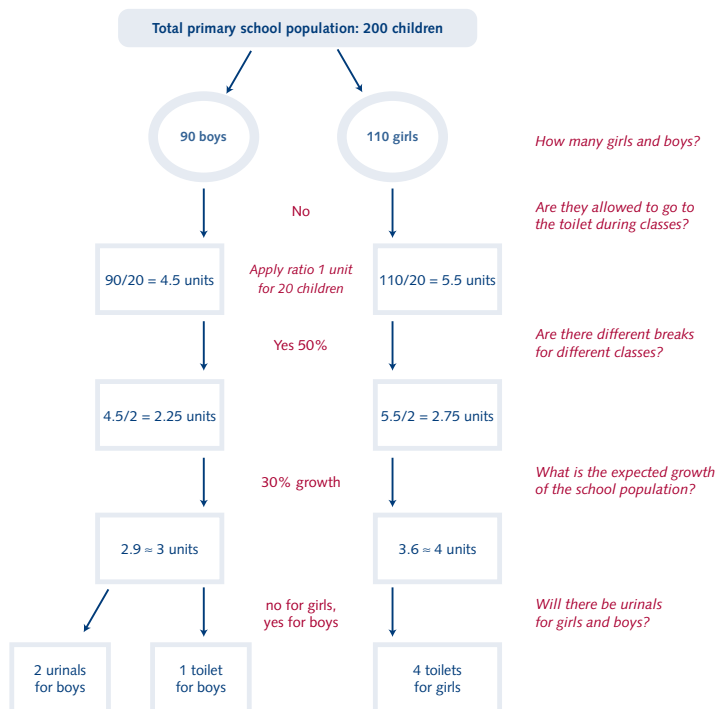


Figure 11.6: An example of calculation of sanitation facilities requirements.

Needs and roles of girls

Some WASH needs are gender specific. Girls and women have different physical needs and socio-culturally determined roles than boys and men. Therefore special consideration should be given to each group. Ideally, girls and boys, parents and teachers will be involved in meetings on design, construction and operation and maintenance of facilities. It is recommended to conduct some participatory sessions with girls and women separately from boys and men so that they can speak freely. Important topics for girls and women are:

- **Location of facilities** Girls and women will not use toilets or collect water from locations that are situated in an 'unsafe' area because of the risk of harassment by older students, teachers or others, or because of cultural beliefs or restrictions such as that people should not be seen visiting a toilet.
- A proper environment for **menstrual hygiene** has to be provided for adolescent girls or pre-adolescents who have entered puberty. Suitably designed toilets and water supplies are required for girls and women to comfortably change and dispose of sanitary pads and wash themselves in privacy when they menstruate. The needs and requirements are culturally determined and could even differ between ethnic groups or social classes within the same community.
- **Dialogue** on sensitive issues like feminine and menstrual hygiene, and managing diarrhoea should be part of the design process to determine the obstacles and needs. In most countries, talking about defecation, menstruation or reproductive health is surrounded by taboos. The implementation of a WASH programme or project might be an incentive to start this dialogue.

Special needs of children with disabilities

About one in five of the world's poorest people is disabled. Exclusion from basic facilities can result in isolation, poor health, and even poverty. The lack of proper school toilets can deter disabled children from even entering school. Only rarely are adaptations for disabled people incorporated into the design of WASH facilities. If incorporated in the original design, the adaptations can be made at little or no additional expense.

Adaptations to WASH facilities should be made for the three main categories of disabled persons:

- Blind children and children with poor vision: special grips and guiding systems as well as proper lighting.
- Children in wheelchairs or with crutches: provision of ramps, wider doors, and special grips or foldable seats.
- People with missing or paralysed arm(s): lids, taps, and knobs that can be opened with one hand or operated with the feet and are not too heavy.

Stimulate children's learning and development, and ensure that educational tools are designed in an age-appropriate way

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 facilities. Learning and

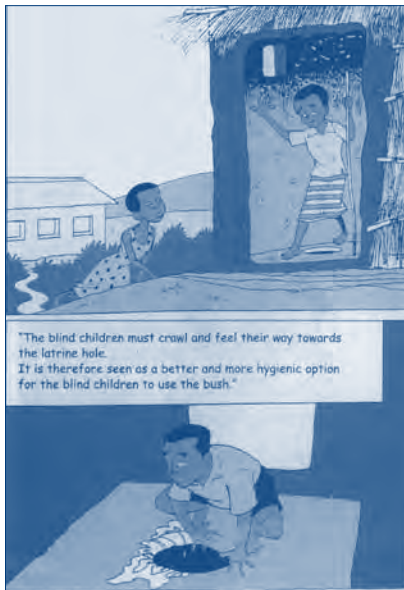


Figure 11.7: Sara and her friends talk about sanitation and hygiene promotion in school.
Source: booklet UNICEF, Malawi

development can best be stimulated interactively. When this is done in a playful manner, children will be eager to put their new habits into practice. Particularly, 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.

Children are stimulated by their surroundings in various ways. Besides visual perception, this also occurs through, for example, sharing spaces with others and being responsible for keeping them clean. 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 water, sanitation and handwashing 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 toilets 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, for example, decorate walls or solve functional problems themselves, which will encourage creative thinking.
- **Physiological development:** The use of facilities can help to develop necessary motor skills in young children, such as fine-tuning of physical movements. Using the facilities requires large motor skills (for example, climbing stairs) as well as fine motor skills (for example, opening taps).

Implications for the design of the facilities for the different age groups are shown in the box below.

Implications for design of facilities for different age groups*

Early primary school age (5-7 years)

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 her how to use the toilet properly or wash hands. 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.

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

Provide a clear and practical set-up of facilities with an understandable relationship between hygiene theory and practice. Facilities must offer well-integrated solutions for drinking water provision, handwashing, anal cleansing, and waste disposal. They should also offer privacy, including between children of the same sex.

Late primary and early secondary school age (12-13 years) and late secondary school age (14-16/18 years)

Ensure sufficient privacy for boys and girls, also inside facilities. The facilities for girls must have provisions for menstrual hygiene (See Chapters 7 and 8 on gender-related needs and roles).

* These are average age-ranges which will differ somewhat for each individual child.

Appropriate locations for toilets and water supply

Even a well-designed facility faces the risk of not being used if it is located in a poorly considered place. Finding the right location for facilities requires looking at different practical, environmental and cultural aspects. This can become difficult when these aspects give conflicting solutions and user groups have different preferences. Therefore it demands a process of setting priorities and participatory decision-making.

The following criteria should be considered when choosing a location for school toilets and water supply:

- **Safety:** Children have to feel secure when visiting WASH facilities without risking and fearing harassment by people or attacks by animals such as snakes, scorpions or spiders. Access routes have to be open and clear and the facilities must be in hearing/visual distance of the community so that assistance can be called for if necessary.
- **Privacy:** Particularly for people above the age of eight, toilet facilities and urinals should guarantee privacy. In some cultures it is important not to be seen entering or leaving the toilet. Access routes are therefore better located away from the

busy areas of the community and roads, while still being open and clear for security reasons. Locating girls' and boys' toilets in separate locations will mean that boys have no reason to be near girls' facilities and allow for girls' privacy.

- **Weather proof:** It must be possible to reach facilities during all weather conditions, also after heavy rains or flooding.
- **Proper use:** Facilities only contribute to health and hygiene improvements if properly used. Especially for younger children, supervision of behaviour and skills by adults is essential. Some locations will facilitate supervision of proper use, e.g. for younger children a handwashing facility near the classroom allows for better monitoring than when it is near the exit of the toilet.
- **Supervision:** The location of the facilities should allow for proper supervision and reduce the risk of vandalism, particularly when communal WASH facilities are being installed. Somebody, or a group of supervisors, has to be responsible for this task.
- **Location:** There is a tendency to locate toilets and urinals close to other 'odour and fly producers', such as garbage dumps and cattle or animal pens, where animals defecate. This will not motivate people to use them. It is better to locate facilities elsewhere and/or design solutions that minimise the nuisance and environmental degradation.
- **Pollution:** To avoid pollution of scarce water sources, toilets with leach-pits have to be located at least 20-30 meters away from wells and water sources because the further the horizontal distance the pathogen has to travel from the point of entry into the water table, the more likely the pathogen is to die.

Many of the above criteria also apply for community toilets and water systems.

Low-cost solutions without compromising quality

The best WASH facilities are those that are affordable, durable, encourage proper use, and are easy to maintain and keep clean. For example: proper drains are needed to dispose of excess water at wells. Also, surfaces that come into contact with faeces or urine must be impermeable and easy to clean; for this, moulds can be used to make a serial production of smooth-shaped surfaces and corners for slabs, seats, etc. at modest cost, using simple technologies and small capital at community levels.

Investing in good-quality sustainable facilities 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. It is always a matter of finding the right balance between costs and quality.

Prevent harm to the environment

Children are best sensitised to environmental issues in the school setting where they are already learning about various issues related to daily living. It is important to reduce or prevent negative impacts on the environment, that may also be hazardous to public health. Some facilities may pose risks of soil and groundwater contamination, while others may produce wastewater flows that must be managed.

Environmental sustainability should be an integral part of the design, implementation, operation, and maintenance of facilities, as well as of the accompanying hygiene education programme. The challenge is to promote awareness on environmental issues while providing incentives and tools to address them. Schools could re-use paper for anal cleansing (if no water is used). Further, programmes or mechanisms for garbage recycling might exist that schools could join. This will have an impact on the amount of garbage dumped by the school as well as providing some income for the school.

Operation and maintenance plans

A well-designed facility will lose its effect if it is not properly looked after. A good operation and maintenance (O&M) plan will not only indicate who is responsible for cleaning and maintenance but also the costs involved.

It will also ensure that:

- It involves children, teachers, parents and the local committee in the continuous process of monitoring and improving hygiene practices at school.
- It is developed and agreed upon before the facilities are completed.
- It is non-discriminatory and protects the best interests of children at all times: child participation should never be child labour!
- It should ensure that girls and boys participate equally in cleaning and maintenance.
- If possible, it is linked to other school improvement efforts such as classroom construction, etc.
- If training is needed on O&M skills this should be provided on a regular basis (annual or bi-annual).

Table 11.1: Example of an operation and maintenance plan.

Activity	How often (e.g. twice daily, daily, weekly, occasionally)	Who is responsible	Materials, parts, tools, and equip- ment needed (soap, brush- es, spare parts, etc.)	Who finances the materials, parts, tools, and equipment
Supply of soap, filling of water reservoirs, provision of clean towels	Recommend- ed at least daily			
Cleaning of toilets, water supply facilities, school yard	Recommend- ed at least daily			
Supervision: inspection for maintenance needs and repairs as well as checking if the toilet pits are full or septic tanks need to be cleaned	Recommend- ed weekly			
Maintenance: minor repairs, major repairs, emptying of pits	Once a month			
Monitoring and evaluation of use	Monitoring daily; evalu- ation once a year			

The table below shows common problems and repairs needed in schools. Teachers and parents or a local builder or mason can do all these repairs, and materials are usually available in the block.

Table 11.2: Example of common repairs for sanitation facilities.

Problem	Repairs needed
Door broken or does not give privacy; hinges loose	Repair panels of door; put new hinges and grease them.
Door cannot be locked from inside or outside	(inside) Make simple lock mechanisms using a hook and eye. (outside) Attach two eyes (one door and wall) and buy padlock.
Cement plaster comes off the walls	Remove loose parts and re-plaster with good cement mortar.
Roof is leaking	Clean and re-plaster the roof with strong cement mortar (3 cm) or put iron sheets on existing roof.
Slab is broken or has holes	Put new cement mortar or replace the entire slab.
Toilet pan is broken	Replace toilet pan.
For double-pit pour-flush toilet: Y-junction does not work	Construct Y-junction properly and put brick (or other such as plastic) stopper to block flow to one pit.
For Ventilated Improved Pit (VIP) toilet: Ventilation pipe is broken or does not work	Install new 50mm (2") PVC vent pipe (length 50 cm).
For toilet pits: Cover slabs are broken or missing	Put new cover slabs of good quality.
Concrete rings of pit are broken	Put new concrete rings of good quality.
For direct pit toilets: Pits are full	Empty pits by using bucket or scoop, and apply sludge to field if sludge is safe.
For double-pit pour-flush toilets: Pits are full	Switch to other pit. Leave full pit for more than a year and the sludge will decompose anaerobically (without air) and then can be safely dug out.

Table 11.3: Responsibility for Operation and Maintenance (O&M) of water facilities.

O&M of handpumps: Who is responsible? (adapted from Fry, 1993)		
O&M tasks	Operational responsibility	Financial responsibility
Monitor handpump use and encourage proper use	School	School
Check all nuts and bolts, and tighten if necessary	School	School
Check and adjust pump handle and stuffing box	School	School
Grease or oil all hinge pins, bearings, or sliding parts	School	School
Clean the pump, well head, concrete apron, and drainage area	School	School
Check well head, concrete apron, drainage area, repair cracks	School	School
Measure output per stroke and compare with expected output	School	School
Dis-assemble pump, check drop pipe, cylinder, leathers, and foot valve. Check corrosion and wear. Repair or replace if necessary.	School and local mechanic	School
Conduct other well, handpump or apron repairs if necessary	School and local mechanic	School
Repaint handpump periodically, as necessary	School	School
Conduct water test for micro-biological contamination	Government	Government
In case of contamination, locate and correct source of contamination, and disinfect	Mechanic or government agency	School and government
Conduct water level check and well yield test. Adjust cylinder setting if necessary	School	School
Record all operations and maintenance activities in notebook	School	School

O&M tasks	Operational responsibility	Financial responsibility
Manage a stock of spare parts, tools and supplies on site	School, local mechanic, private sector and government	
Replace entire handpump when fully worn	Local mechanic, private sector or government agency	Community and school

O&M of water system: Who is responsible? (adapted from Fry, 1993)

O&M tasks	Operational responsibility	Financial responsibility
Ensure protection of spring	School	School
Check spring box for leaks and cracks, and repair if necessary	School	School
Check all pipelines and valves for leaks or breaks, and repair	School and private contractor	School
Monitor standpost use to encourage proper use	School	School
Check all standposts for leaks, wear and tear, and make repairs	School and private contractor	School
Flush all pipelines periodically	School	School
Clean standpost concrete apron(s) and drainage area(s)	School	School
Check standpost concrete and drainage area, and repair if needed	School	School
Conduct repairs on spring box, lines, and standpost if necessary	School and private contractor	School or government
Conduct water test for micro-biological contamination	Government	Government
In case of contamination, locate and correct the problem and disinfect lines	Private contractor or government	School and government
Measure water output periodically, both at spring, standpost and assess leakage	School and private contractor or government	School and government
In case of high leakage, initiate leak detection and repair	School and private contractor or government	School and government

O&M tasks	Operational responsibility	Financial responsibility
Record all operations and maintenance activities in log book	School	School
Manage a stock of parts, tools, and supplies	School, local mechanic, private sector and government	
Rehabilitate spring box/ pipelines/ standposts	Local mechanic, private sector, government	School and government

O&M of borehole, diesel pump, storage and standpost system: Who is responsible? (adapted from Fry, 1993)

O&M tasks	Operational Responsibility	Financial responsibility
Operate engine daily safely and efficiently	School	School
Perform regular checks and adjustments (fuel, oil, filters, belts, etc.)	School	School
Regularly replace engine oil, filters and pump oil if applicable	School	School
Perform regular checks and adjustments on alternator, starter, radiator, valves and injectors	School, private contractor, government agency	School or government
Periodically conduct complete overhauls on engine, pumps and associated equipment	School, private contractor, government agency	School or government
Check all pipelines, tanks, valves for leaks and breaks, and repair	School	School
Monitor standpost use to encourage proper use	School	School
Check all standposts for leaks, wear, tear, and repair if needed	School	School
Flush all pipes periodically	School	School
Clean standpost concrete aprons and drainage area, and repair	School	School

O&M tasks	Operational Responsibility	Financial responsibility
Conduct water test for micro-biological contamination. Locate and correct source of contamination. Disinfect	Government	Government
Measure water output periodically, at well head and standpost. Assess leakage and initiate leak detection needed and repairs	School and contractor	School and government
Conduct well engine/pump rehabilitation	Contractor and government	School and government
Record all operation and maintenance activities in log book	School	School
Manage a stock of fuel and oil, ensuring proper storage and security. Maintain special fuel log.	School	School
Manage stock of parts, tools, and supplies	School, local mechanic, private sector and government	
Establish historical records of all engines, and pumps	Government	Government
Develop schedules for preventive maintenance and monitoring	School and government	School and government
Conduct effective vehicle maintenance	Government	Government

O&M administrative and support activities for most water supply systems: Who is responsible? (adapted from Brikké, 2000)

Administrative and support tasks	Operational responsibility	Financial responsibility
Conduct technical and socio-economic participatory studies	Government with the school	Government
Analyse O&M tasks for use in planning and budgeting	Government with the school	Government
Prepare annual budgets and long-term financial estimates	School with the government	School and the government
Select and appoint operators/ contractors for O&M	School with technical advisors	School

Administrative and support tasks	Operational responsibility	Financial responsibility
Develop and evaluate technical and management training for water system operators	Government with school	Government
Provide ongoing technical training for operators	Government with school	Government and the school
Delegate task responsibilities, supervise and pay salaries	School	School
Keep archives, inventories and log books	School	School
Develop and evaluate financial & management training for community managers	Government with school	Government and school
Provide ongoing financial and management training for community managers	Government with school	Government and school
Collect water fees and manage revenues	School	School
Make payments for purchases, loans and other obligations	School	School
Respond to users' complaints	School	School
Organise and conduct general meetings for discussions, elections, etc.	School	School
Develop information and materials on hygiene education	Government with the school	Government
Organise community contributions for upgrading or extending the system	School	School
Report urgent problems to government agency	School	School
Provide technical and management support to community managers	Private sector or government	Private sector or government
Collect, analyse, monitor results, and conduct follow-up support or training if necessary	School and government	School and government

Source: Brikké (2000).

Recommended reading:

- DDWS, DEEL and UNICEF (2008). *An inclusive approach for School Sanitation & Hygiene Education. Strategy, Norms & Designs*. New Delhi, India, UNICEF http://ddws.gov.in/popups/SSHE_book%20Final%20PDF.pdf
- Zomerplaa, J. and Mooijman, A. (2005). *Child-friendly hygiene and sanitation facilities in schools: indispensable to effective hygiene education*. IRC International Water and Sanitation Centre and UNICEF New York. (Technical paper series; no. 47). Download the full text document from: www.irc.nl/page/9587

11.2 Design and technology for school toilets

There are a number of issues to consider in the selection of toilet designs. Some aspects that influence the design are dictated by nature. These include the level of the ground water, which means that water poured in a hole in the ground either disappears quickly or stays for some time without being absorbed. The type of soil is another consideration, as in some places the pits collapse when the soil is not stable, while in other places it is very difficult to dig, for example, through laterite. In areas where the water table is very high or where there are annual floods, the toilets must be built high enough so that the floods do not make the toilet content flow out of the pits, creating very serious risks for the spread of diseases such as cholera.

Thus, the school toilets should be designed and located taking into account these factors: the texture, stability and permeability of the soil, groundwater level, proneness to floods, environmental pollution, disposal of decomposed human excreta, availability of water (for handwashing) at what distance and what quality/quantity. The following table can be useful in examining the environmental factors that influence the selection of toilet technologies.

Table 11.4: Environmental factors in deciding on the type of toilet technology.

Specific topic on which information/ data is needed	Considerations
Type of soil stability	
Loose, sides of walls collapse	Line the pits. In very sandy soils, sink cement rings that are preformatted or set on top of each other without cement.
Hard to dig	Use the pour-flush design rather than VIP as the pits are less deep.

Specific topic on which information/ data is needed	Considerations
Permeability (how water is absorbed by soil)	
Clay soil	Test by pouring water into a hole and measuring how long it takes to be absorbed. Pits in dense clay may need backfilling with more sandy soil.
Coarse sand	Backfill around the rings with denser soil and/or locate the toilet pipes far (for example, 40 metres or more) from a well used for drinking.
Hard laterite	If there are cracks in the laterite, the toilet pits can pollute nearby drinking water sources. Place the toilet far from these sources.
Ground water level in wet season (deepest level)	
Water rises higher than one metre from the bottom of the toilet pit, but never completely floods the toilet pits	Locate the toilet pit far from any well used for drinking, for example, 40 metres or more.
Water rises to or above ground level and sludge comes out of toilets	Raise the toilets above ground level so that the top third of the pit is always above the water level. Place toilets far from drinking water source.
Distance to water source	
Distance from toilet pit to drinking water source	At least 15 metres.
Children or teachers must spend extra time, for example more than 15 minutes each day, to collect water	VIP toilet is preferred as it uses less water.

Source: Smet, Jahan and Postma (2001).

Selecting the technology

For the initial selection of the suitable school toilet technology, the following table may be useful. This is followed by a flow diagram which can help with decision-making. The next step before the final selection of the design will be determining the costs and willingness to pay. This is dealt with in section 11.7.

