



Hygiene education for lasting health

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THE INSTALLATION of a safe, plentiful and easily accessible water supply combined with adequate sanitation in a rural community will have a positive health impact only if combined with hygiene education.

Hygiene education is crucial to increase the community's knowledge and awareness of the link between water, sanitation, hygiene and health. Hygiene education enables a behavioral change to ensure a lasting health and economic benefit from the improved water and sanitation facilities. Further hygiene education enhances appropriate utilization, reduces recurrent cost of maintenance and improves the sustainability of the water and sanitation facilities.

The control of **water-borne diseases** requires a safe water source of a high quality and with enough water for the practice of general water hygiene, which will ensure that the water stays safe.

The control of **water-washed diseases** depends on easy access to large quantities of water and the motivation to use more water for personal hygiene, whereas the quality of the water used is less important.

The control of **vector-related water-borne diseases** depends on improved environmental hygiene and decreased exposure to the vector.

The control of **water-based diseases** depends on elimination of contact with the infected water source.

The availability of water is essential for water hygiene and naturally, an easy accessible water source facilitates the practice. But to ensure that water hygiene is practiced daily the water source must be reliable through out the year. Reliable in quantity and quality. Problems of poor water quality or low quantity discourage improved hygienic behaviors. E.g., in areas with corrosion problems community members often prefer to use the traditional water sources, as the brownish-yellow colour and the taste of the improved water source are less attractive.

The reliability of a water source depends on its daily operation and maintenance. An improved water source can be contaminated if poorly maintained. The motivation of the community to maintain and protect their water source is, therefore, of critical importance to ensure a sustainable reduction in not only water borne diseases, but also to prevent an increase in the incidence of water-related vector-borne diseases, due to breeding of mosquitoes in stagnant water around the water source.

As all water-borne and faecal-disposal-related diseases, as well as some water-based diseases, depend on infecting agents from human excretae, the provision and hygienic use of adequate sanitation are crucial for their control.

Finally proper refuse disposal is important for the control of some faecal-oral and vector-related water-borne diseases, as it prevents the breeding of insects.

Table 1. Categorization of diseases with relation to water and sanitation

Water-borne diseases transmitted by water. Water is a passive transporter for the infective agent, e.g., diarrhoea, dysentery, typhoid, giardiasis, cholera.
Water-washed diseases due to lack of water or insufficient use of water for personal or domestic hygiene, e.g., trachoma.
Water-related vector-borne diseases transmitted by insects breeding or biting in relation to water, e.g., malaria, onchocerciasis.
Water-based diseases caused by infecting agents spread by contact with or ingestion of water. An essential part of the life cycle of the infecting agent takes place in an aquatic animal, e.g., schistosomiasis and Guinea worm.
Faecal-disposal-related diseases transmitted due to faecal contamination of soil. Human infection is either through direct penetration of the intact human skin (e.g., hookworms) or through ingestion, either with an intermediate host (e.g., tapeworm) or without (e.g., roundworm).

Planning and implementation of hygiene education

The Community outreach by district staff, is the essence of hygiene education, as an effective interaction with community leaders and members is important to ensure community participation for hygiene education. To facilitate the development of a functional, sustainable system for planing, management and evaluation of a hygiene programme at community level, there is a need to strengthen the capacity of the district personnel trained in environmental health and community development. They should be trained in teaching methodologies (how to design and deliver messages) and learn to plan, manage and evaluate hygiene education as an integrated part of comprehensive Primary Health Care. Supervision and follow-up enhance motivation and quality at all levels. Here, intra-and inter-sectoral coordination is important to ensure cost-effective management and avoid duplication of efforts.

A central library, if possible with district branches, for all available **information, education and communication (IEC)** materials and tools available for hygiene education and other PHC related activities, would facilitate the exchange of information and prevent duplication.

It is important that all existing IEC material and tools are reviewed to evaluate their appropriateness and gender sensitivity and correct errors, if possible. Field testing of all IEC material is an important part of this process and during development of new material, upon identified needs.

When educating at the community level, the messages should be as simple as possible, locally adapted and with the use of appropriate methods of adult learning.

It is the aim of hygiene education that the community should understand how human behavior and environmental factors influence health. Through increased knowledge and awareness the community should be motivated to; take better care of their water source, practice better water hygiene when collecting and storing water, use more water for hygienic purposes, avoid traditional water sources, enhance the hygienic use of sanitation facilities, dispose refuse and waste water properly and improve housing. Hygiene education will, if successful, improve the personal and environmental hygiene within the entire community.

Hygiene education should aim to actively involve the entire community, but it is important to identify target groups and develop specific plans of action, on how to reach them.

An important target group is **women**, as they play a significant role in rural family life and have a prominent role in improving the hygiene within the family.

Children, as the future generation, caretakers of younger siblings and water collectors, are an other important target group. Children can be reached through their daily caretakers and, if in school, school teachers.

School teachers should be trained to promote hygiene education, particularly in primary schools. Further to reinforce the practice of better hygienic behaviors, all schools should have, and encourage the use of hygienic latrines with hand-washing facilities close by. Drinking water should be safely stored and refuse properly disposed.

