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Guidelines Series

Towards Better Programming

A Manual on School Sanitation and Hygiene

In Collaboration with

IRC
International Water and Sanitation Centre

Water, Environment and Sanitation Technical Guidelines Series - No. 5

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September 1998

A Manual on School Sanitation and Hygiene

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A publication of UNICEF/Programme Division
Water, Environment and Sanitation
ID No. UNICEF/PD/WES/98-5

This School Sanitation and Hygiene Manual is one of the Technical Guidelines Series prepared by the Water, Environment and Sanitation Section, Programme Division, UNICEF, in collaboration with the IRC International Water and Sanitation Centre, The Netherlands. Titles of other publications in this series are printed on the inside back cover of this Manual.

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Towards Better Programming

A manual on school sanitation and hygiene

United Nations Children's Fund (UNICEF)
IRC International Water and Sanitation Centre

1998

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Acknowledgements

This publication is the product of broad consultation and collaboration. The UNICEF Programme Division would like to thank Ms. Ineke van Hooff **(**Programme Officer**)** at IRC International Water and Sanitation Centre, who collaborated in the creation of this document.

A number of existing documents have influenced this work, and have been drawn from for both ideas and examples. Thanks go to the following UNICEF country offices, who provided valuable background material for the document: Belize, Ghana, Bangladesh, Guinee, Madagascar, Somalia, Togo and Uganda.

Thanks also go to Ms T.V. Luong, Senior Adviser, Ms Karin Metell, Assistant Programme Officer UNICEF and Ms. Eveline Bolt (Programme Officer) at IRC International Water and Sanitation Centre, who contributed in developing the document. Illustrations were provided by Ms. Marjan Bloem and valuable copy editing assistance was provided by Nicolette Wildeboer.

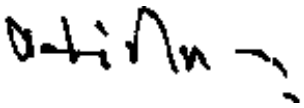
Finally, to all those too many to name whose contributions have made this a better publication, Programme Division extends its grateful thanks.

Preface

UNICEF Programme Division is pleased to present this Manual on School Sanitation and Hygiene in support of country programmes. This manual is the result of collaboration between UNICEF and IRC International Water and Sanitation Centre in The Hague, The Netherlands. Building on experience from a number of country programmes the book advocates for integrated approaches towards a safe school environment for all children with linkages to community actions and relevant education for a healthy and sustainable development.

Children are agents of change. By focusing on school aged children, giving them tools and knowledge to change behaviours today, future generations will be better prepared to care for their families and communities' own health and clean environment. This is an area well recognized for support through UNICEF, in partnership with both implementing and donor governments worldwide.

This handbook is the fifth in a series being prepared by the Programme Division to support national and local initiatives to fulfil children's rights to a safe environment. We look forward to receiving suggestions and ideas on how to improve our support to interventions in this vital area and to continued partnerships to strengthen school sanitation and hygiene programmes for children.



Sadig Rasheed
Director, Programme Division
UNICEF Headquarters, New York
26 March 1998

1. Introduction

1.1 Importance of School Sanitation and Hygiene

In many countries there exists a high prevalence of water and sanitation related diseases, causing many people, children in particular, to fall ill or even die. Improved hygiene practices are essential if transmission routes of water and sanitation related diseases are to be cut. Whereas appropriate hygiene education can bring about the intention to change hygiene behaviour, for most hygiene behaviours appropriate water and sanitation facilities are needed to allow people to transform intention to change into real change.

This manual on school sanitation and hygiene (SSH) deals with both hardware and software aspects needed to bring about changes in hygiene behaviour of students and, through these students, in the community at large. The hardware is the total package of sanitary conditions and facilities available in and around the school compound. The software are the activities aiming to promote conditions at school and practices of school staff and children that help to prevent water and sanitation-related diseases.

Why is it important to focus on schools?

After the family, schools are most important places of learning for children; they have a central place in the community. Schools are a stimulating learning environment for children and stimulate or initiate change. If sanitary facilities in schools are available, they can act as a model, and teachers can function as role models. Schools can also influence communities through outreach activities, since through their students, schools are in touch with a large proportion of the households in a community.

Why is it important to focus on children?

A survey among school children in India revealed that about half of the ailments found are related to unsanitary conditions and lack of personal hygiene. Such survey results show the need for a focus on children. Also, it is generally recognized that childhood is the best time for children to learn hygiene behaviours. Children are future parents and what they learn is likely to be applied in the rest of their lives. They have important roles in the household, taking care of younger brothers and sisters, and depending on the culture, they may also question existing practices in the household. If children are brought into the development process as active participants, they can become change agents within their families and a stimulus to community development. They are eager to learn and help, and if they consider environmental care and their role in this as important, they will take care of their own health and the health of others. Being tomorrow's parents, children are also likely to ensure the sustainability of a programme's impact.

In reality, schools are often more than just places for learning and behaviour change. If school sanitation and hygiene facilities are absent, or are badly maintained and used, schools become risky places where diseases are transmitted. Schools can also pollute the natural environment in such a way that it causes health hazards for the community at large. It is therefore important that schools have proper facilities. However, improved facilities in themselves are not sufficient. If we want to reduce the incidence of sanitation and hygiene-related diseases, and to protect the natural environment, behavioural changes are also needed, leading to proper use of the facilities.

Three factors have to be addressed if lasting changes in hygiene behaviour are to occur. These are:

- predisposing factors - knowledge, attitude and belief;
- enabling factors - availability of resources like latrine facilities and safe water supply, enabling students to transform newly acquired knowledge, attitudes and beliefs into desirable behaviours;
- reinforcing factors - factors affecting the students' ability to sustain a certain behaviour, like support and cooperation received from parents, guardians and peer groups.

Increasing students' knowledge about health and disease prevention should therefore only be part of the story. When knowledge is supported by enabling and reinforcing factors, desirable changes may occur in the school setting and in the community. This stresses the importance of combining hygiene education with the construction of water and environmental sanitation facilities and involving the community and health institutions in SSH.
A good SSH programme is a comprehensive programme, including:

1. a participatory needs assessment involving students, teachers, parents and community members;
2. formulation of objectives, outputs/results and an action plan;
3. improved water and environmental sanitation facilities;
4. properly used and maintained facilities;
5. hygiene education for students;
6. teaching aids which build on the practical situation in and around schools, making students aware of the benefits of using improved facilities in a proper and hygienic way and the seriousness of diseases that result from poor SSH;
7. improved facilities and hygiene education going hand-in-hand;
8. involvement of students in planning, implementation and maintenance;
9. training for technical staff and teachers;
10. monitoring of the programme and its impact, with a focus on self assessment.

1.2 Purpose and set-up of the manual

This manual is meant to be a stimulating book on SSH. It gives the full range of components and elements of an SSH programme and seeks to set out the current state of knowledge and experience on these components. It illustrates these general insights with cases and examples from a wide range of programmes, including UNICEF programmes. It is hoped that you and your colleagues will adapt the approaches and ideas mentioned to your own specific situation and that it will help you set objectives and identify outputs and activities appropriate to your situation.

The aim of the book is not to prescribe, but to give overviews, stimulate change and provide ideas and guidance to all those who want to make schools centres of learning, practising and diffusion of good sanitation and hygiene practices for the children, their teachers and parents, and their communities at large. Further practical and target group-oriented material will have to be developed. The book has two parts. Part I deals with SSH at the district or national level, while Part II deals with the school or community level. Each part has several chapters and they all begin with a brief general introduction, which is followed by examples from field programmes, innovative ideas and illustrations.

1.3 Scope of the manual

So that all users interpret the manual in the same manner, it is important to clarify the major concepts used, i.e. water and environmental sanitation facilities and school hygiene education. Water and environmental sanitation facilities include: water supply systems, water storage systems, systems for the improvement and preservation of water quality, wastewater drainage, systems to manage and dispose of human faeces, solid waste management, disposal and recycling systems and handwashing facilities.

School hygiene education is a specific form of the wider school health education. It deals only with water and sanitation-related health problems in and around the school. School health education concerns all activities that promote health and reduce health risks of school children.

Hygiene education primarily aims at changing behaviour toward good or safe practices in relation to personal, water, food, domestic and public hygiene. It also aims to protect water supplies and promote safe management of the environment, in particular the management or disposal of solid and liquid waste. In the case of children, it may be better to talk of behaviour development, since children often do not have bad behaviours, but should develop good ones. Behaviour development can only be achieved if it is supported by the provision of hardware. It was decided to develop this manual of promising approaches and experiences in order to make the many existing SSH initiatives widely accessible. This type of sharing should help prevent the reinvention of the wheel and waste of effort and money. It is also hoped to stimulate further development of ideas and initiatives in the area of programmes addressing children.

SSH aims to contribute to improved health through behavioural change. Community members, school teachers and fellow students may all be instrumental in bringing about this change. SSH may initiate a process leading from improved health in schools to improved health in households, and eventually to improved health in communities. In this process, UNICEF could play the role of catalyst. In this manual the main focus is on primary schools, but in some cases reference is made to nursery, pre-school, high school and informal education.

1.4 For whom is this manual intended ?

This manual addresses various groups of users:

1. Those who could make an impact at the national level, through their capacity to influence policies, curriculum development and teacher training, like government departments, international organizations (for instance UNICEF offices) and NGOs.
2. Those who are responsible for a particular school: management, teachers and students of primary, lower secondary, religious and nursery schools.
3. Those who are involved in any type of informal education, youth programmes or programmes for out-of-school children.

Readers are invited to use the manual and select innovative ideas and approaches on the basis of a problem analysis or needs assessment in their own situation.

1.5 UNICEF's role as a catalyst

UNICEF officers have a challenging role to play in the development and support of school sanitation programmes. Their role should not be to dominate or force the government into SSH activities, but should be more catalytic in nature. The leading agency in SSH is the government: they own the SSH programmes, and in a dialogue with the government UNICEF officers should try to become partners in SSH activities. The UNICEF officer’s role is to create the right environment and support implementors of SSH programmes.

1.6 Who contributed to this manual ?

In order to contribute to making the best use of schools' potential to address children and influence the community of which they are part, UNICEF decided to make SSH a key focus area in water and environmental sanitation (WES) programmes. To gather material for the manual, all UNICEF field offices were asked for information on SSH programmes. Although little information was received on the impact of SSH, a lot of information became available about the approaches applied and the activities implemented. A comprehensive list at the end of the manual mentions all of the contributing offices. IRC’s Documentation Centre provided additional information on promising approaches and experiences.

PART I:

SCHOOL SANITATION AND HYGIENE AT THE DISTRICT AND NATIONAL LEVEL

If national governments want schools and communities to take up responsibility for improving the school environment and the students' hygiene behaviour, effective support is required. Support agencies need to join hands and avoid duplication of efforts. Policies, as well as standard designs for technical facilities, are to be developed and implemented; and on the basis of an assessment, plans have to be developed for teachers training, curriculum development, etc.

2. Creating a conducive environment for SSH at the national level

Favourable conditions are necessary for effective school sanitation and hygiene projects to develop. Government policies have to be such that initiatives can be taken; sharing of experiences and information among actors involved in SSH has to be stimulated. Some strategies for creating a conducive environment are outlined below.

2.1 UNICEF-government cooperation in SSH programme development

At the national level the most important actor in SSH programme development is the government. The government's role is crucial since it is the leading agency in framing any SSH programme. When the government is interested in SSH it will support programmes and increase the chance of sustainable activities.

As has been argued before, UNICEF and specifically the WES, community participation and health officers, can play a major role as catalyst. An important first step in the development of a national-level SSH programme is the identification of the leading government agency responsible for school sanitation activities. This may be the Department of Health or the Department of Education. Also when setting up a pilot project, finding a leading government agency as partner in the learning process is useful.
As soon as the leading agency has been identified, a dialogue can start. Important discussion points between UNICEF and government officers at this stage are:

- Will the SSH programme be nation-wide or focus on a selected number of districts for piloting?
- How many schools will get support?
- Who are the other actors in the field of SSH?
- What types of facilities are included in the sanitation package?
- What types of software activities are included in the programme?

In a workshop or meeting, the government and UNICEF can decide on these issues and specify the roles and responsibilities. This meeting may be followed by a similar discussion at lower (district) levels.

When the broad framework of the government-UNICEF cooperation has been established, the negotiations will become more specific. The discussions will typically focus on the number of schools which will get support and the contributions of each party: government, UNICEF and school or community. The contribution from the government and UNICEF should remain as small as possible. If schools and communities contribute to capital costs this will increase their sense of ownership and responsibility for the facilities and also increase the number of schools which can get financial support. Operation and maintenance costs should remain the responsibility of schools or communities. Practically it is not possible for the government or UNICEF to keep on meeting O&M costs to all schools in a country with an SSH programme.