In the following table, you can determine which type of toilet is suitable or not suitable in certain circumstances.

Table 11.5: Different toilet types.

Toilet type	Suitable for high groundwater table	Suitable for areas prone to floods, tidal floods or flushes	Suitable for loose soils	Suitable for soils of low permeability	Water requirement	Ease of construction	Ease of maintenance	Remarks
Direct single-pit toilet without pour-flush	Yes, if raised	Yes, if raised	Yes, if fully lined	Not for clay soils	No	Easy	Easy	Sludge unsafe
Direct double-pit toilet without pour-flush	Yes, if raised	Yes, if raised	Yes, if fully lined	Not for clay soils	No	Easy	Easy	Safe sludge
Offset single-pit toilet with pour-flush	Yes, if raised and with soak-away	Yes, if raised	Yes, if fully lined	Yes, with soak-away	Yes	Easy	Easy	Sludge unsafe
Offset double-pit toilet with pour-flush	Yes, if raised and with soak-away	Yes, if raised	Yes, if fully lined	Yes, with soak-away	Yes	Fairly easy	Easy	Safe sludge
Solar-heated single-vault ecological toilet with urine separation	Yes	Yes	Yes	Yes	No	Easy	Difficult	Safe dehydrated material
Double-vault ecological toilet with urine separation	Yes	Yes	Yes	Yes	No	Easy	Difficult	Safe dehydrated material
Urinal	Yes	Yes, if raised	Yes	Yes	Yes, a little	Easy	Easy	

Reference: RGNDWM (1996). P.26-27

If more than one toilet is needed, then the walls of the substructure and pits, and the soak-aways can be shared. In this way some 10 per cent can be saved on the cost of the substructure and some 15-20 per cent on the cost of the superstructure.

The following flow chart has been developed on the choice of toilet technology. Note that it is a simplified decision-making chart that should only be used for preliminary guidance.

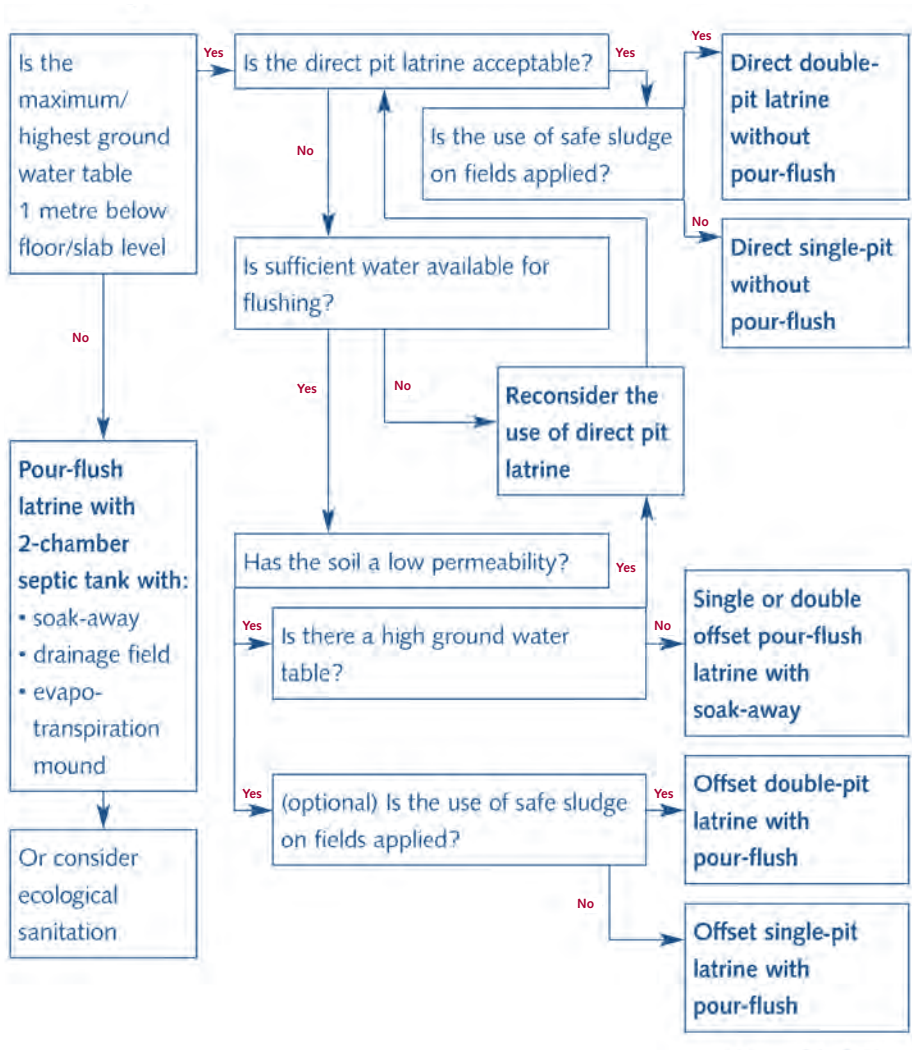


Figure 11.8: Decision-making flow chart for toilet technology.

The main toilet technologies can be split in two concepts (1) dry toilets and (2) flush toilets. Flush toilets, that use water to drain faeces, can only be used when enough water is available.

Dry toilets

Direct single-pit toilet without pour-flush

This toilet consists of a single pit covered with a slab with a drop hole, a vent pipe covered with a fly screen and a sealed slab at the rear of the toilet. This slab can be removed at the end of the dry season, to dig out part of the sludge under the removable slab.

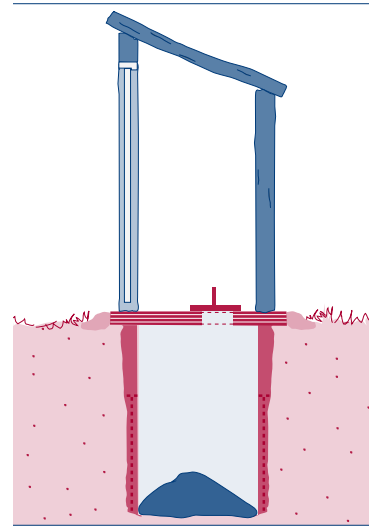


Figure 11.9: Direct single-pit toilet without pour-flush.

Wind blowing across the top of the vent pipe creates a flow of air that sucks out the foul-smelling gases from the pit. The vent pipe plays also an important role in vector control. Insects are attracted to light; and if the toilet is suitably dark¹⁰ inside they will fly up the vent pipe to the daylight. Because they cannot escape due to the fly screen, they are trapped until they dehydrate and die.

Considerations:

- Odour problems may occur during the night and early morning in toilets relying more on solar radiation for the air flow in the vent pipe than on wind speed. In areas with soils with a low infiltration capacity (around 11 l/m².day or lower) the use of water for cleansing should be limited, or even better, avoided. Pit sludge which contains pathogens is not safe when pit is emptied.

Direct double-pit toilet without pour-flush

This toilet consists of two pits that are covered with two slabs, each with a drop hole and a vent pipe covered with fly screens but only one superstructure. Only one pit is used at a time. When the contents of the pit reach the level of 0.5 metres below the slab, its drop hole is covered and the second pit is used. After a period of at least 12 months, the contents of the first pit can be safely removed and used as soil conditioner. The first pit can be used again after it has been emptied or when the second pit has filled up. This alternating cycle can be repeated indefinitely.

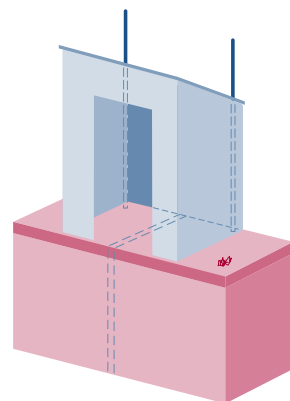


Figure 11.10: Direct double-pit toilet without pour-flush.

¹⁰ In the case of toilets for children, what is suitably dark or light also depends on their need to feel safe.

Wind blowing across the top of the vent pipe creates a flow of air that sucks out the foul smelling gases from the pit. The vent pipe plays also an important role in vector control, as with the single-pit toilet above.

Considerations:

- Odour problems may occur during the night and early morning in toilets relying more on solar radiation for the air flow in the vent pipe than on wind speed.
- Pits can be emptied manually if their contents have been left to decompose for at least a year.
- In areas with soils with a low infiltration capacity (around 11 l/m².day or lower), the use of water for cleansing should be limited, or even better, avoided.
- An additional consideration for the double-pit toilet system could be that the content of the pit may not decompose safely because the double pits are too close to each other without an effective seal between them, allowing liquids to percolate from one pit to another.

Double-vault ecological toilet with urine separation

Ecological sanitation is part of a broader vision of bringing society into balance with nature to ensure a more sustainable future. For more information see section 11.3.

Water flush toilets

Offset single-pit toilet with pour-flush

The superstructure of an offset single-pit toilet with pour-flush is half a metre away from the leach pit. A short length of sufficiently sloping (1:10) PVC leads from the U trap of the pan down to the pit. The pour-flush toilets overcome the problems of flies, mosquitoes and odour through the installation of a pan with a water seal (a U-shaped conduit partly filled with water) in the defecation hole. After using the toilet, it is flushed by pouring a minimum of two and a half litres of water into the pan.

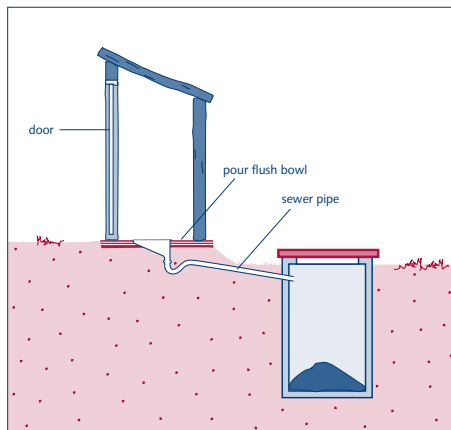


Figure 11.11: Offset single-pit toilet with pour-flush.

The Blair Toilet, developed by Dr. Peter Morgan, is a design that has been used on a large scale in Zimbabwe and in other parts of Africa. Its design makes use of air currents and a septic tank-like pit, over which an upper structure is built with an open light-trap entrance. It also has a ventilation pipe from the bottom pit with a fine wire grate to keep out flies, but more importantly to trap those insects entering the toilet hole from flying out towards the light. The result is odourless and hygienic, as flies cannot escape from the faecal matter to spread disease, and the gases produced by the

decomposing waste are redirected outside. It can be used as a dry toilet as well as a water flush toilet.

Offset double-pit toilet with pour-flush

The superstructure of an offset double-pit toilet with pour-flush is a short distance away from the two-leach pits. A short length of sufficiently sloping (1:10) PVC leads from the U-trap of the pan down to the pit. The pour-flush toilets overcome the problems of flies, mosquitoes and odour by the installation of a pan with a water seal (a U-shaped conduit partly filled with water) in the defecation hole. After using the toilet, it is flushed by pouring a minimum of two and a half litres of water into the pan. The double offset system enables the alternating use of the two pits. When the first pit is full, it should be left for at least 12 months, the period required for adequate pathogen destruction. After this period, the decomposed contents of the first pit can safely be removed by hand and used as organic fertiliser. The first pit can be used again while the second pit has time to decompose its contents.

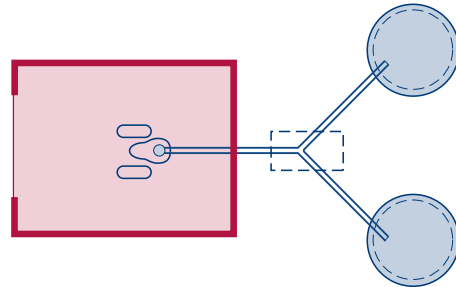


Figure 11.12: Offset double-pit toilet with pour-flush.

Considerations:

- Blocking of the U-trap due to bad design or improper use, or damage to the U-trap due to improper unblocking can cause frequent problems. Pour-flush toilets are unsuitable where it is common practice to use bulky materials for anal cleansing which cannot be flushed through the U-trap.
- An additional consideration for the offset double-pit toilet with pour-flush could be that the content of the pit may not decompose safely because the double pits are too close to each other without an effective seal between them, allowing liquids to percolate from one pit to another.

Pour-flush toilet with two-chamber septic tank with soak pit

The pour-flush toilet is about one metre away from the septic tank. A short length of sufficiently sloping PVC (1:10) leads from the U-trap of the pan down to the tank. The pour-flush toilet overcomes the problems of flies, mosquitoes and odour by the installation of a pan with a water seal (a U-shaped conduit partly filled with water) in the defecation hole. After using the toilet, it is flushed by pouring a minimum of two and a half litres of water into the pan.

A septic tank is a watertight settling tank to which wastes are carried by water flushed down a short PVC pipe. A septic tank does not dispose of wastes; it only helps to separate and digest the solid matter. The liquid effluent flowing out of the tank is from a health point of view as dangerous as raw sewage and needs to be disposed of by soaking into the ground through the soak pit. The sludge accumulating in the tank must

be removed regularly, usually once every one to five years, depending on site, number of users and kind of use.

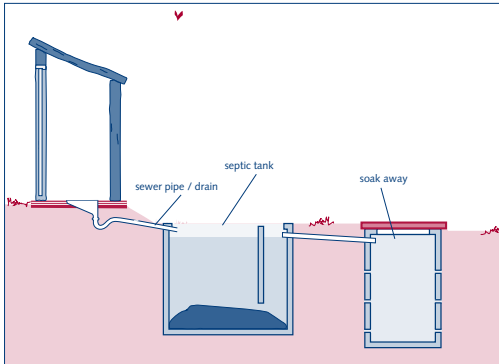


Figure 11.13: Pour-flush toilet with two-chamber septic tank with soak pit.

In double-compartment tanks the first compartment has twice the volume of the second. The total volume of the tank should be at least three times the average volume of water used daily. The conventional septic tank works well where the soil conditions are suitable. Every tank must have a ventilation system to allow escape of explosive gases from the tank. Septic tanks are more expensive than other on-site sanitation systems and require sufficient piped water.

For the explanation of a soak pit see the end of this section.

Considerations:

- Many problems are caused by too much accumulated disposed liquid. Large flows entering the tank may cause a temporarily high concentration of suspended solids in the effluent owing to disturbance of the solids, which have settled out.
- This type of toilet is unsuitable for areas where water is scarce and where financial resources are insufficient for construction of the system, or where safe tank emptying cannot be done or afforded.

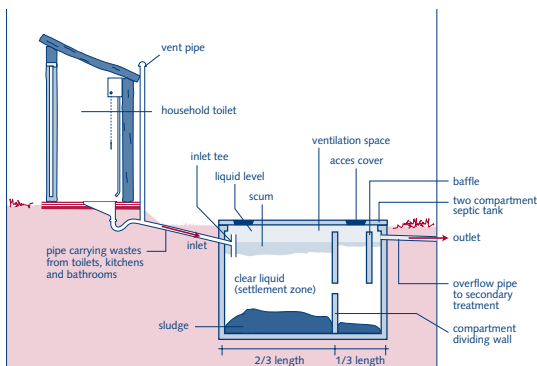


Figure 11.14: Alternative design for septic tanks by Oxfam with a raised hole to prevent clogging, a vent pipe for ventilation, and a horizontal soak pit for quicker infiltration. Adapted from: WEDC (1999).

Pour-flush toilet with two-chamber septic tank with drainage field

This section is only about the drainage field. It should be read in combination with the details on the pour-flush toilet with two-chamber septic tank and soak pit.

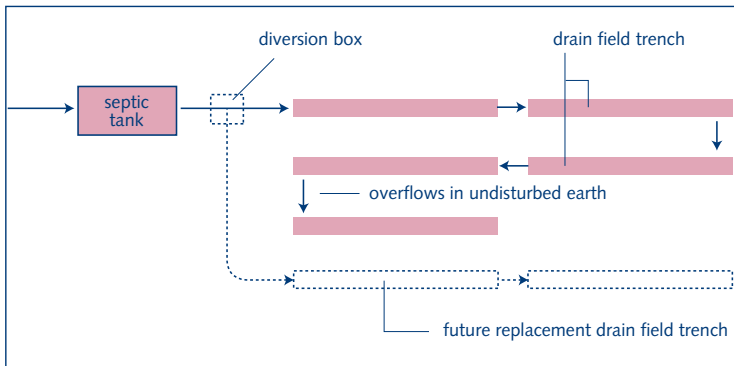


Figure 11.15: Two-chamber septic tank with drainage field.

A drainage field consists of gravel-filled underground trenches, into which the liquid effluents coming from the septic tank are led through open-joint (stoneware) or perforated (PVC) pipes, allowing the effluents to filtrate into the ground. Initially the infiltration into the ground might be high, but after several years the soil clogs and an equilibrium infiltration rate is reached. If the sewage flow exceeds the equilibrium rate of the soil, eventually the sewage will surface over the drainage field.

Trenches are usually 0.3-0.5 m wide with a depth of 0.6-1.0 m below the top of the pipes. They are laid with a 0.2-0.3 per cent gradient and contain 20-50 mm diameter gravel with 0.3 to 0.5 m of soil on top, with a barrier of straw or building paper to prevent soil from washing down. They should be laid in series so that as each trench fills it overflows to the next one. This ensures that each trench is used either fully or not at all. Trenches should be two metres apart, or twice the trench depth if this is greater than one metre. The bottom of a trench should be at least 0.5-1 m above groundwater, bedrock or impermeable soil and land slope should not exceed 10 per cent. An equal area of land should be kept in reserve for possible extension or replacement of the drainage field if it becomes clogged. A drainage field is often used where larger quantities of liquid effluents are produced.

Considerations:

- The problems that can occur are overflowing leach lines, unpleasant odour, groundwater contamination and social conflict over location of the drainage fields.
- A drainage field is unsuitable where insufficient space, water or financial resources for construction are available, and where bedrock or groundwater are at shallow depth.

Pour-flush toilet with two-chamber septic tank with evapo-transpiration mound

This section only focuses on the evapo-transpiration mound. It should be read in combination with the details on the pour-flush toilet with two-chamber septic tank and soak pit.

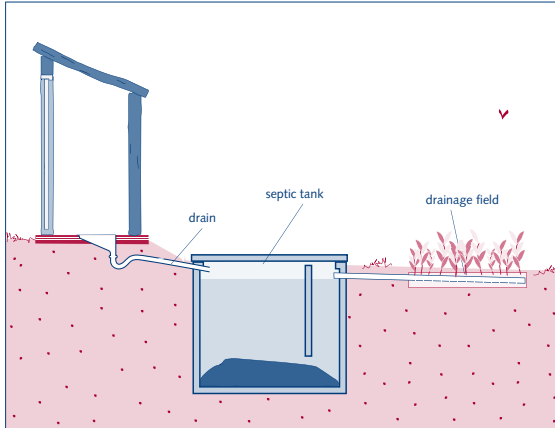


Figure 11.16: Pour-flush toilet with two-chamber septic tank with evapo-transpiration mound.

Where the soil is impermeable or difficult to excavate, or where the water table is near the surface, a possible solution is the use of an evapo-transpiration mound. This ensures a greater depth and dispersion of the effluent's travel into the soil, as well as removing much of its water content through the evapo-transpiration of the plants planted on the top. An evapo-transpiration mound is filled with sand and gravel into which the liquid effluents coming from the septic tank are led through perforated laterals allowing the effluents to filtrate into the ground or to evapo-transpire.

Urinals for boys

Urinals must be seen as part of the package of sanitation facilities, but are mainly used in public buildings like schools, hospitals, offices, etc. The construction of urinals reduces the number of toilets needed and they are cheaper than toilets. Furthermore, the use of urinals might prevent the accidental fouling of the boy's toilets, which is in many cases the prime cause of unpleasant odours.

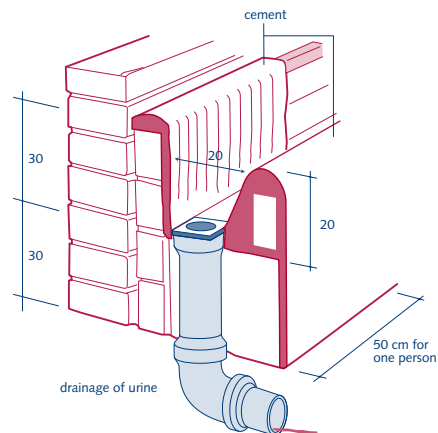


Figure 11.17: Possible design for urinal.

One urinal can include several urinal spaces. A urinal space is 0.6 meter of a urinal channel. Urinals can be built as separate buildings or as part of a toilet block, i.e. using the back or sidewall of the toilets. A raised footstep with a slope separates the urine

channel from the concrete floor. It is very important that a tough plastic or stainless steel trap is incorporated in the drain to prevent debris blocking the pipes. The compartment walls should be plastered and steel floated up to 1.2 meters above the floor. This should then be painted with urine-resistant washable paint. The urinals will be connected to a soak pit.

Urinals for girls

The construction of urinals for women is a recent development. It is a cheaper design than building toilets and can, particularly for younger girls who do not demand much privacy, be a good alternative to traditional solutions.