Finally hygiene education should also be an integrated part of the training of all personnel involved in the water and sanitation programme; the extension worker, the drilling crew, the pump mechanic, the caretaker and the driver. They all have a unique chance to teach hygiene education when in the communities.

Gender issues in water, sanitation and hygiene education

Like most other development programmes, water, sanitation and hygiene education stress the importance of the involvement of women.

The promotion of hygiene education at community level is often done through the promotion of female Community Health Workers, who visits homes to discuss hygienic practices.

Women are encouraged to become active members in the water and sanitation committees (W&S). But in most W&S-committees women tend to get the positions, which give more work than power, namely as secretaries or treasuries. The more powerful positions as Chairperson of the committee are nearly always taken by a man.

Finally women are often involved as caretakers, since they have a major interest in ensuring easy access to a reliable plentyfull and safe water source. Women are, however, seldom trained as pump mechanics. Most caretakers make no money from their often daily duty, whereas most trained pump mechanics can make a living from their training. If women were trained as pump mechanics they could, become self-reliant and gain power in society through their skills and financial power.

The present presses on gender issues in development has increased women's already heavy daily workload, whereas their gain in social power has been comparably insignificant. Water and sanitation projects might decrease the time women spend on water collection or taking care of family members with water and sanitation related diseases. But asking women to get actively involved is to ask her to take responsibility for yet another task.

There is a need to redefine the role of women in development. The issue that remains to be solved is how women's empowerment in relation to men are improved.

Monitoring and evaluation of hygiene education

More and more sub-Saharan Countries embark on decentralization policies. A decentralized approach to implementation of water, sanitation and hygiene education will require strengthening of the district's capacity to plan, implement, monitor and evaluate community based activities. A simple but practical useful Management Information System (MIS) would facilitate this process through the provision of timely information based on locally collected indicators.

To establish a MIS, there is a need to develop appropriate indicators for outputs and activities in hygiene education programmes. The indicators should be relevant, specific, reliable and easy measurable without great time consumption or cost. They should serve to monitor programme implementation and assist planning and evaluation at district and central level. The indicators should serve to monitor and evaluate, not only the number, but also the functionality. Here indicators of improved hygiene should wherever possible be based on observational factors and to a lesser degree on interviews. At community level an important indicator of the community's understanding of hygiene education is the maintenance

nance of the water source. A clean protected, water source with functional waste water disposal is a useful indicator.

Most water, sanitation and hygiene programmes collect a great deal of data from official reports or through surveys. Most official status reports contain routinely collected service statistics or are compiled from national or local surveys. The shortcomings of such data are multiple, but most essentially, they are seldom reliable or up-to-date. The procedures for data collection, management and analysis are long and tedious and the results are often delayed as they await publishing. These data seldom reach the lower level managers in time or in a form useful for programme management. Therefore most projects settle with collection of their own data, often through periodic surveys. Most survey data have the benefit of being up-to-date, but they require time and money for collection. The relevance, specificity and reliability of collected survey data depend on the selected indicators, the means of verification and the data collection and management skills of the project staff.

The main objective of most water and sanitation projects is to improve the health status of the population in the project area through a sustainable reduction in water and sanitation related diseases. Health facilities out-patient data is one of the main recorders of water and sanitation related diseases in the Community. Therefore they are often used as the mean of verification for monitoring of an actual reduction in water and sanitation related diseases. Health facilities out-patient data are, however, of limited use in determining the health status of the defined population, due to lack of reliability, diagnostic bias and hospital data not being representative of the population. Further less severe diseases, e.g., initial stages of trachoma, will tend to be under represented in out patient hospital data.

Repeated health surveys of smaller population samples would be better for an evaluation of the health impact in the project area.

A baseline survey followed by specific intervention strategies, will if successful, result in a decrease in the prevalence of selected diseases.

The selection of diseases, which will indicate a positive impact of a water, sanitation and hygiene education programme has to be based on the categorization of diseases with relation to water and sanitation (ref Table 1). Each category of diseases is controlled through specific improvements in hygiene behavior and therefore measure an actual change in behavioral practices.

Trachoma and Guinea worm make good indicator diseases, as they easily can be reliably diagnosed at community level and indicate specific improvement in hygienic behavior.

Trachoma, which is water washed, can be controlled by use of more soap and water. Therefore, it is a good indicator of people's use of water for personal hygiene.

Guinea worm, which is water based, can be controlled if contact with or drinking from traditional water sources is avoided. Therefore, it is a good indicator of the community's use of infested traditional water sources.

In contrast diarrhoea is a poor indicator of improved hygienic behaviors, as it has multiple etiologies and lack specificity. Diarrhoea is a less reliable event, especially if asked in an interview. It is important to have an exact definition and only ask about recent events to prevent measurement errors.

The only reliable measure of diarrhoea is the collection of stool samples for exact diagnosis.

Monitoring is an essential tool for efficient management. The impact of hygiene education can be monitored, but the measurement and selection of appropriate indicators are crucial.