At this point, it is important to involve related government departments. For instance, if the Department of Health is the leading agency on school sanitation, the Department of Public Works or the Water Department and the Department of Education may also become involved at this stage.

Often it is necessary to build local capacity in the government and possibly in NGOs, for instance through training activities. For this, similar training curricula could be developed and used for both government and NGO staff, adapting it as necessary for use at lower levels.

In the next phase, government and UNICEF officials discuss how schools will be selected. One option is self-selection by the schools or communities. UNICEF and government officials may develop criteria in advance, after which communities may recommend where the programme should start. Possible selection criteria include:

1. Interest from the school management committee.
2. Agreement by at least three teachers to take on responsibilities.
3. Involvement of students in SSH.
4. There is a felt need.
5. Willingness of schools and communities to contribute financially.
6. Implementation of some low-cost SSH activities has already begun.
7. Willingness from school, communities and students to sign an agreement.

Possibly criterion number 6 is the most important one. If schools and communities have already taken initiatives, this may be an indicator of the level of their future involvement in an SSH programme.

The starting point could be that all schools can do something to improve themselves. After that, schools which have serious problems, which they cannot solve themselves, can be selected for support. Coverage at the district or provincial level of schools having an SSH programme is a long

process, but essential, since it creates political commitment. When the government and UNICEF have agreed upon the general layout of the programme, it becomes important to decide who will implement it. In discussion between the government and UNICEF, the following issues may be considered:

1. Will the programme be implemented by the government, or is it desirable to do this together with NGOs?
2. If NGO involvement is required; how can the NGO support the government with the implementation of the programme?
3. How will the programme spread? The government and UNICEF cannot reach all schools in the country. To facilitate a wider spread of the programme, private sector and NGO involvement is crucial.

1. Self-selection in Sri Lanka

In Sri Lanka a self-selection approach is used by the Community Water Supply and Sanitation Programme (CWSSP). This organization has distributed a leaflet with information on the types of schools eligible for support. One of the selection criteria was initiatives that had been taken by the schools themselves in SSH. Schools which had undertaken some initiatives and found that the other criteria were also applicable could contact the CWSSP for support.

2.2 Ensuring interagency cooperation

Given the variety of activities brought under SSH (construction of facilities that need approval and finance, hygiene education which may require a change in curriculum, curriculum development for informal education, etc.), the involvement of various line agencies and possibly NGOs is needed to cover the entire spectrum in a comprehensive way when implementing SSH. The parties involved could include the Ministry of Education, Ministry of Health, Public Works Department, international organizations, NGOs and the Teachers Organization. Government involvement at different levels - national, district, block - is essential to ensure the sustainability of sanitation programmes. In Egypt, a pilot project therefore paid specific attention to improving the involvement of the Education Department. In order to help achieve cooperation among the agencies involved, the creation of a formal mechanism at the inter-ministerial level may be desirable. This could be in the form of a permanent committee or a task force having sufficient authority to influence policies and practices in the sectors involved. In Vietnam a workshop was organized to improve interagency cooperation.

2. Interagency cooperation in Vietnam

In Vietnam a workshop on hygiene education in primary schools, held in 1986, contributed to the wide-spread recognition of the importance of SSH. Officials from the Cabinet, the Ministry of Education and Training, the Ministry of Health and the Institute for Educational Science participated. Support was also given to a Technical Advisory Group from the Ministry of Education and the Institute for Educational Science to work on the development of curricula and textbooks for primary school children. This group also recognized the need for sanitary facilities if changes in hygiene behaviour are to take place.

The commitment thus created resulted in the submission of a proposal for a Health Education project in Primary Schools by the Ministry of Education and Training. This proposal consisted of two components: teaching of health education and provision of sanitary facilities. UNICEF supported the project as a sub-project of the ongoing Environmental Sanitation Project within the WATSAN programme and the UNICEF-supported Education Programme also contributed.

3. Planning for improved interagency cooperation in Egypt

A pilot project in Egypt formulated the following objectives to improve the involvement of the Education Department:

1. Work out with the Education Department alternative strategies for sustaining the programme as part of its action strategies.
2. Provide teachers with intensive training to enable them to carry out their role as effective hygiene promoters with children.
3. Propose an alternative package for utilizing the time and effort of public service candidates by involving them in the programme as monitors and resource persons.
4. Develop and test a package of reference material and guidelines to be employed by others, especially teachers and officials in the education directorate, while carrying out similar programmes.

4. NGO and government involvement in SSH

Centre for Health Education, Training and Nutrition Awareness (CHETNA), a non-governmental support organization based in Ahmedabad, Gujarat, India, has been involved in health promotional activities for disadvantaged women and children for more than a decade. At present CHETNA works as a support organization implementing activities through two resource centres, one of which is the Child Resource Centre (CRC), focusing on children and women's health. The goal of CRC is to empower children to become active partners for their own health and that of their families.

The Integrated Child Development Scheme (ICDS) is being implemented by the Government of Gujarat in the Banaskantha region. The ICDS workers are paid government employees, they are pre-school teachers who are also involved in the formation of women's groups and village health meetings. The programme provides supplementary food and imparts health education to children below three years of age.

2.3 Creating favourable conditions for SSH

There is a need for political support, in particular when allocation of funds and changes in curriculum are required. Policy makers and politicians can provide support through:

- commitment to and promotion of the provision of water supply and sanitation facilities;
- formulation of objectives and standards for construction of facilities;
- creation of a conducive environment through hygiene education activities to ensure that facilities are properly used;
- monitoring and regulating implementing agencies;
- institutionalization of teacher training;
- appropriate legislation.

5. School health policy in Ghana

The Ghana Education Service has a school health policy, which states that schools have to establish School Health Committees to ensure:

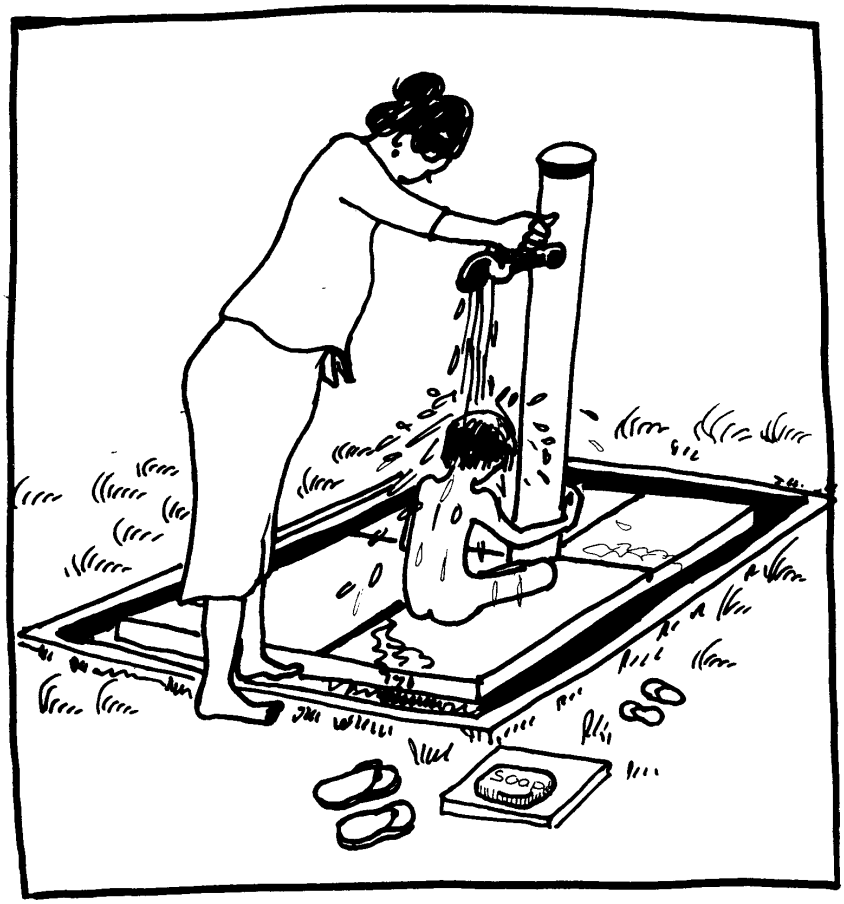
- supervision of sanitation in schools
- supervision of the activities of school vendors
- provision of good drinking water and sanitation facilities
- proper refuse disposal sites
- provision of handwashing facilities
- development and implementation of health education programmes at schools

6. Policy development in India

The Expert Committee on Rural Sanitation Programme set up by the Ministry of Rural Affairs and Employment (MRAE), GOI, recommended in 1994 that schools be used as one of the channels for promoting sanitation and hygiene among children, parents and the community. The committee had estimated and investment of Rs. 5000 million for this purpose. The recommendation was accepted by the GOI.

The Tenth Finance Commission of the Government recommended an outlay of Rs 841 million for providing sanitary facilities in upper primary schools for girls and those with co-education so as to cover 75% of such schools with toilets by the year 2000. This was also accepted.

School sanitation has become an integral part of the national IEC strategy released by MRAE, GOI in 1996. This strategy is now being implemented in 15 states. Initially 65 districts are being covered.



7. School legislation in Togo

In Togo school legislation contains sections on school sanitation and hygiene. The rules state that:

- the school is owned by the pupils, and they should therefore maintain it well
- the compound and classes should be cleaned by the pupils every morning
- the pupils should be clean, every morning this is to be inspected before the school starts
- schools should have drinking water facilities and latrines

3. Assessing current conditions in SSH at country level

Whereas individual schools will make their own problem analysis or needs assessment, at the national level the situation with regard to SSH also needs to be assessed in order to have a basis for the planning of activities and budget allocations. For improvements in the field of SSH this means assessing the level of existing facilities at schools, the curriculum and the quality of the teaching aids and the capability of available staff to carry out SSH. It is, for example, useful to know that there are more than five times as many school teachers as health workers in developing countries. This may call for policy and plans leading to teachers and other educators getting more involved in the promotion of hygiene behavioural changes.

3.1 Who is involved in needs assessments?

A needs assessment at national level should include the departments involved, namely, education, health and public works, as well as international organizations and NGOs. Preferably a participatory needs assessment should be carried out, whereby all partners get a chance to voice their opinions and to share their expertise. If important potential actors in the field of SSH are not involved national support activities will not be optimal and it may even lead to actors negatively influencing development. For example, if teachers are not involved they may negatively influence school sanitation activities.

8. An assessment in Togo

In Togo a study on school sanitation was carried out in 1995. The objective of the evaluation was to get an overview of the condition of the sanitary facilities in schools and of hygiene education. One of the difficulties encountered by the evaluation team was that some headmasters did not want to cooperate. According to the headmasters, school sanitation was so marginalized that it would be of no use to inspect their school.

The team found that 30 percent of the primary schools had latrines. Open field defecation was only practised in schools without latrines. The main reasons were insufficient number of latrines, the bad state of the latrines, and the habit of not using latrines. Twenty-six percent of the schools had access to drinking water (piped, spring, well, or handpump). In many schools waste was not properly disposed of. Every morning teachers checked the personal hygiene of the children.

- The study recommended the following:
- every school should have drinking water facilities
- every school should have well maintained latrines
- every school should have facilities to burn waste
- a system to control the quality of the food sold to the students should be established
- a health education programme should be developed

3.2 Some current findings

Although the need for sanitation is widely known, reality does not reflect this insight. Workshops held in West Africa and Latin America have revealed that the hygiene education and environmental sanitation situation in schools leaves much to be desired. In West Africa this is particularly so in boarding schools.

Among the reasons most often mentioned to explain the often deplorable situation with regard to SSH are:

- inadequate training of teachers;
- absence of functioning water supply and sanitation facilities, to enable students to put into practice what they have been taught;
- inadequate access to appropriate teaching methodologies and materials;

- health or hygiene education is not a separate examination subject and is at the same time insufficiently addressed through other subjects;
- inadequate supervision and monitoring of SSH activities at schools.

9. An evaluation on SSH in Bangladesh

In 1995 an evaluation of the school sanitation programme was carried out in Bangladesh. During the evaluation 152 primary schools were visited.

Due to lack of maintenance, sixteen tubewells were not working. In fifteen schools, leakages in the water storage tank were detected, and in 54 schools tank outlets were blocked with a wooden plug as the tap had been stolen or removed. Forty-seven water tanks were not cleaned. In 66 schools, students did not drink the water from the storage tank, since they found the quality not acceptable.

The separator in the inspection chamber of twenty latrines was absent and the two pits were therefore used simultaneously. Eleven latrines had not yet been handed over to the school authorities by the contractors. Students cleaned 116 latrines.

10. Survey among teachers in Ghana

In Ghana a KAP-survey was held among school teachers. This revealed that many of them lacked skills to work in a participatory manner or to apply the child-to-child approach.