Figure 11.18: Urinals for girls in Vietnam.

Photos: Christine van Wijk

Soak pit

A soak pit is a pit into which the liquid effluents from the leach pit are disposed to infiltrate into the ground. The size of the soak pit should not be less than that of the leach pit. The pit may be filled with stones, broken bricks, etc., in which case no lining is needed, or lined with pre-cast rings. The top 0.3 m (the upper ring) should be a “non” perforated ring. If no lining is used, the top 0.5-meter should be lined to provide a firm support for the reinforced concrete cover slab.

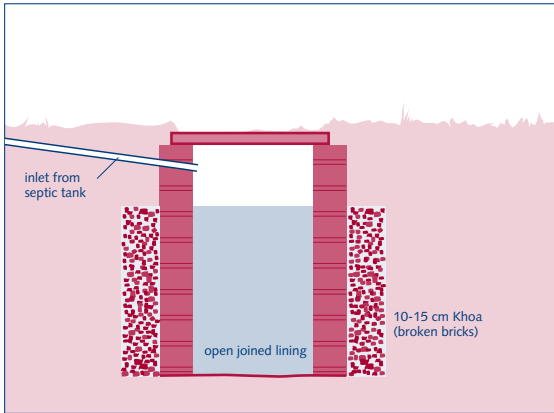


Figure 11.19: Soak pit.

Further reading

For background reading on technology choice: Cotton, A. and Saywell, D. (1998). *On-plot sanitation for low income Urban Communities* or Franceys, R., Pickford, J. and Reed, R. (1992). *A guide to the development of on-site sanitation*, http://www.who.int/water_sanitation_health/hygiene/envsan/onsitesan.pdf

11.3 Ecological Sanitation

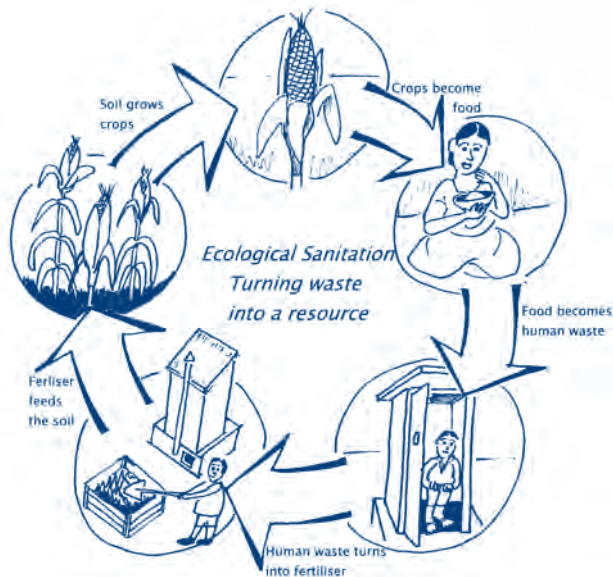


Figure 11.20: Ecological sanitation turns waste into a resource.
Source: Conant (2005).

Ecological sanitation is part of a broader vision of bringing society in balance with nature to ensure a more sustainable future. It represents a different approach to sanitation; an approach that prevents spread of diseases by destroying pathogens before faeces are returned to the environment, and simultaneously recovers and recycles the waste as plant nutrients and organic matter, thus closing the nutrient loop. Ecological toilets are designed with these goals in mind. Plus, the process entails little or no water use, so water is conserved and pollution (travel of pathogens through the medium of water) is prevented. In addition, faeces remain above ground and are not discharged or buried in deep pits, risking contamination of aquifers (Esrey, S. et al (2001).

Although ecological sanitation (or ecosan) already existed in the ancient Roman and Chinese cultures and in Yemen, Mexico and Peru, it was not until the late 1980s that ecological sanitation was promoted as an option for public sanitation, based on robust scientific principles applicable equally to low-income areas. Today, many initiatives can be found worldwide. Most are small-scale and focused on households. Initiatives in schools do exist but, so far, have not always been successful. Ecological sanitation demands more promotion, support, education and training than conventional systems, since this technology is more sensitive to bad design and management.

Principles of ecological sanitation

Ecological sanitation consists of the following principles:

- **Protection and conservation of water:** Keeping excreta dry and dehydrating them eliminates the need to use scarce water. Moreover, dry disposal will further enhance the elimination of pathogens.
- **Recovering and recycling of nutrients and organic matter:** Urine collected from urine-diversion toilets can be diluted and applied directly to the soil for agriculture or stored in storage tanks prior to applying it to the soil. After being sanitised, faeces can be recycled and used as fertiliser (soil conditioner). The taboos surrounding sanitation could make it difficult to convince stakeholders to utilise urine and faeces as fertiliser. In such cases, burying the faecal compost and draining the urine into a soak pit are good alternatives. Often when the initial resistance has been overcome, stakeholders will be prepared to use the residues.
- **Prevent 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.

Ecological sanitation is a 'closed loop' approach preventing pollution by recycling nutrients and organic matter.

The process of ecological sanitation

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. It can be diverted by using urinals or special pedestals or squatting slabs, and then collected to be used as fertiliser, or infiltrated into a vegetation bed with plants located in close proximity to the toilet, that feed on the nitrogen in urine.
- 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 atmospheric heat, ventilation and the addition of dry material after each toilet use (such as ashes, lime and soil). A solar collector can be integrated to generate heat to further accelerate the dehydration process.

Both decomposition and dehydration require up to one year before all pathogens are destroyed and the contents of the vault can be handled safely. For this reason, often the design of ecosan toilets includes two or more vaults, which are used alternately, so that one can be left to sanitise while the other is used for sanitation purposes. Once the content of a vault has been sanitised, it can be used as fertiliser.

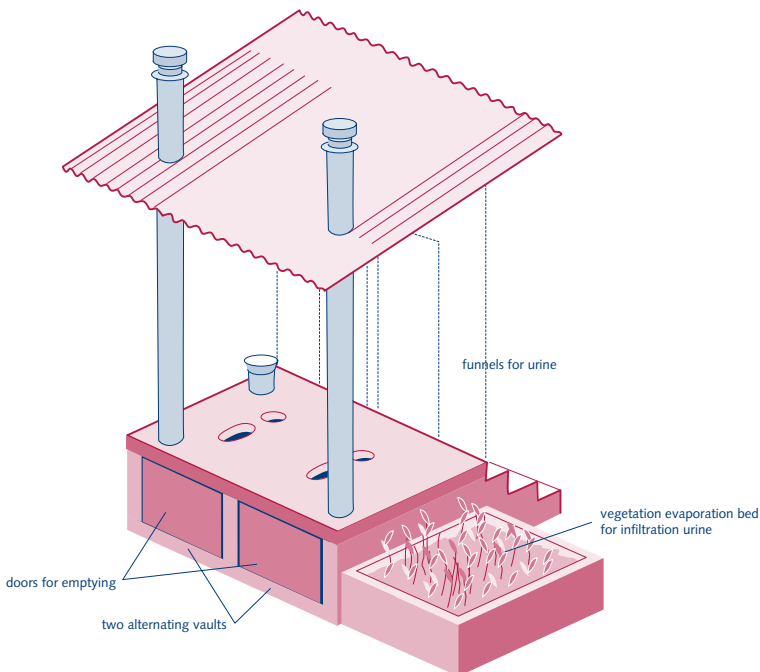


Figure 11.21: The Kerala double-vault toilet.

Over the years practitioners have developed several designs for ecological toilets. Each toilet contains at least three components: a pedestal or squatting pan, a slab and a chamber, plus sometimes a superstructure. These components may be separate from each other or permanently attached to one another. The chamber is below the slab, and this is where faeces, or urine and faeces separately, are collected and stored. There may be one or two chambers, they may be above or below ground, (as long as there is the possibility to safely remove the compost) and they may be portable or fixed in place.



Figure 11.22: Emptying of an ecological toilet.

Source: UNICEF Bolivia

Promoting ecological sanitation

Only when all users and other stakeholders support and promote ecological sanitation can it be a feasible option. Handling the waste, even though it has been processed and is harmless and odour-free, may not be directly acceptable in all cultures. What can be found so far is that composting takes place, but that in many cases, the compost is being buried rather than used as a fertiliser.

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 toilet. The system does not depend on water availability and piped networks and operation and maintenance costs are relatively low, which balances out the initial higher investments.

Recommended reading

Esrey, S., Gough, J., Rapaport, D., Sawyer, R., Simpson-Hébert, M., Vargas, J., and Winblad, U. (1998). *Ecological sanitation - Revised and enlarged version*. Stockholm, Sweden, Swedish International Development Cooperation Agency www.ecosanres.org

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11.4 Water supply facilities

The previous section focused on sanitation facilities. This section will focus on water supply facilities. At the end of this chapter there is a section on financing and paying for the facilities, which is applicable to both water supply and sanitation facilities.

What is the best water supply that we can afford?

It is essential that schools have sufficient water. Only with sufficient water can children benefit from new sanitation facilities. To ensure the full health benefits from the improved facilities, the students and the teachers must be able to practise appropriate hygiene behaviour. Water in the school is used for:

- **Drinking:** For this, the water storage facilities, if they are needed, must be kept extremely clean.
- **Handwashing** before eating and after defecation. Without this, the health benefits of the new toilets will be undermined. Handwashing is an exceptionally important habit for children to form. Soap is also necessary and funds for this need to be provided.
- **Cleansing after toileting.** For this, mugs are needed and a bucket or drum of water in the toilet or nearby.
- **Pour-flushing and cleaning the toilets.** For this mugs and buckets are also needed, as well as brushes or brooms.
- **Other:** Cleaning the chalkboards and classes, settling dust.

For drinking and handwashing, the water must be of very high quality. However, for cleansing, pour-flushing and cleaning of the toilets, the water does not need to be of the same quality. If there is a shortage of clean water, then water from any tube well or from a nearby pond will do for these practices.

Please note that the remainder of section 11.4 has been directly cited from Operation and maintenance of rural water supply and sanitation systems by François Brikké published in 2000 by WHO.

Repair of existing facilities

Many schools already have access to improved water sources. However, these may need to be repaired, and followed up with regular preventive maintenance.

The goal is to decide, in consultation with parents and teachers, which improvements are needed to the existing water supply facilities. Then the costs of these should be calculated and, in addition, information should be provided to teachers and parents about recurrent expenses for operation and maintenance, for cups, buckets, brushes and soap.

Selecting the technology and design

The most usual water technologies found in schools are:

- Shallow covered wells (rope and bucket)
- Direct-action handpumps (India Mark II)
- Water standposts (on extensions of piped water schemes)
- Rainwater harvesting

In the following pages an overview of these water technologies are discussed. Included is a brief description of technology, description of operation and maintenance (O&M) activities, O&M requirements, actors implied and skills required in O&M, recurrent costs and finally problems and limitations.

Shallow covered well - rope and bucket, loose, through a pulley or on a windlass

a. Brief description of technology

Mostly used with hand-dug wells. A bucket on a rope is lowered into the water. When hitting the water, the bucket dips and fills itself and is pulled up with the rope. The rope might be held only with the hands, run through a pulley or be wound on a windlass. Sometimes animal traction is used in combination with a pulley. Improved systems use a rope through a pulley and two buckets, one on each end of the rope. For water depths of less than 10 metres, one can use a windlass with a hose running from the bottom of the bucket to a spout at the side of the well. Even with this system and a protected well, hygiene is poorer than with a bucket pump.

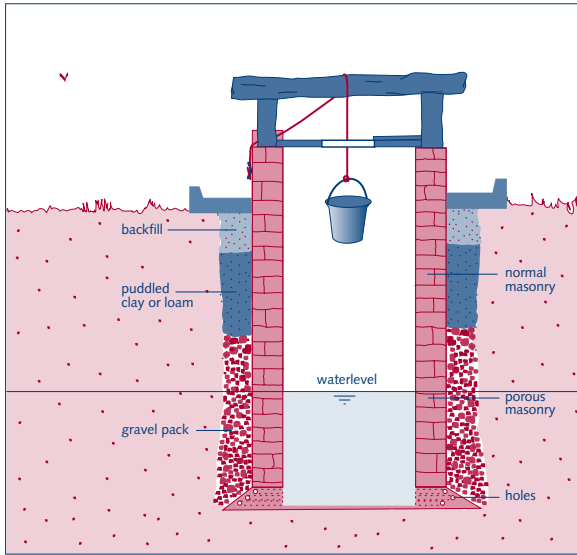


Figure 11.23: Shallow covered well, rope and bucket.

Range of depth:	0-15 m (greater depths are possible).
Yield:	0.25 l/s at 10 m.
Area of use:	All over the world, mainly in rural areas.
Construction:	Buckets, ropes, pulleys and windlasses are manufactured locally; buckets and ropes also by larger industries.

b. Description of O&M activities

Operation

Lower and raise the bucket by paying out and pulling in the rope or rotating the windlass. Be careful not to dirty the rope or bucket.

Maintenance

Preventive maintenance consists of greasing the bearings of the windlass or pulley. Small repairs are limited to patching of holes in bucket and hose, reconnecting hinge of bucket and fixing windlass bearings or handle. All repairs can be done by local people and with tools and materials available in the community or area. More major repairs and replacements mainly consist of replacing a bucket, hose, rope or part of, or the entire windlass. Woven nylon ropes may last two years, twined nylon or sisal ropes only last a couple of months. A good quality hose may last over two years and buckets, depending on material and quality, may last a year.

Organisational aspects

When people use their own rope and bucket, no extra organisation is required. For community wells, usually a community committee organises the maintenance and cleaning of the well, maintenance of the windlass, etc. Most repairs can be paid with ad hoc fund raising.

c. O&M requirements

Activity	Frequency	Human resources	Materials and spare parts	Tools and equipment
Grease axles of windlass or pulley	Every two weeks	Local	Grease or oil	Lubricator
Replace bucket	Each year	Local	Bucket, wire	Knife
Replace rope	Every two years	Local	Rope, wire	Knife
Replace hose	Every two years	Local	Hose, wire, rubber straps from tyres	Knife, tongs

d. Actors implied and skills required in O&M

Actor	Role	Skills
User	Lower and lift the bucket Keep site clean Warn in case of malfunctioning	No special skills
Caretaker	Keep site clean, do small repairs	Basic maintenance
Water committee	Organise well cleaning, collect fees	Organising skills
Local artisan	Repair of bucket, windlass, well cover, etc.	Metal work, carpentry
Shopkeeper/ trader	Sale of rope, bucket, etc.	No special skills
External support	Check water quality, stimulate and guide local organisation	Water analysis, extension work

e. Recurrent costs

Consist of occasional purchases of rope, bucket, hose, wire etc.; occasional repair costs of windlass are low.

f. Problems, limitations and remarks**Frequent problems**

Fast deterioration of bad-quality rope. Sisal rope only lasts for a few months. Bucket falls into well. To prevent this, communities can keep a spare bucket available and fit the bucket in a protective cage. In windlass with hose systems the hose breaks frequently.

Limitations

Very poor hygiene, especially when rope and bucket touch hands or ground. Communal wells often tend to get more contaminated than family-owned wells.

Therefore the latter should be aimed for where possible. Only suitable for limited depths, although examples are known of rope and bucket systems exceeding 50 metres.

Handpump - India Mark II

a. Brief description of technology

Handpumps can provide a permanent source of unpolluted water, which is vital for a healthy community. For many low-income communities, the installation of a handpump is the cheapest and most effective means of providing an improved water supply. There are many hundreds of different types of handpumps and manufacturers. In South Asia, the one often found in schools is the India Mark II handpump.

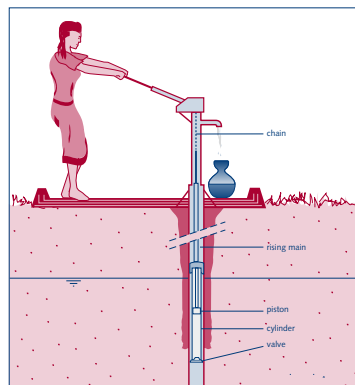


Figure 11.24: Handpump.

Every handpump, including the India Mark II handpump, must have a concrete surround to prevent polluted water seeping down the side of the casing and polluting the borehole water. This is also needed so that people drawing water do not have to walk through mud or stagnant water where they may pick up disease.

Ranges of depth:	15 to 45 metres (greater depths are possible)
Yield:	12 litres per minute
Area of use:	Mainly in rural areas and sometimes in peri-urban areas

b. Description of O&M activities

Operation

To operate the India Mark II the pump handle is lifted and lowered (in a pumping action). This produces a vertical displacement of the pump rod. The discharge valve (plunger) attached to the lower end of the pump rod closes as it moves up, thereby lifting water and allowing the foot valve to open and refill the cylinder. The foot valve then closes as the discharge valve opens on the down stroke, moving through the water without pumping.

Maintenance

Periodic inspection of the handpump, replacing parts that are worn or show other signs of deterioration, is critical. The aim is to prolong the life of the pump and to avoid unexpected breakdowns.

Organisational aspects

Preventative maintenance is an organised system of inspections on a daily, weekly,

monthly and yearly basis which should maximise the time for which a pump can deliver good supplies of drinking water.

Daily checks must be made of the pump operation, pump and base cleanliness and wastewater drainage. The comments of users need to be collected and acted on. A weekly inspection is critical to look at lubricating moving parts, to check the tightness of nuts and bolts and to check that the pump is secure on its base. A monthly check should be made on the condition of the concrete base. Finally, an annual inspection, which may include the replacement of parts, is required. In this model of maintenance, proper schedules and organisation are just as important as the physical working of the handpump.

c. Problems, limitations and remarks

Frequent problems

Valves can wear and can cause leaking. Rubber/leather valves may deteriorate from overuse.

Limitations

There are potential delays in obtaining spare parts, which can increase the time before a malfunctioning handpump is fixed.

d. O&M requirements

Activity	Frequency	Human resources	Materials and spare parts	Tools and equipment
Clean site	Daily	Local		Broom or brush
Inspect and clean drain	Daily	Local		Hoe, spade
Repair or replace valve	Occasionally	Local	Rubber or leather ashler, gland seal, Teflon, flax, spare valve	Spanners, screwdriver, pipe wrench
Repair valve stand, apron or drain	Occasionally	Local	Wood, nails, cement, sand, water, etc.	Hammer, saw, trowel, bucket, etc.
Repair piping	Occasionally	Local	Pipe nipples, connectors, elbows etc., oil, Teflon, flax or plumbing putty	Pipe wrench, pipe cutter, saw, file, pipe threader

e. Actors and skills required in O&M

Actor	Role	Skills
User	Tap water, keep site clean	No special skills
Caretaker or tap committee (at the school)	Clean site, perform small repairs, collect fees	Basic skills

Water standpost

a. Brief description of technology

At a public standpost or tapstand people from various households can get water from one or more taps. Because they are used by many people and often not so well taken care of, the design and construction have to be sturdier than with domestic connections. The standpost includes a service connection to the supplying water conduit, and a supporting column. The taps can be a globe or a self-closing type.

The column or wall may be of wood, brickwork, dry stone masonry, concrete, etc. Some standposts have a regulating valve in the connection to the mains that can be set and locked to limit maximum flow. A water meter may also be included. A solid stone or concrete slab or apron under the tap and a drainage system must lead spilled water away and prevent the formation of muddy pools. A fence may be needed to keep cattle away. The residual pressure head of the water at the tapstand should preferably be between 10 and 30 metres and should never be under seven or over 56 metres. The location and design of a public standpost have to be determined in close cooperation with the people who are going to use it.

Number of taps:	1 to 3 and more
Users per tap:	Maximum 200 people
Yield:	0.2 to 0.4 l/s per tap
Area of use:	Piped public water systems

b. Description of O&M activities

Operation

Water users clean and fill their containers at the tap. Bathing and washing of clothes is usually not permitted at the standpost itself. The tap site has to be cleaned daily and the drain inspected.

Maintenance

The drain must be cleaned at least once a month. The formation of pools must be prevented at all times. Once in a while a rubber washer or other part of a tap may have to be replaced. The fence may also need repair. If the structure develops serious cracks they must be repaired, and when wood rots it must be treated or replaced. Occasionally the tubing may leak or need replacement.

