



INTERNATIONAL CENTRE FOR  
ADVANCED TECHNICAL  
AND VOCATIONAL TRAINING  
TURIN



UNITED NATIONS  
INTERNATIONAL RESEARCH  
AND TRAINING INSTITUTE FOR  
THE ADVANCEMENT OF WOMEN  
INSTRAW

# Women Water Supply and Sanitation



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UN (WWSS) WOMEN, WATER SUPPLY AND SANITATION.

May 1986

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SUB-MODULE IV

WOMEN'S ACTIVITIES IN HEALTH/HYGIENE EDUCATION  
IN WATER SUPPLY AND SANITATION PROJECTS  
AND PROGRAMMES



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The officer in charge will make use of the five components indicated above, while the participants will be provided with the material related to components 1, 2 and 3.





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OBJECTIVES

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## 1.1 OBJECTIVES

### GENERAL



*The participants will have an understanding of present women's activities in primary health care and how to incorporate women's participation in health/hygiene education in WSS projects and programmes.*

### SPECIFIC

*On completion of this unit, the participants should be able to:*

- 1) identify women's needs in health/hygiene education;*
- 2) recognise main conditions to involve women in health/hygiene education;*
- 3) identify guidelines for health education in WSS projects.*



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**1.2      TARGET POPULATION**

**LEADERS AND SENIOR OFFICIALS OF WOMEN'S ORGANISATIONS AT  
NATIONAL, REGIONAL AND INTERNATIONAL LEVELS.**



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## 2.2 NOTES FOR PRESENTATION



### 1. INTRODUCTION

One of the main problems most developing countries are facing is water-related diseases. Studies have shown that women as water carriers in many societies, and by virtue of their domestic functions, are in constant touch with water which is often polluted. Therefore, women were perceived as being the group most vulnerable to water-related diseases which, according to statistics by the World Health Organization (WHO), were accountable for 80% of all diseases in the developing world. Studies also show that water-borne diseases are a major cause of high infant mortality rates. Water-related diseases also account for 15% of all hospital deaths. An estimated five million children in the world die annually from diarrhoeal diseases of which maybe one-third related to water. Equally, water-related diseases often cripple the work force of developing countries. It has been estimated that millions of working days are lost every year through sickness due to these diseases leading to increased costs in terms of medical treatment and at the same time to decreased productivity, thereby helping to perpetrate the vicious cycle of poverty.

Also crucial for raising levels of public health are improvements in practices of excreta disposal. Inadequate facilities for excreta disposal reduce the potential benefits of safe water supply by transmitting pathogenes from infected to healthy persons. Over 50 types of infections can be transmitted from a diseased person by various direct or indirect routes involving excreta.

Furthermore, some studies have shown that the sanitation section is not usually assigned the same importance as domestic water supply. Generally speaking, sanitation in the rural areas is neglected because it is given very low priority by the rural population, and basic health education, public awareness and a proper institutional framework are lacking.

Primary health care is the main approach endorsed by countries for achieving the goals and objectives of health for all by the year 2000. This emphasises community-based health care, with the full involvement of community members and the articulation of the health care system with the traditional or informal systems. An essential element of primary health care is an adequate supply of safe water

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and basic sanitation. Water and sanitation programmes concern the whole community. Primary health care is for ALL - women, men and children. So why focus on women?

In almost all societies, the experiences of men and women are very different. Society assigns different roles and responsibilities and gives different opportunities to men and women. Women have less access to education, land and property ownership, credit, income and technology. They have less power and authority. The factors which influence health - biological, social and economic - affect women and men differently. Social attitudes and values and the burden of work have jeopardised women's health. In many areas, women have had less resources needed for maintaining good health because of their poverty and low status.



In many countries, women are the main wage-earners and in urban slums, in particular, where water, food and fuel must be bought, the costs are high. In an increasing number of poor households it is the women rather than the men who support the family.

A women's focus is needed if water supply and sanitation programmes are to succeed, since women have a primary role especially in primary health care.

### 1.1 Women's role in health

Providing water supply systems without sanitation and a support programme of health/hygiene education is not enough to bring about health impacts. It must be remembered that this is an area where women play an essential and primary role, since:

- 1) women are key persons in providing health care for their family;
- 2) women decide what kinds of food to produce or buy, thus influencing the nutritional status of the family;
- 3) women are responsible for providing water and sanitation, and for the general hygienic standard of the home;
- 4) women convey to their children their own values and understanding of health issues;
- 5) women are the first to deal with health problems within the family;

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- 6) *women decide when and how to seek health care outside the home choosing between traditional and modern medicine;*
- 7) *women themselves practise as birth attendants and provide other kinds of indigenous health services. Because of these activities, their skills should be upgraded through education and training to improve the quality and enlarge the scope of their practices.*



### 1.2 Identifying women's needs

*It is necessary to recognise health problems specific to women in relation to their functions in reproduction, in relation to their functions in the unpaid domestic sector as well as in relation to their functions in the production sector. It is further necessary to define acceptable indicators for assessing progress towards equity between the sexes as to their chances to survive and preserve good health.*

*In this connection, primary health care is seen as a multi-sectorial development approach which goes beyond the boundaries of conventional health services. Primary health care is based upon what people themselves do about their own health. The participation of women is crucial to the effective mobilisation of community resources for health.*

*In this connection, women's organisations, as well as local women, should be consulted and included actively in planning and implementation of health projects. Social habits and traditional practices which are clearly adverse to women's health may nevertheless be part of cultural patterns which give a sense of identity and security in that particular society. The readiness to change such habits and practices could not be imposed by specialists from without, but could only be encouraged by women from within the society. A strengthening of women's self-confidence and participation in the social and economic decisions of their society is necessary, as is the motivation of women to realise that they themselves can and must influence their own situation and conditions of life if any change for the better is to occur.*



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### 1.2.1 Education

Rural women in the less developed countries are seldom literate and there is a disparity between male and female literacy; generally, two out of three illiterates are women. In some areas, nine out of ten women are still illiterate. Furthermore, female illiteracy is three to four times higher in rural than in urban areas. A daughter's labour is needed at home because of mother's overwork. Poverty and illiteracy are mutually reinforcing. In most parts of the less developed countries, however, illiteracy is a reflection of poverty and of the need to exploit children's labour in order to maintain the family. There is a negative relation between illiteracy and women's health and the advancement of women.

#### Primary education

In the rural domestic sector, the lack of primary education holds women in poverty by hampering access to vocational training and to appropriate technology. Education is a catalyst operating behind all the carriers of ill health. Lack of education aggravates their effects, whereas sufficient education alleviates their most devastating consequences. Education is a means of overcoming poverty, increasing income, improving nutrition and health, reducing family size and, not least important, raising people's self-confidence and enriching the quality of their lives.



## 2. HEALTH/HYGIENE EDUCATION

Health and hygiene education is an area where women's involvement could have the greatest potential. The following ways of involving women are recommended:

- **Education of women as users:** hygiene education, both personal and household, should be first of all focused on women, bearing in mind primary strategies related to knowledge, attitudes and practices:

#### Knowledge

Increasing knowledge of water/infection and the excreta/water/food/infection relationships by linking information to existing beliefs and new practices.

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### Attitudes

*Promoting positive attitudes toward hygienic use of transport vessels and storage receptacles, and cleaning materials or supplies available locally and at prices within reach of the population.*

### Practices

*Promoting water handling, excreta disposal and food preparation practices that contribute to better health; use of clean, covered transport and storage vessels; hand-washing after defecation and before food preparation; covering left-over food; toilet training of toddlers; proper disposal of infant's stools; and proper use and care of latrines.*



## 2.1 Participation in health education

*When expected behavioural changes and health impacts do not occur, health education is used to promote the desired use of water and sanitation facilities. Generally, women are the main target group for these programmes.*

*Too often, this is the only aspect of water and sanitation programmes in which they are directly involved.(1; A1, A42) Limiting their participation to health education increases the chance that necessary changes to the project design through their involvement in the planning phase are not made.*

*"Health education has often become the scapegoat for all kinds of programme failures. It is easy to blame people (and workers) for programme failures. Planners and administrators would like to change people's behaviour to fit programme requirements, technology and procedures. Health education can become a tool of compulsion."(2: p. 8)*

*Further constraints to the participation of women are not always taken into account in health education programmes.*

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*It is popular to speak about the "hardware" and "software" of water and sanitation programmes. The software includes education, answering such questions as: why are facilities needed? what has to be done to make them function properly? what action can people take themselves to stop diseases spreading?*

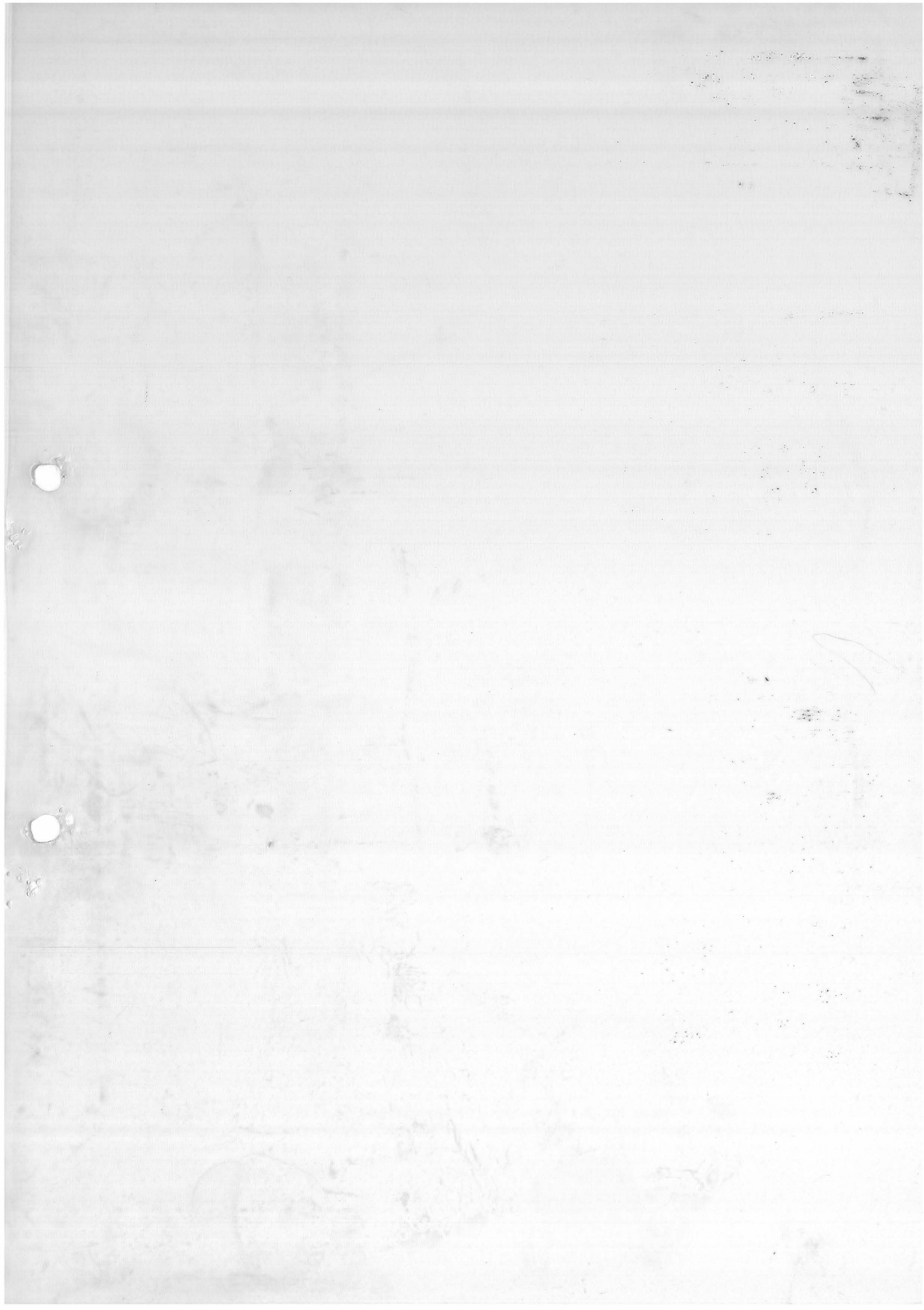
*At one time, health education was restricted to telling women that they "should" or "must" change their behaviour. But they also need to know:*

- *how to detect problems;*
- *how to repair equipment;*
- *when to seek outside help;*
- *how to protect water sources;*
- *how to keep latrines clean;*
- *how to keep food safe;*
- *where to wash clothes, and so on.*

*Preaching what to do without providing the means to do it is bound to lead to failure. Women need access to resources for making changes in their day-to-day work. If women are told they must wash their hands with soap to prevent disease, then they need to be able to make or buy soap and also to have easy access to water. Linking education or water and sanitation to income-earning schemes for women is a way to bring about these changes.*

*Educational materials and educational messages about water and sanitation, whether in the media or used in groups, should illustrate a positive image of women. Women as engineers, managers, teachers, promoters, can easily be portrayed visually. While giving information to women is necessary, that alone is not enough. Education should be equally directed at men, motivating them to share the responsibility for improving family and community health and work.*







### PREFACE

The content of this modular unit has been developed on the basis of:

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- 2) IRC, "PARTICIPATION OF WOMEN IN WATER SUPPLY AND  
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- 7) WHO, "MINIMUM EVALUATION PROCEDURE FOR WATER AND  
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- 8) UNICEF, "PROGRAMME FIELD MANUAL, BOOK E, WATER SUPPLY  
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## 2.2 Conditions for women to participate in health education programmes

### 2.2.1 Time to learn

The first condition for impact is that health education programmes reach those for whom they are intended. Frequently, women have mentioned lack of time and opportunity to attend meetings, especially when held at inconvenient times or places.

In Jamaica, government health staff only worked during the day when the women were busy with their own work. In the evening, when they could attend meetings more easily, the health staff had gone home.(3)



Distance and lack of time to attend health education meetings were also reported for programmes in Benin and Zaire(4), Guinea Bissau(A44), Bourkina Faso(A4), Senegal(5), Nigeria(6), India(7), Sri Lanka(8), Republic of Korea and Malaysia(9). An evaluation study in the Upper Region of Ghana found that only 16.7% of those reached by a health education programme on water use and hygiene were women(A15), even though their involvement as managers and participants was one of the original recommendations in the development of the project.

In cultures that demand the seclusion of women, access to health education is even more difficult. Meetings at health centres are not appropriate because apart from time and sometimes transport, this requires entering the public sphere.(11) The same cultural restrictions apply when village health workers are men, as experienced for example in Afghanistan.(12)

Several programmes have succeeded in reaching women better at their meeting places. The choice of site will depend on local socio-cultural circumstances. In Nigeria, where women do most of the marketing, a health education programme was transferred temporarily from the health centre to a stall in the weekly market.