11. Limited contribution to SSH from teachers in Egypt

During the first two years of health education summer clubs in Egypt, carried out in the context of an action research project, the research team found that the causes of the limited contribution from teachers to school sanitation and hygiene included:

- weak and distorted information about health, sanitation and the environment
- no knowledge of innovative communication methods
- lack of resource and reference audiovisual material
- lack of supervision and monitoring

12. Workshops in Lesotho

The Lesotho Primary Schools Sanitation Project, undertaken from 1976-1979, had limited success. After four years, only 86 out of 206 schools that had been given materials to build latrines had built them, and half of these were in disrepair. A UNDP/World Bank team was asked to investigate the situation and two district-based one-day primary school sanitation workshops were held. Participants included school and community representatives from 15 rural schools, which had been included in the earlier project, together with district and central government representatives. Participants were divided into three groups to discuss: 1. technical design; 2. construction, maintenance, cleaning and emptying; and 3. latrine usage and health education needs. Many ideas presented by the groups formed radical departures from the approaches used in the earlier project.

The workshops concluded that substantive changes should be made to the existing designs, for instance:

- individual latrines instead of communal latrine blocks
- latrines with seats rather than squat slabs
- latrines located closer to classrooms, otherwise children would continue to use traditional defecation sites
- emptying of latrine pits, when full, is impractical, so latrines must be designed to be readily relocated

In addition it was concluded that more latrines were needed; smaller children needed to be reassured that they are in no danger of falling into the pit; and latrines for younger children should be separate from those for the older children.

Few teachers or community representatives were found to have the skills needed to build safe and sanitary latrines. Self-help was considered to be an inadequate method of project implementation. Extra technical assistance in construction and maintenance was therefore considered important.

To improve school hygiene generally, it was agreed that water supply and washing facilities should be provided at the same time as the latrines, and that a hygiene education programme should be implemented.

In view of the difficulty in controlling misuse of the latrines by outsiders when there are no other latrines available, and the contradiction in teaching children about better hygiene when they have no latrines at home, the workshops also concluded that the programme should be closely linked to the government's more general efforts in rural sanitation.

Almost all recommendations of the workshop were included in a proposal on school sanitation.

3.3 SSH in rural or urban areas

In this emphasis is put on SSH in rural areas. This is among others reflected in the ideas around community involvement and in the technical options for water supply and sanitary facilities presented. The situation in urban areas differs considerably and an assessment will point this out. Many schools will have access to the town's water supply and their toilets may be connected to the town's sewage system. Maintenance and upgrading possibilities are different for rural and urban areas and problems related to hygiene behaviour are also likely to differ. As a result of this and of the different environments in which students find themselves, hygiene education materials will have to be different for urban and rural areas. However, the approaches for assessing the situation, making plans for improvement, implementation of the plan and monitoring are the same.

4. Planning of improvements

Objectives can be selected based on the assessment. The outputs or results needed to achieve the objectives reflect the improvements needed.

As in planning at school level, it is important to formulate clear objectives to ensure a national school sanitation programme, whereby integration of software and hardware is ensured, directed ultimately towards behaviour change. In general it can be said that objectives need to be Specific, Measurable, Applicable, Realistic and Time-bound (SMART). Plans should include budget and manpower. Setting of objectives is preferably done with all the parties involved: the departments of education, health and public works and international organizations and NGOs. Examples of national level objectives are:

- two teachers of each school trained to develop good hygiene education lesson plans;
- separate latrine facilities for all girls at the upper primary level;
- school legislation adapted to include school sanitation and hygiene;
- school health committees established in every school.

After the objective setting is completed, action plans can be formulated with all parties involved. Action plans are not made once and for all. Ongoing monitoring and periodic assessment of the achievements may call for adaptation of the plans at any time.

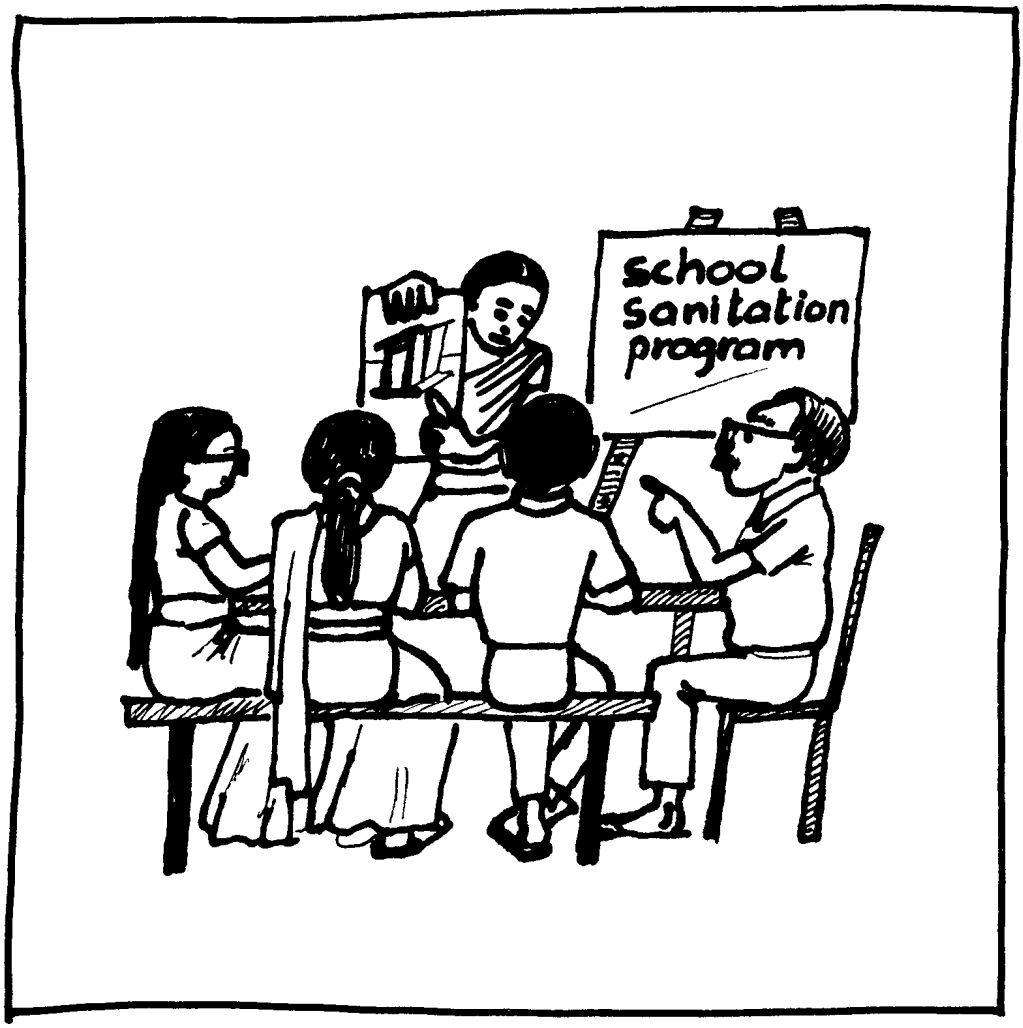
4.1 Implementing improvements in designs for water supply and environmental sanitation facilities

On a national level it may be useful to develop standard designs for water supply and environmental sanitation facilities. Although these standards are important, care should be taken that the manner in which they are used is not too rigid. Technical staff should consider them as a starting point for finding technical solutions for a particular school environment. Standard designs can also be used to give students and teachers an idea of the technical options. Chapter 10.2 gives more details about technical options and criteria for selection of the most appropriate option.

4.2 Financing

Schools may not always be aware of the possibilities for financial support. On a national level guidelines could be prepared including options for financing.

Guidelines could include suggestions for raising funds at the community level, which departments or international organizations to approach for financial support, how to write proposals and the most appropriate way to do this. At the same time departments should try to prevent lengthy administrative procedures and have regular contact with international organizations to promote SSH.



5. Implementing improvements in hygiene education

After the improvements has been planned, action plans can be implemented. In many countries they include plans to arrive at country-specific hygiene education curricula and appropriate teaching aids, development of teacher trainings and guidelines for schools wanting to start up SSH. Funds will have to be allocated and it may also be useful to set aside funds for schools wanting to pilot new approaches.

5.1 Curriculum change and development of teaching aids

It is important that hygiene education is incorporated in the school curriculum. Opinions differ as to whether it needs to become a subject in its own right, or whether it should be part of a wider syllabus of health education, home economics, natural science or civic education.
A workshop held in West Africa concluded that it is not necessary to create a slot exclusively for hygiene education, since it would be most effective when integrated into various parts of the curriculum, such as natural science and civic education.

Others argue that in order to give hygiene education the emphasis it needs, it requires a slot of its own and that is has to be an examinable subject. The most important point seems to be that a discussion takes place about whether or not hygiene education should be part of the curriculum, and if it should be graded and examined. UNICEF could be a partner in this discussion. In most cases teaching aids will have to be developed or adapted. It is important, not only that good quality materials are developed, but also that they are properly distributed and used by teachers and children. Teaching materials should be based and built upon the existing situation in schools.

Often school sanitation is not included in the curriculum. In such cases it is important that UNICEF officers go through the existing textbooks. Often the science book includes information related to health, for instance on brushing teeth. The importance of focussed information- and action-oriented messages may be discussed with the government. Key messages for the prevention of diarrhoeal disease and worm infections are: use a latrine regularly and keep it clean; wash hands with soap before feeding brothers and sisters or eating and after defecation; cover your food. These messages are more important for health than promoting teeth brushing. In order to facilitate the revision of textbooks, it is important for UNICEF officers to find out what the cycle is in which textbooks are revised. In India, for instance, this is every five years. Revision of the curriculum and textbooks is a long-term objective. As long as the adapted curriculum and textbooks are not yet available, UNICEF, with government support, could stimulate the production of teaching material, with the short-term objective of ensuring sufficient suitable teaching material for schools.

13. Development and distribution of teaching aids in Vietnam

In Vietnam it was felt that a commitment to children by leaders at all levels and community members is decisive for the development of SSH. Campaigns like 'Love for Children' and 'Children First' and the 'Convention on the Rights of the Child' helped in achieving this commitment.

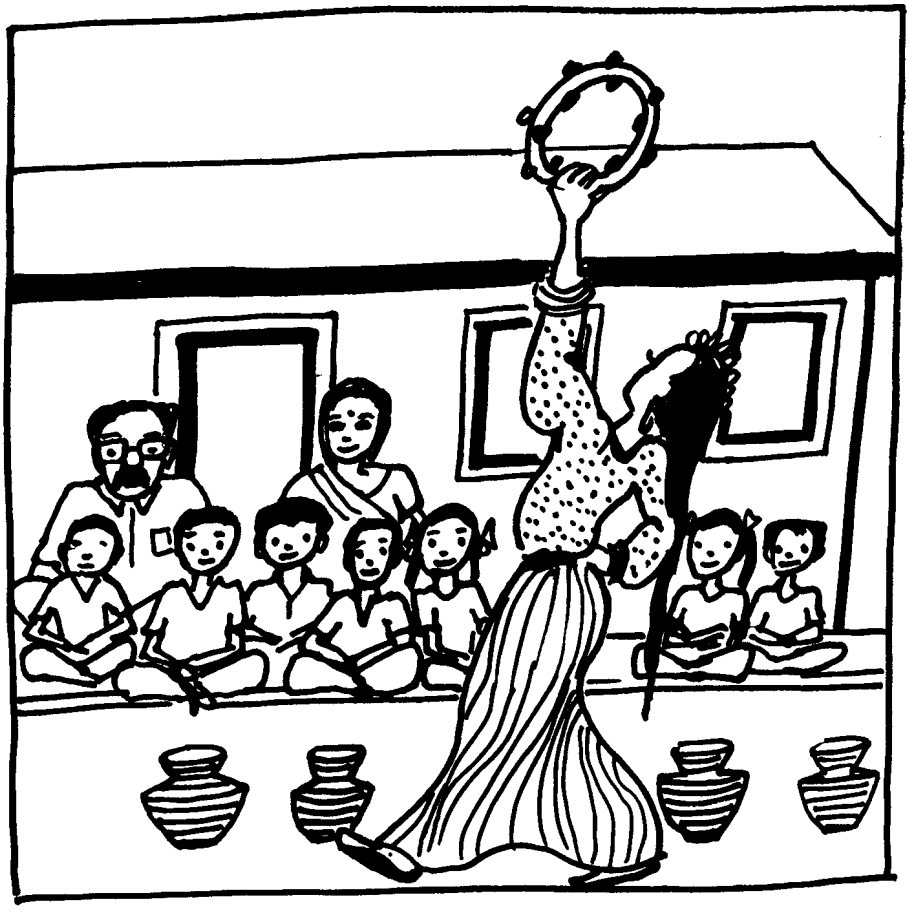
In order to create large-scale interest for SSH, a set of ten posters on hygiene, health, sanitation and water was developed and distributed among all primary schools. In addition a newsletter is published on a quarterly basis and circulated to all ministries and provinces.