Organisational aspects

A caretaker or tap committee may be appointed in order to keep the tap functioning and the surroundings clean and to regulate the amounts of water used. These people may also collect the fees for water use. Sometimes water vendors fill their tanks at public tap stands at special rates for resale to people living farther away.

c. O&M requirements

Activity	Frequency	Human resources	Materials and spare parts	Tools and equipment
Tap water	Daily	Local		Jar, bucket, can etc.
Clean site	Daily	Local		Broom or brush
Inspect and clean drain	Daily	Local		Hoe, spade
Repair or replace valve	Occasionally	Local	Rubber or leather asher, gland seal, Teflon, flax, spare valve	Spanners, screwdriver, pipe wrench
Repair fence	Occasionally	Local	Wood, steel wire, nails	Machete, pliers, hammer
Repair valve stand, apron or drain	Occasionally	Local	Wood, nails, cement, sand, water, etc.	Hammer, saw, trowel, bucket, etc.
Repair piping	Occasionally	Local	Pipe nipples, connectors, elbows etc., oil, Teflon, flax or plumbing putty	Pipe wrench, pipe cutter, saw, file, pipe threader

d. Actors implied and skills required in O&M

Actor	Role	Skills
User	Tap water, keep site clean	No special skills
Caretaker or tap committee	Clean site, perform small repairs, collect fees	Basic skills
Communal water committee	Organise more major repairs, collect fees	Organising and bookkeeping skills
Mason/Builder	Repair tapstand and apron	Masonry
Plumber	Repair piping and taps	Basic plumbing
External support	Monitor hygiene, train committee members	Training skills and microbiological testing

e. Recurrent costs

Recurrent costs for a tapstand comprise a few minor repairs of taps per year and occasional repair of the pipes, column, wall, apron or drain.

f. Problems, limitations and remarks

Frequent problems

A standpost can become damaged through tampering or insufficient maintenance, or suffer from poor drainage. Its use may be affected by conflicts due to poor location or unsolved social problems. Taps may be left open by mistake or even left open on purpose to irrigate a nearby plot. Tapstands at the tail end of a piped system often have insufficient water pressure.

Limitations

If people are willing to organise communal use and maintenance the only limitation is the cost.

Remarks

Attention should be given to how the water is handled after collection at the tapstand, in order to prevent subsequent contamination.

Rainwater Harvesting

a. Brief description of technology

Rooftop catchment systems gather rainwater caught on the roof of a house, school etc., using gutters and downpipes (made of local wood, bamboo, galvanised iron or PVC) and leading it to one or more storage containers ranging from simple pots to large ferrocement tanks. If properly designed, a first flush device or detachable downpipe is fitted for exclusion of the first 20 litres of runoff during a rainstorm, which is generally most contaminated with dust, leaves, insects and bird droppings.

Sometimes runoff water is led through a small filter consisting of gravel, sand and charcoal before entering the storage tank. Water may be abstracted from the tank by a tap, handpump or bucket and rope system.

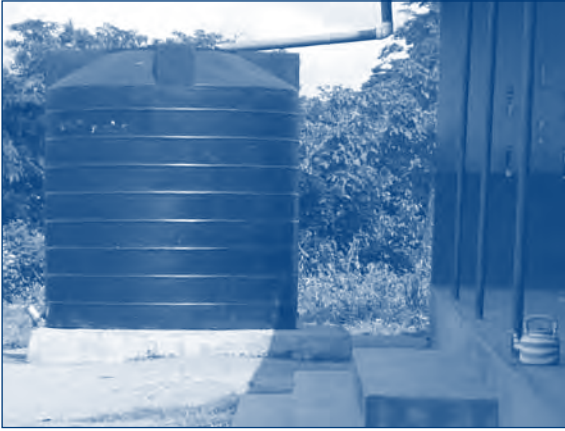


Figure 11.25: Rainwater harvesting tank.

- Yield:** Potentially almost one litre per horizontal square meter per mm rainfall. The quantities usually are only sufficient for drinking purposes. A school roof of 500 square metres or approximately five classrooms in a climate with 1000 mm rainfall/year collects 500,000 litres of water per year!
- Area of use:** Most developing countries with one or two rainy seasons (especially in arid and semi-arid zones with average annual rainfall figures ranging from 250-750 mm) and where other improved water supply systems are difficult to realise.
- Construction:** Systems are usually produced locally.

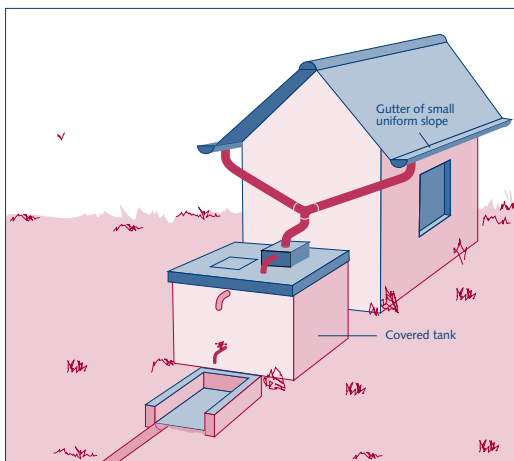


Figure 11.26: Roofwater harvesting.

b. Description of O&M activities

In case there is no foul flush device, the user or caretaker has to divert away the first 20 litres or so of every rainstorm. Fully automatic foul flush devices often are not very reliable. Water is taken from the storage tank by tapping, pumping or using a bucket and rope. For reasons of hygiene, the first two methods are preferred. Just before the start of the rainy season, the complete system has to be checked for holes and broken or affected parts and repaired if necessary. Taps or handpumps have to be serviced. During the rainy season the system is checked regularly, cleaned when dirty and after every dry period of more than a month. Filters should be cleaned every few months, filter sand washed at least every six months and painting of the outside of metal tanks may be needed about once a year. Leaks have to be repaired throughout the year, especially leaking tanks and taps, as they present health risks. Treatment of the water may be necessary. All operation and maintenance activities can normally be executed by the users of the system. Major repairs such as that of a broken roof or tank, can usually be executed by a local craftsman, using locally available tools and materials. Maintenance is simple but should be given ample attention.

Organisational aspects

The organisation of O&M of communally shared roof or ground tank supplies is considerably more difficult than for privately-owned systems. Rooftop harvesting systems at schools, for instance, may suffer water losses from a tap left dripping, and padlocks are often needed to ensure careful control over the supply. Ideally, one person should be responsible for overseeing the regular cleaning and occasional repair of the system, control of water use, etc. Selling the water is an option to ensure income for O&M and restrict water use. Where several households have installed a communal system, for instance several roofs connected to one tank, the users may want to establish a water committee to manage O&M activities. These may include collection of fees, control of the caretaker's work and of the water use by each family. External agents can play an important role in monitoring the condition of the systems and the water quality, providing access to credit facilities in order to buy or replace a system, training of users/caretakers for management and execution of O&M, and training of local craftsmen for larger repairs.

c. O&M requirements

Activity	Frequency	Human resources	Materials and spare parts	Tools and equipment
Clean system	1 - 3 times per year	Local	Chlorine	Broom, brush, bucket
Divert foul flush	Every storm	Local		
Clean filters	Twice a year	Local	Sand, charcoal, plastic mesh	

Activity	Frequency	Human resources	Materials and spare parts	Tools and equipment
Disinfect reservoir	Occasionally	Local	Depends on system	Bucket
Repair roof, gutters and piping	Occasionally	Local	Tiles, metal sheet, asbestos cement sheet etc., bamboo or PVC pipes, nails, wire	Hammer, saw, pliers, tin cutter
Repair tap or pump	Occasionally	Local or area	Washers, cup seals etc.	Spanner, screwdriver
Paint outside of metal reservoir	Annually	Local	Anti-corrosive paint	Steel brush, paintbrush
Repair ferrocement reservoir	Occasionally	Local	Cement, sand, gravel, metal mesh, wire	Trowel, bucket, pliers

d. Actors implied and skills required in O&M

Actor	Role	Skills
User	Close taps after taking water, keep system clean	No special skills
Caretaker	Check functioning, divert first flush, clean filters and rest of system, perform small repairs	Basic skills
Water committee	Supervise caretaker, collect fees	Organisational skills
Local craftsman	Repair roof, piping and tank	Basic plumbing and masonry
External support	Check water quality, stimulate and guide local organisation, train users	Water analysis, extension work

e. Recurring costs

Recurrent costs for materials and spare parts are very low. In most literature, these costs are even considered negligible. The recurrent personnel costs, in cash or kind (for caretakers, committee members and craftsmen) will need to be added.

f. Problems, limitations and remarks

Frequent problems

Corrosion of metal roofs, gutters etc. Failure of functioning of the foul flush diverter due to neglect of maintenance. Leaking taps at the reservoir and problems with handpumps. Contamination of uncovered tanks, especially where water is abstracted with a rope and bucket. Tanks may provide a breeding place for mosquitoes, which may increase the danger of diseases such as malaria.

Limitations

The water may be insufficient to fulfil drinking water needs during certain periods in the year, making it necessary to also develop other sources or go back to traditional sources to overcome these periods. The investment needed for the construction of a tank and suitable roofing is often beyond the financial capacity of households or communities.

Remarks

Thatched roofs produce less and more contaminated water. Tiled or metal roofs give the cleanest water. The acceptance of rainwater harvesting as a suitable system may depend on the users' perception regarding the taste of the water.

11.5 Handwashing facilities

Washing hands with soap reduces the risk of diarrhoeal diseases by 42-47 per cent (Curtis and Cairncross, 2003). Overall, interventions to promote handwashing might save a million lives a year. If the water point is less than 25 metres from the toilets, it will easily be used as the facility for handwashing after toilet use. If the water point is far, and not near the path to the classrooms, then a separate handwashing facility will need to be provided.

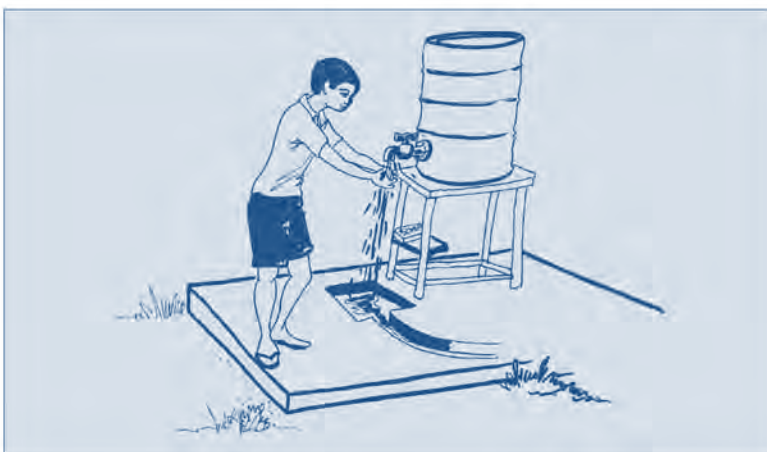


Figure 11.27: Boy washing hands.

There are many different designs, the simplest of which may be a drum for the water, a stand for cup and soap and a soak-away. A soak-away is a pit into which the liquid effluents from a septic tank are disposed to infiltrate into the ground. This can consist of a small water tank with a tap. The tank has to be filled with water by the responsible students' group in the morning and if needed once more during the day. A plastic water tank of 200 litres costs some money but an old oil drum (with cover) that has been properly cleaned will also do. A small tap can easily be attached. For both options it is important to build a soak-away to drain the waste water to prevent that spilled water forms muddy pools.

To make handwashing more effective, it is better that the students and the teachers have access to soap. Therefore the School Management Committee or the school health club (or similar groups with other names) can be very useful for stimulating safe hygiene behaviour among children and could as one of their activities arrange that there is sufficient soap provided at the school.

11.6 Anal cleansing

Anal cleansing is the main risk practice for transmission of pathogens from faeces to mouth. However, when professionally addressing sanitation, the act of anal cleansing will normally be ignored. The reason for this is quite obvious: dealing or touching faeces is not much accepted and is surrounded by many taboos. Therefore, it sometimes seems easier to 'just forget' about the subject.

In the past, sanitation projects have been set up where the project planners and implementers did not have knowledge of the existing local habits for anal cleansing, e.g. constructing flush toilets where people wipe with leaves or corn cobs that they throw in the toilet which subsequently blocks the pipe.

Cleansing methods

The main methods used for anal cleansing are:

- **Water:** The most common way of cleansing in South Asia. If water is not readily available, users will carry a bucket or jar of water to the toilet. For dry pit toilets, water can create problems because of discharge problems into the pit.
- **Natural materials**, such as leaves, corn cobs and stones: More common in rural areas with difficult access to water. Normally the people have to collect the materials before entering the toilet. After use they throw those materials into the pits, which leads to quick filling-up of the pits and regular blocking of the pipes.
- **Paper**, such as old newspapers and in some cases toilet paper: common in (poor) urban areas where paper can be collected or bought and water is scarce. In some cases, children will use pages of their note or text books for cleansing. Often, people throw those papers in the pits after use which leads to quick filling-up of the pits and regular blocking of the pipes. In cases where the materials are separately collected in a container they have to be disposed of with care.



Figure 11.28: This schoolchild's options for anal cleansing.

For the design of facilities the desired method of anal cleansing will be one of the factors that determine the choice of sanitation technology:

Method of anal cleansing	Sanitation technology	
	Dry toilets	Flush toilets
Water	Double chamber ecological toilet with urine and wash water diversion	All types
Natural materials	Single-pit toilet Double-pit or double-chamber ecological toilet with or without urine diversion	All types as long as this is not disposed of in the toilet
Paper	Single-pit toilet Double-pit or double-chamber ecological toilet with or without urine diversion	All types as long as toilet paper only is used for anal cleansing and no other objects

Sabita and Binita trigger toilet construction and use in Nepal

Sabita and Binita are the Chairperson and Secretary of their child club. They are nine years old. They are in class five and hold first and second place in their class at Rastriya Primary School, Sarangkot. The child club they are leading is one of the strongest organisations in their community for hygiene and sanitation promotion.

"I don't remember what we did first and what we did second. We did many things many times in the school and village for sanitation", says Sabita.

"But I remember", says Binita, "we did things one after another; we started to improve the sanitation in our school and home and then to our neighbours' houses in the village."

The girls recall the early days of their household visits, the people, the futile efforts and their different ideas to reach their neighbours with sanitation messages. They tell how some villagers used to pretend to not listen to them, some used to turn deaf ears and some even suggested to them that they should go home and play games. The girls and their classmates were not bothered and continued to tell their neighbours about the importance of having a clean village and how they should all build and use a toilet. They never gave up.

"Still, all our efforts did not work", Sabita says, "we tried many different ways to convince our neighbours. We spread a rumour that we would give them an award at a public meeting for disobeying and not building a toilet. We thought this might be a way to embarrass them into building a toilet."

The girls also organised different activities to promote toilet construction and handwashing with soap. They visited their neighbours' houses, held street rallies, organised a street drama performance and more. After months of effort and support from their teachers and a few adults, slowly, the families started supporting the child club and constructed toilets in their houses. According to the school teachers, once a few houses started constructing toilets, this became a motivating factor for others to follow. The speed of constructing toilets increased after that. The young two girls used to stand by at most toilet construction spots. All 102 households in the school catchment area had toilets by the end of May 2008. As a result, on 5 June 2008 the school was able to declare its catchment 'Open Defecation Free'.

The child club still organises health education and sanitation-related extra-curricular activities in the school. They raise funds themselves and award the winners. They have a good water supply, and toilet and handwashing facilities in their school. The students themselves have set up rules for keeping their classrooms, school compound and toilet clean.

The headmaster of the school says, "The students' dynamism in social activities has increased inter-linkages between health and education and has also enhanced the student's ability in academic work."

Binita's mother says, "Both the girls always hold a plastic bag and collect pieces of paper and other trash on their way to school and back home. They are the models!"

Source: UNICEF Nepal (2005)

Child- and disabled-friendly WASH facilities in schools in Sri Lanka.

This project was implemented as a part of UNICEF's 'Child Friendly School Concept'. The project objective is not limited to the construction of physical water and sanitation facilities. It aims at promoting positive attitudes and behaviour changes among children by making them feel ownership of the project. Normally toilets and similar facilities are considered to be unpleasant places to visit by children.

Each school planned for the facilities with the participation of children, teachers and parents. Children were actively involved in deciding the type, number and combination of the facilities, followed by a mapping exercise to locate them in the school premises.

Simultaneously, the technical designs were prepared, paying attention to the children's feedback. As a result, some existing features were modified, and new features were added. A disabled-friendly toilet was also added to the package, supporting a change in attitudes and encouraging disabled children to go to school. Designs were done for units of each facility (toilet, urinal etc.), while combined blocks of these units were developed as preferred by children during the planning.

School health clubs have been reactivated and strengthened to take responsibility for maintaining the new facilities. There were also lessons to promote hygiene and good habits. Participatory planning and hygiene promotion was facilitated by International NGO Malteser International while construction was done by UNOPS. The whole process has been endorsed and monitored by the Department of Education and has been fully implemented in 24 schools in the Southern Province of Sri Lanka.

Source: UNICEF Sri Lanka (2005)

11.7 Financial planning and management

For the development of long-term, sustainable and large-scale programmes, financial planning and management is crucial. Over recent years, most WASH in schools programmes in South Asia have been moving away from small-scale, fully subsidised programmes and have entered into a phase where programmes have transformed into financially sustainable ones. So far, many programmes have had difficulties in making the transition due to capacity problems and the lack of financial planning and management.¹¹

The problems start in the planning phase. When WASH in schools programmes are designed, it is quite common that limited attention is given to financial sustainability. As a result, many programmes tend to suffer from lack of funds for the continuation of hygiene education programmes and operation, maintenance, and replacement of WASH in schools facilities, once the programme support ceases.

¹¹ Partly adapted from van den Berg and Jensen (2006).

To ensure long-term financial sustainability, WASH in schools programmes should develop a financial policy that ensures long-term sustainability from the start of the programme. Clear financial policies can help to underpin a more efficient, equitable, and sustainable use of resources through the promotion of cost recovery and financing by government partners. If a national cost recovery policy exists for the water and sanitation sector, the policy has to address cost recovery issues for projects in school settings. If it does, the Ministry of Education will need to set specific financial policies for WASH in schools with input from the Ministry of Health, or/and other relevant ministries involved and the nodal body in charge of WASH. The Ministry of Education will also need to define the cost sharing arrangements, if any, among national government, local government, community, school, children, teachers, and parents.

An effective financial policy is built on six basic design principles:

1. **Quantify all costs for WASH in schools.** Although WASH in schools budgets quantify hardware investment costs, they often do not fully account for the software costs involved in ensuring sustainable service delivery, such as teaching materials and teacher training. For the determination of the total costs of a WASH in schools project, the calculation should be based on the most current information and updated regularly based on actual costs. It should take into account the sustainability of a project and which part of the costs are being recovered from the users.

The calculation of the cost for a project for WASH in schools comprises the following components:

- a. *Initial capital costs*; these include (1) the costs for the construction, rehabilitation or improvement of facilities (2) the development of the methodologies and materials for hygiene education (3) teacher training (4) management training for education administration (5) teaching materials and (6) additional structures e.g. for rainwater harvesting or school gardens.
 - b. *Recurring costs*:
 - Fixed costs (do not vary)
 - Loan repayments
 - Wages for specialised operation and maintenance staff
 - Variable costs (do vary)
 - Soap for handwashing and cleaning of facilities, possible material for anal cleansing and drying of hands after washing,
 - Chemicals or fuel for water treatment and/or boiling of water.
 - Replacement costs: Depending on the technology used for the facilities, spare parts and other replacement parts will have to be purchased regularly.
2. **Include software costs:** expenditures for teacher training, educational programmes for hygiene and sanitation, environmental management training, and project supervision, follow-up, and support. Because the development and implementation of educational programmes, including the teacher

training required, are part of the overall school improvement programme, it is recommended that the government, through the Ministry of Education, pays for sanitary, handwash and water facilities (including software costs).

3. **Ensure that local contributions to investment costs rise in proportion to the service level of the facilities.** This is essential if the school community is to make a meaningful choice between service level options (i.e. the school community pays more when the selected solution is more expensive). Unless state or government provisions also allow for operation and maintenance, experience has shown that the use of subsidies for all service levels can lead to the use of inappropriately expensive facilities and creates expectations that cannot be replicated or effectively scaled up.
4. **For water supply and sanitation, at least operation and maintenance (O&M) costs should be recovered to ensure sustainability of facilities.** Ideally, the cost of building, operating, and maintaining facilities should be charged through the education budget because school water supply and sanitation are essential elements of providing basic education. O&M planning should conform to the following guidelines:
 - a. Subsidise only the most basic appropriate level of facilities, leaving the school community to make improvements as it is able, at the initial stage or later.
 - b. Ensure that the economic ranking of various technical /service level choices remains the same based on the real costs, so that a more expensive option does not become more attractive than a less expensive option because of the subsidy.
 - c. Find out what the school community is willing to pay, or what is affordable, to ensure that poorer children do not drop out when parents are charged for WASH in schools.
5. **Establish a common financing strategy for the sector.** The lack of such an agreement can lead to projects and programmes, implemented by different agencies and organisations, undermining each other.

Possible funding options

- contributions from parents
- donations
- use of the general school maintenance budget
- contribution from teachers
- use of fines
- headmasters' fund
- Village Development Committee contribution
- School Management Committee contribution
- organisation of income-generating activities

Source: Department of Water Supply and Sewerage and UNICEF Nepal (2006).

6. **Establish financial management and cost sharing at the school level.** Financial plans to ensure operation and maintenance of WASH in schools facilities should be developed before project implementation and should include, at a minimum, recurring and replacement costs. If resource allocation from the school budget is insufficient, cost recovery of O&M can be organised through user fees to be paid by parents or students for the use of WASH in schools facilities; payment in kind through the provision of soap, cleaning materials, or labour; and income-generating activities such as the sale of surplus water or of produce from the school garden. All these cost-recovery mechanisms should be designed in such a manner that they do not hamper the ability of poor people to send their children to school.