In a Guatemalan community, women gathered for several hours at the local 'pila' or communal washing place. After listing their health problems, a series of tape recordings was prepared using several techniques for knowledge transfer and behaviour change. The tape recorders were operated by a local girl.(13)





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*Elements used in the tape were dramatisation (the happenings in a local family), authoritative statements from respected local health staff, reinforcement (reminders of earlier messages), localisation (interviews) and entertainment (music, stories). The design of the contents and the hours of operation were adapted to suit the variable times of visits to the laundry places. An evaluation showed that women appreciated in particular the health information. Scores on a health knowledge scale varied from 92% for daily listeners to 35% for those who never listened, as compared with 27% for a control group who did not receive the tapes. Measurement of behavioural impacts was limited to the reported application of a recipe for a new nutritious dish. Of the 70% of women who remembered the recipe, 58% had tried it at the time of the second survey.*

*Elsewhere, water collection places have been found to be suitable for small group discussions on water use and sanitation. In a Tanzanian project, group discussions were organised at water collection sites and informal gatherings using locally made discussion posters. In addition, members of the village water committees made home visits to discuss how sanitation could be improved.(14) In Moslim communities, health discussions have been organised at family gatherings and informal meetings in women's homes.*

*Women's participation in health education and other health related development activities has also been facilitated by provision of child-care facilities. In a rural community in Sri Lanka, the public health inspector and community health volunteers failed to raise interest in follow-up to a community self-survey on health problems until the felt needs of the mothers (which included a day care centre) were addressed.(15) In Viet Nam, the provision of crèches has enabled women not only to take part in economic work outside their households, but also to participate in small group discussions on hygiene and family planning, and to support rural health centres. Their participation has been essential for the health movement as a whole, and where they have not been mobilised, results have been poor.(16)*

*Several evaluation studies have demonstrated the effectiveness of active participation of women's groups in discussions on health conditions and behaviour. Programmes which use one-way information transfer (lectures, films) directed to individuals have been found to be less effective in achieving behavioural change.*

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*A study in an urban fringe area in Durban, South Africa, showed that discussion with local friendship groups reached more women and led to greater improvements in environmental hygiene than the usual programme of films, exhibitions and leadership involvement.*



*The advantage of a discussion approach is that it allows the concerted use of several mechanisms for behaviour change.(18) These include the development of practical understanding of disease transmission routes; joint planning and implementation of specific local changes based on local knowledge of conditions and behaviour patterns; identification of ways to facilitate these changes, for example, making utensils from local materials; public commitment and group pressure to achieve the changes identified; and appeal to status group symbolism(19) and authoritative assurances(A3).*

*Radio, and in some cases television, reach women at home during their work and therefore have been advocated for health education, especially for women in remote rural areas and in more secluded cultures.(20)*

*A health education experiment in six rural communities in Ecuador showed that women were reached more effectively by radio broadcasts and men by film and slide shows and demonstrations. In three villages in Dhaka district, Bangladesh, women mentioned radio as the second source of health information (47%), after personal contacts with relatives and friends (65%). Information from medical staff was mentioned by only 9%.(21)*

*Conditions for effective use of radios are that women have access to functioning radios and that the broadcasting hours, vocabulary and programme content are adapted to their habits, life style, knowledge and beliefs, as for example in oral rehydration campaigns in Honduras and the Gambia.(22) In a case in India, on the other hand, it was found that women did not have practical access to broadcasts because their husbands took radios with them all day.(23) In Yemen, women did not listen to women-oriented health education programmes because of inappropriate scheduling of broadcasts, unfamiliar vocabulary and inapplicability of information.(24)*

*Radio broadcasts are particularly appropriate for increasing women's awareness and providing information. However, as shown in the examples above, changes in local behaviour and conditions are brought about more effectively through discussion and demonstrations with friends, neighbours, relatives and by trained community*

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motivators. This is why the programmes in Honduras and the Gambia have involved local health workers and women volunteers(25) and why programmes include the formation and active involvement of radio listening groups. Successful self-improvements through participatory radio and television programmes have been reported in a sanitation and housing programme in urban squatter settlements in Santa Fé, Argentina; in an experimental programme for community action in two villages in Ecuador(26); and through radio listening group campaigns on preventive health in Tanzania(27) and Botswana. However, data on women's participation were only found for the radio listening campaign on environmental health in Tanzania; 49% of participants were women.

#### 2.2.2 Building on local knowledge and resources

A serious constraint to participation voiced by women is the lack of direct relevance of many health education programmes. Poor women in projects in India(28), Bangladesh(29), Nepal(30) and the Philippines(31) felt that time spent away from their families should contribute primarily to the family income. Both men and women in a survey in three villages in Dhaka district, Bangladesh, gave shortage of food as their main concern. Some health education programmes advocate unrealistic changes, such as handwashing with soap when soap is not available or too expensive.(32) Occasionally, health education programmes have been adapted to the circumstances and needs of women. For example, in Kerala, India, the Health Department changed its approach after evaluation meetings with women and began production activities until the women themselves expressed interest in health education.(33) Similarly, attention to the practical needs of women (income generation, ancillary equipment, such as basins and locally-made water filters) as part of or preceding health education programmes has been reported in projects in Indonesia(34), India(35), Pakistan(36), Cuba(37) and Guatemala. It is not yet clear how widespread these attitudes are, and whether the appeal and effectiveness of health education programmes is increased when more attention is paid to inherent and related income generating and expenditure reducing aspects.

The literature study indicates that programmes consisting only of lectures on what people must or must not do, or programmes presenting only abstract and general knowledge of causes and prevention of water and sanitation related diseases, are rarely effective.(38)



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*Other programmes adopt a more participatory approach based on joint identification and understanding of local risks contributing to the transmission of water and sanitation related diseases and their elimination by local means, as for example described in various field manuals and guidelines.(39)*

*There is a great deal of evidence that in all cultures, women, through their daily experience and observation, have acquired basic and practical knowledge of environmental hygiene on which participatory programmes can build. Reference has already been made to their traditional practices of source selection, in which they make reasoned choices and often distinguish water quality according to use and to the characteristics of the source.*

*An exception in this respect is tap water, which frequently is considered to be safe when it looks clean, even if it comes directly from a river without treatment.(40) Projects should not keep users in ignorance of such issues, but need to discuss them as part of local decision-making on the choice of technology and scheme design. This also applies to the issue of continued intake protection. Users themselves have sometimes found excellent local solutions to this problem, such as planting a grove of trees around the intake to force cattle to drink further downstream.(41)*

*In East and West Africa, discussions with women have revealed that the filtering action of river-bed wells and the slow recharge of dug wells are recognised as being beneficial to water quality.(42) Perceptions of contamination of water sources by cattle, dogs, washing and bathing and also the safety of a closed water supply have been reported in studies in Sri Lanka(43), Swaziland, Botswana(44), India and Liberia.(45) Awareness of the harmfulness of adult excreta has been reported in studies in rural communities in Nigeria(46), India(47), Sri Lanka(48) and Nicaragua.(49)*

*Some basic knowledge of various water and sanitation related diseases by at least a reasonable number of those interviewed is also widely reported, for example in household surveys in communities in India(50), Indonesia(51), Kenya(52), Tanzania(53), Ghana(54), Nigeria(55), Sudan(56), Egypt(56) and Colombia. It is likely that the amount of knowledge women have, and the gaps and misunderstandings which exist, would become more apparent in in-depth discussions than in the more common knowledge, attitudes and practices (KAP) surveys. The latter approach is only useful if beliefs, attitudes and behaviour are not categorised as "right" or*

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"wrong" to be corrected by didactic teaching, but instead lead to educational programmes that reflect recognition of and respect for the local community and their framework of preception. This knowledge is often mixed with conflicting beliefs on the causes, seriousness and prevention of the diseases and is not always applied to the actual situation. However, it could provide the basis for general health education programmes and especially for local health discussions and community action.



### 2.3 Women health promoters and educators

Women themselves have been found to be the most effective promoters and educators in programmes where they are the primary focus. Women workers generally understand more intuitively the problems and issues faced by other women and can communicate more openly with other women.

Many communities have trained village health workers, who often are women. Experience shows that mature women especially are stable and effective communicators and motivators of health improvements. Technical projects can benefit greatly from close cooperation with these women.

Where there are no village health workers, local women have been trained for educational and motivational tasks, for example, in Nigeria(58) and Pakistan.(59) There are indications that the communities and the women themselves would like some curative tasks to be added.(60) To reach families more effectively, several Asian countries, including Viet Nam(61), Thailand(62) and Japan(63), have also trained selected individuals, often women, from small groups of households in environmental sanitation, to assist community health workers to promote improved hygiene.

In Ulengule village, Tanzania, women were asked to select the women they considered to be most suitable for training as environmental health educators. Evaluation showed that they had chosen those who were already opinion leaders in health and domestic care. Criteria used were so subtle that the project could not have made the same choice. These women were very effective motivators of environmental changes in areas which are the responsibility of women. It is interesting to compare these experiences with those with piped water supply projects in two communities in Guatemala. The health communicators (men and women) selected by the (male)

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water committee made little or no impact. This is probably because: "The young women were probably selected by the committee for their knowledge of Spanish, and not for a role in the community's informal health network".(64: p. 68)

In addition to being involved in health dialogues in their homes and meeting places, women are also participating increasingly in the organisational approach to health education. As members of village health or water committees, women are trained and involved in the planning and implementation of hygiene improvement programmes in their communities. This may include the identification of local health hazards by simple community surveys, for example in Malawi(65), Togo(66), Burma, Thailand(67), Sri Lanka(68) and Indonesia.



For the hygiene education each country will have to find the right mixture of mass media, folk media and face-to-face techniques. The relative advantages and disadvantages of each are presented in "Additional Reading" (see 2.3).

#### 2.4 Linking health education with technical projects

One way to ensure that health education is integrated into water projects is for technical projects to organise concurrent health education programmes. This approach is used in Latin America in particular.(69)

Attempts to integrate health education into the technical water supply programme in Paraguay were unsuccessful between 1973 and 1980. In 1980, the government began to implement a new policy on community participation and health education in rural water supply and sanitation. Methods used include discussions in local schools, mothers' clubs and community workshops. For this purpose, the sanitarians work closely with local schoolteachers, who are mainly women.

However, an impact evaluation will be necessary to determine whether such a short-term and general health education programme is sufficient to reach all households and to achieve the permanent changes in hygiene behaviour necessary for a public health impact. It is possible that closer cooperation with local health workers and training of local women is needed to continue local health education and action programmes after the completion of technical projects and

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depending on local needs, linkage with economic activities.(70)  
Please see "Additional Reading" on how to prepare guidelines on health education in water and sanitation programmes.

## 2.5 Support from family members



Frequently, cultural divisions of labour and responsibilities do not permit women to make decisions or carry out improvements in all aspects of hygiene.

In West and East Africa, latrine construction and kitchen improvements are often carried out by women. But essential tasks, such as pit digging, or roofing which is important to prevent non-use and collapse of clay slabs in the rainy season, and other building activities are men's tasks, as also pointed out by the women themselves.(71)

Therefore, in the development of local health education programmes with the community, separate issues for men and women may need to be identified. This will also prevent hygiene education programmes on women's issues reaching mainly men, as found in rural communities in Ghana, Bangladesh and Tanzania.(72) Further, and as shown earlier, involvement of men will help abate opposition from husbands. Finally, health education activities with fathers will counteract impressions created by some programmes in health education and mother and child care that responsibilities and work for and enjoyment of children rest with their mothers only.(73)

The involvement of children of school age in health education is often stressed because they are the generation of the future. Generally, girls assist their mothers in household work, and older sisters and sometimes brothers take care of their younger siblings.(74) In the mid-term evaluation of the International Drinking Water Supply and Sanitation Decade, the existence of school health education programmes is considered to indicate that health education has been included in water supply and sanitation programmes. Of the 86 countries participating in the evaluation, 29 reported that primary schoolchildren receive health education. Estimates of coverage varied from 5% in five countries to 100% in ten countries.(75)



 TURIN CENTRE	 UN INSTRAL	UN (WWSS) WOMEN, WATER SUPPLY AND SANITATION.		May 1986
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However, little is known of the methods and effects of health education programmes in schools and other youth organisations. Some programmes are limited to teaching academic information about the causes, transmission and prevention of water and sanitation related diseases and carrying out medical inspections, as reported in studies in Sri Lanka and India. Other programmes, for example in Paraguay, actively involve children in improvements in their schools and communities. Educational materials for these activities have been developed.(76) In some cases, educational programmes have succeeded in mobilising children to improve hygiene in their homes and communities.(77) In other cases, little or no effect has been achieved.



In an isolated and poor area of Tanzania, young girls have been frustrated by school health education, because their parents and later their husbands have not accepted what they had learned at school and would not support their attempts to introduce new practices at home.(78)

### 3. PATTERNS OF WATER USE AND HYGIENE

Technical water and sanitation projects may assume that women automatically improve domestic and personal hygiene when improved facilities have been installed. However, experience has shown that this is not always the case. This may be due to lack of health discussions to help women apply and increase their practical understanding of the relationship between water, sanitation and family health, and to find practical solutions for the safe collection and storage of more water, safe and sufficient clothes washing and bathing, and other ways to improve family health.

#### 3.1 Transport, storage and drawing of drinking water

Cross-cultural observations show that the risk of contamination of safe drinking water persists after the introduction of an improved water supply system. At the source, dirty water is sometimes used for priming the hand pump in communities in Nepal and India.

 <b>TURIN CENTRE</b>	 <b>UN INSTRAW</b>	<b>UN (WWSS) WOMEN, WATER SUPPLY AND SANITATION.</b>		May 1986
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### 3.2 Increased water use for personal and domestic hygiene

Adequate quantities of water for personal and domestic hygiene contribute to the prevention of transmission of many diseases. In the studies reviewed, little mention was found of the effect of transport facilities on water use. A household survey in Kilowesi, a dry area in Kenya, indicated that 2 to 5 litres more water was used per person per day when bicycles, donkeys or wheelbarrows were used for collection. The studies also reported that of those using transport, 39% were men and 41% were women. However, in the total sample of 1,067 water collectors, the number of women with transport was relatively small. Three-quarters of the collectors were women, of whom 90% carried all water on foot, while for the men the proportion was 43%.



### 3.3 Excreta disposal and food handling

The importance of safe disposal of excreta in reducing the incidence of water and sanitation related diseases is also apparent. However, general acceptance of safe excreta disposal methods is difficult to achieve because of the lower priority given to sanitation at both national and community level.(79) Further acceptance of latrines does not necessarily mean general and correct use. As already discussed, non-use by children is widespread, because of practical problems, and also cross-cultural beliefs in the harmlessness of their excreta.

In some areas, safe excreta disposal is as necessary in cultivation settlements as at home. Handwashing after latrine use is not universal and often only water is used. Handwashing with soap is especially effective in preventing faecal-oral transmission of diseases in children under five years of age. Other risks observed in excreta disposal are soiled latrines, no covers, and cleaning material left lying around. Thus, latrines can become a source of infection rather than the barrier intended.

### 3.4 Waste water disposal

Domestic water supplies and water-borne, on-site waste disposal can also create breeding places for mosquitoes and other disease-transmitting vectors. The mosquito vector of yellow fever in an urban area in Cuba bred in the containers used to store domestic

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water.(80) In India, the population at risk from filariasis has increased from about 20 million to over 125 million in 15 years as a result of improved water supplies without adequate drainage.(81) Similar developments have been reported in Egypt.(82) Risks of malaria and hookworm also increase, especially in arid areas.(83)

As shown previously, women in both rural and urban areas have traditional practices of water conservation and reuse that can be built on to reduce health risks. This can be done not only with yard taps but also with public facilities. For example, banana groves or coconut palmshave been planted to absorb excess water.(84) Elsewhere, women use waste water for dry season vegetable gardens.



#### 4. THE ROLE OF WOMEN'S ORGANISATIONS

In working with women's groups and organisations, two basic approaches have been distinguished; those that aim at the development of skills, and those that aim at development of analytical capacities and group building.(85) In the first type of programme, women are trained in skills and competencies by which they can improve individually their lives and those of their families. Training offered usually includes child care, hygiene, and nutrition(86) but may also include technical skills based on local resources, such as the construction of household water filters and latrines.(87)

The second type of programme encourages women to assess local problems, to generate ideas for solutions, and to work out their own action plans using local resources as much as possible. In the process, the women work as a group rather than as individuals. As a result, problems more fundamental than hygiene and sanitation may emerge for group action.(88)

The involvement of women's organisations has many advantages:

- women's organisations are traditionally health-oriented;
- they provide a channel for women-to-women communications;
- they provide a forum for legitimising and popularising changes in behaviour concerning water and sanitation.

 <b>TURIN CENTRE</b>	 <b>UN INSTRAW</b>	<b>UN (WWSS) WOMEN, WATER SUPPLY AND SANITATION.</b>		May 1986
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*At the national level, women's organisations can:*

- *link up with national women's development programmes by including water and sanitation topics in women's literacy campaigns and in women's health programmes;*
- *identify women leaders to promote clean water and sanitation;*
- *organise or support research on women's questions in water and sanitation such as: are there sex-differentials in deaths due to related diseases, in disease incidence or prevalence?*
- *conduct surveys of places where women are employed, to check sanitation conditions. Is safe drinking water available? Is water available for washing? Are there toilet facilities?*
- *convene groups of women for health education sessions with primary health care workers, to discuss and demonstrate:*
  - . *how to use community and domestic facilities*
  - . *water conservation and sanitary transport and storage*
  - . *reasons for washing hands, protecting food, cleaning clothes/utensils*
  - . *recognising and treating diarrhoeal diseases in children*
  - . *breast-feeding and child care practices*



2.3 HYGIENE EDUCATION

Each country will have to find the right mixture of mass media, folk media, and face-to-face techniques. The relative advantages and disadvantages of each are presented below:

Method	Advantages	Disadvantages
Mass media (example: radio campaign)	Informative. Can be centrally organized and executed.	May not reach linguistic minorities, the poor and those with little leisure. Messages may be misunderstood. One-way communication ineffective for encouraging and reinforcing new hygiene habits. Expensive.
Folk media (example: temple drama)	Entertaining and easily understood. Effective for giving new health insights through analogy and metaphor. Inexpensive.	Requires skillful organization and supervision by people wise in the local culture.
Face-to-face interaction. (example: community health worker treating diarrhoea and teaching prevention)	Two-way communication gives social support to those adopting improved hygiene behaviour. People learn through village activities. Curative and preventive services are linked.	Requires an effective primary health care structure in project villages. Good training and supervision of curative/preventive workers, and reliable support and supplies back-up are essential. Coordination with project staff is essential.