This resulted in increased attention being given to schools by local authorities and related agencies and by the communities. As a result, many schools have conducted annual health checks of pupils with the support of the community and district health centres, have made special arrangements for dental care and have taken further steps to promote the construction of latrines in the community. Not only do schools set a good example by building latrines, they also encourage students to persuade their parents to construct a latrine, using a registration form.

14. Development of teaching aids in Nepal

In Nepal, hygiene and sanitation messages are incorporated in the school curriculum on health education. Since it was felt that regular practice is needed in order to make sanitation education more meaningful, a sanitation package was developed to facilitate the design and implementation of a sanitation programme at primary school level. It has five major components: habit formation and hygiene and sanitation education for students; construction of sanitary facilities at school; use and maintenance of these facilities; organizing extra-curricular activities and events; and school to community programme.

With regard to hygiene and sanitation education, teachers are encouraged to reinforce discussions by practical demonstrations, repetition of messages during prayer sessions and sport events, on-the-spot correction of unsanitary practices, and stimulating use of sanitary facilities like latrines and garbage pits.



15. Adding SSH to the curriculum in Uganda

The challenge of putting water, sanitation and hygiene into the school curriculum of Uganda as a part of health and science was formidable. The subject of science needed to be completely reconstructed to encompass ideas on human behaviour and prevention and treatment of disease. Also interactive methodologies were introduced. To motivate teachers, new books and materials were needed as well as assurances that the subjects would be on the national examinations. This entailed field-testing and getting approval of the new curriculum from all parties involved.

The developed textbooks and school 'kits' were eventually approved through a two-year process, after which they were distributed nation-wide to all primary and secondary schools. A recent survey indicated that over 90 percent of school children know answers to key questions on sanitation and hygiene. However, a critical missing element continues to be a lack of physical facilities to put education into practice and a comprehensive behavioural study to find out whether children put their knowledge into practice. Up to today, few schools in Uganda have access to latrines and a reliable supply of water.

16. Adding new elements to the curriculum in India

An Indian NGO has added new dimensions to the school curriculum in Gujarat, such as conducting children's fairs (Balmelas) and emphasizing water and sanitation issues. After approval of the new curriculum by the government, more participatory and hands-on methods to teach personal and community hygiene practices by teachers were introduced.

17. Innovative teaching aids in Ghana

In Ghana the concert party is a popular entertainment form that goes back to the early part of this century. The concert party's plays and 'highlife' music can provide a stimulating didactic or instructional teaching resource for school children and students. Concert parties could be drawn more fully into the 'popular music and entertainment studies' that have recently been added to the Junior Secondary and Senior Secondary school curricula. The reasons for doing so are that it is a perfect informal teaching aid for children and that it encourages a lot of audience participation. Suggestions given are to attach concert groups to schools in their particular area to put on plays for children, to teach children to act, dance and play music, and to help school children set up their own concert groups.

5.2 Teacher training and support

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

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

Training of teachers who, if motivated and enthusiastic, are a key element for effective hygiene education, should also include effective teaching methodologies, e.g. the use of participatory techniques. For bringing about or facilitating improvements in the water and sanitation situation, teachers will need to know how and where to apply for assistance, how to mobilize community members, etc. Construction of a latrine at the teacher's premises will help enhance the teacher's appreciation of sanitary facilities and at the same time be a motivating factor.

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

However, as we have seen earlier, teachers may not be able to put their knowledge and commitment to effective use if the curriculum does not allow for hygiene education, or if agencies do not respond to requests for assistance in the provision water and sanitation facilities. Training of teachers should therefore never be carried out in isolation, which also calls for interagency cooperation.
The basic professional training of school teachers should include education related to sanitation and hygiene and to a participatory way of working. Teachers already in service have to get the opportunity to upgrade their knowledge and skills in this respect. Regular interdisciplinary workshops involving school teachers, health workers, planners, etc., can contribute significantly to the necessary cooperation and coordination of activities.

Although it is necessary to include SSH in the curriculum of teacher training institutions, this is in many cases a long-term objective. Including SSH in the curriculum does not reach teachers who have already been trained. As long as SSH is not a regular part of the programme in teacher training institutions a short-term objective of training teachers in SSH could be established. This could, for instance, be in the form of one- or two-day orientations for teachers during the holidays.

18. Training technicians in Zimbabwe

The Ministry of Health in Zimbabwe has been training its Environmental Health Technicians (EHTs) to work with school teachers and students in the field of hygiene education and the construction or upgrading of school sanitation facilities. The Community Water Supply and Sanitation Unit, through a grant from the Director Generals' Development Fund for Action-Oriented School Hygiene Education, assisted the Ministry not only in training more EHTs, but also in developing series of participatory tools (visual aids and lesson plans) on hygiene education in primary schools. EHTs were also trained in how to involve students in the construction of handwashing tanks.

While developing these hygiene education materials, forty EHTs were trained and four schools close to the training centre built handwashing tanks. In this way, EHTs, teachers and students could participate in the development of the materials.

By going through this process of training and participatory material development, Zimbabwe acquired a set of training and education materials and a large core group of EHTs trained in participatory methods.

19. Teacher training in Uganda

In Uganda hundreds of teachers were given appropriate health education training. Sanitation, hygiene and water eventually became ‘examinable’ at each level of national examination.

20. Training for water committee members and teachers in Gujarat, India

An NGO in Gujarat (CHETNA) has organized monthly health training for water committee (Pani Panchayat) members and primary school teachers among others, to increase their knowledge concerning water and sanitation issues and skills in health education. Some enthusiastic members have initiated water management and maintenance activities related to children in their own area by imposing fines on people who misuse the water or do not maintain standpost hygiene, and by donating the money to the local pre-school. Also, youth groups have been established to keep the surroundings of the standpost clean. In a special training for teachers, they learned about new and innovative ways to present issues such as community hygiene, water-borne and water-related diseases and proper standpost maintenance, and were given educational material to help them implement these new learning methods in their classrooms.

5.3 Pilot activities

In some cases it is useful to test innovative approaches in a pilot school sanitation programme on a limited scale. New as well as existing, successful approaches can be used to advocate SSH and to bring about commitment towards SSH at the national level. Examples of innovative programmes are described below.

21. A pilot programme in Lesotho

In Lesotho the Urban Sanitation Improvement Team (USIT) promotes better methods of sanitation at the district level, both in schools and in private houses.

VIP latrines are promoted through:

- slide shows and instruction leaflets in both English and the local language
- training for health assistants on the principles of the VIP latrine and for local latrine manufacturers on how to improve the construction of their standard zinc sheeting latrines
- the building of demonstration latrines
- explaining VIPs on the radio and in newspapers
- health education

So far, twelve schools have been provided with latrines by USIT, and others are under construction. Health education is given to both students and teachers after the construction of the latrines, just before they are used, and at the beginning of every academic year to reach newcomers. USIT also educates the teachers so that they can incorporate the information in their classes for the whole year. Teachers are responsible for the supervision, maintenance and cleanliness of the school latrines.

At the beginning of each year, school latrines are inspected by USIT to see whether there are any problems. At first there were many failures: doors were broken almost every week and seat covers were taken away and sometimes never found again; communities surrounding the schools were found to be using the latrines in the holidays and at night, so they were in a particularly bad state at the beginning of the terms. However, students were also involved in causing filth and vandalism.

The team advised that the latrines be fitted with steel main doors that could be locked after hours and during holidays. Spring-loaded doors were also encouraged so that they would close themselves without banging.

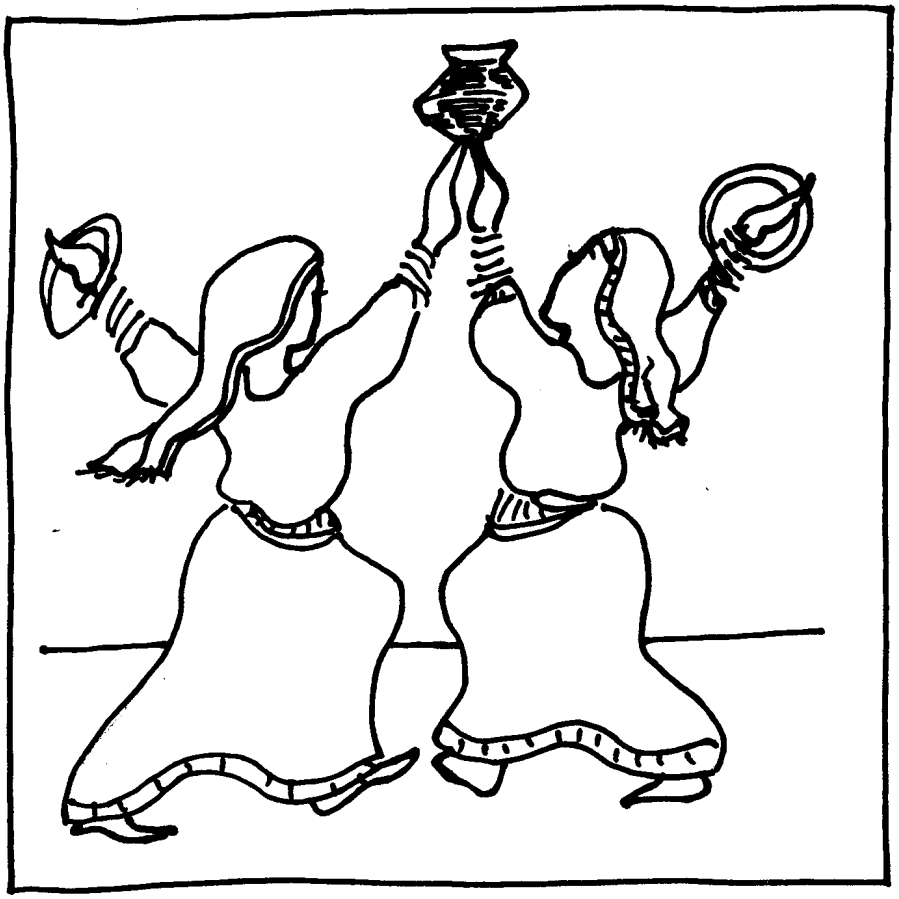
22. A pilot programme in Vietnam

After approval of the curriculum and the textbooks developed by the Technical Advisory Group, the books were used on an experimental scale in 88 schools in Vietnam, whereby teachers were trained on how to teach health education. A review of the textbooks showed that handwashing, personal hygiene and use and maintenance of water supply facilities and latrine were key messages. This underlined the need for water and sanitation facilities in every primary school. Financed by UNICEF, septic tank latrines, tubewells with handpumps and water filtration or storage tanks were constructed on a pilot basis. An evaluation showed the following:

1. the latrines were designed for more than the actual number of users
2. there was no proper balance in the number of latrines for boys and girls and in the number of facilities for defecation and urination
3. handwashing facilities were lacking
4. specification of construction materials should be based on what is locally available

The evaluation results were incorporated in the designs for sanitary systems and a booklet on designs of sanitary facilities for primary schools was produced. This booklet, with guidelines on use and maintenance of the specified facilities, has been distributed to schools. The results of the pilot phase were discussed in an evaluation workshop. Not only was it decided to expand the project to a larger scale, the Ministry of Education and Training also committed itself to take over part of the construction costs. The contributions of the Ministry and UNICEF account for two-thirds of the total cost of construction. Pupils' parents and the local People's Committee contribute the remainder in cash, labour or kind.

After a further decrease in the UNICEF contribution, the Provincial Education Department decided to increase its support to schools. Under its supervision, school sanitary facilities have been constructed by the district construction office (under contract) or by the local mason (under assignment of the local People's Committee).



23. Involvement of school managing committees in Bangladesh

In 1995 a study was done in Bangladesh to investigate the possibility of implementing school sanitation through school managing committees (SMCs). Involving these committees was introduced because of a number of problems encountered previously. The total implementation process was found to be too long, the quality of construction was not satisfactory, many sanitary units were not in use or in a very bad condition, very few schools had a maintenance plan, and none of the construction work was completed in the scheduled time. Because of this situation it was decided to carry out an experiment to shift the implementation of the programme from contractors to the SMCs in a limited number of schools. SMCs became fully responsible for construction, funds, materials and design.

A survey indicated that the work in the selected schools was completed within less than one month of signing the contract, the quality of the construction was as per design, the work was done in a cost effective manner and the quality of materials was in accordance with the requirement. The SMCs involved in the programme suggested some measures to improve it: they asked for an orientation for SMCs and masons before the funds were handed over and regular visits from government and UNICEF officials. The study concluded that it was yet to be seen what would happen in a large-scale replication. Also it was concluded that during the experiment close supervision and monitoring was possible because of the smallness of the project. It is not sure if the same amount of attention will be feasible in a larger-scale project.