Nepal Guidelines

According to the 2006 Guidelines on School-Led Total Sanitation in Nepal, each school should make provision for:

- At least 50 per cent of the total cost for construction of toilets,
- At least 50 per cent of the total cost for Operation and Maintenance,
- 20 per cent of the total costs of water supply facilities,
- The remaining amount has to be provided by support agencies.

Can costs be recovered?

If possible, the costs to be recovered should be tested for:

- Willingness to Pay (WTP): WTP is the maximum amount that individuals state they are willing to pay for a good or service. Determining WTP is not easy. If people want something, it does not automatically imply that they want to pay for what they get. It requires in-depth research based on observing and interviewing people.
- Ability to Pay (ATP): ATP does depend on the socio-economic circumstances in the project area but is always closely linked with the 'willingness to pay' because if cheaper or free alternatives are available (e.g. the 'bush' instead of a toilet), people might opt for the free option instead of the 'safe' alternative they have to pay and are able to pay for.

It might be too costly to make an in-depth study on ability and willingness to pay which is applicable for all communities. In that case there are two options to consider:

- Learn from others: research other social rehabilitation projects in the project area and investigate which rates of cost-recovery or tariffs are feasible for those projects. Subsequently translate those findings to the WASH project.
- Join efforts: try to link the study on ability and willingness to pay with other WASH initiatives in the project area so that the costs can be shared.

Source: Department of Water Supply and Sewerage & UNICEF Nepal (2006).

Implementing the six basic budget principles above will guide WASH in schools programming into a new phase of sustainable programme development and scaling up with quality. Investing in today's children is an investment in tomorrow's parents, workers and leaders.

Budgeting

A project typically has the following budget posts for project development:

Description	Budget posts
Rehabilitation and construction of facilities: toilets, water supply, handwash basins, solid waste collectors	<ul style="list-style-type: none">• Construction materials (locally and internationally produced)• Maintenance materials (brushes, de-blockers, etc.)• Skilled labour (supervision and specific technical skills)• Unskilled labour – although in many projects this will be provided by the school, PTA or community

Description	Budget posts
Hygiene education: development of methodology and materials	<ul style="list-style-type: none"> • Fees for expert to develop methodology • Expenses for field-testing methodology • Printing and distribution of materials • Participatory learning materials, such as materials for crafts, puppet play, and theatre • Training of teachers • Training of other professionals (staff Ministry of Education, Health, NGOs etc.) • Competition and awards for most hygienic school (optional)
Community involvement: development of methodology and materials	<ul style="list-style-type: none"> • Fees for expert to develop or adapt hygiene education methodology for community use • Expenses of field-testing methodology • Printing and distribution of materials • Participatory learning materials • Training of trainers
Technical assistance and support	<ul style="list-style-type: none"> • Technical project support during implementation (staff and logistical expenses) • Implementation assessments • Establishment of a monitoring & evaluation system • Establishment of an operation & maintenance system

The financial plans to be developed before project implementation include, at least, recurring and replacement costs. For WASH in schools projects those costs can be roughly divided into the following:

Recurring and replacement costs	Costs for:
Maintenance of facilities: toilets, water supply, handwash basins, solid waste collectors	<ul style="list-style-type: none"> • Soap or other washing materials, towels and in some countries also toilet paper • Spare parts • Maintenance materials (brushes, de-blockers, etc.) • Skilled labour (supervision) • Unskilled labour – although in many projects this will be provided by the school, PTA or community
Hygiene education: provision and reproduction of materials, training	<ul style="list-style-type: none"> • Re-printing and distribution of materials • Participatory learning materials, such as materials for crafts, puppet play and theatre • Training of teachers • Training of other professionals (staff Ministry of Education, Health, NGOs etc.) • Etc.
Community involvement: provision and reproduction of materials, training	<ul style="list-style-type: none"> • Re-printing and distribution of materials • Participatory learning materials • Training of trainers • Etc.
Technical assistance and support	<ul style="list-style-type: none"> • Monitoring activities and planning for improvements • Regular control on functioning operation & maintenance systems

Activity 11.1: Choosing water and sanitation facilities

Audience: Participants can include members from the Village Education Committee, Parent-Teacher Association, selected teachers and students from schools, as well as other interested community members.

Objective:

To focus on the participants' own ideas regarding the type of sanitation facilities that should be available in their school.

Material: sheet with questions for each group

Time: one hour

Procedure:

1. The facilitator explains that the next exercise is based on visualising a school that they are working with, or that they know about. It is possible that a number of the participants are thinking of the same school. The facilitator should then divide the group into small groups based on the schools they have in mind.
2. The facilitator then reads out the following paragraph: *In India, approximately one in ten schools has water and sanitation facilities. In some cases these need to be repaired or improved. For example, the number of existing toilets may not be sufficient for the number of students and teachers. In this case, new toilets need to be constructed. If the pits are not properly functioning, maintenance work needs to be organised. If the toilets are dirty and smelly then regular cleaning must be organised on a continuing basis. Handpumps are heavily used in schools. Worn-out handpumps require maintenance work such as the replacement of nuts, bolts, and handles.*
3. The facilitator then gives each of the groups a sheet that contains a number of questions as cited below.

Does the school focus on:

- Maintenance/rehabilitation of existing toilets?
- Construction of new toilets?
- Construction of urinals?
- Construction of new separate toilets for girl students?
- Construction of new separate toilets for female and male teachers?
- Handwashing facilities, and water for cleansing, cleaning and flushing?
- Rehabilitation and maintenance of the existing handpump?
- Construction of a new water point in or very near the school?

Each group discusses the questions and answers them according to the school they have in mind. A group discussion may then follow.

Activity 11.2: Role play: the most suitable type of facilities

Audience: Participants can include members from the Village Education Committee, Parent-Teacher Association, selected teachers and students from schools, as well as other interested community members.

Objective:

- To focus on the type of facilities that is the most suitable.
- To discuss issues related to the amount of labour, local materials and cash the school can make available for the toilets and water supply improvements.

Material: flip chart, sheets with details of the role play

Time: one hour

Procedure:

1. The facilitator explains the story noted below and asks the participants to do a role play (see Chapter 2.3). The facilitator asks the participants to come up with different roles and their points of view before doing the role play.

Role play: village head at a Village Committee meeting

'During this meeting we need to focus on our sanitation and water supply facilities at the school.

Now we know the type of toilets that would be possible in our situation and we know an estimate of the total cost involved in building these. We also know the amount of money that is needed to improve the water supply facilities. These toilets and water supply facilities will be ours; they will fully belong to the school. We have to decide whether we can afford to pay the construction costs and all the operation and maintenance costs. If some of us do not have the finances to contribute, we can also contribute our labour during the construction or maintenance work and collect local materials. During the meeting we have to discuss what contributions we can make as a school, i.e. through School Management Committee members, teachers, students, and their parents. This could involve doing some physical work such as digging pits, collecting local materials such as sand and assisting the local mason in building the toilets.'

2. The facilitator divides the participants into two groups. Each person in each group is asked to play a specific role. For example, one participant could play the community manager of the school, another could play the teacher, another the accountant (person who keeps a record of the money available at the school), etc.
3. The facilitator also gives the table below to each of the groups to fill out. Of course there will be some friction between the different stakeholders in terms of what they are willing to pay and in what form. This makes for an interesting and educational activity.

Expected contributions from the various stakeholders	Expected contributions
School funds	
Financial contribution from SMC	
Private financial contribution from members of SMC	
Private financial contribution from parents	
Raised funds through activities of the students	
Labour contribution from parents	
Materials contribution from parents	
Extra donations or money from fund raising activities	
Total expected amount available	

Activity 11.3: Making an implementation plan

Audience: Participants can include members from the Village Education Committee, Parent-Teacher Association, selected teachers and students from schools, as well as other interested community members.

Objective:

- To make a list of the tasks identified for improvement of the existing sanitation and water supply facilities for non-drinking purposes.
- To make an overall plan including time schedule, manpower, materials, resources and budget for the improvements.
- To comprehend how to finalise the calculation of the contributions of the school and parents and the financial support that will be requested from the organisation that will assist in the implementation process.

Material: flip chart, copy of example table to be distributed to the participants and copy of blank table to be filled in

Time: one hour

Procedure:

1. The facilitator divides the participants into small groups. Each group receives a comprehensive list of the tasks which includes identifying improvements of the existing facilities and for which financial support will be asked in addition to non-financial contributions.
2. The following table can be distributed to the participants as an example for this exercise.

Example of identifying items and tasks for construction

Infrastructure	Type of task	Option chosen	Existing option	Requirements / tasks for improvements
Sanitation facility	New construction	Single offset pour-flush toilet	N/A	4 toilets for girl students 3 toilets for boy students 1 toilet for teachers
	New construction	Urinals	N/A	2 urinals for boy students
Water supply facility	Maintenance	N/A	No. 6 Hand-pump	Replacement of handle

3. The facilitator explains that for this exercise they will use a blank table as shown below.

Identifying items and tasks for construction

Infrastructure	Type of task	Option chosen	Existing option	Requirements / tasks for improvements
Sanitation facility				
Water supply facility				

The facilitator explains to the group that they will now be making an overall plan including time schedule, manpower, materials, resources and budget for the improved water and sanitation facilities. For this the table below can be used, in which a brief overview is given on time required for tasks, manpower required during this period, resources available in terms of financial capabilities, etc. The task is to fill out the second table using the detailed information on resources and costs provided.

Indicative resources required for the planned improvements (example)

Tasks	Time required	Man-power required	Special skills required	Man-power available	Materials required	Materials available	Remarks
Sanitation facilities:							
Rehabilitation of 2 existing toilets	2 weeks	1 mason week	--	Unskilled labour and/or free labour; Village mason	Cement, sand, bricks, PVC vent pipe, concrete ring and slab		The village is far away from the district and market. So, higher transportation cost will occur.
Construction of 6 new toilets (single-pit pour-flush, offset)	2 months	4 person weeks for digging; 8 person weeks for mason	1 sub-assistant engineer to supervise from time to time	Unskilled labour and/or free labour; Village mason	Cement, sand, brick, slab with pan, rings, PVC pipe, galvanized steel sheet and other accessories.		See previous remark.
Construction of 4 urinals	2 weeks	1 person week for mason	None	Same as above	Same as above		See previous remark.
Maintenance of No. 6 handpump	2 days	1 pump-mechanic	None	1 pump-mechanic	Handle, head-cover, nuts, bolts and pins.		
Repair of concrete platform	1 day	1 day for village mason	None	Village mason	Cement and sand		

Indicative resources required for our own planned improvements							
Tasks	Time required	Man-power required	Special skill required	Man-power available	Materials required	Materials available	Remarks
Sanitation facilities:							
Water Supply facilities:							

The facilitator explains that in the second part of the exercise the participants will make a detailed overview of the labour and materials needed for the rehabilitation of the existing facilities and the construction of the new toilets and urinals. To finalise the proposal they will have to find out the cost for the different materials and prices for labour. They will also use this information to calculate the contributions in kind and in cash that the school and parents will need to make. The information on the materials and the labour needed for the construction of new toilets can be put in the tables below. For the information on the prices for the materials, the participants may go to the market and find out the price. For the labour, local masons will have to be asked. (Alternatively, if it is not possible to go into the field, a sheet with prices for materials and of local masons should be provided to the participants).

Calculation of the total cost of the rehabilitation and construction works

Activity -- Resource	Units	Quantities for the rehabilitation of toilets	Quantities for construction of new toilets	Quantities for construction of new urinals	Total units	Unit cost	Total cost
Labour needed							
Masons (days)							
Unskilled labourers (days)							
Materials needed							
Cement	bags						
Khoa	M ³						
Sand	M ³						
Bricks	Nr						
Steel bars	Kg						
Toilet slab	Nr						
Toilet pan	Nr						
Hinges, catch hooks etc.	Nr						
Drain pipe 100mm	M						

Activity -- Resource	Units	Quantities for the rehabilitation of toilets	Quantities for construction of new toilets	Quantities for construction of new urinals	Total units	Unit cost	Total cost
Vent pipe 40/50 mm	M						
Water seal (U-shaped)	Nr						
Cast iron manhole cover 450mm dia.	Nr						
Perforated concrete rings, 3 ft	Nr						
Non-perforated concrete rings, 3 ft	Nr						
Concrete ring slabs	Nr						
Total estimated cost							

Calculations of contributions in kind of the school and the parents¹²

Resources and materials needed for construction of xx toilets and xx urinals	Total units needed	Cost per unit	Number of units school and parents will contribute in kind	Contribution in kind per unit expressed into cash
Labour				
Masons (days)				
Unskilled labour (days)				
Materials				
Cement				
Sand				
Bricks				
Steel bars				
Toilet slab				
Toilet pan				
Hinges, catch hooks etc.				
Drain pipe 100mm				
Vent pipe 40/50mm				
Water seal (U-shaped)				
Cast iron manhole cover 450mm. dia.				
Perforated concrete rings, 3 ft				
Non-perforated concrete rings, 3 ft				
Concrete ring slabs				
Total contributions in kind expressed in cash				

¹² "Calculations of contribution in kind", refers to planned contributions other than in cash. The participants are asked to use the next table for calculating the total amount to contribute to the improvement of the WASH in schools facilities by the various actors.

Calculation of the total contributions of the school and the parents

Total school contributions (in kind and cash)	
Total parents' contributions (in kind and cash)	
Extra donations or income from fundraising activities	
Total expected amount available	

This can be made available for this project on school toilets and water supply.

Estimated total costs, local contributions and requested funds (an example)

Total estimated cost		100 %
Contribution from school etc.		(25%) of total cost
Fund to be requested		(75%) of total cost

Activity 11.4: Estimating construction cost of toilets

Audience: Participants can include members from the Village Education Committee, Parent-Teacher Association, selected teachers and students from schools or other interested community members.

Objective:

To focus on the participants' own ideas regarding the construction costs of toilets.

Material: none

Time: one hour

Procedure:

1. The facilitator explains to the participants that they will be focusing on the following table (based on hypothetical figures) that contains information about a number of toilets being built for boys and girls.
2. The facilitator divides the group into sub-groups and asks each group to critically look at the table below and discuss their observations about the choice of toilet, and the costs.
3. In the plenary session, the participants are asked to report back with their comments.

Example of cost estimate

We will build four new toilets for the girl students, and two new for the boys, plus four urinals. We will also rehabilitate the two present toilets. We have chosen for the construction of off-set single-pit pour-flush toilets.

Group	Number required	Unit cost sub-structure	Saving for adjacent units	Total for sub-structure	Unit cost toilet building	Saving for 2 blocks	Total cost toilet building	Total Cost
Rehabilitation	2	–		0	1,000	–	2,000	2,000
Teachers/boys	2	3,200	10%	5,760	2,500	15%	4,250	10,010
Girls	4	3,200	10%	11,520	2,500	15%	8,500	20,020
Urinals	4	–		–	1,500	10%	5,400	5,400
							Grand total	37,430

4. In the plenary session, the facilitator asks each group to discuss the key issues that came out of the exercise. In addition the facilitator could fill in the following box for each group based on the school they have in mind. Included here is an empty table that participants can fill out and one that has been filled out as an example.

Example of table to be filled in

Infrastructure	Specific problems	Needs for improvement	Specific tasks for improvement
Sanitation facility			
Water supply facility			

Example of possible answers

Infrastructure	Specific problems	Needs for improvement	Specific tasks for improvement
Sanitation facility	There is no separate toilet for girl students.	New toilets need to be constructed for girl students.	Proposal should be written for constructing new toilets for girl students.
	The doors cannot be locked from inside.	Catch hooks need to be replaced.	Catch hooks of the two existing toilets should be immediately replaced from the contingency fund of the school.
Water supply facility	The handle of the existing No.6 handpump is broken down.	The handle needs to be replaced.	The handle of the handpump should be replaced and the required fund will be raised for this.
	There is no platform around the pump. Therefore there is mud and dirty water runs back into the well.	Platform needs to be constructed.	Two bags of cement, fine sand, rubble (for the bed of the platform) need to be purchased. A local mason can be paid to construct the platform.



Chapter 12 Ongoing activities

WASH in schools programmes do not end when the water and sanitation facilities have been constructed. In fact, construction marks a new beginning as children participate in water/sanitation related education activities and start to use the facilities. The period following construction usually receives too little attention from programme planners and implementers.

12.1 Community-Led Total Sanitation (CLTS) linked in with School-Led Total Sanitation (SLTS)

Community-Led Total Sanitation (CLTS) focuses on igniting a change in sanitation and hygiene behaviour in communities rather than just focusing on constructing toilets. It does this through a process of social awakening that is stimulated by facilitators from within or outside the community. It concentrates on the whole community rather than on individual behaviour. In a collective manner, the community decides on how to stop open defecation (OD). It is the people in the community that decide together on how they will create a clean and hygienic environment. CLTS does not focus on individual household hardware subsidy but instead on social solidarity, helping and cooperating with households in the community to reach 100% ODF (open defecation free). School-Led Total Sanitation (SLTS) follows the same line of thinking but focuses on the school community (which includes students and teachers) and how it can play a role in eliminating open defecation through social solidarity. In other words, SLTS builds on the School Sanitation and Hygiene Education (SSHE) approach in combination with CLTS. School-based, activity-oriented hygiene education techniques can lead to sanitation and hygiene improvements beyond schools, into households and wider communities. Teachers and students can help parents and communities at large to realize and adopt better practices. In this sense the key challenge in both CLTS and SLTS lies in the adaptation and adoption of consistent strategies by the key players and capacity building of key facilitators.

SLTS has been developed as a progressive step towards total sanitation for all. Schools can serve as centres for change towards the families in the communities through school children who bring home lessons learnt on toilet use and hygiene behaviour. In this approach children are perceived as agents of change. In this context, there is also the aspect of peer education since still not all children in a community attend class. SLTS emphasises effective mobilisation of child clubs to motivate the communities to build and use toilets. SLTS had been developed as a complete package of school and community sanitation. It comprises basic elements of WASH in schools programming as well as capacity development activities for communities.

SLTS uses schools and teachers as an entry point in the community. It also uses child clubs to motivate the community towards total sanitation. SLTS therefore aims at making the school and its catchment area free from open defecation with the collaborative efforts and motivation of all involved (teachers, students, parents, communities). It also aims at undertaking the following sanitation programmes and maintaining their standards:

- Development of the student and school as the model in sanitation for promoting personal, household and environmental sanitation.
- Development of open-defecation-free communities within school catchment areas by ensuring that every household has access to toilets.
- Promotion of handwashing with soap in school and communities.
- Enhancement of innovativeness and leadership capacity of students.
- Development of school and community partnership through sanitation promotion.
- Promotion of sustainable child-friendly and gender-friendly WASH facilities in school.
- Management of waste water and solid waste in school.

An important part of SLTS is involvement of communities. The following are some of the key roles, for example, for those involved in the District Level Steering Committee, the Village District Committee, School Management Committee, teachers, and school health clubs.

Roles within the District Level Steering Committee

1. Design policy, instruction and module.
2. Produce and distribute educational materials.
3. Conduct and receive training/workshop/seminar.
4. Assist in releasing programme budget and providing other financial support.
5. Monitor, supervise and evaluate the programme activities.
6. Support the operation of the programme with the coordination, understanding and support of various central and district level government and non-governmental organisations as well as other relevant bodies.
7. The District Development Committee or other organisations will provide support in the form of encouragement awards to those who show the best performance in the WASH in schools programme.
8. If the school lacks drinking water facilities or if there is a need for any other facility for the school, support will be provided from DDC/VDC or donor agency or any other organisations or individuals.

Note:

- It will be an important responsibility of members of the steering committee to support and conduct this programme. The president will take the lead and the member secretary will be responsible for coordination, communication and finance related issues. The steering committee has to determine what, when, how & where as per local situation to implement the programme activities, informing the central as well as regional level.

- For the programme implementation a bank account should be opened in the name of the chairperson, secretary & coordinator. Two signatures are required to do business..

Role of VDC/school management committee president and headmaster

1. Be role models in the school and communities in giving high priority to hygiene and sanitation.
2. Organise various activities periodically to collect funds for various activities.
3. Involve all students, teachers, staff and VDC position holders, as well as members of the school managing committee and parents in the sanitation campaign.
4. Take the lead in coordinating and preparing action plan for a school sanitation package.
5. Organise training/orientation for VDC and clubs/groups.
6. Find out and involve individuals in mobilising local resources, and support special activities like fundraising, construction, maintenance and repair.
7. Organise clubs/groups for the promotion of hygiene and sanitation (headmaster).
8. Have regular routines and regulations to engage students, teachers and school staff in sanitation activities.

