7.
Hygiene education

7.1 Scope of hygiene education

7.1.1 Community-based surveillance

Effective and sustainable programmes for the surveillance of water supplies require the active support of local communities, which should be involved at all stages in such programmes, including initial surveys; monitoring and surveillance of water supplies; reporting faults, carrying out maintenance, and taking remedial action; and supportive actions including sanitation and hygiene practices. This will involve setting up a comprehensive educational programme to ensure that the community:

- is aware of the importance of water quality and its relation to health, and of the need for safe water supplies;
- accepts the importance of surveillance and the need for a community response;
- understands and is prepared to play its role in the surveillance process;
- has the necessary skills to perform that role.

7.1.2 Hygiene behaviours

The provision of a good drinking-water supply alone is insufficient to ensure health. There are many stages in the collection, storage, and handling of food, the disposal of excreta, and the care of children at which drinking-water can become contaminated and the community exposed to pathogens in excreta.

Children, especially those under 5 years of age, are particularly vulnerable to diarrhoea. A common belief is that children's faeces are harmless, whereas in fact they are the main source of infection of other children. Parents may not hygienically dispose of their young children's faeces, young children may not use latrines, and the yards surrounding homes are often contaminated.

There are many transmission routes for water-related and sanitation-related diseases, and hygiene education can therefore cover a wide range of actions. The most important behaviours from the point of view of health will depend on the community, the disease pattern, and the climate. One of the functions of the initial field inspection and surveillance (see Chapters 1 and 2) is to determine which behaviours the hygiene educational programme should seek to promote in the community (see Table 7.1).

Table 7.1 Behaviours to be recommended in hygiene education

Water source:
- All children, women, and men in the community should use safe water sources for drinking and food preparation.
- Adequate water should be used for hygiene purposes such as bathing, household cleanliness, and clothes washing.
- Water should be efficiently used and not wasted. Wastewater should be properly drained away.
- Improved water sources should be used hygienically and be well maintained.
- There should be no risk of contamination of water sources from nearby latrines, wastewater drainage, cattle, or agricultural chemicals.

Water treatment:
- Simple purification procedures, e.g. chlorination, should be carried out on the water source if necessary.
- If necessary, water should be filtered to remove any solid material, guinea worm, etc. (see section 6.7.1).

Water collection:
- Drinking-water should be collected in clean vessels without coming into contact with hands and other materials.
- Water should be transported in a covered container.

Water storage:
- Water should be stored in vessels that are covered and regularly cleaned.
- Drinking-water should be stored in a separate container from other domestic water wherever possible.

Water drinking:
- Drinking-water should be taken from the storage vessel in such a way that hands, cups, or other objects cannot contaminate the water.

Water use:
- Adequate amounts of water should be available and used for personal and domestic hygiene. (It is estimated that a minimum of 30–40 litres per person per day are needed for personal and domestic hygiene.)

Food handling:
- Hands should be washed with soap or ash before food is prepared or eaten.
- Vegetables and fruits should be washed with safe water, and food should be properly covered.
- Utensils used for food preparation and cooking should be washed with safe water as soon as possible after use and left in a clean place.

Excreta disposal:
- All men, women, and children should use latrines at home, at work, and at school.
- The stools of infants and young children should be safely disposed of.
- Household latrines should be sited in such a way that the pit contents cannot enter water sources or the groundwater table.
- Hand-washing facilities and soap or ash should be available, and hands should always be washed after defecation and after helping babies and small children.

Wastewater disposal:
- Household wastewater should be disposed of or reused properly. Measures should be taken to ensure that wastewater is not allowed to create breeding places for mosquitos and other disease vectors or to contaminate safe water.

7.2 Planning hygiene education

Planning hygiene education in a community involves the following steps:

— dialogue with the community and local agencies;
— selection of priority hygiene behaviours to be changed, based on surveillance data and felt needs within the community;
— analysis of influence on selected behaviours and the implications for hygiene education.