24. A pilot project in Guinée

Since 1987 the WES programme in Guinée has undertaken school sanitation activities by training village masons in appropriate technologies for schools, and in the construction of sanitary latrines. In 1994 a project was launched which included hygiene education in the construction programme to improve the impact on school children's health. In this project UNICEF cooperates with the Government of Guinée and NGOs. The objectives of the project are:

- contributing to a healthy environment in schools and communities
- contributing to a reduction of water and sanitation related diseases under school children

Specific objectives of the programme are:

- motivating pupils to improve their direct environment
- motivating pupils to become promoters of improved environmental sanitation and personal hygiene in their own families and communities
- motivating pupils to become promoters of construction of disposal facilities for excreta and garbage and the proper use and maintenance of facilities in their own households and communities

The strategy to achieve these objectives includes the establishment of environmental clubs in schools. The starting point for the clubs is the improvement of sanitary facilities in their schools. Clubs are supported by several organizations involved in health and sanitation. UNICEF supports the programme through a newsletter, appearing four times a year, and three modules on water, sanitation and hygiene education, to be used by teachers.

25. Pilot activities in Gujarat, India

In Gujarat teachers are the key to organizing and running the children's fairs in villages in the Santalpur region. The fairs are two-day events, with an average attendance of 80 to 200 children. Children from different villages are invited to participate. Activities include: a village rally or cleanup where the children set out early in the morning and shout out health slogans; cleaning different areas in the village; participatory activities at stalls illustrating different water and sanitation issues; cultural shows at night where children and teachers participate in skits or song and dance sequences that incorporate health messages; and writing an action plan for their own villages. So far 20 children's camps have been conducted in Santalpur. Two of them included a puppet show. More than 200 teachers participated in the different training programmes. The teachers involved felt that they learned new concepts in the field of health, specifically in the areas of water and sanitation. For the teachers this was the first exposure to health education. They felt that their communication skills improved and that the process of learning how to make education interesting for children was initiated. Three issues of the newsletter 'Pani ni Vaat' were published. During village follow-up visits the newsletters were seen displayed on the walls of many ICDS centres and schools.

PART II

SCHOOL SANITATION AND HYGIENE EDUCATION AT THE SCHOOL AND COMMUNITY LEVEL

It is often assumed that national and local governments take responsibility for a healthy school environment. However, limited financial and human resources, possibly as a result of structural adjustment programmes, inhibit governments from doing so. Therefore we rely more and more on students, teachers, parents and communities for the improvement of the environmental situation at schools, including the construction and management of school facilities. They can set up SSH, whereby a number of steps can be distinguished. These are outlined in this part of the manual. For each and every school and community the starting situation will be different. The weight certain steps will get is therefore to be determined by the schools and communities themselves.

6. Creating a conducive environment for SSH at school and community level

An environment will have to be created in which SSH can flourish. This means that budget needs to be available, that teachers are well prepared and make SSH a team effort and that contact with other community-level organizations is sought to make the school activities more meaningful.

6.1 Budget allocation

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

6.2 Teamwork by teachers

SSH may be part of various subjects already taught at schools, without requiring extra hours. Health teachers can discuss the relation between hygiene behaviour and diseases. Mathematics teachers can teach statistics using 'research' among students in relation to the performance of hygiene practices or the prevalence of diseases. Science teachers can discuss environmental pollution and the consequences for groundwater quality. Arts teachers can stimulate students to develop visual material for passing on hygiene messages. In technical vocational training schools, students could be involved in the construction of facilities. In order to offer a comprehensive package and ensure the coherence and proper timing of the various elements of SSH, teamwork among teachers is essential. A common vision with regard to SSH needs to be developed, objectives need to be defined, an action plan made, tasks divided and a time frame made.

26. Monitoring in Niger

In a community water supply programme in Niger, the use of a dipper for drawing water from containers was promoted. As part of the SSH programme, a system of monitoring the presence of these dippers in children's homes was set up, whereby the children used sheets to enter data. The teachers used these sheets to do mathematics (for example, to calculate percentages of the number of sheets returned and the number of households having a dipper) and to discuss water contamination related to health.

During all stages of an SSH programme it should be kept in mind that teachers must not be over-burdened. If they are, they will lose interest in SSH activities. In general, the education departments are often very reluctant to cooperate, as they feel that teachers are involved in so many activities that they do not have sufficient time to do their main work of teaching the regular curriculum. This problem can only be solved if the input of teachers is sought for valid activities and if realistic goals are set together with them.

6.3 Contacts with other organizations

Schools are not isolated from the community and should not be looked at in isolation. This is particularly true for issues having an impact on the health of students and other community members. Health centres, church organizations, youth or women's clubs may all be involved in some kind of health improvement programme which will offer scope for reinforcing each other's efforts.

7. Assessing the current conditions at school and community level

Before formulating objectives and drawing up an action plan for SSH, a participatory needs assessment has to be undertaken, including assessment of the health condition of the boys and girls, their hygiene behaviour, the existing facilities, the curriculum in use, the qualification of the teachers, the available teaching materials and the available budget.

7.1 Participatory problem analysis and needs assessment

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

In Togo, information was gathered for setting up a community hygiene education programme. This also included a discussion with headmasters of primary schools. In a number of cases, these discussions already led to the improved use of filters for the prevention of guinea worm.

For sanitation the following need attention:
- presence of latrines and ratio of latrines for boys and girls
- cleanliness of the latrines and presence of cleaning materials
- drainage of wastewater
- garbage disposal
- accessibility of the latrines for the entire school population
- appropriateness of the design

For water supply the points needing attention include:
- presence of a tap, pump or tank
- the appropriateness or the design and accessibility for small children
- condition of the source
- availability of water for:
  - flushing latrines
  - anal cleansing
  - handwashing
  - drinking water
- maintenance arrangements, including availability of spare parts

For assessment of the hygiene behaviour of boys and girls we can look at:
- safe drinking
- safe water handling and storage
- washing hands after defecation and after handling food
- children using latrines for defecation
- children using latrines or urinals for urination
- regular cleaning of facilities
- covering food

Assessment of the curriculum could be done using the following points of attention:
- hygiene education is part of the curriculum
- hygiene education is an examinable topic
- actual behaviour, knowledge and attitudes form the basis of the hygiene education programme
- participatory methods are used
- hygiene education is based on living conditions and daily behaviour

Assessment methods include discussions with teachers, students, parents and community members, direct observation and participatory exercises such as:
- drawing of maps of the neighbourhood, indicating water sources, latrines, solid waste collection points and possibly indicating areas which constitute a health risk
- unfinished stories
- three pile sorting cards (good, bad and not relevant)
- drawings

7.2 Presentation and analysis of findings

It is important that information about existing facilities and hygiene behaviours is recorded in a way which is understandable, accessible for teachers, students and school committee members and that it is analysed through discussions with all these groups. The process of collecting, recording and analysing the information will probably lead to action already.

Recording and analysis of data allows teachers of other subjects to liaise with SSH in their sessions. During mathematics, for example, calculations related to SSH, such as the percentage of students having a latrine at home or the ratio between the numbers of female students and existing latrines, could be made. Arts could help students to visualise data in graphs in order to make them accessible for the youngest students and illiterate community members.

27. Participatory needs assessment in Madras

In Madras, a participatory problem analysis and needs assessment was conducted in ten schools. The assessment included mapping of the school compound and indicating all issues related to water supply and sanitation. Based on this map, the problems were discussed and possible solutions were identified. It seemed often that teachers and students came up first with expensive solutions, and did not seem to be aware of low-cost solutions they could implement themselves without help from outsiders. In the assessment students and teachers were asked to indicate which of the solutions they had indicated were low cost and short term, and which were high cost and only achievable in the long term. An immediate result of this procedure was that students and teachers realized they could do far more than they had thought. In some of the schools this was followed by self-improvement without external help, such as collecting money from parents to buy a waste basket to be used in the classroom, and using part of the school budget to buy a bucket and broom to clean the latrines and a padlock to close the facilities during the weekend.

8. Planning of improvements

Planning of improvements includes setting objectives, defining results and making an action plan. It is important that the participatory way of working applied during the assessment is also applied in these subsequent phases of SSH development.

8.1 Setting objectives and making an action plan

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

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

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

28. Annual school health plans in Kerala

In Kerala, schools participating in the water supply and sanitation programme of the Socio-Economic Units had school health clubs led by a trained teacher. These clubs consisted of five boys and five girls per class. They made and implemented an annual school health plan, kept monthly monitoring statistics on hygiene, and ensured that classes, sanitary facilities and the school environment were kept clean.

29. Strategy for provision of individual cups in Ghana

In Ghana, the Volta Rural Water and Sanitation Programme (VRWSP) wanted to assist schools to undertake activities that would lead to the provision of individual drinking cups for each of the students. Project staff had discussions with the school management and the school health committee. It was decided that the students would produce and sell door mats made out of corn husk. The revenues were used to buy drinking cups.

8.2 Technical options suitable for schools

Proper selection of technology is important. School staff have to know about local conditions and preferences related to the design and use of facilities. The involvement of students, community members and local craftsmen will ensure the most appropriate design. ‘Appropriate’ also means that community members can copy the sanitary and (if possible) water supply facilities constructed for schools for their own purposes.

In UNICEF-supported SSH programmes country-specific sanitation packages are developed in close cooperation with the Public Works or Water Department. Sanitation packages include both water supply and sanitation facilities. Water facilities provide water for:

- pour-flush latrines
- anal cleansing
- hand-washing
- drinking

Sanitary facilities include facilities for:

- excreta disposal
- drainage
- garbage disposal

Although the sanitation package includes detailed designs, flexibility is needed. Depending on the local situation and needs it may be necessary to adapt a design. It is important to consider at an early stage how the SSH programme is to be spread to schools which are not included in the programme, and to communities. If the programme is not spread, this could mean that it will have limited impact, since the government and UNICEF cannot reach all schools and communities in a country. In this respect, private sector and NGO involvement may be considered. An example of private sector involvement is the set-up of sanitary marts in India, where materials for the construction and maintenance of sanitary facilities can be purchased, where the names of skilled masons are available, and where information on hygiene behaviour is given.

Site selection for all these facilities is important, and should be done by teachers, students and technical staff. If schools and communities are involved in site selection this may enhance their feeling of ownership and eventually contribute to behavioural change.

30. Choice of technology in Pune

In Pune, Maharashtra, India, standard designs of different types of latrines have been modified in accordance with the local situation and needs. As a result, almost all inhabitants of Pune have sanitary facilities. Even in houses with limited space, solutions are found: pits, for instance, are located under the houses and in one case a pour-flush latrine was constructed in the middle of the living room, which is remarkable in the Indian context. This programme was successful because of the motivation of one individual who had lived in the town for more than 20 years, and had spent a lot of time in motivation and promotion, and because of the flexibility with which standard designs were used.

WATER SUPPLY

If a school does not have its own water supply, students and teachers may be forced to use the local water source, which may be polluted. In Burkina Faso, this practice led to disputes with the local community.

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

Handwashing facilities also have to be placed close to the latrines, since handwashing is most important after defecation. Handwashing facilities should allow for the placement of soap or other cleaning agents.

The sanitation package includes facilities for water supply. Suitable technical options for schools included in the package are a well with a handpump or a public tap. When a sanitation package has not yet been introduced, or when schools are not part of an SSH programme, they can do something to improve the situation themselves, for instance by installing a drum as a reservoir, collecting rain water or arranging simple handwashing devices.

If a handpump or piped supply does not provide sufficient water during peak hours, such as during breaks between classes, a storage tank may be required. Storage tanks are to be provided with a tap to prevent water from getting contaminated by cups being dipped in. Some schools in rural areas have built rainwater catchment systems consisting of gutters on the roofs and cisterns in which the water is collected. This is sometimes achieved without any external assistance.

Schools in urban and high density low-income areas which are connected to the municipal system may face the following constraints: irregular or intermittent supply; low pressure; water of low quality; insufficient supply. During peak hours, at breaks between lessons, just before the school starts and just after it ends, the last constraint may occur. If possible the capacity of the water supply system should be designed based on demand during these peak hours. Schools facing insufficient supply often install drums or storage tanks to complement the municipal system.

31. Considerations to keep in mind when selecting the right technology for the school water supply

Technical Department
required service level, present and potential water sources and their capacities and quality, capital and O&M costs of technical options, local technical skills needed for construction and O&M, need for and reliability of supply of spare parts.

Government
construction by government or, if required, with support from private sector or NGOs, technical support capacity (village, town, district) for maintenance (government and private sector), availability of spare parts, cooperation between departments involved (health, technical, education), training for caretakers.