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WHO, " Minimum Evaluation Procedure(MEP) for Water Supply and Sanitation Projects",  
ETS/83.1 CDD/OPR/83.1 , February 1983.

Hygiene education in support of water supply and sanitation projects is best carried out in the local language, by local people who are trusted and who are similar in ethnicity, class and life style to the project beneficiaries. Whenever possible it should be carried out within a system of primary health care services since adult women collect water, store water, handle food, clean latrines, dispose of baby's faeces and so forth, they should be the primary target audience. A separate vertical programme in hygiene education is not recommended. The four indicators of the functioning of the hygiene education component are:

- E1: understanding the language of the messages;
- E2: understanding the content of the messages;
- E3: access to the messages;
- E4: face-to-face contact with project staff and other educators.

### 2.3.1 Indicator E1: understanding the language of the messages

Target - The educational messages must be in a language that the great majority of women in the project area fully understand.

Data required - A representative sample of local women should be surveyed to ascertain the languages in which they are fluent and the languages in which they are literate.

Assessment - If the educational messages are entirely spoken, determine the proportion of women in the project area who are fluent in the language of the messages. If the messages are written, then the proportion who are literate in the language of the messages must be determined. These proportions should be very high. If literacy rates are low among women, only the relatively advantaged minority will be informed, and they probably already have a more hygienic life style.

Possible action - If an inadequate proportion of women are receiving the messages due to language or literacy problems, either the language should be changed, or the mode of delivery, or both.

### 2.3.2 Indicator E2: understanding the content of the messages

Target - The content of the educational messages should be readily understood by the target audience.

Data required - A representative sample of the target audience should be asked to explain the meaning of some hygiene education messages. Their responses can be scored on a three point scale: good understanding, some understanding, no understanding.

Assessment - If more than, say, 10 percent of interviewees have 'no understanding' of a certain message it indicates a major defect in the message or its mode of delivery. Local meetings or workshops may help to explain the lack of understanding and to elicit ideas on how the educational component may be improved.

Possible action - If the failure is in the message itself, the message should be redesigned. The cultural suitability of a message is very important. Messages should be built upon indigenous concepts of purity, pollution, cleanliness, etc. For example, in Islamic areas Koranic teaching is an effective basis for expanding concepts of personal and environmental cleanliness.

If the failure is in the delivery, consult local people on how to convey messages about cleanliness and redesign the presentations. Consider the use of folk media such as temple drama, traditional story tellers and fiesta clowns. Review recruitment procedures for community education workers to make sure they are not too distant in cultural and social terms from the people they are to educate. Women promoters and educators will probably be most effective in educating and convincing other women to adopt new health promoting habits. This is especially true with sanitation programmes where conversations about excreta may be embarrassing or immoral.

### 2.3.3 Indicator E3: access to the messages

Target - In most hygiene education programmes mass media will be used to some extent. Mass media include cinema, radio, television, newspapers, posters and pamphlets. There must be a high degree of access of the target audience to the mass media being used.

Data required - Determine the proportion of a representative sample of people in the target groups who have access to the mass media being used. People should be asked to state how many times in the last month they have seen or heard one of the project messages being disseminated in a mass medium, and to recall the content of that message.

Assessment - A judgement must be made on whether enough people are receiving the messages via mass media to justify the costs of the campaign. The proportion of people who at least should have access to the messages will vary with the local situation and depends also on the resources allocated to the mass media campaign. Specific criteria should be developed by the evaluating team.

Possible action - If insufficient people are receiving messages via specific mass medium, this medium should no longer be used and alternative media should be sought.

### 2.3.4 Indicator E4: face-to-face contact with project staff and other educators

Target - Staff in face-to-face contact with project beneficiaries can reinforce messages from mass media, can explain and amplify them to suit local situations, and can give encouragement to those who are modifying their hygiene habits. The target is to have as much face-to-face contact as possible between beneficiaries and (i) project technicians briefed in hygiene education, (ii) primary health care workers briefed on the projects aims, and (iii) adult literacy teachers, political party officials, school teachers, agricultural extension agents, social welfare workers and others concerned with public health in the project area. All should be briefed on the project and their activities integrated with decade goals through (1) an inter-ministerial national coordinating committee and (2) local area workshops.

Data required - Survey a representative sample to determine the proportion of people in target groups who have conversed with technical staff, primary health care workers, or other workers about environmental health in the past month. To assess both the quality and quantity of interactions, ask people to recall all such meetings in the past month, identify the person met and give the subject of the conversation.

Assessment - Record responses in a table and analyse which kinds of staff are most effective, and what kinds of knowledge and activities are being encouraged.

Possible action - If project technicians are unable to explain the health aims of their activities to beneficiaries a short course or workshop might be organized for them. If primary health care workers are inefficient, their training, supervision and duties might be reviewed. If other categories of health and welfare workers are not involved the national coordinating committee should be informed and workshops initiated in project areas.

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### 3.4.4 Health education/communications in water and sanitation programmes

#### Guidelines on programming this component

These guidelines will focus on the issues to be addressed in planning and programming the health education component in UNICEF-assisted water and sanitation programmes. They are not content-specific, because of variations at the local level which pre-determine content and which are heavily influenced by socio-cultural, political, economic and other factors. The guidelines suggest an approach to programming based on the procedural information in PRO 25 and in the Programme Manual, Book A. The following steps are proposed:

#### I. Elaborating a rationale for health education.

This rationale should emphasize why the health education/communications component is important and should stress the involvement of women and children. A brief description should be included on the hygiene aspects of the environment in which water is collected, stored and used as well as some of the behaviors which this component should address. Extent of water borne, water related, excreta-related diseases should be noted.

#### II. Collecting information.

Collection and analysis of data should coincide with, if not precede, technical data collection. Data for this component should include information regarding traditional beliefs and practices in water and sanitation, diarrhoea management, utilization patterns (seasonal), and factors facilitating reinforcing, constraining these patterns, norms/beliefs/aspirations of people with regard to health behavior, communication channels as well as the extent of community organization,

- e.g. - traditional beliefs and practices concerning water and hygiene



- health and nutrition information of women and children
- socio-economic situation
- communication channels (radio, oral tradition, traditional theatre, etc.)
- extent of community organization (women's groups, literacy groups, youth movement, etc.)

Before collecting new data,

- research existing information on the above
- examine government and other structures/delivery mechanisms at community level, including traditional and informal mechanisms,
  - e.g. schools, health centres, churches, mosques, temples, women's organizations.

Some ideas on the research needed on what activities are being carried in the field of health education in a given country:

- Discuss with ministries including health (e.g. information and broadcasting, community development, local government, rural development, education, interior, social affairs) to determine the extent of their activities in health education in general and what activities are being carried out in health education in water and sanitation, in particular.
- Discuss with other NGOs, religious institutions, private agencies/groups the scope of their health education efforts and how much of this is related to water and sanitation.
- Discuss with political institutions (if this is a viable channel in your country) what role they could play in health education.
- Visit a few villages/communities in the proposed project area to determine to what extent the activities described centrally reach the village level, which ministries, NGOs, political systems, local level organizations, are actually represented and functioning at the lowest-level, as it is on these the activities foreseen in health education should be built.

- Examine groups/structures which exist at project level.
- Identify communication channels/mechanisms (access to radio, cinema, traditional theatre, etc.)
- With the information obtained and practical observations carried out begin to develop a plan for the health education component, as the information and observations in the field would provide some ideas of what is possible, what local resources could be tapped, on which ministry or combination of ministries the component would naturally piggy back, who would be the person with overall supervisory responsibility for the village-level activities (district commissioner? chief of local government? etc.), which category of staff would be prime reinforcers of health education messages/activities (sanitary agents? health inspectors? extension workers, teachers? the Party? etc.), who/which group would be the prime doers of health education (community workers?, leader families? village health committee? village-based worker?

### III. Describe the problem.

In addition to physical and other conditions, describe individual and collective behavioral factors at policy-making and implementing levels of government and at community/user levels that affect long-term viability of water and sanitation programmes. With regard to the factors/practices concerning water and hygiene and elements that influence them, information obtained should also attempt to:

- specify existing practices and whether they are linked to water only or to other factors, e.g.

Traditional beliefs:	Well water is not as good as surface water since the sun purifies water
	Running water is safe (even if utilized downstream?)
	Excreta disposal is a woman's problem
Economic:	Lack of money to buy water containers
	Lack of money to build latrines

**Environmental:** Seasonality ground water level high, difficult to promote traditional pit latrine.

Hard rock area, water level low, difficult to ensure community maintenance because of high level of technology.

**Social:** Availability of surface water hinders proper use of well water.

Distance to improve water source.

No clear responsibility for maintenance of and cleanliness around water point.

**Behavioral:** Practice of leaving storage vessels uncovered, using unwashed leaves to balance water (and all the steps between collection, transportation and use).

Children defecating in and around compound.

- Categorize whether behavioral practices positive, neutral or detrimental to health and well being of vulnerable groups. Messages should influence negative practices and reinforce positive practices. Barriers to positive practices should be identified and influenced as should facilitators to harmful practices.

#### IV. Setting objectives.

The objective/objectives of the health education/communications component should be set. Indicators for evaluation should be developed from these objectives and from health indicators (reduction of infant mortality from water and sanitation practices related to water- and excreta- diseases).

##### (a) General objectives e.g.

- To improve the health condition and "lifestyle" of the population, especially women and children.
- To promote better practices as regards hygiene and health.

(b) Specific Objectives These should be elaborated depending on the research and analysis done earlier and should include themes which relate directly to the utilization of women and to hygiene behavior.

The objectives should address:

- protection of water source, ensuring cleanliness of the water source.
- ensuring hygiene behavior in the transport, storage and utilisation of water in the home.
- personal and domestic hygiene.
- excreta disposal (particularly children's excreta).
- oral rehydration therapy.
- (optional) food hygiene, village cleanliness.

Some ideas for objectives to be set for various levels of programme implementation are given below. Each objective has implications for training, community involvement, communications/information.

- (a) What is necessary for water supply and sanitation systems to be planned, installed and constructed, optimally used, maintained, repaired and sustained over the long term?

At community level, pumps will be maintained and pump sites kept clean.

At implementer level. Community-level operators will be trained, supported and supervised, and community maintenance system supported.

At policy level. An adequate budget for a maintenance system will be allocated

For UNICEF. Develop/share mechanisms on maintenance systems.

- (b) What is needed to promote and sustain personal, domestic and collective hygiene practices, e.g. handwashing, garbage disposal, excreta disposal (of children's faeces), water collection and storage, etc.?

At community level. More people will collect and store water in a sanitary and hygienic way.

At implementer level. Where water storage containers are not easily available, communities will be assisted in obtaining these (e.g. setting up a revolving fund).

At policy level. Stimulate development, production and utilization of appropriate water storage containers.



For UNICEF. Set up a country-level revolving fund for flexible response to community level and/or intersectoral initiatives not subject to TAD penalties if funds not used.

- (c) What is needed to promote those CSDR interventions related to the control of diarrhoeal diseases?

At community level. More people will be (i) washing their hands before eating, after defecating and before food handling, and (ii) practising ORT at household level.

At implementer level. Incorporate messages about the relationship between C.D.D. and handwashing in health promotion activities.

At policy level. Adopt policies, devise procedures, and allocate resources to enable/promote these activities.

For UNICEF. Management should coordinate activities to ensure joint action at planning through implementation phases.

<p>(a) What is necessary for water supply and sanitation systems to be planned, installed and constructed, optimally used, maintained, repaired and sustained over the long term?</p>	<p><u>Policy Maker</u> An adequate budget for a maintenance system will be allocated.</p>	<p><u>Implementer</u> Community-level operators will be trained, supported and supervised; and community maintenance system supported</p>	<p><u>Community</u> Pumps will be maintained and pump sites kept clean.</p>	<p><u>UNICEF</u> Develop/share mechanism on maintenance systems.</p>
<p>(b) What is needed to promote and sustain personal, domestic and collective hygiene practices, e.g. handwashing, garbage disposal, excreta disposal (of children's faeces), water collection and storage, etc?</p>	<p>Stimulate development, production and utilization of appropriate water storage containers.</p>	<p>Where water storage containers are not easily available, communities will be assisted.</p>	<p>More people will collect and store water in a sanitary and hygienic way.</p>	<p>Set up a country-level revolving fund for flexible response to community level and/or intersectoral initiatives not subject to TAD penalties if funds not used</p>
<p>(c) What is needed to promote those CSDR interventions related to control of diarrhoeal diseases</p>	<p>Adopt policies, devise procedures and allocate resources to enable/promote these activities.</p>	<p>Incorporate messages about the relationship between C.D.D. in health promotion activities.</p>	<p>More people will be (i) washing their hands before eating, after defecating and before handling food; and (ii) practicing ORT at household level.</p>	<p>Management should coordinate joint action at planning through implementation phases.</p>

Some examples of objectives defined in behavioral terms and indicators for monitoring and evaluation:

- (a) Families will store and use their water under hygienic conditions.

Indicators: presence of cover for container, raised platform for container, dipper hanging above floor, absence of flies around container, use of specific "cup" for drinking.

- (b) Users will keep area around place of water collection in a sanitary condition.

Indicators: adequate drainage, absence of garbage/leaves/sediment/mud from trampling by animals, presence/efforts of caretakers, etc.

- (c) Waste water can be utilized for irrigating vegetable gardens

Indicators: garden around well, in home compound, garden cooperatives formed etc.

- (d) Drawers of water will clean their containers before filling them with "new" water.

Indicators: Washing inside of container before drawing, washing of leaves/balancers before placing them in containers, etc.

- (e) Households will construct and use a sanitary latrine

Indicators: Latrine, presence of cleaning agents (water, paper in latrine) absence of flies, etc. etc. etc.)

#### V. Project formulation

Health education is seen as a combination of activities designed to facilitate voluntary adaptation of behavior conducive to health in individuals, groups, communities, with attention to the larger social, political and economic context influencing these behaviors. The three approaches that are effective to good health education are training/skills development,

community organization/mobilization/participation, communications and information. Monitoring and evaluation of these approaches affect the intermediate effects of the overall water/sanitation programmes. Health education activities in this sector should not exist in isolation from other programme sectors; they should be linked to education programmes (schools, literacy, women's education), nutrition programmes, etc.

Health education should be understood to mean not just the passing of information or a message, but the active setting in place of supportive system to ensure that messages can possibly be acted upon and that allows behaviour change to result.

Proposed plan for health education component

- Behavioral objectives to be set (relative to water and sanitation or improved health objectives) expanded on below.
- Educational strategies to be used (training, communications/information, community organization, social marketing techniques drawn from).
- Information content of activities to be developed (segmentation of target groups - actual health education messages to intended groups)
- Communications methodology, techniques and channel analysis (how will messages be delivered by whom, in what form).
- Community organization (teams/committees to be formed, role of influential groups/leaders/NGOs.
- Training curriculum and activities to be developed (skill building, leadership skills, etc.)
- Operational and monitoring indicators to be set (targets) both quantitative and qualitative
- Evaluation of impact of health education component (what behaviors have been influenced positively/negatively? not at all? any reduction in incidence/prevalence of water and sanitation related diseases)

Risk factors in utilization of water and sanitation within the context of CSDR include:

Excreta disposal, especially of children's excreta

Waste water disposal

Water collection, storage and use

Personal hygiene (emphasizing handwashing, ORT, breastfeeding)

Domestic hygiene (emphasizing garbage disposal)

Functioning of facilities

CSDR elements of breastfeeding, diarrhoea management, immunization.

These factors portray a minimum set of issues that any health education component should address, with the content and emphasis varying depending on the local situation.