Preparation of an *action plan* for hygiene education requires answers to the following questions:

- How will community participation be mobilized?
- Who should the education be directed at (target group)?
- What should the content of the education be?
- Who should carry out the hygiene education?
- What educational methods should be used?
- What support should be provided by the surveillance agency?

7.2.1 Community participation and empowerment

The importance of community participation has been stressed in earlier chapters. Hygiene behaviours are particularly difficult to change because they relate to daily activities, they are shared by the whole community, and they form part of the culture and traditions of the community. The improvement of water supply, sanitation, and hygiene should be seen as part of an overall process of community development. It is important, therefore, to work with the whole community and particularly with schoolchildren, and to involve them in all stages of hygiene education, including selecting priority hygiene behaviours, understanding the influences on such behaviours, selecting educational methods, and implementation. The educational methods used should be those that strengthen and empower individuals and communities to work for change.

There are no set rules for developing a community participation programme, but the stages described in Table 7.2 are common to many such programmes.

The community may already be highly organized and taking action on health issues. If so, only a few visits by surveillance field staff will be needed to introduce the concepts of surveillance and involve the community in the surveillance programme. However, it may be that there is no well developed structure, that sections of the community, such as women, are poorly represented, and that there are disagreements or factional conflicts. In this situation, achieving community participation will take more time and require many visits by field staff to bring people together, resolve differences, agree on common aims, and take action. Even after the community starts to become involved, further visits, possibly over several years, will be needed to provide support and encouragement, and ensure that the structures created continue to operate.

Table 7.2 Stages in the community participation process

Getting to know the community:
- learning about the community, its structure and leadership pattern
- initial contacts with families, leaders and community groups
- dialogue and discussion on concerns and felt needs

Organization building:
- strengthening of community organization
- establishment of new structures, e.g. water committees, women's groups
- educational activities within community structures
- decision-making on priorities
- selection of community members for training as water leaders

Initial actions:
- action by the community on achievable short-term goals that meet felt needs and bring the community together
- reflection on initial activities
- setting of priorities for future activities

Further actions:
- activities in which the community takes a greater share of responsibility for decision-making and management

7.2.2 Selection of behaviours to be changed

It is better to concentrate on a small number of behaviours than to attempt to influence all the hygiene behaviours listed in Table 7.1. The behaviours chosen should be selected on the basis of probable public health benefit to the community. Some of the questions that will need to be asked in order to determine priorities include the following:

- What is the evidence that the behaviour represents a problem in the community?
- Which behaviour changes will have the greatest impact on improving health?
- Which hygiene behaviours will be the easiest to change?
- What are the specific requirements of the water-supply and sanitation systems that are being promoted in the community?
- What are the felt needs and priorities of the community?

It is best to concentrate on those hygiene practices shown by the surveillance to be a priority for remedial action in the community concerned; these should be the practices which are likely to be of the greatest benefit to health. However, greater efforts will be required to change hygiene practices that the community does not see as important or that conflict with its culture and traditions.

7.2.3 Factors influencing hygiene behaviour and selection of content of education

Hygiene education programmes should be based on an understanding of the factors that influence behaviour at the community level. These might include:

— enabling factors such as money, materials, and time to carry out the behaviour;
— pressure from particular members of the family and community, e.g. elders, traditional healers, opinion leaders;
— beliefs and attitudes among community members with respect to the hygiene behaviour, and especially the perceived benefits and disadvantages of taking action, and the understanding of the relationship between health and hygiene.

An understanding of the factors that influence hygiene behaviours will help in identifying the resources (e.g. soap, storage containers), the key individuals in the home and community, and the important beliefs that should be taken into account. This will help to ensure that the content of the hygiene education is relevant to the community. Good advice should:

— result in improved health
— be affordable
— require a minimum of effort and time to put into practice
— be realistic
— be culturally acceptable
— meet a felt need
— be easy to understand.