Community and School
number of pupils and staff, estimated total consumption, estimated peak consumption, required service level, ability to pay the costs for O&M, ability and willingness to maintain facilities, clarity on how maintenance will be arranged before construction starts, present type of school water supply, cultural aspects.

Each of these factors needs investigation and weighing before the technology can be selected.

SANITATION

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

Excreta disposal facilities

Three types of excreta disposal systems are recommended for schools: pit latrines, ventilated improved pit latrines (VIPs) and pour-flush latrines. For schools in areas where no or insufficient water for flushing is available close to the latrine or where stones or sticks are used for cleaning, the VIP latrine is the most suitable. If a sufficient amount of water is available close to the latrine and the facilities are expected to be well maintained, a pour-flush latrine may be considered. Regular cleaning of pour-flush latrines is particularly important; if these facilities are not cleaned they will become so dirty that they are no longer used. In Asian countries there is often a strong preference for pour-flush latrines, even when there is no water available close to the latrine and when it is not clear who will keep the facilities clean. Although these three latrine types are recommended, there is a range of options available for schools and households, and any latrine is better than no latrine.

The number of latrines required should be discussed with the technical department. An indication for the number of latrines required is one latrine for twenty students.

It is advisable to include separate facilities for teachers. If teachers do not get their own facilities, they may lock the students' facilities and thus prevent their regular use by the students.

Site selection of latrines is important and needs careful consideration. If facilities are located far away from the school this may encourage misuse; if they are too close, stench may penetrate the classrooms. Schools and SSH programmes may also be instrumental in promoting the construction and maintenance of household latrines.

32. How many latrines does a school need?

When planning the number of latrines for a school, certain issues should be considered:

- Are separate urinals available for boys? If so, fewer latrines will be needed.
- What is the proportion of boys to girls? If urinals are available, boys need fewer latrines.
- Are children allowed to leave the classes to use the latrine? If not, pressure on latrines during breaks is great and more latrines are required.
- Do all children have breaks from classes at the same time? If so, more latrines are required. Could breaks be staggered?

Since school facilities are most often used during peak hours (breaks between classes) and facilities are mainly for urination, it may be helpful to design separate urinals. A urinal will reduce the smell from urine in the latrine. Urine can drain to the pit or soakaway. If the urine is not flushed properly a very bad smell may result. Whether urinals are to be provided or not should be discussed with the technical department and with teachers and pupils.

Drainage

Stagnant water due to poor drainage, blocked sewers, and overflowing septic tanks or soakaways may create adverse health effects.

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

The type of drainage system to be selected depends on the level of filtration and evaporation taking place. Those in turn depend on the soil and weather conditions and slope of the terrain. In peri-urban areas, drains should be cleaned by the municipality. In rural areas, a soakage pit may be sufficient.

For school compounds, unlined open drains may be considered. These are only advisable when the slope is less than 1 percent. Grass will help to hold the top soil. For slopes of more than 1 percent lining is needed.

Closed drains can best be avoided, open drains should be cleaned and maintained regularly. Water should not remain stagnant in the drains to avoid health hazards.

Garbage disposal

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

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

Sometimes space for garbage disposal is a problem. An option is for the older pupils to collect the garbage and take it to the municipality if it is not collected. Older pupils can also help with the selection of material for recycling. Another option is to ask community members for their help.

33. Garbage disposal in Colombia

A survey in Colombia showed that there are several ways in which solid waste is removed:

- depositing outside schools to be collected by the municipality (urban schools)
- depositing in the open field (rural schools)
- incinerating or burying in areas nearby the school (rural schools)
- recycling of, for example, paper and cardboard

9. Implementing improvements at school: the actors

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

9.1 School committee

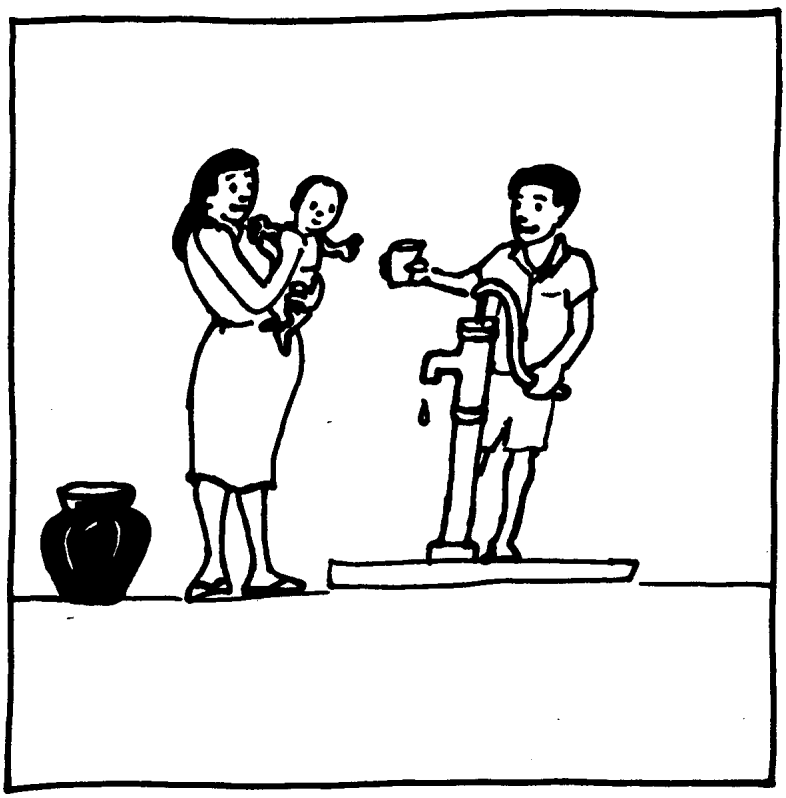
Often school committees are established in schools that plan and implement school sanitation programmes. Committees usually consist of students and teachers.

9.2 Community and parents

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

There are three important reasons for community involvement in SSH:

1. Streamlined SSH and community sanitation and hygiene activities will increase the effectiveness of programmes.
2. Involved communities may support SSH programmes, or at least not work against them.
3. Community involvement may facilitate a broader impact of an SSH programme. It is hoped that an SSH programme will initiate a process of passing on health information and behavioural changes from school to household to community, or in other words, from students to siblings, friends and neighbours. Peer pressure can be instrumental in this process. School children, from their side, may be involved in activities at the community level, for instance by collecting environmental data, surveying homes, counting latrines, distribute materials etc. Their involvement may also go one step further, to the promotion of community sanitation and hygiene.



34. School to community programme in Nepal

Realizing that the impact of SSH can only lead to the healthy development of children if a healthy environment is created and good hygiene prevails in the community as a whole, a school to community programme was proposed in Nepal. The following activities were suggested to be included in the programme:

1. Establishment of a strong link and rapport with community leaders and influential persons, and motivating them to create awareness among community members for a healthy environment, including the construction of sanitary facilities.
2. Organization of village clean-up campaigns on occasions like democracy day or school anniversary day.
3. Organization of community and parent meetings to explain the major sanitation issues.

35. Integrating community and school activities

In Niger, it is proposed to have regular meetings between school committees and village committees in order to better integrate the various activities related to sanitation and hygiene education, thus increasing their effectiveness.

36. Education by community members in Yap

In Yap, community members are involved in education through activities which call for specific expertise. Farmers active in tree planting for water catchment may be asked to share their experience and knowledge. The Community Health Volunteer may bring in information about diseases most commonly found in the community, women from a savings group can be asked to share ideas about fund-raising for the construction of latrines.

37. Community involvement in construction

In Lesotho, involving the community in the installation of latrines has proved to be helpful in promoting sanitation in schools. It usually consists of free labour and cash contributions, and is organized through parent-teacher associations, local chiefs and councillors, and, on one occasion, the Roman Catholic Church. A community tends to have pride in what it has constructed itself, and in some cases the rate of vandalism has been reduced.

9.3 Schools and health workers

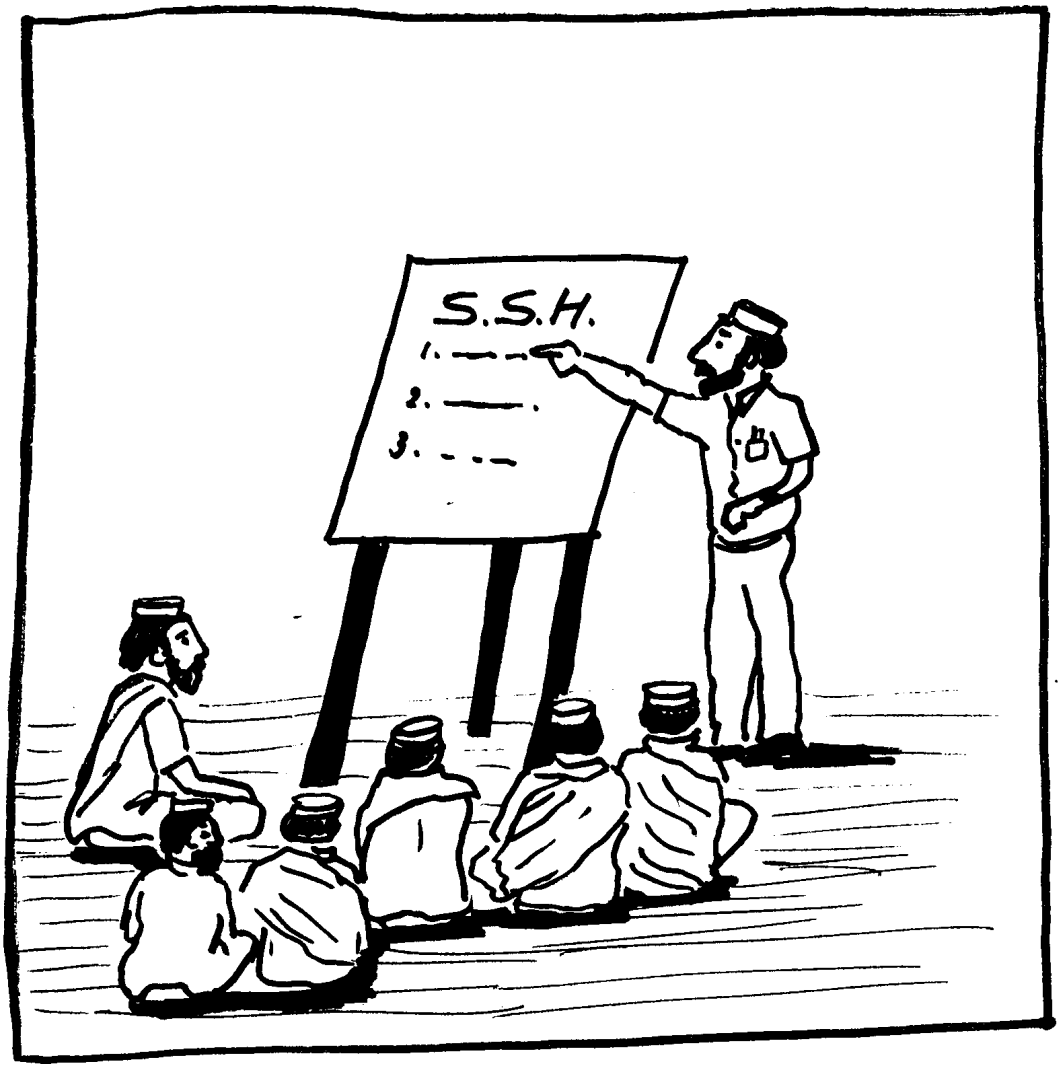
If opportunities arise, it may be a good idea to involve health workers in SSH programmes at the local level. The impact of the health practices and messages brought home by students can be increased if there is close collaboration between the school and health workers. Parents and grandparents may be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

9.4 Teachers and headmasters

School hygiene education is usually the task of primary school teachers. It may also be given by outside educators such as the staff of water supply and sanitation programmes or health staff, but their involvement is usually limited to special activities and campaigns. If outside educators are involved, teachers, and specifically headteachers, usually have a coordinating and stimulating role.

9.5 NGOs and CBOs

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



10. Developing materials and methods

In general schools are provided with teaching materials developed at the national level. However, large differences in geographical conditions, social practices, housing and the way people dress may exist. Local adaptations of teaching aids and methods need to be strived for. Experience has also shown that for bringing about changes in hygiene behaviour traditional class room teaching is not effective and alternative ways of bringing about the necessary changes will have to be found.

10.1 Adapting and testing teaching aids and training materials

For hygiene education to be effective, a number of basic criteria need to be taken into account:

- it has to be practical and make the link between knowledge, attitude and behaviour
- it has to be action-oriented
- its messages need to be relevant in the local context
- its messages need to be simple and understandable in the local context
- its messages need to be locally acceptable
- it should stimulate reflection by students about their behaviour
- it should repeat and reinforce messages over time and in a variety of ways
- it should make use of local communication methods.