There are in addition to those preventive aspects identified as risk factors, diseases that are directly or indirectly influenced by improved facilities and utilization practices (e.g. guinea worm, scabies, hookworm, trachoma, diarrhoeal diseases). These should automatically be included in any health education intervention, with their preventive aspects emphasized while treatment is offered/suggested.



Sanitary Survey Form  
(Used For Training Community Health Workers in Senegal)

Sanitary Survey Form

Name of interviewer: \_\_\_\_\_

Date of interview: \_\_\_\_\_

Name of village: \_\_\_\_\_

District: \_\_\_\_\_

Location of house: \_\_\_\_\_

## Part B. HOUSEHOLD INTERVIEW FORM

A. Introduction and Explanation

Greet householders appropriately.

Ask proper social questions, i.e., "How are you, your family, crops...?"

Explain the purposes of your visit:

1. Community leaders want to make the community a better healthier place to live.
2. Government or agency sent me here to help.
3. I am going to ask some questions about community life and health problems.
4. The discussion should take less than an hour.
5. You will find it interesting. Others can remain in room (area) if they wish.
6. Is it all right to begin?

B. Questions about the Respondent and Household

1. What is your name? \_\_\_\_\_
2. How old are you? (Approximate age if unknown) \_\_\_\_\_
3. Are you now married? Yes \_\_\_\_\_ No \_\_\_\_\_
4. How many infants and children live in your house \_\_\_\_\_ or compound? \_\_\_\_\_
5. How many adults live in this household \_\_\_\_\_ or compound? \_\_\_\_\_

6. What kinds of work are done by the people who live in this house or compound?

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C. Questions about Health

7. Have any of the children in this house or compound been sick in the last week? (Optional)

Yes \_\_\_\_\_ No \_\_\_\_\_ (If "No", skip to Question 9)

8. Please tell me what these illnesses are or were: (Optional)

Local Term

Medical Term

Other Terms

Child a)

---

Child b)

---

Child c)

---

(Add other information on back of this page.

Probe questions for other terms: "What other terms are used to describe the kind of illness the first child has or had?" "Does this term have any other meaning?)"

9. Are people in this community troubled with:

Local Term

a) Malaria:	Yes _____	No _____	_____
b) Infant diarrhea:	Yes _____	No _____	_____
c) Intestinal worms:	Yes _____	No _____	_____
d) Cholera:	Yes _____	No _____	_____
e) Schistosomiasis:	Yes _____	No _____	_____

f) Guinea worm: Yes \_\_\_\_\_ No \_\_\_\_\_

g) Tuberculosis: Yes \_\_\_\_\_ No \_\_\_\_\_

h) Trachoma: Yes \_\_\_\_\_ No \_\_\_\_\_

(Fill in before interview)

i) \_\_\_\_\_ Yes \_\_\_\_\_ No \_\_\_\_\_

j) \_\_\_\_\_ Yes \_\_\_\_\_ No \_\_\_\_\_

k) \_\_\_\_\_ Yes \_\_\_\_\_ No \_\_\_\_\_

Other \_\_\_\_\_ Local Term

l) \_\_\_\_\_ Yes \_\_\_\_\_ No \_\_\_\_\_

m) \_\_\_\_\_ Yes \_\_\_\_\_ No \_\_\_\_\_

n) \_\_\_\_\_ Yes \_\_\_\_\_ No \_\_\_\_\_

(Ask about local terms before proceeding)

10. Let's talk a little about diarrhea.

What do you think might cause this disease?

\_\_\_\_\_

How could someone prevent this disease?

\_\_\_\_\_

11. What about worms?

What might cause this disease? \_\_\_\_\_

\_\_\_\_\_

How could someone prevent it? \_\_\_\_\_

\_\_\_\_\_

12. And what about \_\_\_\_\_? (Other common diseases related to sanitation.)

What might cause it? \_\_\_\_\_

\_\_\_\_\_

How could it be prevented? \_\_\_\_\_  
 \_\_\_\_\_

D. Questions about Sources of Health Care

13. If someone in your household got diarrhea, who in the community would you turn to for advice or help? (Optional)

Name \_\_\_\_\_ Title or Relationship \_\_\_\_\_

Who else might you turn to who knows about these things?

Name \_\_\_\_\_ Title or Relationship \_\_\_\_\_

Anyone else?

Name \_\_\_\_\_ Title or Relationship \_\_\_\_\_

14. If someone got worms (second disease), is there anyone else who you might turn to for help? (Optional)

Name \_\_\_\_\_ Title or Relationship \_\_\_\_\_

15. If none of these people could help, what would you do? (Optional)

\_\_\_\_\_  
 \_\_\_\_\_

E. Questions about Community Organizations

16. What men in this community are respected for their wisdom and concern about this community?

Name

Title if Any

a) \_\_\_\_\_

b) \_\_\_\_\_

c) \_\_\_\_\_

17. What women in this community are respected for their wisdom and concern?

- a) \_\_\_\_\_
- b) \_\_\_\_\_
- c) \_\_\_\_\_

18. Are there any organizations of men, of women or even young people which are working to make this community a better place to live? If so, please describe them.

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(Probe question: Ask about religious groups, committees, informal traditions of sharing work.)

19. a) (If respondent described any existing community organizations, ask:)

Please tell me about the things which these organizations have tried to do. Have they been successful? Why?

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b) (If no organizations described in Question 18, ask:)

Do you think the people of this community would organize themselves to deal with health problems?

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(Probe: How so? Why? Please tell me more about your feelings.)



F. Questions about Water

20. Where do you get drinking water for your household?

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21. Where else do you sometimes get drinking water?

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(Probe: Any other sources?)

22. Are these good sources of drinking water? Why? (Optional)

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23. How could the drinking water sources be improved? (Optional)

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G. Questions about Solid Waste Disposal

24. What do people in this community do with trash such as broken glass, dead animals, and other worthless things?

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25. Are there any problems caused by such trash in the community?

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(Probe: Accidents, unsightliness, other...)

26. Do you think that something should be done about this? What?

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27. If this community decides upon a special place to throw away useless things, do you think that people in the community would use that place? Why?

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H. Questions about Human Wastes

Now I want to ask you a few questions about human waste disposal. You may be surprised that a person would ask about this but I will explain why soon.

28. What is the polite or proper term for defecation?

---

29. Where do men traditionally go to defecate?

---

30. Where do women traditionally go?

---

31. Where do children (age 5-14) go to defecate?

---

32. What is done with the feces of small children?

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33. Do you think that disposing of wastes in such ways poses a problem? Why?

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34. How could such wastes be disposed of in a better way?

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---

35. Does anyone in this community have a latrine, i.e., a special small building with a pit under it where defecation takes place?  
(If "No", ask: Have you ever seen or heard of such a devise?)

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A few minutes ago I said that I would tell you why I am asking questions about such things as defecation. Doctors believe that many diseases can be caused by very small amounts of feces, which can be carried to our food by flies or from soiled hands, or which get into our drinking water when it rains.

36. Have you ever heard such things said? (Probe: "Tell me what you heard, from whom?") (If "No", ask: Do you think that this might be possible?)

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37. Do you think that the people of this community might agree to do something to try to prevent these diseases? Why or why not?

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38. Do you feel that people in this community would be willing to pay a modest amount of money to install a latrine in or near their compound? That is, a very small hut where human wastes can be safely and conveniently disposed. Why or why not?

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39. How do you get information about health? (Probe: Do people in community have a radio, read newspapers or get information from outside?)

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40. Do you have any questions that you want to ask me?

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Thank you very much for your cooperation (kindness, hospitality...)

## F m 5.1

COMMUNITY HEALTH STATUS

## Part I.

Use this section if records and data are available from Ministry of Health, Health Centre, district office, etc.

		Reference Standards		
		Low	Medium	High
Infant (< 1 year) mortality per 1000 live births	_____	< 30	30-100	> 100
Under 5 years mortality per 1000 children under 5 years	_____	< 20	20-50	> 50
Under 5 years diarrhoea mortality per 1000 children under 5 years	_____	< 7	7-17	> 17
Under 5 years diarrhoea death ratio, % of all under 5 deaths	_____	< 20	20-40	> 40
Under 5 year diarrhoeal case ratio % of all under 5 attendances	_____	< 15	15-30	> 30

Any statistic in high range of reference standard - Score 4  
 All statistics in medium or medium and low range - Score 2  
 All statistics in low range of reference standard - Score 0

☐

## Part II.

Use this section if data is obtained from a special survey.

		Reference Standards		
		Low	Medium	High
Under 5 years mortality per 1000 children under 5 years	_____	< 14	14-34	> 34
Under 5 years diarrhoea mortality per 1000 children under 5 years	_____	< 5	5-11	> 11
Under 5 years diarrhoea death ratio, % of all under 5 deaths	_____	< 20	20-40	> 40
Under 5 years diarrhoea incidence diarrhoea episodes/child/year	_____	< 1	1-3	> 3

Any statistic in high range of reference standard - Score 4  
 All statistics in medium or medium and low range - Score 2  
 All statistics in low range of reference standard - Score 0

☐

## Part III.

Use this section if only qualitative information is available.

Community health status considered to be poor - Score 4  
 Community health status considered to be fair - Score 2  
 Community health status considered to be good - Score 0

☐



Form 5.2EXISTING WATER SUPPLY

(a)Water Quality:-	Meets National water quality standards.	Yes - Score 0 No - Score 1	<input type="checkbox"/>
(b)Water Quantity:-	Meets National criterion for quantity.	Yes - Score 0 No - Score 1	<input type="checkbox"/>
(c)Convenience:-	Meets National criterion for convenience of access.	Yes - Score 0 No - Score 1	<input type="checkbox"/>
(d)Reliable Supply:-	Meets criteria for quality, quantity and convenience at all times.	Yes - Score 0 No - Score 1	<input type="checkbox"/>

TOTAL:- Existing Water Supply \_\_\_\_\_

Form 5.3PROPOSED WATER SUPPLY

(a)Water Quality:-	New supply will meet National water quality standards.	Yes - Score 1 No - Score 0	<input type="checkbox"/>
(b)Water Quantity:-	New supply will meet National criterion for quantity.	Yes - Score 1 No - Score 0	<input type="checkbox"/>
(c)Convenience:-	New supply will provide equal or greater convenience than former supply.	Yes - Score 1 No - Score 0	<input type="checkbox"/>
(d)Reliable Supply:-	New supply will meet criteria for quality, quantity and convenience at all times.	Yes - Score 1 No - Score 0	<input type="checkbox"/>

TOTAL:- Proposed Water Supply \_\_\_\_\_

Form 5.4EXISTING SANITATION

(a)Coverage:-	% of families in	< 10% Score 3	<input type="checkbox"/>
	community that	10-40% Score 2	
	have latrines and	40-70% Score 1	
	use them.	> 70% Score 0	

(b)Sanitary effective:-	Prevalent sanitation technology is effective and reliable.	Yes - Score 0	<input type="checkbox"/>
		No - Score 1	

TOTAL:- Existing Sanitation

Form 5.5PROPOSED SANITATION

(a)Coverage:-	Programme will	90% - Score 2	<input type="checkbox"/>
	provide for what		
	percentage coverage with effective and culturally acceptable excreta disposal.	50% - Score 1	
		< 50% Score 0	

(b)Sanitary effective:-	Proposed sanitation technology is effective and reliable.	Yes - Score 1	<input type="checkbox"/>
		No - Score 0	

(c)Culturally acceptable:-	Proposed sanitation technology is culturally acceptable.	Yes - Score 1	<input type="checkbox"/>
		No - Score 0	

TOTAL:- Proposed Sanitation

Form 5.10PROJECT COMMUNICATIONS SUPPORT

A Health Education programme has been designed to accompany the water supply and sanitation project.

Yes - Score 1  
No - Score 0

☐

The health education programme is matched to the level of community literacy (see 5.9) and effective media entries (see 5.11).

Yes - Score 1  
No - Score 0

☐

The health education programme has been allocated sufficient staff, financial and support resources for its successful implementation.

Yes - Score 2  
No - Score 0

☐

TOTAL:- Project Communication Support

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Form 5.11MEDIA ENTRIES TO THE COMMUNITY

Electronic media: radio and/or television.

Yes - Score 1  
No - Score 0

☐

Print: newspapers, magazines, brochures, posters.

Yes - Score 0.5  
No - Score 0

☐

Traditional drama and song.

Frequent - Score 0.5  
Rare or none - Score 0

☐

Clubs, youth groups, Women's groups, etc.

2 or more - Score 2  
One - Score 1  
None - Score 0

☐

TOTAL:- Media Entries to the Community

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Form 5.12COMMUNITY ORGANIZATION AND RESOURCES

The community has an organization such as a water committee, or development committee to provide local management of the system.	Yes	-	Score 1	<input type="checkbox"/>
	No	-	Score 0	

The community has agreed to provide a significant contribution (in cash or kind) toward construction.	Yes	-	Score 1	<input type="checkbox"/>
	No	-	Score 0	

The community has contracted to cover all or a significant portion of operating and maintenance costs.	All costs	-	Score 1	<input type="checkbox"/>
	Portion	-	Score .5	
	None	-	Score 0	

The community has manpower resources with adequate skills for operation and maintenance.	Yes	-	Score 1	<input type="checkbox"/>
	No	-	Score 0	

TOTAL:- Community Organization and Resources

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Form 5.13COMMUNITY DEVELOPMENT PROGRAMMES

The community has successfully implemented development projects in other sectors.	Two or more projects	-	Score 2	<input type="checkbox"/>
	One project	-	Score 1	
	None	-	Score 0	

Synergistic effects can be anticipated from ongoing projects (e.g. education, nutrition, housing, agriculture, health care).	Two or more projects	-	Score 2	<input type="checkbox"/>
	One project	-	Score 1	
	None	-	Score 0	

TOTAL:- Community Development Programmes

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Form 5.14NATIONAL SUPPORT SYSTEM

National programme provides for:

Training of community  
personnel in technical  
and management requirements.Yes - Score 1  
No - Score 0☐Supply of spare parts and  
materials.Yes - Score 1  
No - Score 0☐

Regular inspection service.

Yes - Score 1  
No - Score 0☐

Back up maintenance service.

Yes - Score 1  
No - Score 0☐

TOTAL:- National Support System

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SUMMARY SCORE SHEET

Community Name:.....

Location:.....

.....

5.1	Community Health Status	.....
5.2	Existing Water Supply	.....
5.3	Proposed Water Supply	.....
5.4	Existing Sanitation	.....
5.5	Proposed Sanitation	.....
5.6	Community Health Programmes and Staff	.....
5.7	Community Perception of Needs	.....
5.8	Community Population Characteristics	.....
5.9	Community Education Facilities	.....
5.10	Project Communications Support	.....
5.11	Media Entries to Community	.....
5.12	Community Organization and Resources	.....
5.13	Community Development Programmes	.....
5.14	National Support System	.....
	PROJECT TOTAL (not to exceed 56)	.....

Forms and Summary completed by:.....

Date:.....

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1. *LIST MAIN WOMEN'S NEEDS IN HEALTH/HYGIENE EDUCATION.*
2. *INDICATE WOMEN'S ACTIVITIES IN HEALTH/HYGIENE EDUCATION.*
3. *HOW DO YOU ENVISAGE TO ENLARGE ACTIVITIES OF YOUR ORGANISATION IN THIS AREA?*
4. *WHAT WOULD YOU RECOMMEND TO GOVERNMENT OFFICIALS FOR INCORPORATING HEALTH EDUCATION PROGRAMMES IN ALREADY EXISTING EDUCATIONAL STRUCTURES?*

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		<b>EVALUATION QUESTIONNAIRE</b>	3.2	W.O.
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**NAME OF PARTICIPANT**

.....

**INSTITUTION**

.....

**OCCUPATION**

.....

**COUNTRY**

.....

**DATE**

.....