One of the most important characteristics of effective health education is that it builds on concepts, ideas, and practices that people already have. Most communities already have beliefs about cleanliness, diarrhoea, and hygiene. In the short term, it may not be necessary to convince people of the correctness of the germ theory of disease in order to get them to use latrines and practise good hygiene. This is a long-term objective that is best achieved in schools. It is possible to find supporting ideas in many traditional belief systems, and to appeal, for example, to the desire for comfort and privacy.

7.2.4 Selection of target groups

Hygiene education is aimed at two kinds of target group:

- *Primary target group*—the members of the household, children, women, men, grandparents, and others who care for children.
- *Secondary target group*—people who need to be involved in the programme because of the influence that they have in the community (local leaders, field staff from other agencies, politicians, traditional healers, etc.).

A single hygiene education message and the associated materials are unlikely to be sufficient for all purposes. Ideally, the individual needs of each of the target groups in the community should be addressed, taking into account educational level and any cultural constraints.

7.2.5 Information needs for hygiene education

Before a formal hygiene education programme is begun, it is important to include in the sanitary survey (see Chapter 3) an assessment of the sociocultural factors that characterize the community, in order to determine:

- local beliefs and attitudes regarding water, sanitation, and health;
- traditional water use and defecation habits and excreta disposal practices;
- current levels of knowledge about disease transmission, especially among community leaders and other influential individuals;
- the priority given to improvements in water supply and sanitation in relation to other community needs;
- existing channels of communication in the community including books, newspapers, and magazines, radio or television, traditional drama, songs, and story-telling;
- the members of the community and field workers from other agencies who might be involved in hygiene education activities.

7.3 Educational methods

Some key characteristics of effective communication and health education are summarized in Table 7.3.

The choice of methods to be used should take account of the nature of what is to be conveyed and of local beliefs, values, and practices; the characteristics of the intended audience, including educational and literacy levels and exposure to,

Table 7.3 Characteristics of effective health education

• Promotes actions that are realistic and feasible within the constraints faced by the community
• Builds on ideas and concepts that people already have and on common practices
• Is repeated and reinforced over time using different methods
• Uses existing channels of communication, e.g. songs, drama, and story-telling, and can be appropriately adapted to these media
• Is entertaining and attracts the community's attention
• Uses clear simple language and local expressions, and emphasizes the short-term benefits of action
• Provides opportunities for dialogue and discussion to allow learner participation and feedback
• Uses demonstrations to show the benefits of adopting the practices recommended

and familiarity with, different educational methods; practical considerations, including the amount of money available and the experience of the staff.

Effecting the fundamental changes in lifestyle that are required to improve sanitation and hygiene will usually require an intensive programme of face-to-face communication in the community. This might include visiting individual householders or working with groups in community or other local settings: women's groups, mothers' groups, children in schools, or trade unions.

In hygiene education, it is important to emphasize *participatory learning methods*; these can include small-group teaching, simulations, case studies, group exercises, and role play. These methods:

— avoid formal lecture presentations
— encourage discussion between participants
— encourage interaction during the sessions
— use a variety of games, puzzles, and exercises
— use learning aids that stimulate discussion and comments.

Participatory learning methods have a number of advantages: their active nature means that participants are more likely to remember what they have learned; participants draw from their own experience and are allowed to discover principles for themselves; opportunities are provided for learning problem-solving skills; participants acquire the confidence to tackle problems and improve their conditions. However, many field staff will be unfamiliar with participatory learning methods and will require training.

Traditional media such as drama, songs, and story-telling are of great potential value and have been used for education in sanitation and hygiene. They combine entertainment with practical advice and can be used to stimulate discussion and community participation. The actors and musicians should be given the basic information on hygiene and health, and allowed to produce a performance that is both entertaining and understood by the community. It can also be valuable to involve members of the community in the performance.

One of the most powerful forms of communication is through real-life examples, e.g. a demonstration latrine can be constructed in a well-chosen location, correct practices can be demonstrated. Demonstrations are most effective if they can be seen to produce observable benefits in the short term. However, since the health benefits of sanitation and hygiene can take time to become apparent, it is best to emphasize immediate benefits such as convenience, comfort, and freedom from flies and smells.