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

start that aim at behavioural change. Teaching methodologies could then include demonstrations, practical exercises and participatory techniques. Schools having a hygiene education programme may 'upgrade' what they have by reviewing the programme, taking into account the above-mentioned criteria. Upgrading or developing material could be done with students. A competitive element, such as a drawing competition, may stimulate their participation.

There are many positive examples of the development of innovative lesson plans and teaching methods and materials.

Before teaching material is reproduced on a larger scale, it is important to test it. In Somalia schools were used to test a manual for community committees.

Application and reinforcement of what has been learned can be organized through:

- Students checking each other for personal hygiene.
- Organizing extracurricular activities such as essay competitions, quiz contests, plays and dramas, songs, debates, radio programmes, etc. The use of radio and television may stimulate a wider impact on society by an SSH programme. An example could be a drawing competition in schools. Children could select the best drawing by one of their classmates. The chosen work is presented on television.
- Conducting surveys in the community.

38. Adapting the 'science' curriculum in Niger

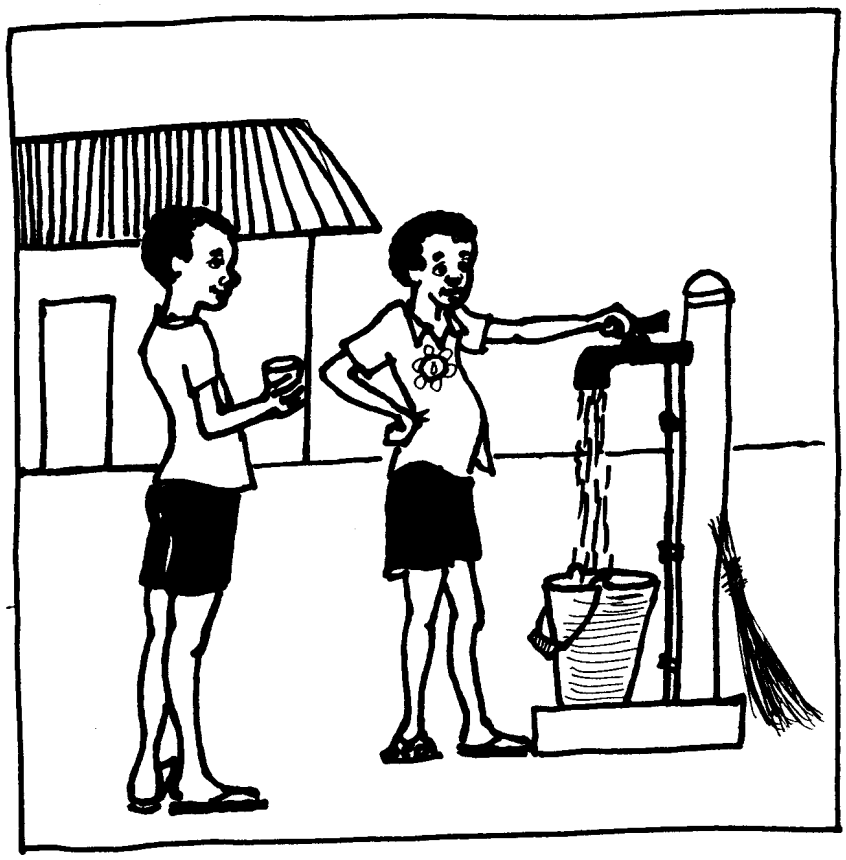
In Niger, water and environmental sanitation issues are dealt with during 'science'. However, it was found that the official curriculum for this topic dealt with these issues in a too abstract way. It was doubtful whether students would relate what was learned during science with what happens at home. Behaviour changes would probably not occur.

It was decided therefore that a team of teachers and staff of a water supply and sanitation project would develop lesson plans based on the official curriculum, but relating the theory to village reality. It was also thought best to take daily practice as a starting point for treating an issue in a more theoretical way. It was considered conditional to develop the lesson plans in such a way that they also answered the requirements of the official curriculum, and would therefore not require extra time allocation.

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

39. Innovative teaching methods in Nepal

Extracurricular activities proposed in the Nepali sanitation package include: essay competition, quiz contest, painting exhibition, enactment of plays and dramas, poem or song competition, debate. It is suggested that schools prepare a calendar for organizing these types of activities.



40. A radio programme for children in Nicaragua

PLAN International/Nicaragua sponsors a radio programme for children. The programme is broadcast weekly. The initiative is part of a project aiming at consciousness raising among children from poor neighbourhoods. It is hoped that children understand their own problems better and learn strategies which may solve them. 'Los Caramelitos' is not the only children's radio programme in Nicaragua, but it is the only programme by and for children from poor neighbourhoods. Some positive developments have already been noted: because of the training, children have become more active in their neighbourhoods; a ten year old girl tried, for instance, to stop her mother when she wanted to throw away wastewater in the streets.

41. New hygiene education methods in Egypt

The action research project 'Women, Water, Sanitation' in Egypt organized summer clubs at six primary schools to introduce school children and teachers to environmental health education. The aims were to improve the children's knowledge and practices, inform the teachers on modern hygiene education methods and train staff from the Department of Education in a different approach to school health education. The reported programme was the third in a series. It was financed through a private grant.

A baseline study by the researchers showed that children's and teachers' existing knowledge was theoretical and not applied. Teaching methods lacked creativity and educational material was absent. The programme introduced making one's own materials (drawings, dolls, drama). The teachers got training and a guide. Themes included personal and environmental hygiene, pollution, sanitation and disease transmission. Training courses were introduced at the Department on how to organize an environmental health education programme, including setting objectives, making job descriptions, preparing programmes and materials and bringing in resource persons. Results were measured through interviews with children and parents. In addition, a group session was held with teachers and Department staff. Children had gained more practical knowledge and were said to introduce improved hygiene practices at home. Teachers and departmental staff reported the programme to be a success. Participants suggested to continue the education during the regular school programme and to expand it to other schools.

42. Development of lesson plans in Belize

In Belize, as part of a school sanitation programme, lesson plans were developed including objectives, contents, suggested activities and reference to resource material. Suggested activities include discussions, demonstrations, use of posters, role playing and site visits. Children are often invited to relate their home situation to what is being discussed in class. The work done by teachers is reinforced by resource persons invited for a discussion and by radio broadcasting. In a number of cases, an action plan is developed to put into practice what has been discussed.

43. Testing a manual for WES committees in schools

In Somalia, a manual was developed on how to facilitate the transfer of WES information to the community. Due to the unstable political climate, UNICEF decided to work through Somali NGOs and build their capacity. The NGOs' primary task will be to establish water and environmental sanitation (WES) committees. The committees will be responsible for transferring information to the community. Presently the manual is being field-tested in schools with improved water and sanitation facilities. WES committees, including ten students, are formed for each classroom. The committees are expected to advocate a clean environment and improved hygiene and sanitation following the guidelines in the manual.

44. Development of course manual on hygiene education for schools in Togo

Two courses on hygiene education in schools were developed in Togo. In the course manual it is advised to form a school sanitation committee. The main activities of the committee are: monitoring the cleanliness of the school environment, personal hygiene and food hygiene. The main objectives of the committees are to make the pupils aware of the importance of school sanitation and to show them that with a good organization they can influence school sanitation in a positive manner. The committee consists of several departments: 1. water; 2. latrine and urinal; 3. food; 4. personal hygiene; 5. environmental hygiene. In the manual instructions are given on how to construct a urinal.

10.2 Pupils become teachers

The efficiency of SSH programmes can be improved if children spread messages they have learned from teachers, health workers or other sources. When children become partners in promoting health they contribute something special to the partnership. Children have special advantages and special roles in spreading health messages to others. Younger children often spend more time with older children than with adults. They admire them, copy them and listen to their advice. Groups of children, particularly influential and popular groups, can influence their peers in a way which adults never can. Children, through their innocence, can often remind adults that their actions are unwise or unsafe. They can act as the conscience of a community.

When pupils become teachers they may 'train' fellow pupils or brothers, sisters, parents and other community members on health and hygiene. In Ghana this was tried by pairing pupils, with older students taking care of the younger ones. In Yap, child-to-child programmes were developed, where children who care for younger brothers and sisters teach health and hygiene.

45. Pairing pupils in Ghana

In Ghana the concept of pairing pupils was discussed with teachers and students. This concept entails that older students take care of the younger ones as their School Health Brothers. Caring includes inspection of hair, teeth, nails and school uniform and ensuring that the younger student eats properly and enjoys school. The student pairs meet on a daily basis, supervision is done by the teachers.

10.3 Reaching out-of-school children

Outreach activities will increase the chance that students replicate the behavioural changes they have observed in the school setting in their home environment, and that behavioural changes brought home by them will be taken over by family members. These activities will also reach a significant proportion of those children, especially girls, who drop out of school at an early age or are denied the opportunity to attend formal education programmes altogether.

Good SSH programmes therefore include strategies for reaching out-of-school children. Reaching out from schools to communities could be followed by reaching out from communities to out-of-school children. Possible activities are:

- asking schools to offer expertise on curriculum development and didactic approaches for activities taking place outside the school, like health promotion in informal education programmes;
- putting up posters made by students, in public places;
- using voluntary organizations for starting hygiene campaigns.

Before any outreach activity is implemented, an assessment is necessary since we need to know who the out-of-school children are, how big this group is, where the children live and through what channels they receive information. Such an assessment can become an activity of school students, for instance during science classes.

46. Informal education in Vietnam

In order to reach out-of-school children the 'young pioneers', a Vietnamese organization of 6 million pupils aged 9-14, carry out informal education in communities and in Children's Houses through plays, drama, poems, songs and home visits.

47. Combining lessons in reading and writing with hygiene education for school drop-outs

In Egypt a summer club programme was developed as one of the approaches of communicating health-related information to children in an interesting manner. It was held during the summer vacation, utilizing the school as its institutional base and the teachers, after receiving training, as the hygiene promoters. It appeared that a group of girls who had outgrown the age ceiling for participation in the summer club collected a group of younger children, especially school drop-outs, and taught them how to read and write, while talking simultaneously about health and diseases.

10.4 Applying a gender approach

In many countries girls attach greater importance to sanitary facilities than boys. This is mainly related to their greater need for privacy. In Bangladesh and Togo, a relationship between school sanitation and girls' attendance was found to exist. Very often separate facilities are requested. Girls in Bangladesh and Lesotho, for instance, indicated that they preferred separate facilities. In India the Finance Commission advised the government to provide separate facilities for girls at the upper primary level to ensure that they do not discontinue education because of a lack of sanitary facilities. When facilities are planned the preferences of both girls and boys should be taken into account. Depending on the number of boys and girls, the number of separate facilities should be decided. Urinals may be constructed for boys. In such cases there should be more latrines for girls than for boys. In secondary schools, provision for sanitary napkins is needed.

48. Separate facilities for boys and girls

In Lesotho the prevailing social norms were taken into account in the school sanitation programme. Since males and females do not usually use the same cubicle in school latrines, separate facilities were constructed.

11. Construction and maintenance of school facilities

Having selected the most appropriate facilities, construction and maintenance will have to be organized, whereby choices will have to be made about the level of involvement of outsiders. This basically boils down to comparing the financial means needed to pay outsiders and the opportunity costs of construction and maintenance by students, teachers and community members. Whichever option is chosen, involvement of the school community in any decision to be taken is important if facilities are to be used.