**Mark the box which corresponds best to your opinion to each question.**

1. Your degree of interest in the particular topic of this module was:



high                      | |   | |   | |   | |                      low

2. The objectives of this module were:

clear                      | |   | |   | |   | |                      not clear

3. The contents of this module were:

well structured       | |   | |   | |   | |       badly structured

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4. The terminology in this module was:

easy to								hard to
understand								understand

5. The visual material (slides, drawings, diagrams...) used in this module was:

clear							confused
useful							useless

6. The checklists have covered the subject studied?



completely							not at all
------------	--	--	--	--	--	--	------------

7. The checklists were:

useful							useless
too simple							too complicated
sufficient							insufficient

8. Studying this module enabled you to learn:

many new things							nothing new
-----------------	--	--	--	--	--	--	-------------

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9. The knowledge acquired through the module's study will in your present profession be:

useful                      | |    | |    | |    | |                      useless

10. The knowledge acquired through the module's study will in the near future be (reply to this question only if the answer n. 9 is negative):



useful                      | |    | |    | |    | |                      useless

11. List the topics you would like to have treated more extensively:

- 1).....
- 2).....
- 3).....

12. List the topics you would like to have treated to a lesser extent:

- 1).....
- 2).....
- 3).....

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13. *List the topics not included in this module which you think are of essential interest to your profession:*

- 1).....
- 2).....
- 3).....

14. *Please list any suggestions you have to offer for improvement of this training module.*

- .....
- .....
- .....



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		LIST OF TRAINING MATERIAL	4.1	W.O.
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#### *HARDWARE*

PROJECTOR  
 SCREEN  
 TAPE RECORDER WITH SPEAKERS  
 FLIP-CHART



#### *DOCUMENTS TO BE USED BY THE TRAINER*

See "module structure" p. 3



#### *DOCUMENTS TO BE DISTRIBUTED TO TRAINEES*

OBJECTIVES  
 TARGET POPULATION  
 TABLE OF CONTENTS  
 TEXT  
 GLOSSARY  
 BIBLIOGRAPHY  
 CHECKLISTS  
 ADDITIONAL MATERIAL  
 EVALUATION QUESTIONNAIRE

*Check that this material has not been previously distributed to the trainee.*

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		LESSON PLAN	4.2	W.O.
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<i>KEY POINTS</i>	<i>TRAINING METHODS AND ACTIVITIES</i>	<i>DOCUMENTS TO BE DISTRIBUTED</i>	<i>AVA</i>
<i>INTRODUCTION</i>			
1. <i>OBJECTIVES</i>	<i>PRESENTATION</i>	<i>Additional reading</i>	<i>IDRC video "Prescription for health"</i>
2. <i>INTRODUCTION ON PRIMARY HEALTH CARE</i>	<i>PRESENTATION/ DISCUSSION</i>		<i>T1/T1A</i>
<i>PRESENTATION</i>			
3. <i>WOMEN'S ACTIVITIES AND NEEDS IN PRIMARY HEALTH CARE</i>	<i>PRESENTATION/</i>		<i>T2/T3/T3A</i>
4. <i>HEALTH/HYGIENE EDUCATION</i>	<i>PRESENTATION/ DISCUSSION</i>		<i>T5</i>
5. <i>CONDITIONS FOR WOMEN TO PARTICI- PATE IN HEALTH EDUCATION PROGRAMMES</i>	<i>PRESENTATION/ DISCUSSION</i>		
6. <i>PATTERNS OF WATER USE AND HYGIENE</i>	<i>PRESENTATION</i>		<i>T4/T6/T6A</i>

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### *SUMMARY*

*KEY ISSUE CHECKLISTS*

*GROUP  
DISCUSSION*

*Checklist*

*PRESENTATION OF  
CHECKLISTS*

*PLENARY  
DISCUSSION*

### *CONTROL*

*KEY ISSUE CHECKLISTS*



*THE PARTICIPANTS  
WILL WORK IN  
SMALL GROUPS  
AND DISCUSS  
VARIOUS PROPOSALS*

*MODULE EVALUATION*

*INDIVIDUAL  
ACTIVITY*

*Evaluation  
questionnaire*

*We suggest that the officer in charge follow strictly the sequence of key points as given in this guide including the related audiovisual material (AVA). As far as training methodology is concerned, the selection and adoption of the most suitable methods, with reference to the characteristics of the target population being trained, is left to the ability and experience of the trainer.*

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LIST OF TRANSPARENCIES		SUB-MODULE IV/5.1		W.O.

1. *WOMEN'S ROLE IN HEALTH/HYGIENE*
- 1.A *WOMEN'S ROLE IN HEALTH/HYGIENE*
2. *MAIN FACTORS THAT DISCOURAGE WOMEN'S PARTICIPATION*
3. *WOMEN'S PARTICIPATION IN HEALTH EDUCATION*
- 3.A *WOMEN'S PARTICIPATION IN HEALTH EDUCATION*
4. *PATTERNS OF WATER USE AND HYGIENE*
5. *HOW TO PAY ATTENTION TO WOMEN*
6. *ROLE OF WOMEN'S ORGANISATIONS - NATIONAL LEVEL*
- 6.A *ROLE OF WOMEN'S ORGANISATIONS - NATIONAL LEVEL*

## WOMEN'S ROLE IN HEALTH|HYGIENE

WOMEN...

ARE KEY PERSONS IN PROVIDING HEALTH CARE FOR FAMILY

DECIDE ON THE NUTRITIONAL STATUS OF FAMILY

ARE RESPONSIBLE FOR PROVIDING WATER AND SANITATION

EDUCATE CHILDREN ON HEALTH ISSUES



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W.O.

TRANSPARANCIES

HEALTH|HYGIENE EDUCATION

1A

WOMEN'S ROLE IN HEALTH|HYGIENE

WOMEN...

ARE FIRST TO DEAL WITH HEALTH PROBLEMS IN FAMILY  
DECIDE WHEN AND HOW TO SEEK HEALTH CARE  
THEMSELVES PROVIDE HEALTH SERVICES



MAIN FACTORS THAT DISCOURAGE WOMEN'S  
PARTICIPATION

LACK OF CONSULTATION IN IDEA FORMULATION

LACK OF ORGANIZATION TO SUSTAIN WOMEN'S PARTICIPATION

SOCIO-ECONOMIC AND CULTURAL FACTORS ARE NOT CONSIDERED

FACT THAT MEN OFTEN TAKE OVER A PROJECT

POWERLESSNESS OF WOMEN, PARTICULARLY LANDLESS WOMEN

## WOMEN'S PARTICIPATION IN HEALTH EDUCATION



**WOMEN NEED TO KNOW:**

**HOW TO REPAIR EQUIPEMENT**

**HOW TO DETECT PROBLEMS**

**WHEN TO SEEK OUTSIDE HELP**

**HOW TO PROTECT WATER SOURCES**

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TRANSPARANCIES		HEALTH/HYGIENE EDUCATION		<b>W.O.</b>
				<b>3</b>

## WOMEN'S PARTICIPATION IN HEALTH EDUCATION

WOMEN NEED TO KNOW:

HOW TO KEEP LATRINES CLEAN



HOW TO KEEP FOOD SAFE



WHERE TO WASH CLOTHES.

## CONDITIONS TO PARTICIPATE

TIME TO LEARN

BUILD ON LOCAL KNOWLEDGE AND RESOURCES

 TURN CENTRE	 UN INSTRAW	UN (WVSS) WOMEN, WATER SUPPLY AND SANITATION.		MAY 86
TRANSPARANCIES		HEALTH/HYGIENE EDUCATION		W.O.
				3A

 TURN CENTRE		 UN INSTRAW	
TRANSPARANCIES		UN (WSS) WOMEN, WATER SUPPLY AND SANITATION.	
HEALTH/HYGIENE EDUCATION			
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## PATTERNS OF WATER USE AND HYGIENE

TRANSPORT, STORAGE AND DRAWING OF DRINKING WATER

INCREASED WATER USE FOR PERSONAL AND DOMESTIC HYGIENE

EXCRETA DISPOSAL AND FOOD HANDLING



WATER WASTE DISPOSAL

## HOW TO PAY ATTENTION TO WOMEN

INCLUDE INFORMATION ON WOMEN IN THE PROJECT AREA IN  
THE DATA TO BE COLLECTED , AND USE IT IN PLANNING

ASSIST WOMEN TO PLAY AN ACTIVE ROLE IN THE PROJECT,  
PARTICULARLY IN DECISION -MAKING ABOUT THE TECHNOLOGY  
AND DESIGN ASPECTS

INVESTIGATE WOMEN'S NEEDS AND TRADITIONS THROUGH  
PARTICIPATORY RESEARCH AND CONTINUING CONSULTATION AT  
THE COMMUNITY LEVEL

 TUCC CENTRE		 UN INSTRA	
TRANSPARANCIES		UN (WVSS) WOMEN, WATER SUPPLY AND SANITATION.	
HEALTH HYGIENE EDUCATION			
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## ROLE OF WOMEN'S ORGANIZATIONS

### NATIONAL LEVEL- RECOMMENDATIONS

INCLUDE WATER AND SANITATION TOPICS IN WOMEN'S LITERACY CAMPAIGNS AND IN WOMEN'S HEALTH PROGRAMMES

IDENTIFY WOMEN LEADERS TO PROMOTE CLEAN WATER AND SANITATION

ORGANIZE AND SUPPORT RESEARCH ON WOMEN'S QUESTIONS IN WSS

 TUWU CENTRE	 UN WSS	UN (WSS) WOMEN, WATER SUPPLY AND SANITATION.		MAY 86
TRANSPARANCIES		HEALTH/HYGIENE EDUCATION		W.O.
				6







## ROLE OF WOMEN'S ORGANIZATIONS

### NATIONAL LEVEL – RECOMMENDATIONS

CONDUCT SURVEY OF PLACES WHERE WOMEN ARE EMPLOYED TO  
CHECK WATER AND SANITATION CONDITIONS

CONVENE GROUPS OF WOMEN FOR HEALTH EDUCATION SESSIONS  
WITH PRIMARY HEALTH CARE WORKERS

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### PREFACE

The content of this modular unit has been developed on the basis of:

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SUB-MODULE V



*THE ROLE OF WOMEN AS PARTICIPANTS AND BENEFICIARIES  
IN THE CHOICE OF TECHNOLOGY AND TRAINING  
FOR WSS PROJECTS*

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### MODULE STRUCTURE

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The officer in charge will make use of the five components indicated above, while the participants will be provided with the material related to components 1, 2 and 3.

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## 1.1 OBJECTIVES



### GENERAL

*The participants will identify the role of women in choice of technology and the necessary training actions for incorporation of women in WSS projects.*

### SPECIFIC

*On completion of this unit, the participants should be able to:*



- 1) identify the role of women in choice of technology;*
- 2) recognise the main concepts necessary to enhance women in training programmes;*
- 3) identify components for formulating training programmes for community-based workers.*

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1.2      TARGET POPULATION



LEADERS AND SENIOR OFFICIALS OF WOMEN'S ORGANISATIONS AT  
NATIONAL, REGIONAL AND INTERNATIONAL LEVELS.



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## 2.2 NOTES FOR PRESENTATION



### 1. INTRODUCTION

Many cases of rejection of improved water and sanitation facilities and also of the responsibilities attached to their introduction have been recorded. Such reactions cannot be attributed merely to lack of interest, cultural barriers or inherent conservatism of poor rural people. On the contrary, their decisions are often based on a rational comparison of cost and benefits of the old and new options. Cases of incomplete adoption or rejection of facilities become understandable when viewed in the light of decision-making, work and position of women. Facilities, regardless of the excellence of construction and function, will not achieve their objectives if they are not used. Achievement of programme objectives will be affected by users of the facilities. Women as the primary users of water and as frequently the first to use sanitary installations may thus be singled out for the intensive user education so necessary for a project success.

#### 1.1 Technologies for water supply and sanitation projects

Technologies for improved water supply and sanitation have often failed because they are inappropriate, too complicated or difficult to operate and/or maintain. Simple rudimentary methods should be used and developed using local materials in view of lower costs, and the possibility to provide for greater self-reliance from the community to the national level. The technology should be adapted to small-scale applications, suitable for community participation and management. There are three main aspects to be considered:

- a) health and sanitary appropriateness - adaptation to prevailing health patterns in order to achieve national health benefits;
- b) functional appropriateness - fitness of the equipment from the point of view of design and performances related to the local attitudes, behaviours and bio-technological factors, and its relevance to the objectives of providing adequate quantities of the water in a reliable supply available around the year;

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- c) environmental appropriateness - fitness of the facilities to operate in the physical environment of the region concerned and to avoid adverse effects on the environment. Adequate attention should be given to drainage which is often neglected.



The technology for water and sanitation programmes - as with other aspects of primary health care - must be acceptable, affordable and it must work. An inexpensive, attractive, well-placed water pump is pointless if it keeps breaking down and the community cannot afford to pay for repairs (e.g. imported spare parts). Likewise, a latrine may dispose of faeces perfectly, but may not be used if it does not eliminate bad odours or if located inconveniently. Certain equipment has been found to be unsuitable for women. One particular hand pump was installed, but not used. Though designed well for men, the handle was too high and too heavy for the average woman. But it was women not men who were the users. In another instance, latrines were installed to the satisfaction of community leaders, but as it turned out, women could not use them because they lacked privacy - the door did not conceal the women's feet.

Failure to involve women in initial testing of new technologies, such as hand pumps and water carts, has resulted in reduced effectiveness and use. Evaluation with men and users of an experimental hand pump and platform design yielded useful data and suggestions, and contradicted the original expectations of ease of operation for children and women.

#### 1.1.1 Choice of technology

There is no overstressing the importance of selecting water and sanitation technologies appropriate to the social and economic conditions of the project communities. "Appropriate technology does not necessarily mean simple technology" but a technology specifically designed for the conditions on which it must function. Some of the importance technological characteristics are:

- 1) system design
- 2) levels of service
- 3) costs
- 4) maintenance needs

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*The concepts of system design and levels of service usually allow a ranking of water and sanitation improvements based upon the variables of:*

- 1) *water quantity*
- 2) *walking distance*
- 3) *cost*
- 4) *methods of waste transport and disposal.*

*The success of any community water design is dependent upon the users' choice and their perception of water quality, difficulty at the source, and social interactions during the water collecting process. These are factors which are of significant concern to women and which further throw light upon the important role women have to play in water and sanitation interventions. The climatic and site conditions, population, socio-cultural factors, and the institutional framework are important to guide the selection and design of the most appropriate technology. The basic precept, therefore, is that the choice of technology must be appropriate to the existing socio-economic, environmental and institutional setting. These factors would also further determine the selection of the appropriate levels of technology.*



*The main factors that discourage women's participation are:*

- 1) *socio-economic, cultural and political factors are not considered;*
- 2) *lack of consultation in idea formulation;*
- 3) *lack of organisation to sustain women's participation;*
- 4) *the fact that men often take over a project when the women's input has been identified as successful;*
- 5) *powerlessness of women, particularly those who are among the landless.*

## 1.2 How to pay attention to women

*There are two major ways for water supply and sanitation projects to consider women's participation in the choice of technology:*

- a) *by including information on women in the project area in the data to be collected, and using it in planning; and*
- b) *by assisting women to play an active role in the project, particularly in decision-making about the technology and design aspects and in accompanying training activities.*

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*Such attention to women during project planning is even more vital where there are large numbers of female-headed households in the project area, either on a temporary or permanent basis (as occurs in Lesotho, rural Zimbabwe, Jamaica and other countries). In such instances, women will take over many of men's roles; if this is not recognised during planning, it will lead to unworkable assumptions.*



### 1.3 Women's role in choice of technology for WSS projects

*When new facilities are not used at all, the argument is put forward that women should be "educated". Women make reasoned choices and have some basic, although not necessarily complete, understanding of the relationship between water, sanitation and health. Therefore, as women are the primary users of facilities, it is necessary to enlarge their knowledge and take into account their preferences when installing new facilities.*

*It is essential to find out about local needs through participatory research and continuing consultation at the community level, especially with women. In the design and application of community accepted technologies, women's needs and their physical state such as pregnancy and physical capability should be taken into account. Women's views and opinions are critical in this regard, especially regarding the choice of technology, and develop new and appropriate technologies to be introduced, to satisfy long and short term needs as defined by women. This will serve to influence acceptance and use of improved water and sanitation systems. It will be largely up to them whether facilities will be used and maintained. Women often place a different value than men on such positive features of facilities such as: privacy offered by the super-structure, reliability, safety, convenience, comfort, attractiveness, etc.*

#### 1.3.1 Women's role in the design of technology

*In reaching technology decisions, full advantage must be taken of women's knowledge in water and sanitation aspects of the environment, including water source and water quantity during dry and wet seasons. Women as water drawers can provide important information. For example in the Suriago rural water supply project in the Philippines, women told the engineers the short-cut trail leading the spring source to the village. The engineers found that the amount of pipes and fittings requested originally for 11 systems*

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could be used to extend service to eight more villages.(1) In Panama, women took the engineers to a fresh water source on the shore of the island which had not been found during the feasibility survey.(2)

Women should also be involved in decision-making on the design of additional facilities for washing, hand washing, animal drinking, vegetable growing, and other activities. In rural Khuzistan, Iran, communal laundry facilities built were large rectangular sinks, at adult waist height. However, Iranian women traditionally wash clothes and dishes in a squatting position. As a result, the laundry basins were not used.(3) In Guatemala, when standpipes had to be shared by three families, women helped in deciding which groups could share. They also made adaptations for laundry and other uses.(4)

Field experience indicates that women can make valuable contributions to local project design. Their opinions on water quality were found to be important in selecting sources for gravity water supplies in Malawi and Tanzania.(5; A40) In the Philippines, women assisted in selecting reliable sources for a gravity supply. Yet in Tanzania, failure to consult local women resulted in the construction of shallow wells with hand pumps that dry up, while traditional wells in another part of the village never dry up.(6) Surveyors in a well project in Bourkina Faso found that in contrast to the women, the local councils of chief and elders had no specific information about the traditional water sources and their year-round reliability. Locations for hand-pump wells have been changed because women have objected to the steepness of slope or taste of the water.