Valuable messages can also be communicated by "satisfied acceptors"—people who have improved their sanitation or hygiene practices and are pleased with the results. They are the best people to explain the benefits to others, as they will use everyday language and will have greater credibility with the community.

A range of learning materials such as flannelgraphs, flip-charts, leaflets, posters, slide presentations, videos, and models can be developed to support the work. These should be pretested on a sample of the intended audience to ensure that their messages are easily understood, and that the advice is relevant and meets

the community's needs. Local artists can be used and encouraged to work with the community in preparing materials.

In general, health education messages should be reinforced by repetition, ideally through more than one medium.

Face-to-face education can be supported by the mass media such as radio, television, and newspapers if the initial survey shows that these will reach the community. Carefully designed and tested radio programmes, for example, can be used to spread simple information rapidly to large numbers of people, and to stimulate increasing awareness of, and interest in, the education programme. Broadcasts should use a variety of entertaining and interesting formats such as songs, dramas, quizzes, and interviews with members of the community. The timing of such broadcasts should fit in with community activities. Because the mass media reach large audiences, it is difficult to make messages specific to local communities; it may be useful to prepare radio programmes on cassettes, which can be played to small groups or through loudspeakers in public places.

A longer-term approach to improving hygiene in the community is working with children in schools. This enables the concepts of hygiene to become part of a general understanding of health and the influence of the environment. Schoolchildren can then introduce hygiene concepts to their parents. They learn from what they see around them, so that the school environment itself should meet the requirements of good hygiene, for example by providing latrines, water for handwashing, generally clean surroundings, and hygienic facilities for the preparation and serving of school meals.

Hygiene education can take place in the classroom but also through activities in the school surroundings and community. It can be taught as part of a health education programme as well as of other subjects, such as mathematics, art, science, music, and drama, and should be integrated within a broad-based health-education programme with a limited number of predefined educational objectives focused on the health needs of the community. This should provide a basic knowledge of health in the first years of school that can be extended by a more detailed discussion of health and disease with older schoolchildren.

7.4 Human resources for hygiene education

For a hygiene education programme to be effectively implemented, management staff must be aware of its importance and committed to it in practice. Such staff include sanitary engineers and specialists in public health medicine, and hygiene education should form part of their professional training.

The effectiveness of hygiene education within surveillance programmes will depend on the extent to which local resources can be mobilized to support educational activities.

Most hygiene practices are established early in life and reinforced by parents and elders in the family. In particular, mothers play an important role in encour-

aging hygiene routines in their children and, in most communities, are involved in the organization of the home, the collection and storage of water, cleanliness, and child care. An essential priority in hygiene education is therefore to involve women, by working either with individual women in their homes or with women's groups within the community. Women should be represented in any community groups that are formed as part of the surveillance programme.

The most important resource for hygiene education is the community itself. A search should be made for any groups or organizations in the community that might be involved in hygiene education including village committees, water committees, health committees, young farmers' clubs, women's groups, and religious bodies.

Hygiene education is already part of the activities of many members of the community and field agencies (see Table 7.4), as well as of the staff of clinics and health centres. Community health workers in primary health care programmes are key health educators at the village level. Public health inspectors and rural health assistants are heavily involved in hygiene education as part of their promotion of safe water, environmental sanitation, and hygiene. Health workers in hospitals have a health education role as part of the treatment and rehabilitation process.

Table 7.4 Potential human resources for hygiene education in the community

Health services:
Doctors and nurses in primary health care
Midwives
Health visitors
Public health nurses
Medical assistants
Nutrition programmes
Immunization programmes
Special disease programmes
Village health workers
Sanitary technicians
Veterinarians

Public health services:
Public health inspectors
Water supply staff
Sanitary technicians
Hygiene inspectors
Refuse management staff
Sanitary engineers

Agricultural and development workers:
Agricultural extension workers
Community development workers
Nutrition programme staff
Cooperative workers
Employment-generating programme staff
Women's programme staff

Education services:
Teachers in primary and secondary schools
Adult education staff
Literacy programme staff
Preschool programme staff
Vocational trainers

Informal resources in the community:
Elders
Parents
Traditional birth attendants
Traditional healers
Village leaders
Religious leaders

Outside the health services, those who may become involved in hygiene education include teachers in schools, adult education, and literacy programmes. In order to enable them to fulfil this role, the ministry of education or its equivalent should ensure that subjects such as the environment, hygiene and health are included in educational programmes, where appropriate.