Role of teachers

1. Assist in forming groups/clubs of students in the school.
2. Conduct a one-day training for members of groups/clubs.
3. Assist groups/clubs in filling in household survey questionnaire and in doing the analysis/editing.
4. Assist groups/clubs in making annual work plan.
5. Assist groups/clubs in conducting campaigns that take place every three months.
6. Assist groups/clubs in conducting innovative activities for the promotion of sanitation.
7. Lay emphasis on constructing properly and maintaining facilities like toilets, garbage pits, and soak pits, vegetable gardens, flower gardens, water tap platforms and drainage.
8. Lay special emphasis on the development of educational materials, their use and continuity.
9. Become role models by giving high priority to hygiene and sanitation in the school and the community.
10. Encourage the activities carried out in accordance with the action plan through follow-up and evaluation activities.
11. Check whether or not students have been equipped with skill-oriented education and translated the skill into reality.

Roles of school club/group

1. Club/group members must be role models for sanitation practices, constructing latrines, garbage pits etc.
2. Fill out Baseline Survey Questionnaire and practise compiling data under teacher guidance (only senior students).
3. Prepare an Annual Plan of Action for the programme implementation.
4. Conduct Sanitation Campaign quarterly with the support of headmaster/teachers, VDC, SMC and others concerned.
5. Support necessary action to collect funds for construction and maintenance of school facilities.
6. Use and properly store tools, equipment and materials as and when necessary.
7. Conduct door-to-door sanitation hygiene activities for out-of-school children.
8. Develop educational materials for use in the school and the community.
9. Conduct additional/extra curricular activities with the help of headmaster and teachers.

12.2 School health and hygiene clubs



Figure 12.1: A school health and hygiene club.

School health and hygiene clubs are established as a way to get school children actively involved as advocates for a healthy and hygienic school and community. Clubs also allow teachers to experiment without the constraints of a classroom. For example, out-of-school activities are easier for community walks, observation, small experiments, and discussion groups as well as to develop together with the children: songs, dances and plays on health and hygiene themes which they can perform for their peers, parents and community.

Different models exist for setting up school health clubs:

1. In-school health clubs: Run alongside other clubs in school and are timetabled and teacher-led groups.
2. After-school health clubs: Run in the school after class with input from outside the school, such as through the community health worker.
3. Community health clubs: Set up and organised by community workers in

cooperation with the children. Available for school children as well as children who do not go to school, but run as a separate structure in the same way as scout groups. The children function as peer educators.

School health and hygiene clubs are a perfect way to get children involved in the development of hygienic schools and communities as advocates of change among their peers, their families and the wider community. Since clubs are often being implemented in a culture of limited experience of using participatory methods for teaching life-skills, the set-up is critical for its success. Some of the issues for consideration are:

- School health and hygiene clubs should consist of a representative group of the school population with regard to age, gender, socio-economic background, religious or ethnic groups. They also should include children with disabilities, if they attend school.
- The relationship between the 'leader' and the club 'members' is critical. A leader should listen to children's voices, demands and ideas and there should be a mutual respect between leader and members. The atmosphere should be such that children can freely talk about difficult and/or personal issues.
- Participation in the clubs has to be on a voluntary basis and not be mandatory because the clubs do things that adults do not want to do (cleaning of school ground or toilets, etc.).
- Resources, such as craft materials, books, training guides, and blackboards, have to be provided as long as the clubs exist and not only upon initiation of the clubs.

Examples of school health club activities

In the school

- water: maintenance, use and storage
- hygiene education: teaching and monitoring children
- sanitation: maintenance, waste water, clean school surroundings and classrooms
- monitoring facilities and their use by pupils
- teaching pupils about personal hygiene and how to use the facilities

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

Other opportunities for child involvement

It is important to involve children during the design and rehabilitation process for facilities at school. 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. Getting their views and asking them to jointly look into appropriate and acceptable solutions will increase success of the programme.

School health and hygiene clubs can also actively participate in meetings, workshops and assessments to monitor and evaluate the programme. There are specific meetings for children but also multi-stakeholder meetings and workshops in which they actively participate.

In Nicaragua, adolescent children made drawings for new training materials. Based on their experience with the original hygiene educational materials, they decided that they themselves could make drawings on new hygiene subjects, such as bird flu, environmental degradation and HIV/AIDS. The results were of a high standard and very usable although some more guidance during the elaboration process would have resulted in more culturally adapted drawings.

Integrated hygiene promotion in schools: Tamil Nadu, India

Student committees can consist of senior students in middle schools and students from classes 4 and 5 in primary school. Five students from each class can be included. These students are assigned specific responsibilities and are given orientation to perform their roles and build up leadership qualities. One of the teachers of the school serves as chairperson of the committee. The Students Committee can take responsibility for:

- upkeep and monitoring of WASH in schools 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
- peer education and monitoring of hygiene behaviour among younger children
- planning and participating in common activities
- monitoring the collection and use of money in a fund
- reporting problems that need action to the appropriate teacher
- encouraging participation by all students

Source: WaterAid India (1998).

Roles of school club/group in Nepal

Group/Club members:

1. must be role models for sanitation practices, construction of toilets, garbage pits and so on
2. will carry out "baseline survey questionnaire" and practise compiling data with the support of the teacher (only senior students)
3. prepare an annual plan of action for the programme
4. conduct a quarterly Sanitation Campaign with the support of the headmaster, teachers, village education committee and others
5. support actions to collect funds to build and maintain toilets at the school
6. use and properly store tools, equipment and materials as and when necessary
7. conduct door-to-door sanitation and hygiene activities for out of school children
8. develop educational materials for use in the school and the community
9. conduct additional and extra-curricular activities with the help of the headmaster and the teachers

Source: UNICEF-Nepal (2000).

Experience in the school health clubs in Kerala, India

A school health club has 30 to about 50 members. Five girls and five boys can volunteer from each class. The clubs have activities on hygiene related to water, the environment, food, home and personal cleanliness. School health club teachers and headmasters are trained to prepare their own action plan for school hygiene. The school authorities and the PTA together contribute 25 per cent to 50 per cent of the cost of the toilets and urinals in the schools. For every 60 students, one unit with a toilet and a urinal is built.

As of March 1995 there were 274 school health clubs in the SEU-F programme in Kerala. Coordinating committees were formed consisting of headmasters, health club promoters, and water committee secretaries. After an initial training and planning exercise, the coordinating committees have taken up many activities, such as rallies with school children, exhibitions and competitions, including for the best activities among the health clubs. At the beginning the club activities were based on school-like teaching. Now this has been replaced by more participatory methods and activities that are enjoyable for the children. School health club activities receive good support from the parents in every region.

Some experiences of children in the clubs

Aysha, a nine-year-old girl from Kannur district in Kerala is the 'teacher' at home. After becoming a school health club volunteer, she makes sure that no one at home eats without first washing their hands. She also insists on clean clothes, clean nails and clean hair for her sisters and brothers. Even her grandmother is not spared! The

schools in the local governments where school health clubs are functioning have high regard for the activities of Aysha and her friends.

During the sanitation week held in the first week of October, Razak and Arjun led a team of boys to clean a big heap of garbage from the nearby market. This was part of the action plan they had prepared for the year. They also visited the nearby commune where poor families live and dug a garbage pit for them. They dug a similar one for their school also. They were proud of themselves and felt recognised.

Sindhu and Sooraj were partners in a quiz competition held by the school health club. Both are studying in 5th standard. After winning the competition against children from 15 other schools, and then at the scheme level with all local government-level winners, they won the competition. What an incredible achievement! They had beaten all the 6th and 7th standard students and won the quiz which was conducted by a professor. They became famous in the school and among the teachers. They have started preparing for other quizzes as the first experience was so rewarding.

Source: Kurup (1996).

12.3 Monitoring and evaluation

Monitoring should be an ongoing activity in WASH in schools programmes. Monitoring is far more than collecting information to 'see how things are going'. It is meant to improve programmes and activities over the short term. Monitoring involves checking, analysing and acting to improve a situation. The action should, of course, be taken at the lowest possible level, with cross checks to make sure that the situation has, in fact improved.

Most programmes that are serious about monitoring, try to develop a small set of indicators that describe the minimum necessary conditions for programme success. It is very useful for those involved in projects or those working in a particular place to develop such mutually-agreed lists of basic indicators. An indicator shows a standard that you want to reach. It can be written as a sentence or a question, or in any way as long as people understand its meaning in the same way.

Here is an example of a checklist used by teachers. In any particular school this can be adapted to the local situation.

Table 12.1: Example of a monitoring checklist.

Detail location: Village, school name, how many classes, how many shifts
Number of pupils: total, girls, boys
Number of staff: total, women, men
Hygiene
<ol style="list-style-type: none"> 1. What and how many handwashing facilities are available? (more than one answer can be given in case there are several facilities available) Tub with a few taps Project provided washstand with tap Project provided movable washstand with drip None 2. Condition of these facilities? Functioning Not functioning Leaking 3. Where is it located? (more than one answer can be given in case there are several facilities available) Inside school Outside school Next to toilet 4. Approximate distance from toilet 5. Is water available? Yes No 6. Is soap/ash/mud available? Yes No 7. What water source is used for the handwashing stand? Pipe Water brought to a barrel Other 8. If a barrel or a tub, is there water available? Yes No 9. What is the condition of the school yard? Clean Dirty 10. Are there visible faeces? Yes No 11. If you can observe – what is done with the garbage collected? Burnt Dumped outside school yard Dumped inside school yard Buried

12. What is the inside condition of the school building?				
	Good	Bad	Clean	Dirty
Classrooms				
Corridor				
Windows				
Floor				
Quality of water				

13. What is the source of water for general use and for drinking?
 Water from the slow sand filter
 Water tap or handpump
 A well
 Piped water
 Surface water
 None
 Other

14. Which source did you observe children using most frequently?

15. What is the approximate distance from the main drinking water source to the school?

16. Is this source protected?
 Yes
 No

17. Slow sand filter – is there water on top?
 Yes
 No

18. Does the water flow out of the tap?
 Yes
 No

19. Is it leaking?
 Yes
 No

Water Container

20. What is the inside condition of the water containers?
 Clean
 Dirty

21. Are drinking water containers properly covered?
 Yes
 No

22. How do children drink?
 With their own cups
 With one single cup
 With their hands
 With their mouths

Hygiene Corner**23. Is there a hygiene corner?**

Yes

No

Describe:

Sanitation		Girls	Boys	Teachers
24.	Number of different types of toilets			
	VIP			
	Permanent pit			
	Temporary pit			
	Water sealed			
25.	Number of holes in each toilet building			
26.	Number of holes usable			
27.	Maintenance, filled up to			
	Less than 0.5 meters under surface			
	More than 0.5 meters under surface			
28.	Material of superstructure			
	Bricks			
	Clay			
	Wood			
	Other			
29.	Condition of the superstructure			
	Good (roof in good repair, no visible damage)			
	Bad (holes, cracks)			
	Is there a space or uncovered windows between walls and roof?			
	Yes			
	No			

Sanitation		Girls	Boys	Teachers
30.	Floor Material			
	Concrete Slab			
	Mud			
	Sanplat			
	Wood			
31.	Condition of the floor			
	Good			
	Bad (cracked, uneven, poor drainage)			
32.	External doors			
	Number			
	Number in good condition			
	Number in bad condition			
33.	Internal doors			
	Number			
	Number in good condition			
	Number in bad condition			
34.	Cleanliness – Floor			
	Clean			
	Dirty			
35.	Cleanliness – Walls			
	Clean			
	Dirty			
36.	Hole coverage			
	Hole is not covered			
	Hole is covered			
37.	Cesspit access			
	None			
	Covered			
	Not covered			

Sanitation		Girls	Boys	Teachers
38.	Height of partitions (in meters or 'none')			
39.	Smell			
	Tolerable			
	Disgusting			
40.	Are there cleaning materials available?			
	Yes			
	No			
41.	Distance from toilet to water source?			
	More than 20 m			
	Less than 20 m			
42.	Distance from school to toilets?			
	A. min 30 – max 50 m			
	B. more than 50 m			
	C. less than 30 m			
43.	What obvious improvements are needed?			
	(cleaning, emptying, ventilation, cover and other)			
	Describe?			
44.	General observation of the whole situation in the school: any other problem?			

The DDWS/DEEL/UNICEF India (2008) publication on strategy, norms and designs of school sanitation and hygiene education also recommends schools to organise school-based participatory monitoring with involvement of children and teachers through the use of different techniques, such as monitoring charts, mapping, and WASH walks.

Further, there are monitoring exercises initiated by representatives from Government, Committees and donors. Some examples are:

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

School-Led Total Sanitation in Nepal

In the 2006 Guidelines on School-Led Total Sanitation in Nepal, monitoring and follow-up is mentioned as the Third Phase of the implementation process. The monitoring is mainly a self-monitoring system with support of community people, teachers, students, women groups, school management committee and PTA. The monitoring should also focus on child-friendly and gender-friendly aspects. The key activities in this phase are, among others:

- Ensure users' access to WASH facilities in school and develop among them a sense of ownership towards use, operation and maintenance.
- Mobilise the child clubs, use participatory appraisal tools, organise rallies and processions, promote the use of toilets and recognise the contribution of sanitation promoters in bringing about remarkable changes in the feelings, knowledge and behaviours of the users for improved WASH.
- Implement the innovative and creative activities to give a new push and dimension to the programme and scale it up.
- Share the lessons learnt, challenges and mitigation measures with other schools, village development committees and districts through training, workshops and observation visits to avoid the risks and run the programmes smoothly.
- Organise refresher courses for stakeholders to enhance their knowledge, skills and capacity.
- Reward and recognise the communities/schools/individuals that contributed to open-defecation-free communities and that worked as role models in sanitation.
- Introduce self-monitoring in school and communities through child club mobilisation. It fundamentally helps to activate communities, retain open-defecation-free situation and gradually achieve total sanitation.
- Systematise the documentation and information dissemination as an integral component of the school-led total sanitation programme, which is essential to share the achievements of the programme with the concerned stakeholders and to create the sensitised mass for total sanitation.

Below is an example of using information to monitor school programmes in Orissa, India. Nine issues were checked before the programme began and then five months later among 125,000 children in Balasore District of Orissa. There has been particular improvement in six of the nine issues.

Table 12.2: Monitoring school programmes in Orissa, India.

	Issues	% of total (June 2008)	% change from March to June 2008
1	Use of safe drinking water	100%	+6
2	Storage of water	69	+8
3	Nail cutting	96	+3
4	Washing hands	63	+14
5	Use of toilets	32	+16
6	Use of garbage pits	50	+16
7	Kitchen garden	60	+17
8	Food from vendors	40	-27
9	Absenteeism	14	-16

Table 12.3: Monitoring checklist.**Before construction**

INDICATORS	YES	NO
<p>1. Microplan exists. The project at the village level is carried out following the planned steps, with construction implemented within 4 months after social mobilisation and training are completed.</p>		
<p>2. Timeline has been prepared.</p>		
<p>3. Memorandum of understanding between school and VEC exists. VEC commits itself to develop a way of providing funds and materials for recurring expenditures for O&M. The O&M costs may include: brushes, soap, grease, buckets, brooms, bolts, handles, cement, and repair of doors, etc.</p>		
<p>4. Facilitating NGO has visited village/school and a plan for social mobilisation has been developed.</p>		

INDICATORS	YES	NO
<p>5. Mobilisation completed. Mobilisation activities are completed as planned, as shown in a reporting wall chart and confirmed through spot visits. Mothers and fathers of the pupils in the school know about the programme and can state some of its objectives accurately.</p>		
<p>6. Training completed, with agreed content and methods.</p>		
<p>7. School plans are complete and followed. School has activity plan of action on selected hygiene and sanitation components for classroom. School has rules for children using facilities. School has plan for organising children to maintain water and sanitation facilities and to raise money and contact mechanics/masons to make larger repairs.</p>		

Construction

INDICATORS	YES	NO
<p>8. Funds release instruction done as agreed.</p>		
<p>9. Funds released for construction at agreed time, within 4 months after mobilisation and training.</p>		
<p>10. Construction completed as planned. Construction follows agreed specifications as checked by the PHED and VEC, and problems which appear in the monitoring before and during construction are acted on.</p>		

Post-construction

INDICATORS	YES	NO
<p>11. Boys and girls use the safe water and sanitation facilities. Both boys and girls say that they use the latrines and water sources. This can also be cross-checked by observation.</p>		
<p>12. Boys and girls wash hands after using the latrine and before eating in school. Both boys and girls say that they wash both hands after using the latrine and before eating.</p>		

INDICATORS	YES	NO
<p>13. Functioning drinking water facilities are available within 50 metres of the school. Drinking water is available for both boys and girls within 50 metres of the school.</p>		
<p>14. Boys and girls take turns (roster system) checking and cleaning the facilities.</p>		
<p>15. School has activities and organisational plan for classroom and for maintenance and use of facilities. Within the classroom there are one or two ongoing activities related to some key aspects of hygiene such as self-monitoring by children. This can be described by children and teachers.</p>		

Activity 12.1: Materials and supporting actions to maintain school facilities

Audience: Participants can include members of the school management committee/ school health club, Village District Committee and selected teachers

Objective:

For participants to get a better understanding of the types of actions which should take place around the schools.

Material: poster paper

Time: one hour

Procedure

1. The facilitator divides the group into smaller groups of three to four persons. The facilitator then explains that the participants will make their own list of materials and supporting actions that help children use and maintain drinking water, handwashing and toilet facilities. For example, a supporting action could be a list of agreed rules that will be posted in each class and monitored by the children.
2. If time permits, the group could focus on how often the materials can be replaced. In addition, the group could determine how much it will cost. This gives an idea about operational costs.

Activity 12.2: Enabling factors in using and taking care of facilities

Objective:

For participants to get a better understanding of enabling factors in using and taking care of facilities.

Material: poster paper

Time: one hour

Procedure

1. The facilitator asks the participants to think about using and cleaning facilities. The facilitator then divides the group into smaller groups.
2. The facilitator asks each of the groups to list a number of cleaning and maintenance tasks that are undertaken by (a) teacher and (b) children.
3. If time permits the groups could also focus on issues such as when children can drink, use toilets and wash hands. In addition, participants can discuss the key question on how to organise the children for taking care of the facilities.

Activity 12.3: Developing monitoring lists

Audience: Participants can include members of the school management committee/ school health club, Village District Committee and selected teachers

Objective:

For participants to get more in-depth knowledge about monitoring activities.

Material: poster paper

Time: one hour

Procedure

1. The facilitator divides the group into smaller groups of three or four people. The facilitator then explains that the participants will be making their own monitoring checklist for water and sanitation facilities at the school. This checklist for water and sanitation facilities can be in the form of a short list of indicator questions.
2. The facilitator can give the following table as an example of developing a list of monitoring indicators at the school level. (Optional)

Example of monitoring indicators prepared by different groups

Group 1: Toilet monitoring

- Is there any problem with the toilet?
- Is cleaning done every day by the children?
- Who solves the O&M problems: masons/teachers?
- Who arranges for the bucket and mug?
- Who arranges for the water tank?
- Is there water in the tank?
- Is there soap in the toilet?
- Is there repair of damaged parts in the toilets?
- How are bad smells prevented?

Group 2: Toilet monitoring

- Is there a brush and water available?
- Is the cleaning of the toilet facilities done every day?
- Is there any problem in the flushing of toilets?
- Is there a bucket or mug outside the toilet?
- Is there water in the tank outside the toilet?
- Is there soap or ash outside?
- Are any parts damaged?
- Is there a bad smell at the toilets?
- Is there water in the water seal?

<p>Group 3: Toilet monitoring</p> <ul style="list-style-type: none"> • Does the door open and close? • Is the environment outside clean? • Is there any provision for soap, brushes, etc.? • Is the inside clean? • Is enough water provided? • Does the toilet flush properly when there is water? • Do children and teachers use the toilets? 	<p>Group 4: Handpump monitoring</p> <ul style="list-style-type: none"> • Is the handpump working? • Does the handpump have all its necessary parts? • Is the platform in good condition? • Does spilled water drain away properly? • Is the handpump platform misused? • Is the contamination of the surrounding area about 10 metres radius away from handpumps (e.g. excreta or polluted liquids)? • Is the quality of water acceptable? • Is the water properly disposed of? • Is water wasted because it is handled unnecessarily? • Are the funds collected for O&M properly used?
<p>Group 5: Handwashing</p> <ul style="list-style-type: none"> • Do the children wash their hands after going to the toilet? • Do the children wash their hands before and after eating? 	<p>Group 6: Food hygiene</p> <ul style="list-style-type: none"> • Is the food prepared in a clean environment? • Is the food protected from flies, etc. before being eaten?



Chapter 13 Key hygiene behaviour of pre-school children

Although this manual focuses on water, sanitation and hygiene for school-age children, it's important to also consider key hygiene behaviour of pre-school children.

This chapter focuses on the child up through six years of age and is based on the following principles:

- Early childhood counts and can have a great influence on the physical and mental development of the child.
- A good start to life together with nurture, care and a safe environment enables infants and young children to survive, and stay physically healthy, mentally alert, emotionally secure, socially competent and able to learn.