In selection of service level and siting of facilities, the needs and practical experience of women as housewives, mothers and neighbours also play a role. In Mexico, house connections were rejected by women in favour of patio taps, because leakage would be less of a problem. Therefore, involving women in the design, construction and management of communal facilities, together with thorough discussion of the implications for their upkeep and proper use, is more effective.



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### 1.3.2 Appropriate technology issues

Self-improvements in water and sanitation may also be stimulated by the development and diffusion of appropriate technology, such as locally made rain-water collection tanks, water transport facilities, and household water filters. Many bibliographies and manuals on appropriate technology have been prepared, which include self-improvements for water supply, sanitation and hygiene. However, it is not always clear whether they reach women and women's organisations in rural and urban fringe areas. Technology centres located in large cities are difficult for rural women to attend or to obtain information and technical assistance.

Some programmes have made special efforts to reach their target groups. In Indonesia, the Ministry for Women's Affairs has published a handbook on appropriate technology for village women. In other countries, courses have been organised to train women in labour-saving technologies.

An interesting strategy to diffuse knowledge of appropriate technology for women's self-improvement has been followed in Senegal. A travelling exhibition of village technologies was organised by the Ministry of Rural Development and Water Supply to tour all rural communities. During its one-week stay in each village, a seminar was organised to introduce the various technologies to the women. A similar travelling exhibition focusing on environmental sanitation was organised in Ghana, as early as 1948. After villagers had been escorted around the various exhibits, women were selected to receive intensive training at rural training centres.

"Whilst total results did not add up to the expectations of the organizers, there can be no doubt that considerable improvement was achieved in cleaning up villages and improving environmental hygiene. The travelling exhibition itself was manufactured locally and, whilst some of the exhibits might have been deemed crude, there was no doubt of the interest that they stirred in the villagers of Transvolta".(8: p. 47)

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### 1.3.3 How to involve women in appropriate choice of technology

The technology for water and sanitation programmes must be acceptable, affordable and it must work. If women are to begin taking hold of technology in their daily lives, they could:

- work through their local clubs and associations to mobilise community action in favour of the new facilities;
- participate on survey teams to identify community needs;
- choose and test pumps and other technologies they will later use daily;
- monitor leaks and other defects in water systems;
- keep a stock of spare parts;
- do routine maintenance and minor repairs;
- be a liaison between local authorities and district/regional technical services.



In considering a technology, one question that must be asked is: DOES IT WORK? The answer to the above can be found in answers to more specific questions such as:

1. What does it do for the lives of women?
2. What changes in women's work patterns will be required to use it? Does it use local initiative or allow for local development?
3. Is the engineering design appropriate to women? Is it easy to maintain? Does it really encourage self-reliance? If so, how?
4. Is this technology the most affordable option? Can women afford the cost? What are the benefits for women?

### 1.3.4 Role of women's organisations

The following policies are recommended:

1. Women's organisations could organise or support research prior to the implementation of technology and ensure that adequate technology is chosen for the community, particularly women with existing economic, environmental and socio-cultural context. By consulting with technical agencies and women at local level, it could be ensured that:
  - engineering design is appropriate for women's use;
  - the structure of the latrines ensures privacy and conforms to cultural rules;
  - women can repair facilities;
  - women can afford to maintain them.



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2. *Women's organisations can contribute to decision-making about community water supply and sanitation by providing information on:*
  - *locations for facilities that are convenient for women;*
  - *schedules for using facilities that fit women's work patterns or time use;*
  - *design of technologies that suit women, and that are easy for women to use.*
  
3. *Women's organisations can encourage the involvement of women in the national programme at all levels:*
  - *help recruit women managers, engineers, teachers and trainers;*
  - *prepare list of active local women's groups which are near proposed programme sites;*
  - *provide a roster of women candidates for training courses;*
  - *support activities of local women's organisations contributing to improved water and sanitation, by providing funds, equipment and supplies, technical back-up and information materials;*
  - *organise fund-raising campaigns.*

## 2. TRAINING

### 2.1 Introduction

*A weak element in many water supply and sanitation programmes is the training for community members, particularly women, who voluntarily or for small compensation from the community, carry out local maintenance and management. This is due to the relatively recent change from centralised, agency-managed systems to more decentralised, participatory approaches and also to the limited number of evaluations on functioning of local facilities. Also, in recruitment and training of higher level staff, technical agencies involved in community water supply and sanitation programmes still often emphasise technical skills, and pay less attention to management and socio-organisational aspects. The adaptation of training courses for programme managers and engineers and the introduction of training courses for community workers provide good opportunities to introduce the involvement of women as one of the factors from which both projects and communities can benefit.*

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*The importance of promoting training for women in the field of water supply and sanitation must be firmly emphasised. Special efforts need to be made to identify women's needs and to train them accordingly in technical skills regarding project development, operation and maintenance, health and education.*

*In many cultures, women both as trainers and as trainers of trainers are more effective and are sometimes required if females are being trained. The key is task specific training, which includes information necessary for women to practise, teach and supervise others.*



*Training should be treated as an opportunity for trainees to acquire needed skills in a real-world context and supported by technical staff with a minimum of time spent merely acquiring information. Equally, the training period should not be looked upon as all that is necessary for a woman to function as a manager of water and sanitation services. Effective training, in fact, adapts methods, content and length of the programme to the needs and capacities of the target audience. Such training focuses on introducing trainees to problem-solving skills in the training period, while foreseeing the necessity of support and supervision as the trainee continues to learn in subsequent periods (Austin, 1979).*

*Special modules on water and sanitation and health, including technical aspects, can be introduced into their training. This type of integration can lead to reduced costs and more nearly integrated field programmes, and can focus on priority areas as defined by communities: health, education, nutrition and water supply areas which often cut across disciplinary boundaries.*

## 2.2 Training of women as trainers

*The critical shortage of women trainers is a problem that most countries face. Plans for the development of such personnel should include an estimate of requirements, general strategies, and plans for linking the teaching of training techniques to suitable field experience in water and sanitation activities, including health education activities.*

*Programmes to train women as trainers whether at university or site level must be well managed if they are to be effective. The socio-cultural aspects must be included in the design of training*

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programmes and schedule of training activities on site level should be adapted to the women's free time. Some important considerations are:



- How should women be selected?
- What proportion of the content should be technical and what proportion methodological?
- Where should the training take place?
- To what extent can self-learning materials help to develop training skills?

When training women, consideration should be given to the important role that staff who will manage WSS operations can play as trainers. However, they often lack skills in training or fail to perceive training as part of their role as supervisors. If managers are to assume a training function, the planning problem then becomes one of deciding how many of them can be initially spared for this purpose without existing services being adversely affected. Furthermore, mechanisms must be devised to ensure that women who receive training will begin as soon as possible to actually train others either as a part of supervision or on an ad hoc basis for women they do not directly supervise.

One of the approaches to train women would be to train key persons at the upper level of management in order to enable them to train others within their level as well as key persons at the next lower level, with the process continuing until all levels received the necessary training. This would promote a team work approach to the solution of operational problems. In essence, it would afford opportunities for trainers and trainees to teach each other and learn together and would provide a large number of trainers in a relatively short time at low cost.

#### 2.2.1 Interviewing women

The interview situation is also important. Normally it is advisable to try to interview women when their husbands are not present, but in some cultures women may be unwilling to agree to this, even with a female interviewer. The possibility of group interviews wherever women gather should be taken advantage of, particularly where these people already have a fairly close relationship with each other and can enter into a lively discussion on the questions

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asked. However, people who belong to such groups may not be representative of the population as a whole; this needs to be kept in mind.

### 2.3 Women as trainers

Women as trainers can range from graduates to illiterates, and among them there will be variations as to age, education, occupation, social background, etc. The types of tasks to be performed will determine the quantity and types of women to be trained.

The range of tasks is broad and includes the various tasks involved such as:

- planning, programming, budgeting and evaluation;
- the design and construction of facilities;
- the operation and maintenance of facilities;
- health/hygiene education of communities and families.

In most countries, the latter two sets of tasks require immediate attention, so that both existing systems and those to be constructed will be properly operated. This will mean an intensive focus on the training of women for intermediate and lower level, e.g. sanitarians, sanitation or public health inspectors, health or sanitation aids, community development workers, waterworks operators and volunteers.



### 2.4 Education and training programmes\*

Motivation and education on safe drinking water and sanitation through schools, health and other community programmes should be provided prior to, or along with the installation of water and sanitation facilities. Whether formal or informal, education programmes should reach women as well as all groups such as religious leaders, village elders or opinion leaders, teachers and students.

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\* Please see "Additional reading" on how the discussion leader in a training course should guide the group. These guidelines are adaptable for any training course.



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To heighten community awareness of water supply and sanitation needs and related health issues, WSS projects will have to penetrate many kinds of educational institutions and programmes serving all ages and social levels.

This is particularly urgent for women who need specific skills. Programmes should be designed to be of direct operational relevance to the task to be performed. Initial priority programmes to meet urgent needs are:



- a) Schools for basic education leading to paid or voluntary community sectoral involvement, and for basic health and hygiene education.
- b) Technical training programmes for sub-graduate skills either pre-service or in-service (administrators, technical supervisors, sanitary inspectors, community workers).
- c) Non-formal and community based programmes for cooperative extension and voluntary women workers, linked with primary health care approaches and programmes.
- d) Formal programmes of water supply and sanitation sector institutions for teaching pre-service or in-service groups of women, the skills associated with specific sectoral needs.

While attention should be focused on all these areas, most training for women should be at the workplace. It is an important goal to help ensure that on-the-job acquisition of skills takes place as efficiently and to as high a standard as possible. Learning-by-doing, under supervision, should be the preferred method of on-site training. Women trainees become active participants in their learning process.

To the extent possible, women team training should be emphasised. This is best applied by women supervisors and trainers who have learned by the same means.

Systematisation of non-formal on-the-job training requires special techniques and skills in planners and trainees. Training plans should be based on analysis of the technical skills to be learned. Work study techniques can help to identify these. Circumstances will



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vary widely within and between different countries. To achieve the aims, it will be essential that staff at all levels understand how best to develop their subordinates' skills on and off job.

## 2.5 Women's tasks in training programmes

To ensure that women are included in the training programmes of water and sanitation projects, the following aspects need to be emphasised:

### a) Selection of criteria for trainees



Trainees will range from graduates to illiterates, and among them there will be variations as to age, education, occupation, social background, etc. The types of tasks to be performed will determine the quantity and types of women to be trained. Special provisions should be made so that a certain percentage of women is recruited. In Nigeria, the Imo State Water Project trained village based workers to carry on health education. The criteria of selection of trainees was that each village must select both men and women. This ensured that a certain percentage of women were selected and trained.

### b) Special measures facilitating women trainees' participating in training

Short-term training would be more desirable for women's participation. Training sites located in the villages would facilitate women trainees' attendance. Sometimes, simple child care facilities should be provided so that young mother trainees can bring their young children with them.

### c) Women trainers and retraining of existing field staff

It is necessary to train women as trainers at the village level in order to reach women. Special supplementary modules should be prepared to extend learning into homes. Women should be involved in developing training materials. Sometimes, there needs to be retraining and refresher courses for existing field staff to improve communication skills with women. Some questions requiring consideration are: What obligation does the person who receives training have as regards training others? Where should training take place? To what extent can self-learning materials help to develop training skills?

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d) Coordination of training community level workers

*In countries where there are trained health workers, every effort should be made to promote collaborative activities integrating water and sanitation components in the primary health care programme. At the community level, since many different outreach services aspire to benefit women and depend on women's active and responsible participation, it follows that institutional responsibility for training must be shared. While sharing the responsibility to implement training, however, precaution must be taken to ensure that it is conceptually integrated. Nothing could be more confusing to the recipients of services than to be approached by staff with conflicting philosophies and methodologues of field work.*

2.5.1 Checklists on programme training

*In order to ensure that women are involve in programme training, the following issues should be established as criteria:*



- 1) *Do programme training activities give equal opportunity to women?*
- 2) *What is the proportion of women in training activities?*
- 3) *What special efforts are being made to involve more women?*
- 4) *What proportion of fellowships are awarded to women?*
- 5) *Have training programmes encouraged involvement of women in water and sanitation programmes?*
- 6) *Have women's organisations been involved in the programme?*

2.5.2 Training needs for women in sanitation

*Just as for water, the perceptions of women are essential in early planning for sanitation. As mothers, caring for and training of infants, their preferences and opinions must be considered. Locations and types of latrines should be planned after consultation with women to assure access to water needed for sanitary latrine use.*

*Women should be trained as users and managers of sanitation services in the following areas:*

- 1) *adequate utilisation and care of latrines by the family members;*
- 2) *proper disposal of faeces, how to wash hands after defecating and before preparing or touching food;*

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- 3) adequate recovery of waste water and excreta;
- 4) adequate maintenance of sewage systems by means of supervised services and daily conservation and repair operations;
- 5) inspection of domestic, regional and municipal systems - contacting local authorities in charge of the public services as well as training other community members and the family itself.

## 2.6 Role of women's organisations

Women's organisations can select members to participate in water and sanitation programme training activities and act as collective "caretakers" of facilities providing volunteers on rotation.

As well, women should be trained to develop income-generating activities for use in health improvement programmes such as:

- construction of safe water pots for home storage;
- production of inexpensive soap;
- production of safe food storage containers;
- production of racks for keeping cooking and eating utensils clean;
- production of latrine equipment.

Women's organisations could encourage government assistance and support for specifically designed training programmes which are tailored to the community needs. Special emphasis should be put on technical training seminars for women in preventive maintenance and simple repairs of equipment. This would include activities such as how to:

- protect the water source;
- look after taps;
- find potential faults;
- keep stock of spare parts;
- fix minor breakdowns;
- check cleanliness of public latrines;
- do water quality tests.

In order to promote and motivate women's participation, it would be useful to organise courses for women to carry out self-help activities such as:

- excreta and refuse disposal;



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- excreta re-use, e.g. fertilizer for community or home gardens;
- building community troughs for washing clothes near running water taps;
- sanitary disposal of waste water.

*It is necessary that women's organisations consult with national and local authorities in order to work plans according to their own specific needs and problems.*

## 2.3 ADDITIONAL READING

### NOTES TO THE DISCUSSION LEADER

#### 1. Why Your Work is Important

An improved water system carries with it the promise of improved health. Unfortunately, that promise is not always kept. Plenty of clean water may improve the health of the water users--or it may not. Providing knowledge about HOW to protect and use the water is as important as providing the water itself.

People must understand that improved health requires personal and community sanitation as well as clean and plentiful water.

- REMEMBER:
- Community support for the water system is essential to its proper functioning and to the improved health of the people.
  - Community education is essential for community support.
  - YOU can be an essential part of community education.

You, as a Discussion Leader, have the opportunity to teach community members HOW to use the new water system properly. You may be the key to their good health.

You will share the information in this User-Education Manual with people in the community. You will help them understand facts about the water supply system. You will help give them an understanding of the close relation of water, sanitation and health. Perhaps most important, you will encourage them to use their new knowledge and understanding to form new habits of water use and protection.