Other workers in the community can also be mobilized for hygiene education. Agricultural extension workers who advise communities on growing crops can also provide education on health and nutrition. Community development officers engaged in promoting community organizations and cooperatives can play a key role in promoting community action on health issues.

In addition to government agencies, many voluntary bodies are actively involved in health education, including nutrition groups, family-planning associations, and the Red Cross and Red Crescent and other societies.

When potential resources for hygiene education are being sought, the following questions should be asked: Are any groups involved in hygiene education at present? How likely is it that they will support hygiene education? What support would they need to become involved in hygiene education, e.g. training, learning resources?

Field staff and volunteers may need training in hygiene education, particularly in the newer participatory learning methods. The aim should be to develop self-sustaining programmes of hygiene education as part of the normal workload of local fieldworkers in the community. Although initially such fieldworkers may need training, support, and encouragement to undertake hygiene education, with time they should be capable of doing so with minimal external support.

7.5 Role of the surveillance agency in hygiene education

Hygiene education is only one of the many responsibilities of surveillance field staff. Many agencies may play a role in hygiene education, including government bodies (e.g., ministries of water, the environment, health, education, rural development, and local government), nongovernmental organizations (both national and international), and private institutions. Typically, a government agency will play a coordinating role which, because of the intersectoral nature of the activity, may involve the following:

At the national level:

- Working with other agencies including health education services, water supply services, and NGOs, and involving them in hygiene education activities.
- Undertaking hygiene education through the mass media to support activities at the community level.
- Reviewing, analysing and interpreting surveillance data in order to evaluate hygiene education activities and determine priority areas for future action.

- Collecting information on innovative and effective methods of hygiene education including national and foreign experience, and disseminating it through reports, workshops and meetings.
- Providing regional training in hygiene education for surveillance field staff and support agencies.

At the regional level:
- Acting as a bridge between activities at a national level and those in the region, briefing regional officials in project areas, providing details of national activities, and mass media programmes.
- Working with regional agencies to involve field personnel from as wide a range as possible of agencies, e.g. health assistants and health inspectors, nurses, village health workers, teachers, agricultural and rural development staff, rural home-makers, adult literacy and adult education workers.
- Coordinating the activities of various field agencies involved in hygiene education including advising on the content of educational programmes to ensure that they are accurate, relevant, and appropriate to the needs of local communities.
- Providing training in sanitation and hygiene education, including practical communication skills.
- Distributing educational materials and working with field staff and the community to produce locally relevant educational materials.
- Working with other field agencies and the community to ensure that reports on surveillance activities include information on hygiene education needs, the effectiveness of local activities, and research on hygiene education.

At the local level:
- Working with families and communities to stimulate community participation and undertake hygiene education.
- Working with community organizations engaged in hygiene education and surveillance activities, e.g. water committees, to provide support and training, and involving them in hygiene education, monitoring, and surveillance activities.
- Working with field staff from different agencies active in the local communities, and coordinating hygiene education, training, support, and educational materials.

7.6 Funding hygiene education activities

Because of the intersectoral nature of hygiene education, a number of agencies will obviously make contributions both in financing and in kind. Thus, for example, the education sector may contribute significantly through schools and adult literacy or vocational training programmes, and the communities themselves may make significant contributions, especially in kind.

In practice, dedicated hygiene education programmes are most commonly the responsibility of the ministry of health or its equivalent. This is logical because of the responsibility of this agency for protecting health. Nevertheless, depending on local circumstances, other agencies can usefully link hygiene education activities to their programmes, e.g. mobile borehole drilling teams of the ministry responsible for water can be linked to hygiene educators.