13.1 Early childhood counts

A child's development cannot be compartmentalised into health, nutrition, education, social, emotional and spiritual factors. All are interwoven. Early childhood care and development is a combination of all these offered to children by mothers, pre-school workers and others. The interaction between the mother or caregiver while feeding the child provides an emotional message and an opportunity for enhancing the child's development as well as the child's nutrition. The time spent in child care along with other activities like feeding, bathing, cuddling, touching, holding, and playing with the child may not be visible, but all these add up and are linked to each other. (Engle et al., 1999). Progress in one area affects progress in others. The positive impact of children's early and consistent access to adequate food, health care, protection, shelter and psycho-social care have a profound impact and is the key to better life chances – greater readiness for school, greater success in school, greater learning efficiency and better social competency. The environment and responsiveness of a caregiver affects not only the number of brain cells and the number of connections, but the ways in which they are 'wired'. The brain uses its experience with the world to refine the way it functions. Early experiences are important in shaping the way the brain works (Evans, Myers and Ilfeld, 2000).

Keeping in mind the integrated nature of child growth and development, the following box describes some of the typical objectives and strategies for early childhood care and education services.

Table 13.1: Early childhood care: objectives and strategies.

THE YOUNG CHILD FROM THREE THROUGH SIX YEARS	
Goal: To enhance children's ability to learn and develop optimally	
Objectives	Strategies/activities
Fewer children with protein-energy malnutrition or micronutrient deficiencies	Provide appropriate freshly cooked local food from family pot
	Create ways for women to increase their income
	Monitor the child's growth
Few children have diseases	Complete immunisation
	Improve food and water hygiene and sanitation
Improve children's understanding and use of language	Provide parents and caregivers with knowledge/skills about children's development and need for stimulation
Improve the quality of child care	Create demand for quality care
	Work with government and employers to get their support
Improve access to high quality pre-school programme	Work with public and private sector to fund high quality programmes
	Improve the quality of supervision
Make the community and the child centre safe	Develop water and sanitation projects for construction, use and maintenance of facilities
Improve the skills of caregivers to meet children's needs	Provide more opportunities for caregivers to learn and practise new behaviours
Improve children's social skills	Increase the number and use of learning and play materials that children have
Identify disabilities that might harm children's potential to learn (hearing, sight)	Provide early screening and detection of disabilities

Adapted from Evans, Myers and Ilfeld (2000).

Mothers and women at home provide most of the child's health care (70 to 80 per cent). Unhealthy children often have poor appetites and are difficult to feed. Poor women do not always have the luxury of spending much time with their young children and responding to their special needs. This highlights the need to manage factors that reduce children's appetite and nutrition levels. These factors include illnesses such as diarrhoea, malaria, measles, intestinal parasites, chronic malnutrition, sores in the mouth or monotonous diet and lack of essential micronutrients. Thus a major challenge for the hygiene and sanitation sector is to move beyond the mere construction and use of facilities to the understanding of hygiene and development of healthy behaviours among children, their caregivers and families.

13.2 WASH in the pre-school

As part of the nature of the early childhood programme, hygiene and sanitation activities play a greater role in the daily routine than in the primary school. For little children this relates, among other things, to learning toilet practices, safe water for drinking, having food that is hygienically prepared and eaten in a clean environment, and hand and bottom washing.

In Erode district of Tamilnadu, a WASH in schools programme was being implemented from the late nineties. As Erode had also adopted a strategy for convergence of water-sanitation-nutrition and child development through the set-up of the Integrated Child Development Services (ICDS) programme, this was the first district to explore designs of toilets that are "baby-friendly". The special features were: baby ceramic pans; squatting plates with foot rests that are suited to a 3-5 year old; interiors that are brightly painted with familiar characters from folk tales and animals such as birds; grills or openings at eye level in child's sitting position to allow the child to look out while she is in the toilet and avoid feeling claustrophobic; and an opening that allows a caretaker to open the door from outside should a child lock herself in by mistake. WaterAid, an international NGO working in Tamilnadu, has also developed some very good designs for child-friendly toilets in other districts of the State.

Water, sanitation, hygiene and stimulation

Hygiene and health goes with stimulation, meaning playing and talking with children. In hygiene behaviours, as in other aspects of their lives, it is important for children to have opportunities to explore, to interact with materials and to imitate role models. This is the way young children learn, by 'making' their own knowledge.

For the age-groups 2-4 years and 5-7 years the skills, knowledge and attitudes, participation and implications for the design of the facilities differ as follows¹³ :

¹³ These are average age-ranges which will differ somewhat for each individual child.

Table 13.2: Skills, knowledge and attitudes for pre-school children.

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 handwashing. 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.
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. Playful activities could be initiated to clean the facilities or refill the water reservoir of a handwashing facility. The latter is meant to be a participatory learning activity rather than a responsibility.
Implications for the design of facilities:	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 handwashing above the sink and use them to generate discussions. The handwashing facility should be adapted to the length of the children. An adult should accompany children at this age.
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.

Early primary school age (5-7 years)	
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...
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.
Implications for the design of facilities:	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 way that a teacher or older student can stand next to the child to teach it how to use the toilet properly or wash hands. 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.

The following example is from Gujarat, India and provides guidelines, which also incorporate an element of play in the activities with young children.

Excerpt from *Getting Ready for School*

Health and Nutrition

If your centre has a provision for supplementary nutrition, ensure that children get the correct amount. Growth monitoring should be done regularly. Organise parents' camps in order to discuss the importance of a balanced diet (example: rice, milk, vegetables and fruits) according to the children's age.

In your centre also provide the children with information related to nutrition through songs, poems and slogans. Slogans of the following kind can be chanted:
 "A carrot a day keeps eye diseases away" or
 "Drink a glass of milk every day and become as strong as a king!"
 "Green vegetables at mealtimes give you good health for all times."

Cleanliness, hygiene and safety

A clean, healthy body is essential for physical development. Therefore the worker should regularly emphasise cleanliness to the children (and their parents and caregivers). Bathing everyday, wearing clean clothes, keeping hair combed and the nose, ears and nails clean, eating simple but nutritious food – arranging this or giving children information about these behaviours is necessary.

Each morning, observe the children. If possible, make arrangements for tidying up children who may not have come to the centre clean.

Among young children, role-play is very useful. For instance, ask: How do we brush our teeth? and act it out. In this way, combing of hair, bathing, changing clothes... all can be acted out.

A clean environment is as important for physical development as a clean body. Ensure that the centre is cleaned every day. Provide clean drinking water from safe water sources. Food served to the children should be prepared under hygienic conditions. The environment should be free from hazardous material and equipment such as glass, breakable toys, equipment with sharp edges, and rusty and extremely old things. If it is necessary to keep bottles or other potentially harmful things in the centre, then keep them out of the children's reach and out of their sight.

Source: CHETNA (1995).

These guidelines imply that a certain minimum set of standards should be maintained in the pre-school. These minimum standards could include:

- having a regular routine
- cleanliness of the area
- cleanliness of the children
- balanced and sufficient diet
- food hygiene
- clean toilet facilities
- space for children indoors and outdoors

13.3 Parent and caregiver education

The pre-school setting in South Asia provides excellent opportunities for parent education. This is usually in the form of non-formal or formal education.

Non-formal parent education

Each day the mothers or other members of the family are in contact with the pre-school worker, when the children are brought to the centre or collected by the pre-school staff. Pre-schools are meeting places for mothers and fathers and provide a

peer group for children. The pre-school thus provides parent support as a by-product of its childcare and educational role. Staff members can expand this function by arranging for parents to meet regularly with one another or to inform them about their child's development or give them hygiene 'hints' (Evans, Myers and Ilfeld, 2000). For example, pre-school workers report that they have spoken to parents about bathing their children more regularly, or changing their clothes more often or about what their children have done that day to help other children eat and wash up. These discussions must be handled with some delicacy. There may be an opportunity here to organise this non-formal education a bit more to remind parents, for example, about the four most important things that relate to health and hygiene: hygiene promotion, clean water supply, excreta disposal and waste disposal.

Formal mother education

One of the written tasks of the much over-worked pre-school staff is to hold formal education sessions with mothers. In a project in Kerala (carried out by SEU-Foundation), the pre-school workers complained that it was difficult to carry out these sessions. They had no materials and felt insecure about "how to talk" to the mothers, some of whom are older than the pre-school staff. SEU-Foundation developed a small set of one-page discussion guides and provided short training sessions where the pre-school personnel could practise their formal education session. The information combined mothers sharing their own experience with hints about hygiene and playing with (stimulating) the young children. The pre-school workers seemed to appreciate this support for what can be a difficult task.

These formal education sessions can also provide an entry point to support parents with their younger children. Below is an example from the Centre for Learning Resources in Pune, India. It deals with hygiene, bathing and stimulating children in an enjoyable way.

Parent education for children up to three years

Parent education topic: The very young child

Combining hygiene with stimulation: example for the child up to 3 years of age

Giving a bath

- Teach her to dip the mug into the bucket and to pour water on herself.
- Give her some water in a wide-mouthed utensil or a bucket. Put some plastic bottles, plastic boxes, spoons, to play with. Talk to her; let her splash water as she plays.
- Teach her to soap herself (if soap is used).
- Teach her the names of the various body parts. Encourage her to point these out and then name the parts.
- Teach her the names of the objects you use while bathing her. If soap is used, let her smell it.
- Encourage her to pick up soap, mug and so on, and put it in its place.
- Talk to her while bathing and ask her questions such as: Is this water hot? Where does the water come from? What are you going to do after bathing?

Adapted from Kurrien and Gokhale (1995)

The pre-school worker as an educator in other community roles

With some justification, it has been noted that the pre-school worker is assigned many tasks. Being an active man or woman in the community, the pre-school worker and assistant are often asked to be on village committees and to take on visible (but usually unpaid) roles when women are 'required' to participate in various programmes. This can verge on being abusive, resulting in too many roles for too little salary. Nonetheless, the pre-school worker or helper is, for example, often a member of the village water and sanitation committee. In such a position they can, theoretically, provide hygiene and health information inputs that will reach audiences beyond the pre-school centre.

Activity 13.1: Developing socio-behavioural norms for children at the pre-school level

Audience: Participants can include parents and selected teachers.

Objective:

Participants give their own impression based on their past experience about a minimum set of standards that are required to be maintained at the pre-school level.

Material: poster paper

Time: one hour

Procedure

1. The facilitator divides the group into smaller groups of three or four persons. The facilitator then explains that the participants will be focusing on developing a set of socio-behavioural norms for the children, focusing on developing a set of expected behaviours for children in pre-school, such as learning to go to the toilet, washing hands, etc.
2. The facilitator asks the participants to think about their past experience with a minimum set of standards that are required to be maintained at the pre-school level. Once a list has been developed by each group, a focus should be placed on what practical things can be done and by whom. The following table could be useful.

Norms	Practical steps to undertake if these norms are to be complied with	Who should ensure that the norms are upheld?

Activity 13.2: Educating mothers and fathers

Audience: Participants can include parents and selected teachers

Objective:

Participants focus on their own past experience about how to tactfully focus on educating both mothers and fathers in communities.

Material: poster paper

Time: one hour

Procedure

1. The facilitator asks the following question to the participants: Are little boys and girls like grass or like flowers and why?

Some parents think that children are like grass. Once they take root, they just grow. Other parents think and act as if children are flowers. This means that even after they take root and begin to grow, they need special care so that they will thrive. Parents who think that children are more like flowers will probably pay more attention to health and hygiene messages and suggestions. They will tend to be more receptive to new information and ways of improving behaviours about the care of their children.

2. The facilitator divides the group into smaller groups of three or four persons. The facilitator then asks the participants to think about the following questions: Have you seen different parents who have one or another of these attitudes about young children? Why do parents think one thing or the other? What causes this? How can the pre-school worker help bring about a change in this thinking? Who else in the community could help change these attitudes toward childhood? In the second part of the exercise, the groups focus on what mothers and fathers can do.
3. In the plenary session, the groups could explain their points and discuss how the pre-school worker can help bring about a change in the thinking of parents.

Activity 13.3: Case study on water drinking and food practices of toddlers

Audience: Participants can include parents and selected teachers.

Objective:

Participants focus on possible solutions to a case study on water drinking practices in South Asia, specifically for toddlers.

Material: paper

Time: half an hour

Procedure:

1. Divide the participants into groups with 4 to 8 people per group.
2. Ask the participants to work on the case study below which is provided on an A4 paper to each group.
3. Ask one of the participants in each of the groups to read the case study out loud. After the case study has been read, each group is asked to focus on possible solutions to the problem.
4. After around 20 minutes all of the groups come together in a plenary session and give their answers. Note that this type of exercise is an effective way of getting the groups to discuss their own experiences in terms of their problems and possible solutions regarding water drinking and food practices of toddlers in their area.

Short case study on water drinking and food practices of toddlers

Problems with water drinking practices begin with babies and toddlers. It is common even now to feed infants milk or other fluids by making them lie on the mother's lap and then pushing the fluid into the mouth with a boat shaped spoon (an indigenous contraption) without a handle in which the mother's thumb inevitably dips because of the way the spoon is held. If the mother has not washed her hands properly then you can predict the consequences. Under-fives are therefore particularly vulnerable for two reasons:

- Mothers handle food with their fingers most of the time, for example when mashing rice or feeding milk. The status of most mothers' hands, including nails, is critical. With urbanisation, media and other images of glamour, long nails are getting more and more popular!
- If the baby handles food there is no attention to handwashing. Even worse, a child below the age of three will sit, scatter food on the floor and then enjoy picking up the pieces and shoving them into the mouth, while mother is working on something else. A child development person may say this is a great exercise for small muscles and coordination. But how does one bring hygiene into this?



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WELCOME
SCHOOL HEALTH & SANITATION PROGRAMME

डी पी ई. पी. रा.उ.प्रा.वि. श्रीचन्द्रपुरा (राजगढ़)

स्वा.वन्दना

मैं हूँ स्वस्थ हूँ तो मैं स्वस्थ रहूँगा, स्वस्थ रहूँगा तो मैं स्वस्थ रहूँगा।
स्वस्थ रहने के लिए स्वस्थ रहना ही सबसे अच्छा उपाय है।
स्वस्थ रहने के लिए स्वस्थ रहना ही सबसे अच्छा उपाय है।
स्वस्थ रहने के लिए स्वस्थ रहना ही सबसे अच्छा उपाय है।
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स्वस्थ रहने के लिए स्वस्थ रहना ही सबसे अच्छा उपाय है।
स्वस्थ रहने के लिए स्वस्थ रहना ही सबसे अच्छा उपाय है।

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

जहाँ गंदगी का अम्बार, वहाँ बीमारी का संसार।

डी.पी.ई.पी.



Appendices

Appendix 1: Making cards

The use of cards encourages all participants to participate in a session.¹⁴

Rules for involving participants:

- Every participant is a resource
- Everyone helps everyone
- Every facilitator is a participant
- Every idea counts
- Deal with uncomfortable feelings quickly

¹⁴ Adapted from: McKee, N. (1992). Social mobilization and social marketing in developing communities : lessons for communicators. Penang, Malaysia, Southbound.

Rules for card writing

Do's

write one idea per card

write only 3 lines per card

use key words, not sentences

write clearly

write large enough for others to read

Don'ts

don't write various ideas on one card

don't write more than 3 lines as it becomes hard to read

Sentences can get very long and lose their meaning...

write clearly and not like ~~this~~...

writing like ^{this} cannot be read from a distance

Appendix 2: Baseline survey for schools

- Primary school
- Primary and upper primary
- Primary and middle/high school

Number of shifts in schools: _____

Give timings from to
from to

Name of administrator: _____

Date: _____

Name of school or pre-school being surveyed: _____

Number of students _____

Number of boys _____ Number of girls _____

Number of teachers: _____

School address: _____

Name of village: _____

Name of block/local government: _____

Name of district: _____

Note: 'N.A.' means not applicable. It means that the question cannot be answered in this school or community.

Facilities Observe the following

		YES good	NO not good	N.A.
1.1	School yard, compound and classroom clean? (free from visible garbage on grounds and in classroom, classrooms with waste containers, solid waste disposed away from school)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Water				
1.2	Is there a functioning water point within the school area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3	Is there a public water point or water point that teachers use within 100 meters of the school? (about 150 steps)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.4	Is water point functioning at time of visit and in dry season? (Ask teachers if water point works in May. Check to see if one standard container can be filled in 2 minutes or less)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.5	Is the water apparently of drinking quality at the water point?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.6	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. Containers look clean inside. Teacher states that it has been cleaned within past 7 days.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.7	Are there ladles or cups with handles used by children and teachers for taking the drinking water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toilets, lavatories				
2.1	Do toilets or a lavatory exist within the school compound?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	How many toilets for girls? Number of girls students? How many girls use one toilet? Note: for schools with 2 sessions, write the number of girls in one session only. Note: one hole toilet = one toilet = one lavatory			

		YES good	NO not good	N.A.
2.3	<p>How many toilets or urinals for boys? _____ toilets _____ urinals _____</p> <p>Number of boy students? _____</p> <p>How many boys for one toilet or urinal? _____</p> <p>Note: for schools with 2 sessions, write the number of boys in one session only.</p>			
2.4	Are the toilet and urinals clean? (free from visible garbage, faecal matter on floor, smell not too bad enough to stop use, no puddles, not too many flies)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.5	Is there water storage facility and ladle/cup inside or beside the toilets?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.6	Do teachers have separate toilets from children?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.7	<p>On what day(s) is the toilet cleaned?</p> <p>_____</p>			
Behaviours				
3.1	<p>Are toilets being used?</p> <p>Can children use the toilets during the school day?</p> <p>Are they easy to open or unlock?</p> <p>Observe if a pupil voluntarily uses a toilet during your visit.</p> <p>Ask a group of girls separately, outside the classroom about when they use it. Look into the toilet.</p> <p>Does it smell?</p> <p>Do you see faecal matter?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

		YES good	NO not good	N.A.
3.2	<p>Do children wash their hands correctly after using the toilet?</p> <p>Observe if a child voluntarily washes hands during your visit.</p> <p>Ask children when they wash hands in a small group, outside of the class.</p> <p>Ask a child to demonstrate how to wash hands in the place where this is usually done.</p> <p>Note: Is it easy and fast for the child to get the water and a cup? Does the child rub both hands a lot, at least 3 times? Is the water disposed of so that it will not breed mosquitoes? Is the area clean, free from visible garbage?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3	<p>Do the children in the school help clean, including the toilets?</p> <p>Do the children take turns (rotate) in doing this?</p> <p>Ask teachers. Ask children in a separate small group, outside the class.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Teachers				
4.0	<p>Have the teachers of this school been trained in School Sanitation and Hygiene Education?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.1	<p>Have the teachers taught anything about hygiene (safe water, household sanitation, personal hygiene)?</p> <p>Ask the teachers. Ask some students.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2	<p>Can teacher or headteacher show any teaching material, book or learning materials or a chapter in a book about this subject?</p> <p>Note: materials must appear to have been used.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.3	<p>Can teacher explain correctly what sanitation means to him or her?</p> <p>(Sanitation refers to the safe disposal of excreta which takes place on or near the plot).</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.4	<p>Write here anything interesting the teacher says or any interesting hygiene/health activities teacher or school has carried out with children.</p>			

		YES good	NO not good	N.A.
4.5	Your general assessment Do the teachers and headteacher seem motivated and interested in the hygiene education programme? Do you think they will work with students to use and maintain the facilities? Do they seem to get along with the community? What is your assessment of this?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Community (Clarify who should ask these questions)				
5.1	Are parents, PTA or other community groups involved in the school? In supporting the school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.2	Is the PTA active? Do they keep minutes? Have they met in the last three months?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.3	Do the parents know about the sanitation and water facilities provided at the school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.4	Do the parents provide a financial contribution towards the sanitation and water facilities at the school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.5	Are there household toilets (more than 1 out of 10 households) in this community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.6	Has the school planned events/conducted events to promote School Sanitation and Hygiene Education in the community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Supervisor or cluster				
6.1	Has there been a cluster meeting in the past three months to discuss health/hygiene and sanitation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.2	Has a school supervisor who will be involved in WASH in schools visited this school during the past three months?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.3	Do the block (district?) education officers express interest in this programme?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.4	Does the (district? block? cluster?) supervisor have information or records about the visits of his/her supervisors? Can we tell successes or failures in the school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.5	Is there a district/block School Sanitation and Hygiene Education implementation plan with a budget?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

		YES good	NO not good	N.A.
NGO				
7.1	Is there an NGO member of staff assigned to the project who has been trained?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Space here to write problems that need to be solved as stated by Education authorities or NGO staff.</p> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>				

Appendix 3: The impact and sustainability of WASH in schools programmes in Kerala (India) and Kenya (2006-2007)

This research sought to improve our knowledge about the sustainability and impact that might be expected of SWSHE programmes. The studies were carried out in 2006-2007, with the support of UNICEF, and organised as collaborative research on school water, sanitation and hygiene education. They were a partnership between three organisations; the Network for Water and Sanitation, in Nairobi, Kenya, the IRC International Water and Sanitation Centre, Delft, Netherlands and the London School of Hygiene and Tropical Medicine (LSHTM). This summary addresses the key issues raised by UNICEF in its Terms of Reference for the study, as shown below.