#### 2. Who Should Receive the Water/Sanitation/Health Message?

As a Discussion Leader, your goal is to take the water/sanitation/health message to the community. It would be very time consuming to talk individually to each adult in the area, so you will have to organize group meetings. A discussion group should have from 7 to 15 participants.

In order to get the message to more people you may decide to have several groups. Remember, however, that each group must meet 7 different times in order to discuss all the topics in this manual.

Members of the Discussion Groups should be people who are interested in the new water system. Encourage influential community leaders who will spread the message to other people after the group meetings. Try to include the members of the water committee, health workers, teachers and

representatives of all organizations. Do not forget to include women. They should be concerned and knowledgeable about water protection and use.

Selection of Discussion Group members will depend on political, cultural and social factors. Ask advice from community leaders before inviting people to join the Discussion Group. Remember that you want to establish a good working relationship with the entire community.

### 3. When Should the Discussion Group Meet?

The information in this manual is divided into 8 learning/discussion sessions. In most communities you will use only 7 of them ( e.g., you will not use Session 7, Springs, if this community has only wells). Decide with the group members if they are willing to meet once a week for 7 weeks or whether they would prefer to meet more often. Evenings will usually be most convenient for farmers and others employed in day-time jobs. One hour per session may be enough for some groups. Others may wish or need to have longer discussions.

If possible, start the discussion sessions as soon as construction ( or even planning) of the system begins. At this time, people's interest and enthusiasm will be high.

### 4. What is in the User-Education Manual?

Each session in the User-Education Manual consists of:

- 1) a reading section, and
- 2) a Discussion Opportunity section.

In the first section, the group members learn certain facts about the new water system and its use and protection. In the second section, questions are asked. In this section, the general facts of section 1 are applied to the particular community situation.

In addition to the written material for the group members, there is a Discussion Leader's Guide for each session. In it you will find hints to help you guide each learning/discussion session. The Objectives of each session are listed, special teaching techniques offered, and suggested answers to the discussion questions given.

### 5. How Should I Use this Manual?

If you are a new discussion leader, you may think of teaching as "telling people things that they should remember". This is called lecturing. **IT IS NOT HOW YOU SHOULD USE THIS MANUAL!**

When people only HEAR something, they often forget.  
When people DO something, they remember.

In this Manual, the DOING is the discussion--the talking about the new information and the deciding how the new information can affect their village. It is very important that you do not just lecture to these adults. You must allow and encourage them to discuss the facts presented in the first section of each learning/discussion session.

REMEMBER: ● Your goal is not just to give new knowledge.

- Your goal is to give new knowledge that will help people change their ATTITUDE toward water/sanitation/health and then change their BEHAVIOR toward water/sanitation/health.

Always read and study the session material and the Discussion Leader's Guide before the group meeting. Be sure that you understand the Session Objectives ( they are stated at the beginning of the Discussion Leader's Guide). The Objectives tell you what the group members should be able to do at the end of the session. You will know that the meeting has been successful if they can do what the objectives have stated.

## 5. Preparation for Each Session

Good teaching requires good preparation. A Discussion Leader should know 1) the learning material ( i.e., the facts) in each session, and 2) the social, cultural, religious and political aspects of the community.

To know the learning material ( the facts) requires that you carefully study each session. If you want to know more about the subject, discuss it with your supervisor, a medical official or other knowledgeable person.

After reading the session material, decide if the lesson is appropriate for your group members. If everyone in the community already uses pit latrines, for example, you will not need to spend much time with that subject. If, for another example, there is a high rate of Guinea Worm infestation in the community, you should add more information and give more time to that subject.

Preparation before each group meeting is necessary to give you time to prepare or obtain pictures, posters, extra reading materials or guest speakers. For some groups you may not need any of these "extras". For other groups, pictures may be necessary for clear explanations. Plan each session early enough so you have time to get the "extras" that will help you be a good Discussion Leader.

Preparation also demands studying the community. You must be familiar with the place and the people where you are working. You need to know something about the water system--its source, its design, its construction. Even more important is your knowledge of the people of the community--their beliefs, attitudes, local habits, organizations etc. All of these may have some bearing on the subject matter of the session and you must understand them in order to effectively lead the discussion.



## 7. Teaching Hints ( Reading Section and Discussion Opportunity Section)

### Section 1, Reading

If the members of your group read well, you may ask them to read the session material before they come to the group meeting. This initial reading will give them an idea of what is to be discussed but it will probably NOT teach them. You must do the teaching.

Begin each session ( whether the members can read or not) by going over the material. Talk about the new information; review old information. You may want to read aloud. You may want to translate words. You will probably want to use a chalkboard or flipchart ( large sheets of paper to write on that can be displayed where everyone can see) to make simple drawings and write difficult words.

Do not go on to the Discussion Opportunity Section until the group members understand the information in the Reading Section. For some groups and some sessions, the information in the Reading Section will be understood quickly and most of the session will be spent on the Discussion Opportunity. In other groups you may spend the majority of your time teaching the information in the Reading Section.

### Section 2, Discussion Opportunity

One important job of a Discussion Leader is to make the group members feel comfortable. They will not speak out in the discussion if they are afraid. They may stop coming to the meetings altogether if you make them feel foolish or childish. You must be friendly and interested in their ideas. You are not a judge. Your job is to present new information and help the group members understand and apply it.

The questions in the Discussion Opportunity are not a test. Often there is no right or wrong answer. The questions provide an opportunity for the group members to think about the relation of water/sanitation/health in their village. It gives them the chance to voice their opinions.

The discussion is the time for group members to talk. It is NOT the time for you to talk. Your job is to:

- a) keep the discussion going by asking open questions;
- b) guide the discussion;
- c) listen carefully;
- d) reinforce important points;
- e) summarize occasionally.

#### a) use open questions

Open questions are questions which ask a person to talk about his thoughts or to give information.

A closed question allows a person to give a very short answer. Look at the following examples.

### EXAMPLES: OPEN QUESTIONS

1. Tell me about the connection between water and mosquitos.
2. What do you think could happen if a pit latrine is built too close to our water supply?

### EXAMPLES: CLOSED QUESTIONS

1. Can mosquitos be dangerous?
2. Should pit latrines be built close to a water supply?

REMEMBER:

- Closed questions stop discussions.
- Open questions keep discussions going.
- You should phrase questions in such a way that you ask people to give opinions or information.
- Ask open questions!

### b) guide the discussion

Sometimes in a discussion, everyone wants to speak at the same time. No one listens to his neighbour. If this happens, you must insist that the group members listen to one another and speak one person at a time. If one person has been speaking for a long time, interrupt and remind him that others also have something to say.

You must also control the discussion to make sure that it stays on the topic. If the speakers begin to talk about other things, you should remind them of the discussion question and bring the conversation back to the original topic.

### c) listen carefully

Give all your attention to each speaker. Listen carefully. Let him know that his ideas and opinions are important.

It is sometimes a good idea to briefly write down people's suggestions or opinions while they are talking. Write them on the chalkboard or flip chart. Later those ideas can be used as an outline to summarize the discussion.

### d) reinforce important points

When speakers give ideas or information that is important, you should acknowledge it. You can repeat the comments or use your own words to re-state the same idea. You can write the ideas on the chalkboard. You can also show that a speaker's comments are important by your facial expression. An encouraging nod and smile of approval lets people know that you agree with their ideas.

### e) summarize occasionally

A discussion is not just a conversation. A discussion has a topic and a goal. To help remind the group members of the topic and

the goal, you should occasionally give a brief summary of the discussion. If the discussion is long, do not wait until the end of it to summarize. Stop several times in the middle of the discussion to review the important points that have been made and to summarize the progress of the discussion.

## 8. Teaching Hints (Role-playing and Follow-up)

In Sessions 3 and 5 role-playing is suggested in the Discussion Opportunity.

Role-playing is a teaching technique in which people act as if they were someone else. They do not have a written script. They use their own words and act out a very short play. The Discussion Leader first explains the characters and the situation. He might say, for example,:

"Joe, pretend you are the worried father of a sick baby who has diarrhoea. You are talking to your neighbour who explains that unclean water is probably the cause of the illness. You do not believe this.

" John, you act as the neighbour. Try to teach Joe about the transmission of disease."

Role-playing is a useful teaching technique because it allows people to "try-on" new opinions and knowledge while pretending to be someone else. It is a fact that after people have publicly stated an opinion, they are more firmly committed to it. Therefore, if you can create situations in which the group members can practice using their new knowledge, and practice stating new opinions, you will be helping them to accept the new ideas.

Some people may not be comfortable doing role-plays. Do not force group members to act if they don't want to. Those who do not want to act should watch and discuss the action of the characters after the role-play. The entire group can discuss and learn from the actions of only 2-3 in the role-play.

Two more things to remember about role-plays are:

1. Demonstrate a role-play before asking participants to do one of their own.
2. Most role plays should last less than 5 minutes.

### Follow-up

Your teaching job does not end when each learning/discussion session is ended. If you want the group participants to learn new knowledge and change their attitudes and behavior, you must follow-up the sessions.

Follow-up means that you keep teaching and keep talking and keep helping people change their behavior as often as you can. When, for example, the group is meeting for Session 4, remind them of their ideas

about Sessions 1, 2 and 3. When you see group members outside of the meeting time, ask them if they are practicing newly learned rules of hygiene. Observe people's habits. Be a good example yourself and remind others of good rules of hygiene if you see them breaking the rules.

Encourage group members to tell their friends and neighbors about their new knowledge. Help them spread the water/sanitation/health message. Share pictures, posters, books. Share your time so that the message is not only spread--but also, remembered.

Follow-up to make sure that the time you have spend in preparing for and leading the discussions will not be wasted time.

## DISCUSSION LEADER'S GUIDE

**OBJECTIVES:** At the end of this learning/discussion session, the participants should be able to:

1. Identify and discuss time-saving benefits that may result from the new water supply system.
2. Identify and discuss social benefits that may result from the new water supply system.
3. Identify and discuss any economic benefits that may result from the new water supply system.
4. Identify and discuss potential health benefits that may result from the proper use of the new water supply system.

**TIME:** one to two hours

**MATERIAL:** chalkboard and chalk or flipchart and pen

**SESSION GUIDE:**

1. **INTRODUCTION:** The participants book provides a short case story which can serve as an introduction to the discussion that you will lead. If the participants are not comfortable with reading, you may:
  1. read or tell the story to them in their own language;
  2. make up a similar story that reflects the actual situation in their community.
2. **DISCUSSION OPPORTUNITY:** It is during the discussion section that most learning will take place.

- REMEMBER:**
- Your job is not to tell people the answers.
  - Your job is to present some facts and guide the discussion so that valid conclusions will be made.
  - Your job is to listen.
  - Your job is to encourage everyone to participate.

The purpose of the questions is to make people **THINK** about water and health and sanitation. There will not always be **RIGHT** or **WRONG** answers to the discussion questions.

People like their ideas to be acknowledged. It is a good idea to quickly and briefly list all of their ideas on the chalkboard or flipchart. This is particularly helpful for

questions such as: "How is the saved time spent in your village?" As people suggest answers, list them.

Later, use the list for further discussion.

3. DISCUSSION QUESTIONS: During the discussion section, many opinions may be given. The suggested answers that follow in this discussion leader's guide are typical answers which may or may not be true for this community. These suggested answers are only EXAMPLES of what you might expect. You may suggest some of these answers, if necessary, in order to add more ideas to the discussion.

4. SUGGESTED ANSWERS:

Questions 1 & 2: Answers will depend on the number of people in an average family and the amount of water they generally use each day.

Question 3: Possible answers might be: "Time is spent in family activities; in leisure and relaxing; in studying; in gardening; in sewing; in more agricultural works; etc."

Question 4: Possible answers might include: "The men benefit from their wives extra time spent on agriculture"; or "Men benefit from improved health conditions."



Question 5: Possible answers might include: "More plentiful water makes it easier to make and sell local food and drink, e.g., home-made beer"; or "More plentiful water may provide opportunities for small industries to develop."

Question 6: In addition to answers similar to those in number 5 above, other answers might include: "Water will make our gardens more productive so we will have more vegetables to sell in the market;" or "Water will bring better health so we will spend less money on medicine."

Question 7: Possible answers might include: "People may have less diarrhoea; Babies will have less gastro-enteritis; There will be fewer skin and eye infections etc."

Question 8: Possible answers might include: "If people are healthier they have more energy and can do more work; Children grow stronger; Children will go to school more often; Less money will be spent on medicine; etc."



5. READING ASSIGNMENT: If this group does study assignments before each learning/discussion session, ask them to read the material in Session 2 before the next group meeting.

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		<b>KEY ISSUE - CHECKLISTS</b>	<b>3.1</b>	

### 3.1 KEY ISSUE - CHECKLISTS

1. LIST MAIN CONTRIBUTIONS OF WOMEN IN CHOICE OF TECHNOLOGY FOR WSS PROJECTS.
2. LIST ACTIONS YOU ENVISAGE TO IMPLEMENT FOR WOMEN'S PARTICIPATION IN TRAINING.
3. INDICATE SUGGESTIONS FOR POSSIBILITIES OF DEVELOPING TRAINING PROGRAMMES IN YOUR ORGANISATION.
4. INDICATE HOW YOU ENVISAGE TO MEET EXISTING CONSTRAINTS FOR PARTICIPATION OF WOMEN IN TRAINING PROGRAMMES.



## EVALUATION QUESTIONNAIRE

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**INSTITUTION.**

COUNTRY

DATE \_\_\_\_\_

**badly structured**



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9. The knowledge acquired through the module's study will in your present profession be:

useful                      | |    | |    | |    | |                      useless

10. The knowledge acquired through the module's study will in the near future be (reply to this question only if the answer n. 9 is negative):



useful                      | |    | |    | |    | |                      useless

11. List the topics you would like to have treated more extensively:

- 1).....
- 2).....
- 3).....

12. List the topics you would like to have treated to a lesser extent:

- 1).....
- 2).....
- 3).....

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13. *List the topics not included in this module which you think are of essential interest to your profession:*

- 1).....
- 2).....
- 3).....



14. *Please list any suggestions you have to offer for improvement of this training module.*

.....

.....

.....