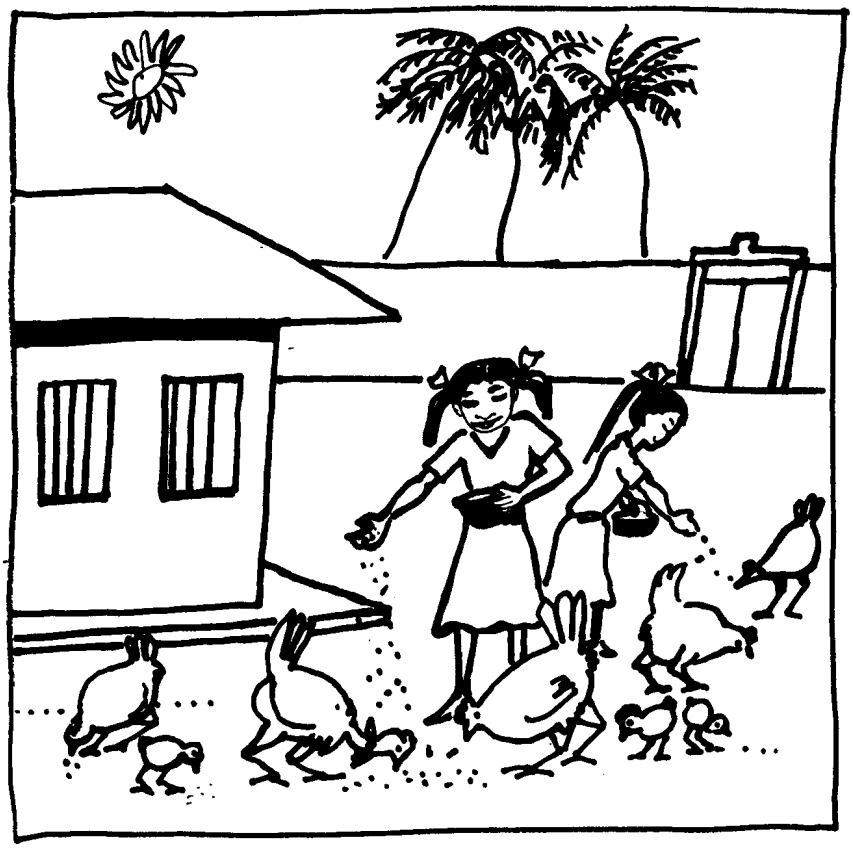
11.1 Organizing construction

To limit construction costs, the involvement of students, school staff, parents and community members in construction may be considered. However, to ensure good quality, it is necessary to have at least a skilled mason for the construction. Allowing students and community members to construct facilities by themselves may have a negative effect on quality. Parents and community members could be asked to support the construction of facilities by providing labour, materials or financial contributions. Care should be taken that children are not exploited. A teacher or head teacher may be responsible for the organization of construction. If a contractor is involved it is important that his work is properly supervised during construction by someone close by. In Bangladesh an experiment was carried out to shift the implementation of the programme from contractors to School Managing Committees in a limited number of schools. These committees became fully responsible for construction, funds, materials, transportation and design. They identified a skilled mason who consequently had contact with the government on the design of facilities. The experiment was successful: the selected material was of good quality, the construction quality was satisfactory and there was an increased sense of ownership of the facilities. In this set-up, the next step could be that the same skilled mason is hired by community members to construct their household facilities.

11.2 Maintenance of school facilities

The good organization of cleaning and maintenance of the water and sanitation facilities is of the utmost importance. Badly maintained sanitation facilities often cause an even bigger health risk than scattered defecation. Stagnant water around tapstands and in blocked drainage channels attracts rodents and forms a breeding place for mosquitoes. It is not so important who cleans and maintains facilities, but that arrangements for it are made, and that this is done before construction starts. A good cleaning and maintenance system requires funds, spare parts, people and equipment, and a clear division of roles and responsibilities among the actors involved.
A number of organizational options for maintenance exist:

- through a cleaning committee
- by classes on a rotation basis, with or without a rewarding mechanism
- by external cleaning personnel
- by individual students



Older students could also be involved and trained in water supply management in the community at large. *Responsibility* for cleaning and maintenance and *involvement* in it are often seen as being synonymous. Often teachers refer to students, who have been given the task to clean latrines, as being finally responsible for the latrines' upkeep, whereas the final responsibility, involving supervision and corrective action if needed, should usually remain with the school management. In Nepal a school management committee supervises sanitation activities and provides guidance for the more effective launching of the sanitation programme.

49. Organizing maintenance in Togo

In Togo two courses were developed on hygiene education in schools. In the course manual it is advised to form a school sanitation committee consisting of several departments: 1. water; 2. latrine and urinal; 3. food; 4. personal hygiene; 5. environmental hygiene. The departments are allocated specific tasks with relation to maintenance.

11.3 Financing of costs and O&M

Important issues to be considered are: what has to be paid and who could contribute? As sanitary facilities are an essential part of schools, the cost of their construction should be included in the budget. However, construction and the operation and maintenance of facilities are usually not included in a school's annual plan and therefore do not appear in the budget. It is important that schools and communities contribute as much as possible to the capital and O&M costs since:

- it will increase their feeling of responsibility and ownership of facilities;
- it will motivate them to maintain facilities;
- if the amount of external financing being sought is kept low, government and donors could support more schools.

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

Possible funding options are:

- contributions from parents
- donations
- using the general school maintenance budget
- organization of income-generating activities
- contributions from teachers
- using fines

If funds are collected, transparency as to of how they are spent is essential to avoid misuse or misunderstandings.

50. Fund-raising in Senegal and Colombia

In Senegal, schools raised funds through a variety of activities, like the collection and sale of firewood, the provision of services during harvesting, theatre and poultry rearing.

In Colombia, communities to raise money for latrine construction through the organization of bazaars and through donations from political parties or religious groups.

51. Financing SSH in Vietnam

In Vietnam the so-called VAC eco-system was introduced. (V stands for "Vuon" or "gardening", A stands for "Ao" or "fish-raising", and C stands for "chuong" or "animal husbandry"). The system aims at improvement of the nutritional status of the population and income generation for families and schools. Schools were provided with a maximum of USD 100 for the purchase of fruit trees, fish and animals. The income generated through the VAC eco-system and the finances contributed by school children (normally USD 1 per head per annum) allows schools to purchase soap for hand-washing, water filters and to cover costs for maintenance of sanitary facilities.

52. Financing sanitary facilities in Ghana

In Ghana plans have been developed with schools for the construction of drinking water supply facilities, pit latrines and urinals, the provision of handwashing basins and beautification of the school compound by the students. School health coordinators are appointed to ensure the smooth execution of the plans and several teachers, including the headmaster and the technical skills teacher, are involved as supervisors.

Local materials are used as much as possible. The parents of the students also get to know about the project since the students have to bring materials from home. The schools also contribute, either in cash or in the form of materials. In some instances financial assistance is sought from outside.

12. Monitoring implementation and impact

When monitoring we look at different issues. When developing and implementing SSH programmes we would like to find out whether they contain the right and most useful activities, i.e. whether they are in accordance with insights and lessons learned elsewhere. We also want to find out the impact of our programme; whether the hygiene behaviour of students changes and whether environmental conditions improve. Monitoring requires indicators and clarity on who collects the monitoring information and how it will be used. The choice of indicators depends on our objectives and on the activities planned to achieve those objectives, in which the local situation and perceptions play a crucial role. In general, it is important to consider monitoring as a positive activity, giving the opportunity to improve SSH programmes, and not as negative, 'finding the weak spots or mistakes made and blaming people for it'. As with the initial data, obtained through the assessment, it is crucial that monitoring information is collected by and shared among the groups involved and that remedial action is decided upon jointly.

12.1 Monitoring implementation

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

- they should not merely focus on prevention of diseases, but also promote well-being;
- activities need to be designed to also develop long-term decision-making competencies related to health and hygiene behaviour;
- the students' needs and emerging health concepts are to be the basis of a planned, sequential curriculum;
- they should offer opportunities for students to apply their hygiene-related knowledge, attitudes and practices in real-life situations.

If these criteria are adopted, monitoring indicators should reflect this. For example, monitoring the adaptation of the curriculum should not only tell us whether this is really being done, but also whether decision-making competences are addressed. When monitoring the installation of sanitary facilities, we will not only monitor the number of latrines built, but also whether their design is appropriate, which may mean assessing whether the sanitary facility is adapted to local ablution practices and/or also accessible for small children. Refinement of the indicator requires further definition of 'appropriate' by the users.

12.2 Monitoring impact

Monitoring the impact of SSH activities requires indicators related to changes in hygiene behaviour and in environmental conditions. Indicators should not only relate to quantity but also to quality. As stated above, the choice of indicators depends on the objectives, the expected results and the activities required. Possible indicators for the objective 'students make consistent and proper use of the sanitary facilities' is: 'no feaces laying around in and around the school compound' and 'toilets are clean', i.e. there is no feaces and/or urine on the slab.

The use of check-lists by an outsider to monitor an SSH programme may be artificial and may not contribute to programme improvement, but if monitoring is done in a participatory way this will

increase its effectiveness. The outcome of monitoring activities should not be: 'you have done the following things wrong', but how can people be supported to improve their actions. Monitoring has to be thorough and be supportive to the project, the government and UNICEF. To make monitoring effective, the information obtained should be accessible to all persons involved.

An example of a participatory monitoring exercise is self-monitoring. Students could for instance make their own monitoring chart, posted visibly in the classroom. In this manner data can be collected on, for instance, who suffers from a disease. This type of monitoring does not necessarily require a lot of extra work from teachers, since students are involved and collect the information themselves. Sometimes this self-monitoring will already enhance improved hygiene behaviour related to SSH and increase motivation for it. In Madras, this led to schools and students initiating activities related to school sanitation. It is often necessary to strengthen self-monitoring to ensure follow-up action; for instance, data can be reported to a teacher who writes the information on the board. The same method may be used within families and neighbourhoods. Within families, mothers and fathers could strengthen the self-monitoring process, while within neighbourhoods, this could be done by community workers. Self-monitoring can also serve as a concrete reminder to practise new behaviour. Feedback on the monitoring information is also an important mechanism for helping children to remember what they have learned and to positively reinforce changed behaviour. Positive reinforcement can come initially from teachers; at a later stage, the continuous approval of the teacher is no longer required and reinforcement can come from peers, friends and classmates, who want to adopt the same new behaviour.

Whereas behavioural changes are usually monitored through observation, the monitoring of related knowledge can also be useful. Several ways of monitoring can be used, and some form of competition, such as an essay competition, a quiz contest, plays, etc. may, in addition, help in reinforcing behaviour changes. In Yap, for instance, contests among schools are organized. To help assessing the impact of SSH activities, health institutions could also take up monitoring of disease prevalence in schools. In Ghana, so-called 'circuit supervisors' visit schools on a regular basis.

Self-monitoring is not only important for pupils, it can also be helpful for government and UNICEF staff. If all parties involved consider their own role in supporting SSH and search for possibilities to improve the situation, this could mean a breakthrough from a situation where everybody blames someone else: students wait for the teachers to act; teachers wait for the school management to act; the school management waits for the government; UNICEF waits for government action, and vice versa.

To achieve good SSH programmes, a two-track approach may be useful; with UNICEF officers on the one hand working as a catalyst at the national level trying to create a conducive environment, while at the same time promoting SSH initiatives in schools. Self-monitoring of staff working at the national level and of teachers and pupils may be helpful in this.

53. Self improvement in Madras

In Madras, India, after a participatory problem assessment in ten schools, some of them started to set up their own low-cost SSH activities without external support. Teachers of other schools visited them to learn about this experience. This was very much appreciated by all teachers. Instead of being taught by outsiders what to do to improve SSH in their schools, they now had an open discussion among fellow teachers who understood their problems and the specific situation of the schools in the area. In the evaluation, teachers indicated that they were tired of outsiders lecturing them on what to do to improve their school, and that this was a totally different experience. Madras gives us an example of how self-monitoring can lead to self-improvement, which in its turn can stimulate other schools to take up similar activities.

54. Monitoring of school sanitation in Yap

At the beginning of every school year, and again several months later, community leaders and technical experts in Yap evaluate the school site and the facilities. The Health Services Department provides inspection of school drinking water supplies, latrine facilities and refuse disposal. In case of problems technical assistance can be requested. Survey results are given to the school principal. In consultation with teachers, students and community members, plans for improvement of the school environment are made. Since village competition is a significant and meaningful feature of Yapese culture, contests among schools are organized. Annual awards are given at graduation ceremonies, which are attended by village chiefs, municipal leaders and parents. School ratings are made public and pressure put on schools by their community is great.

55. Circuit supervisors in Ghana

In Ghana, so-called 'circuit supervisors' visit schools on a regular basis. Using a monitoring checklist, circuit supervisors give scores on a number of issues. These include: implementation of the water and sanitation curriculum; the school environment; school facilities (latrines, drinking water, refuse disposal); and personal hygiene of teachers and students. The information obtained through observation is supplemented with information from interviews whereby the knowledge and skills of the students are assessed. The interview format has a number of headings. However, specific questions are formulated by the supervisor. The headings include personal hygiene, water-borne and sanitation-related diseases, the school health committee and formation of health clubs.

In this document school sanitation and hygiene at two different levels - the district/national and school/community level - has been discussed, because we have seen that it is important to take both levels into account. At national level government policies have to be such that initiatives can be taken and that sharing of experiences and information among actors involved in SSH is stimulated. In practice, however, national and local governments often don't take responsibility for a healthy school environment due to limited financial and human resources. In such cases SSH programmes rely more and more on students, teachers, parents and communities.

UNICEF officers and other parties have a challenging role to play in the development and support of school sanitation programmes. Their enthusiasm can be a catalyst to encourage all parties involved in SSH programmes. This manual provide material to sustain this stimulating role, giving ideas and examples to continue with the development of new SSH programmes and the improvement of existing ones

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