UNICEF Terms of Reference

1. This comparative study will focus on these variables, among others:
2. Facilities: continuing operation, facility use and maintenance
3. Hygiene behaviours of children in school and at home; and, possibly, hygiene behaviours of children who have been in the programme but have since departed from the school
4. School-to-home links, information known by parents (disaggregated by sex of parent and child) and any changes in home as result of the programme
5. Attendance/enrolment, particularly among girls
6. Evidence of impact at intermediate level of school, county/district educational management
7. Evidence of impact of WASH in schools on the implementation/outcomes of sanitation and hygiene programme at community, county, district levels.

The interventions in Kenya and Kerala¹⁵ had similar objectives: improved water and sanitation and hygiene in schools with healthy behaviours among children. Handwashing was an initial objective in the Kerala programmes and was added after 2001 in Kenya. Neither UNICEF-supported programme strongly emphasised use of soap for handwashing, which may be mirrored in the very low proportion of children who washed their hands with soap in the school study (less than two per cent). Outreach to the home from the school was started after the basic SWSHE programmes had been developed.

Differences in the settings, interventions and sampling

The two studies were carried out in very different contexts.

- The overall educational environment for the SWSHE intervention was more volatile in Kenya than in Kerala. In 2001, universal primary education was implemented in Kenya, resulting in a very rapid increase in enrolments that put considerable pressure on school facilities, including those already constructed with UNICEF support.

¹⁵ Detailed descriptions of the interventions, sampling and analysis can be found in the two country reports: www.irc.nl/page/48277

- Two of the study districts in Kenya were urban (Mombasa and Nairobi). Almost 40 per cent of the schools (mostly urban) reported water shortages, meaning that they did not receive water from the city supplies each day. The water scarcity was worse in Kenyan schools than in the Kerala schools.
- WASH in schools inputs in Kerala were coordinated by one agency. In Kenya other external agencies provided inputs for some aspects of water, sanitation or hygiene education, usually only in a few schools each.

The Kenyan and Kerala schools had different interventions. In Kerala, the project schools had similar (not identical), time-bound inputs, usually consisting of training of teachers, training of children and formation of school health clubs, communication/ education activities in the school and community, provision of toilets, water supply enhancement, handwashing facilities, and a varying number of supervisory visits.

In two districts in the Kenyan study (Mombasa and Kwale), over a period of more than 10 years, each school tended to have different inputs, but not a coherent WASH in schools programme. In Nairobi, a whole package was delivered in a time-bound fashion: provision of toilets, water supply enhancement, handwashing facilities and training of teachers and of children, supervisory visits for construction. Unfortunately only one-third of the UNICEF-supported toilets in Nairobi were operating at the time of the study. Sampling was different in Kenya and Kerala, reflecting differences in the interventions. In the Kerala intervention districts, most schools had been in the project or had participated in the same training. Therefore the control schools for the study had to be taken from a third, nearby district. In Kenya it was possible to identify both intervention and non-intervention schools in the same districts.

Data was collected in 2007 through unannounced visits to schools. Many similar data collection tools were used in the two studies:

- A questionnaire administered to teachers,
- Observations of school facilities,
- Small group interviews with children,
- Review of class attendance records,
- Class voting.

Class voting involved asking all children in one classroom to answer a small set of questions anonymously. In Kerala, home visits and small group discussions were held with parents. For the Kenya study, information from these discussions with parents was thrown out as they were deemed not sufficiently valid. In Kenya, observations of handwashing behaviour were made in the schools, but not in Kerala where the number of schools (300 versus 100) and time constraints made it difficult to observe children in the schools as well as visiting the homes.

The sizes of the samples from which data was collected are shown in the table below.

Study sample sizes

Country	Number of schools in study	Number of small group interviews	Number of children voting (class 5)	Number of households visited	Number of children: observations of handwashing
Kenya	50 intervention, 50 control schools	16 groups of girls, 16 groups of boys, more than 120 children	4,919 children	--	985 children (500 girls, 485 boys)
Kerala	150 intervention, 150 control schools	278 groups of girls 282 groups of boys, more than 1,000 children	7,835 children	764 households	--

Findings

The findings provide some interesting insights into what makes a successful, sustained WASH in schools programme.

Children wash their hands more often after using the toilet when there are more water taps and when there is water in or near the toilet.

This held true in Kenya, where on the average, there was one water point for more than 200 children. However, in 26 of the 100 schools, more than 500 children had to use one water point. Thus in schools where fewer children had to share one tap in or near the toilet block, they were more likely to wash their hands. However, in Kerala schools, the overall ratio was more favourable with one water point for 100 children or less. Here, the relation did not apply probably because children already had significantly better access to water within or near the toilets. Beyond a certain point (in this case, about 100 children per water point) there is no advantage to adding more facilities. However, where many hundreds of children must use the same water point, then more working taps are required in convenient locations for the children.

In Kenya, when water for handwashing was located in the toilets, then the toilets tended to be cleaner and a greater proportion of girls washed their hands (but not boys). In Kerala most schools had water in or near the toilet.

Children use toilets that are clean and well maintained.

In both Kenya and Kerala, more children used the toilets which were better maintained and clean (defined as not having visible urine or faecal matter in the cubicle).

The importance of maintenance and repairs

Not unexpectedly, schools that put more emphasis on maintenance and repairs had better water supply in the toilet, more working water taps or points per child and cleaner toilets. Maintenance and cleanliness of facilities is essential for sustaining

facilities in schools. However, hiring a janitor is not sufficient. The studies in both Kenya and Kerala showed that hiring a janitor to clean the toilets in the school did not result in cleaner or better maintained toilets than in schools without janitors.

Teachers help manage the operation and management (O&M) fund with the school management committee/Parent Teacher Association.

The study examined the management of the school O&M fund which had been provided to schools in recent years, with the advent of universal primary education. In all schools, the school management committee is mandated to oversee the use of this fund. In almost 3 out of 5 schools it was reported that the headteacher or facilities teacher controlled the fund for maintenance and repairs together with the school management committee. Where the teachers controlled the use of the fund, there tended to be better maintenance, with better water supply in the toilets and more taps for children. Both girls and boys were observed to wash hands more frequently. This gives hints about the optimum management structure of the programme.

Children's participation

The Kerala study did not investigate the organisation of an O&M fund as in Kenya, but rather the participation of children, specifically through school health clubs, and the Parent Teacher Association. In Kerala and Kenya, having school health or WASH clubs was not associated with better water or sanitation in the school. However, in Kerala the distinction was made between active and in-active clubs. The Kerala criteria for an active school health club were defined as:

- Club has a current written activity plan;
- Children in the club report having been trained;
- Teacher has been trained in WASH, WASH in schools or how to run a club;
- There is a report or recall by children showing at least two club activities over the past four months.

Out of 300 schools, 78 school clubs satisfied three or four of these criteria and were considered active. Active health clubs were in schools with significantly better maintained facilities (handpumps and open wells) and cleaner toilets. It follows that schools with active health clubs had cleaner toilets – the more likely direction of cause and effect, implying that the clubs should be seen and developed as part of the total school intervention.

Training: ambiguous findings

In Kerala, the impact of teacher training was not investigated separately. It was one of the criteria used to measure whether a school health club was active or not. In Kenya, the study did not provide data linking training to improved programme outputs. There was no evidence that the training of teachers or children was significantly related to cleaner facilities or more handwashing. However, in some cases the training had taken place a long time ago (eight years previously), with no refresher training. In other cases the training was of very short duration (one day) without supervisory follow-up through school visits. The content of training might be another issue deserving focus,

to include planning for organising children to ensure good use and maintenance of facilities. Several teachers commented positively and in detail on the Participatory Hygiene and Sanitation Transformation (PHAST) training carried out almost nine years before this study.

Challenging issues

The research identified several challenging issues that require more attention in these school programmes.

- First, soap was seldom used in handwashing. In both Kenya and Kerala, about two per cent of the children used soap to wash hands. Only five out of 100 schools in the Kenyan study had soap available for children. Handwashing without soap provides far fewer health advantages. The message ('use soap') was given to teachers and children. However, handwashing with soap was not emphasised sufficiently nor were schools helped to organise themselves for this. It is not sufficient to make a rule or send out a directive on use of soap for handwashing in school. It requires attention to issues such as leveraging recurrent expenditures for purchase, organising the physical setting and the children so that soap is available but not stolen, and organising/training large numbers of children to wash their hands with soap after using the toilet and before eating. Given the great advantage of using soap for handwashing, this is an issue that deserves urgent attention.
- Listen to the children to improve and monitor WASH in schools: In the 569 small group interviews in Kerala and 32 in Kenya, children aged 11 to 16 years repeatedly said that they need:
 - Water for drinking, toilet, urinals, handwashing...with enough taps or water points that are functioning and are conveniently located.
 - Toilets and urinals that function and are clean and have well-maintained doors and latches inside the toilets. They need clean toilets and urinals. They need a bucket, mug and soap. In Kerala, children also wanted a roof to protect them against rain in the urinals, and water that can easily run inside to wash out the urinary channels.
 - In Kenya children repeatedly asked that children, particularly the younger children, be taught how to use the facilities. They also suggested outreach, that is, that children stimulate community people to build toilets.
- Menstruation: Both in Kenya and Kerala, menstruating girls face problems when attending school. In Kerala, in the 278 small group discussions, half the girls from control schools and one-fourth from intervention schools said that they experienced problems using the facilities during their menstrual times. Similarly, in Kenya, in 10 out of the 16 schools investigated, girls said they face problems. In both countries, it was reported that some girls go home when they menstruate. The Kenyan girls were very appreciative of emergency supplies for menstruation in schools.

- Fear of teasing or bullying when in or near the toilet: Two out of three girls and also boys in the urban slums of Nairobi schools indicated that they were afraid of teasing or bullying when they were near or in the toilets. Data collectors in Kenya said the following: boys can be rough with each other, shouting or shoving younger boys and this is the origin of the fear. However, they stated that for girls, there is not only the shouting at little girls to get out of toilets quickly, but also the fear of teasing by boys or sexual harassment. In Kenya, fewer than one in three of the flush toilets were working as flush toilets. One problem was that the pull-chains for the cisterns were too fragile to survive heavy-use. Another was that heavy anal cleansing papers (e.g. pieces of paper taken from school notebooks) are not appropriate for the toilet design/technology and tend to block the toilet pipes. However, putting the anal cleansing materials in a separate container within the toilet cubicle – a common practice in many countries – is not recommended. It is not desirable for hygienic reasons and requires disposal or incineration which is often not possible in crowded urban areas. For children who use water for anal cleansing (both in India and Kenya), water and containers must be conveniently available for children.

Thus, the findings indicate that the overall strategy for WASH in schools includes:

- An agreed target for clean, universally-used toilets. Universal handwashing with soap after using the toilet. Handwashing before eating.
- Improve the availability of water, specifically water for drinking and water for flushing, cleansing, handwashing in the toilet and reducing number of children per water point.
- Emphasis on organising repairs and doing maintenance; control of the repairs and maintenance fund by a teacher(s) with the Parent Teacher Association.
- Address some specific issues: (a) sustainable flush toilet technology, disposal of soiled papers, (b) school-based planning for mass handwashing with soap, (c) child and teacher participation in monitoring, (d) teaching children how to use facilities.
- Two other issues, for which there was little data but which probably deserve more attention are: the effectiveness of training and retraining; the need for supervisory school visits. The day-to-day supervision of government staff, focusing on training and adherence to guidelines for WASH in schools may be central to ensuring the sustainability of the facilities.

The overall strategy is to move beyond construction. Indeed, research in such varied locations as Bangladesh, India, Indonesia, Malawi, Peru, Sri Lanka and Vietnam has also demonstrated that facilities and construction interventions alone are often not sufficient to provide a health advantage.¹⁶

¹⁶ Hill, Zelee, Betty Kirkwood and Karen Edmond (2004). Family and community practices that promote child survival, growth and development : a review of the evidence. World Health Organization. Cairncross, Sandy and Kathleen Shordt (2004). It does last! Some findings from the multi-country study of hygiene sustainability. *Waterlines*. Vol 22. No. 3. <http://www.irc.nl/page/9971>
 Robinson, A.J. (2005). Lessons Learned from Bangladesh, India, and Pakistan: Scaling-Up Rural Sanitation in South Asia. Water and Sanitation Program-South Asia. http://www.wsp.org/publications/SANITATION%20STUDY_PRESS.pdf
 Varley, R.C.G., Tarvid, J. & Chao D.N.W. (1998). A reassessment of the cost-effectiveness of water and sanitation interventions in programmes for controlling childhood diarrhoea. *Bulletin of the World Health Organization*, 76(6):617-631.

Impact

There were three main issues that related to impact:

1. School-to-home links

- People, usually mothers, in the intervention communities were twice as likely to have soap in toilets as in control communities (68 per cent versus 34 per cent). In Kerala, adults were interviewed in 764 households, each of which had children in one of the 300 study schools. The adults, usually mothers, were asked if they had attended or seen WASH activities through school meetings, PTA meetings, health day celebrations, or other activities. Parents who had seen or participated in activities about water, sanitation or hygiene in the schools were far more likely to have soap in the toilets of their households.
- Another approach to measuring impact of the school interventions in Kerala was to investigate hygiene practices in the home. The 7,835 children in the 300 schools voted anonymously to answer: "Did you wash your hands after you went to the toilet the last time at home?" The practice was three times higher in the intervention schools than in the control schools.
- The issue of messages flowing from school to home was investigated qualitatively in Kenya in the 32 small group interviews with children. Children in seven discussion groups voluntarily identified as a priority the promotion of constructing or having a toilet in the home. However, we asked children from both intervention and non-intervention schools, what in fact they say at home. Some mentioned that they complain to their parents about the bad conditions of the school latrines. They inform their parents that they feel ashamed to be in the school. This is important: one pre-condition for outreach with positive sanitation messages from the school to the home is that the school toilets should be operational, clean and appealing. Toilets and water at school should convey a desirable message about sanitation.

2. Attendance

Classes where more girls washed hands and nearly all used the toilet tended to have better attendance. Toilet use and handwashing are related to fewer absences for girls. The same associations were not observed for boys. When the school had the whole WASH package, girls tended to be absent less frequently. In Kerala, no health impact was found for children as tested by one-week recall asking if they had had colds or diarrhoea during the preceding week. Nor did the attendance records reveal differences among the schools that could be attributed to the intervention. Several explanations were suggested: uneven quality of the attendance records, a viral epidemic outbreak in certain parts of the study area which confounded the investigation into health or that the methods of measurement should be more refined and more extensive than was possible in this study. With reference to the Kenya findings a possible explanation is that the basic water and sanitation facilities were more supportive of the needs of menstruating girls.

3. Impact at intermediate level and impact on other sanitation and hygiene programmes

It was difficult to measure impact at the intermediate level (district and city government). Discussions held with individuals at these levels provided insights into individual experience but not impact on systems or structures within the government or other agencies. In part, this was related to many transfers of staff that have taken place since the implementation of the programmes. A transfer means that the departing staff member takes his or her experience with them. Transfers can also mean that if there were an impact from these programs, for example changes in systems or allocations, the origin of this would not be known. Knowledge about who instituted an innovation would be lost with the transfer.

However, there were indications, asserted by informants at intermediate and national levels, that these programmes had an impact at the national level in Kenya and at the state and national level in India. The Kerala programme may have influenced the design of the WASH in schools aspects in the national sanitation policy development in India. At the state level, the school water, sanitation and hygiene programme studied here was the model used for schools within the state total sanitation programme. In Kenya, existence of the UNICEF-supported school programme with support helped UNICEF to stimulate the government and relevant Ministries to develop a national policy, allocations and a new programme for WASH in schools.

Credits photographs and figures

Front cover: photo top left by Richard Lord. **Other cover photos** by Mariëlle Snel.

Marion Bloem: figures 1.1, 2.1, 2.2, 4.1, 5.1, 6.1, 6.2, 8.1, 11.4, 11.27, 12.1

Hans Emeis: figures 11.6, 11.9, 11.10, 11.11, 11.12, 11.13, 11.14, 11.15, 11.16, 11.17, 11.19, 11.21, 11.23, 11.24, 11.26

Richard Lord: photos on pages 46, 266 and cover (top left)

Annemarieke Mooijman: photos on pages 12, 20, 40, 72, 96, 142, 156, 217, 280

Kathy Shordt: photo on page 244

Mariëlle Snel: photos on pages 60, 116, 172, 288 and cover (top right and bottom left and right)

Jaap Zomerplaag: figures 2.3, 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 11.5, 11.20, 11.28

About IRC

IRC facilitates the sharing, promotion and use of knowledge so that governments, professionals and organisations can better support poor men, women and children in developing countries to obtain water and sanitation services they will use and maintain. It does this by improving the information and knowledge base of the sector and by strengthening sector resource centres in the South.

As a gateway to quality information, the IRC maintains a Documentation Unit and a web site with a weekly news service, and produces publications in English, French, Spanish and Portuguese both in print and electronically. It also offers training and experience-based learning activities, advisory and evaluation services, applied research and learning projects in Asia, Africa and Latin America; and conducts advocacy activities for the sector as a whole. Topics include community management, gender and equity, institutional development, integrated water resources management, school sanitation, and hygiene promotion.

IRC staff work as facilitators in helping people make their own decisions; are equal partners with sector professionals from the South; stimulate dialogue among all parties to create trust and promote change; and create a learning environment to develop better alternatives.

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About the Water Supply and Sanitation Collaborative Council

The Water Supply and Sanitation Collaborative Council (WSSCC) is a global multi-stakeholder partnership organisation that works to improve the lives of poor people. WSSCC enhances collaboration among sector agencies and professionals around sanitation and water supply and contributes to the broader goals of poverty eradication, health and environmental improvement, gender equality and long-term social and economic development.

The activities undertaken by WSSCC were recognized in the United Nations General Assembly resolution A/RES/45/181 of 21 December 1990. WSSCC's network of National WASH Coalitions and individual members gives it the legitimacy and flexibility to work effectively at the community level around the world. Through Networking & Knowledge Management, Advocacy & Communications and the Global Sanitation Fund, WSSCC is at the forefront of knowledge, debate and influence on water, sanitation and hygiene (WASH) for all.

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About UNICEF in South Asia

South Asia is a culturally rich and geographically diverse region which includes Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. One quarter of the world's children live in these eight countries. Dynamic economic growth has characterized some of these countries; nevertheless entrenched problems persist in South Asia.

The number of children whose survival is in danger, or whose lives are blighted because of gender or poverty, remains stubbornly high. Almost half of the region's children are underweight. South Asia has some of the world's highest rates of maternal mortality with, for instance, maternal mortality rates as high as 300 maternal deaths occurring for every 100,000 live births in some places.

Common themes provide a challenging environment for all those engaged in making South Asia a better place for children. These include a lack of education opportunity for millions of girls, social customs that accept extreme gender bias, and practices such as early marriage. Widespread exclusive practices on the basis of ethnicity, caste, language and gender make the achievement of the Millennium Development Goals (MDGs) for the region more difficult. And where some countries at a macro level are set to achieve their MDG targets, sub-nationally enormous gaps remain.

South Asia is also a region prone to natural disasters such as flooding, cyclones and earthquakes, as well as heightened political tensions and turbulence.

UNICEF lobbies governments to affirm the importance of water, sanitation and hygiene in the overall development agenda, and to ensure that adequate resources are made available. In Afghanistan, UNICEF is assisting the government on a large-scale project to develop new water technologies as part of the national reconstruction process.

UNICEF has been a major force in raising community awareness about arsenic poisoning and allaying fears that it is contagious. Through its local networks it has helped communities find alternative safe water sources, monitor contaminant levels in existing wells, and mitigate the harmful cumulative effects of exposure to arsenic.

UNICEF has set itself an additional target beyond those of the MDGs, which is to ensure that all schools have adequate child-friendly water and sanitation facilities, and hygiene-education programmes. Hygiene education in schools will be an important influence on the region's long-term performance in this area.

Strengthening Water, Sanitation and Hygiene in Schools

Water, sanitation and hygiene (WASH) in schools programmes are globally recognised as essential to promoting children's right to health. WASH in schools influences a generational change in health promotion behaviour and attitudes. If schoolchildren have access to clean and appropriate toilets, functioning handwashing facilities with soap, sufficient and safe drinking water and have developed adequate hygiene skills, they are more likely to be healthier and to positively influence hygiene practices among family members and the wider community.

This book is meant for managers and trainers involved in water, sanitation and hygiene programmes in schools, whether operating at state, district or block level. It provides information on a number of essential topics related to WASH in schools and contains relevant activity sheets. Within that context, this book can be used:

- For planning new WASH in schools programmes and setting strategies,
- For district training and planning workshops,
- To train trainers from NGOs and other institutions focusing on WASH in schools,
- For orientation of district and department officials, education officers and headteachers, public health engineering staff and contractors, and leaders of other institutions such as NGOs and CBOs,
- For setting up monitoring activities in the district, block, cluster and community,
- For training field workers to work with communities on group mobilisation, technology selection and design.