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		<b>LIST OF TRAINING MATERIAL</b>	<b>4.1</b>	W.O.
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## **HARDWARE**

OVERHEAD PROJECTOR  
SCREEN  
FLIP-CHART



## **DOCUMENTS TO BE USED BY THE TRAINER**

See "module structure" p. 3

## **DOCUMENTS TO BE DISTRIBUTED TO TRAINEES**

OBJECTIVES  
TARGET POPULATION  
TABLE OF CONTENTS  
TEXT  
GLOSSARY  
BIBLIOGRAPHY  
CHECKLISTS  
ADDITIONAL MATERIAL  
EVALUATION QUESTIONNAIRE

*Check that this material has not been previously distributed to the trainee.*

 <b>ILO</b> <b>TURIN</b> <b>CENTRE</b>	 <b>UN</b> <b>INSTRAW</b>	<b>UN (WWSS) WOMEN, WATER SUPPLY AND SANITATION.</b>		May 1986
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# *KEY POINTS*

## *TRAINING METHODS AND ACTIVITIES*

## *DOCUMENTS TO BE DISTRIBUTED*

## *AVA*

### *INTRODUCTION*

#### *1. OBJECTIVES*

*PRESENTATION*

*Additional  
reading*

*FAO film  
"Water for  
Africa"*

#### *2. WOMEN'S ROLE IN CHOICE OF TECHNOLOGY FOR WSS PROJECTS*

*PRESENTATION/  
DISCUSSION*

*T1/T2*

### *PRESENTATION*

#### *3. HOW TO INVOLVE WOMEN IN CHOICE OF TECHNOLOGY*

*PRESENTATION/*

*T3/T3A/T4/  
T5/T5A*

#### *4. TRAINING ACTIVITIES FOR WOMEN IN WSS PROJECTS*



*PRESENTATION/  
DISCUSSION*

*T6/T7/T7A/  
T7B plus  
T9/10/11/12  
13/14*

#### *5. HOW TO FORMULATE TRAINING PROGRAMMES IN SANITATION SERVICES*

*PRESENTATION/  
DISCUSSION*

*T8/T8A*

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### *SUMMARY*

*KEY ISSUE CHECKLISTS*

*GROUP  
DISCUSSION*

*Checklist*

*PRESENTATION OF  
CHECKLISTS*

*PLENARY  
DISCUSSION*

### *CONTROL*

*KEY ISSUE CHECKLISTS*



*THE PARTICIPANTS  
WILL WORK IN  
SMALL GROUPS  
AND DISCUSS  
VARIOUS PROPOSALS*

*MODULE EVALUATION*

*INDIVIDUAL  
ACTIVITY*

*Evaluation  
questionnaire*

*We suggest that the officer in charge follow strictly the sequence of key points as given in this guide including the related audiovisual material (AVA). As far as training methodology is concerned, the selection and adoption of the most suitable methods, with reference to the characteristics of the target population being trained, is left to the ability and experience of the trainer.*

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		LIST OF TRANSPARENCIES	SUB-MODULE V/5.1	

1. *THREE MAIN ASPECTS OF TECHNOLOGY*
2. *THE BASIC PRECEPT IN CHOICE OF TECHNOLOGY*
3. *CHOICE OF TECHNOLOGY - IMPORTANT CHARACTERISTICS*
- 3.A *CHOICE OF TECHNOLOGY - IMPORTANT VARIABLES*
4. *HOW CAN WOMEN CONTRIBUTE?*
5. *HOW TO INVOLVE WOMEN IN CHOICE OF TECHNOLOGY*
- 5.A *HOW TO INVOLVE WOMEN IN CHOICE OF TECHNOLOGY*
6. *ARE TECHNOLOGIES USED SUITABLE FOR WOMEN?*
7. *WOMEN'S CHECKLIST*
- 7.A *WOMEN'S CHECKLIST*
- 7.B *WOMEN'S CHECKLIST*
8. *ROLE OF WOMEN'S ORGANISATIONS - APPROACHES RECOMMENDED*
- 8.A *ROLE OF WOMEN'S ORGANISATIONS - RECOMMENDED POLICY*
9. *TRAINING OF WOMEN - IMPORTANT CONSIDERATIONS*
10. *TRAINING ACTIVITIES SHOULD INCLUDE*
11. *SPECIAL ISSUES*
12. *PROGRAMME TRAINING*
13. *TRAINING IN SANITATION SERVICES*
14. *TRAINING IN OPERATION AND MAINTENANCE*



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TRANSPARANCIES

TECHNOLOGY TRAINING

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1

## THREE MAIN ASPECTS OF

### TECHNOLOGY

Health and sanitary  
appropriateness

Functional  
appropriateness

Environmental  
appropriateness



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2

THE BASIC PRECEPT IN CHOICE  
OF TECHNOLOGY IS ADAPTATION  
TO EXISTING

SOCIO-ECONOMIC

ENVIRONMENTAL

INSTITUTIONAL SETTING

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				<b>3</b>

**CHOICE OF TECHNOLOGY**

**IMPORTANT CHARACTERISTICS ARE:**

**SYSTEM DESIGN**

**LEVELS OF SERVICE**

**COST**

**MAINTENANCE NEEDS**





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TRANSPARANCIES

TECHNOLOGY | TRAINING

W.O.

3A

## CHOICE OF TECHNOLOGY

IMPORTANT VARIABLES ARE:

WATER QUANTITY

WALKING DISTANCE

COST

METHOD OF WASTE TRANSPORT AND DISPOSAL

**WOMEN CAN CONTRIBUTE BY  
PROVIDING INFORMATION ON:**

**LOCATION of FACILITIES**

**SCHEDULE for USING  
FACILITIES**

**SUITABLE DESIGN**

**CULTURAL APPROPRIATENESS**



TURNER  
CENTRE



UN  
WOMEN

**UN (WVSS) WOMEN, WATER SUPPLY AND SANITATION.**

TRANSPARANCIES

TECHNOLOGY TRAINING

MAY 86

N.O.

4

## HOW TO INVOLVE WOMEN IN CHOICE OF TECHNOLOGY



### WOMEN COULD...

WORK THROUGH LOCAL CLUBS AND ASSOCIATIONS TO MOBILIZE  
COMMUNITY ACTION IN FAVOUR OF NEW FACILITIES

PARTICIPATE ON SURVEY TEAMS TO IDENTIFY COMMUNITY NEEDS

CHOOSE AND TEST PUMPS AND OTHER TECHNOLOGIES THEY WILL  
LATER USE ON DAILY BASIS

KEEP STOCK OF SPARE PARTS

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## HOW TO INVOLVE WOMEN IN CHOICE OF TECHNOLOGY

WOMEN COULD...

MONITOR LEAKS AND OTHER DEFECTS IN WATER SYSTEM

DO ROUTINE MAINTENANCE AND MINOR REPAIRS

BE A LIAISON BETWEEN LOCAL AUTHORITIES AND REGIONAL  
TECHNICAL SERVICES

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# ARE TECHNOLOGIES USED SUITABLE FOR WOMEN?

Is the engineering  
appropriate for women's use?

Does the structure of the  
latrine ensure privacy  
and conform to cultural  
rules?

Can women repair the  
facilities?

Can women afford to  
maintain them?



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## WOMEN'S CHECKLIST

What does technology do for  
the lives of women

What changes in women's work  
patterns will be required to  
use technology

Does it use local initiative  
or allow for local  
development

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## WOMEN'S CHECKLIST

How dependent will people  
in the community be on  
outside help as a result  
of accepting this new  
technology?

Is it easy to maintain?

Does it encourage  
self-reliance?

If so, how?



## WOMEN'S CHECKLIST



Is the engineering design appropriate to women?

What are the benefits for women?

Who else benefits?

Is this technology the most affordable option?

Can women afford the cost?

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## ROLE OF WOMEN'S ORGANIZATIONS



### APPROACHES RECOMMENDED

ORGANIZE RESEARCH PRIOR TO THE IMPLEMENTATION OF  
TECHNOLOGY

·CONSULT WITH TECHNICAL AGENCIES AND WOMEN AT LOCAL LEVEL

PROVIDE INFORMATION ON LOCATION AND SCHEDULES FOR USAGE  
OF FACILITIES

ENCOURAGE INVOLVEMENT OF WOMEN IN THE NATIONAL PROGRAMMES

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## ROLE OF WOMEN'S ORGANIZATIONS

### RECOMMENDED POLICY

SELECT MEMBERS TO PARTICIPATE IN WSS PROGRAMME TRAINING ACTIVITIES, PARTICULARLY TO DEVELOP INCOME-GENERATING ACTIVITIES.

ENCOURAGE GOVERNMENT ASSISTANCE AND SUPPORT FOR TECHNICAL TRAINING SEMINARS FOR WOMEN IN PREVENTIVE MAINTENANCE AND SIMPLE REPAIRS

ORGANIZE COURSES FOR WOMEN TO CARRY OUT SELF-HELP ACTIVITIES



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## TRAINING OF WOMEN

### IMPORTANT CONSIDERATIONS

HOW SHOULD WOMEN BE SELECTED

WHERE SHOULD TRAINING TAKE PLACE

TO WHAT EXTENT CAN SELF-LEARNING MATERIALS HELP  
TO DEVELOP TRAINING SKILLS

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## **TRAINING ACTIVITIES**



### **SHOULD INCLUDE:**

**Supporting training for women's participation at national and regional level**

**Responding to womens' requests for training activities on WSS**

**Reviewing education and training materials**

**Granting fellowships and arranging study tours**

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## **SPECIAL ISSUES**



**SELECTION CRITERIA FOR  
TRAINEES**

**SPECIAL MEASURES  
FACILITATING WOMEN  
TRAINEES PARTICIPATING  
IN TRAINING**

**WOMEN TRAINERS AND  
RETRAINING OF EXISTING  
FIELD STAFF**

**SUPPORT FOR VOLUNTARY  
WORKERS**

**CO-ORDINATION OF TRAINING  
COMMUNITY LEVEL WORKERS**

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## PROGRAMME TRAINING

Are women's training needs identified?



Do they give equal opportunity to women?

What is the proportion of women?

What special efforts are being made to involve more women?

What proportion of fellowship go to women?

Have they encouraged women's participation?

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## TRAINING IN

### SANITATION SERVICES

Adequate utilization and  
care of latrines

Proper disposal of feces  
How to wash hands

Adequate maintenance  
of sewage systems

Inspection of domestic  
systems; train community  
members

# **TRAINING IN OPERATION AND MAINTENANCE OF FACILITIES**

**How to use domestic and  
community facilities**



**Protect the water source**



**Look after taps**

**Find potential faults**

**Fix minor breakdowns**

**Do water quality tests**



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### PREFACE



The content of this modular unit has been developed on the basis of:

- 1) INSTRAW/INTER-AGENCY TASK FORCE ON WOMEN/UNICEF,  
"WOMEN AND THE INTERNATIONAL DRINKING WATER  
SUPPLY AND SANITATION DECADE", JUNE 1985.
- 2) IRC, "PARTICIPATION OF WOMEN IN WATER SUPPLY AND  
SANITATION - ROLES AND REALITIES", PREPARED BY  
CHRISTINE VAN WIJK-SIJEBESMA, TECHNICAL PAPER  
22, INTERNATIONAL REFERENCE CENTRE FOR  
COMMUNITY WATER SUPPLY AND SANITATION, THE  
HAGUE, THE NETHERLANDS, 1985.
- 3) WHO, "PREVENTIVE MAINTENANCE OF RURAL WATER  
SUPPLIES", WHO/CWS/ETS/84.11.
- 7) WHO, "GUIDELINES FOR PLANNING COMMUNITY PARTICIPATION  
IN WATER SUPPLY AND SANITATION PROJECTS",  
PREPARED BY ANNE WHYTE, ETS/83.8.

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**SUB-MODULE VI**



**WOMEN'S ACTIVITIES IN THE OPERATIONAL STAGE  
OF WSS PROJECTS**

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### MODULE STRUCTURE

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The officer in charge will make use of the five components indicated above, while the participants will be provided with the material related to components 1, 2 and 3.

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## 1.1 OBJECTIVES



### GENERAL

*The participants will have an understanding of women's activities in the operational stage of WSS projects, and the basic organisation of operation and preventive maintenance programmes.*

### SPECIFIC

*On completion of this unit, the participants should be able to:*



- 1) recognise the adequate contributions of women in construction, operation and preventive maintenance of WSS projects;*
- 2) identify the main elements of operation and maintenance programmes in WSS projects;*
- 3) recognise how women's organisations can formulate operation and maintenance guidelines on women's activities in WSS projects..*

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1.2      TARGET POPULATION



LEADERS AND SENIOR OFFICIALS OF WOMEN'S ORGANISATIONS AT  
NATIONAL, REGIONAL AND INTERNATIONAL LEVELS.



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## 2.2 NOTES FOR PRESENTATION

### 1. INTRODUCTION

*In many developing countries, women and young children make more use of sanitation than other household members; their needs therefore should be suitably accommodated. To achieve this, women ought to be able to participate in the selection of technology and in design decisions being made at both community and household levels. In many cases, this concept may come about naturally, but there are still instances and places where the contributions of women need to be more fully accepted and recognised in the selection process. Women in most societies are the principal educators and socialisers of children, and if the women are fully involved in the decision to improve household sanitation, they will be better placed to educate their families (particularly young children) in practices which will improve health and hygiene. Women may also be able to instill in the male adults in the family and community the fact that the contributions they make towards essential health and sanitary improvements, by giving time, labour and resources, will be of benefit to all. Women's formal groups and communication networks can serve to create community and national awareness of the need to maintain facilities and environment. Therefore, without the cooperation of women, successful water supply and sanitation projects cannot take place.*

*Normally, it is women who encourage (or discourage), teach and supervise young children's use of the facilities. Therefore, to make sure that facilities will suit women and be usable by their children, women have to participate with men at household and community levels in making decisions between technology options and on such design features as height and weight of pump handles, location and orientation, and other details. Experience in many countries is showing that seemingly small aspects of design can make all the difference between use or non-use of facilities by women and children.*

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### 1.1 How to involve women in technical aspects of WSS project facilities

Although planners and policy makers may rate those areas in which facilities have been constructed as being served, it is increasingly clear that many facilities do not function for long periods or have broken down completely. This not only means a loss of investment, but also hampers the attainment of health and other developmental benefits. Thus, for continued functioning, limitation of breakdown and quick repairs are essential. Women can contribute in several ways. As users and managers of traditional water sources they may have knowledge and experience useful for project designs. For example, they know the location, reliability and quality criteria, and therefore should be consulted in geohydrological surveys.

Their personal interest in good and reliable facilities can also motivate villagers to follow closely all local construction work, for example by contractors, provided they are involved in the project and know which aspect to pay attention to.

As main users, major interest group and traditional managers of domestic water, and sometimes water supplies, women can also contribute greatly to the maintenance of improved facilities. Reasons advanced include the direct concern and personal interest of women in their water supply; their regular visits to distribution points; the compatibility of preventive maintenance and user education with the traditional tasks of women; easier communication between women caretakers and women users; their greater sensitivity to social pressure for other women to do a good job; the importance of health aspects; and recognition that training in modern technology is for their age-long contribution to the household's water supply and sanitation.

Whether the work is suitable for local women depends on the actual tasks, the type of technology, and the availability of low-cost spare parts. A review of the daily and monthly tasks of hand-pump caretakers and scheme attendants did not reveal any tasks that could not be done or organised by women. As users, women are most affected by poor operation and inconvenient times of supply. Their greater participation in local management may well result in better performance of operations in such cases.

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*The question has also been raised whether women, and the community as a whole, should be more directly involved in the choice of technology if continued functioning is to depend largely on local maintenance. Improvement of existing sources or increasing the number of hand-dug wells may be a better solution for some villages that the introduction of hand-pump wells or boreholes with motorised pumps, the maintenance of which cannot be guaranteed.*


*As already stated, traditionally women are the main economic users of water and waste. Improving water supply and sanitation facilities and involving women in all project activities also implies recognition of their domestic and economic roles. It enhances their status, increases their skills and capacities for developmental activities in their households and communities, and can stimulate organisation for joint problem solving.*

*Women's associations can play a valuable role in achieving these basic needs for all by identifying women's needs and enriching national resources, and at the community level, forming focal points for local improvement. Women representatives and groups can also have an important role in agency projects on water supply and sanitation. Their personal experiences of difficulties in water collection and sometimes waste disposal emphasises that women are particularly interested in the practical benefits of these projects.*

## *1.2      Building of facilities*

*Community contribution to construction consists mainly of unskilled labour for site clearing, digging and transport. Women have been involved as voluntary workers and motivators of voluntary labour, and as construction workers paid in food-for-work or cash.*

*In many countries, voluntary contribution or self-help is advocated to reduce construction costs for project agencies. Women have contributed considerably to these savings, both directly and indirectly. In regions where they do most of the agricultural work, they have also provided most of the self-help in water projects, for example in Lesotho, Kenya, Ethiopia. Apart from cost-savings, well-organised self-help can aid the development of technical and management skills in the community. These skills can be built on in turn, to set up local maintenance and administrative systems.*

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However, in spite of their active participation in physical work, participation of women in local management has been minimal, as reported from various projects.

"A study in Kenya of 311 self-help projects found that 41% of contributors were women, and that they contributed most of the labour (5,000 hours in two water projects alone). In contrast, only 6-7% of the leaders were women(434)".

Socio-political circumstances in some countries have stimulated greater involvement of women. In Lesotho, women not only do most of the digging, but also predominate on water committees because many of the men work as migrant labourers in South Africa. In Ethiopia, the national women's association has assisted women to become involved in more than just digging. In Dodota region, for example, 100 women have been trained in management and technical skills, and have gained political experience in these tasks during the construction of a gravity supply scheme for 48 villages.



Training in cement work can build on women's traditional tasks and skills in plastering, and may well explain their interest in training in latrine construction. In Botswana and Thailand, projects have also trained local men and women to construct latrine slabs.

In the construction of public facilities in the more segregated societies, women have undertaken either individually or through women's clubs, mainly motivational and support tasks, such as the organisation of bazaars and lotteries to raise funds and the supply of food and drink to male workers.

Experience has shown that women can be the driving force behind successful self-help in construction.(A11, A44) This role can be stimulated by the water-agency.

### 1.3 Women as construction workers

In areas where economic conditions are so difficult that people are unable to provide voluntary labour, frequently infrastructural works are designed to provide food-for-work. In some countries, women have constituted a high proportion of the labour force in such projects: 80% to 85% in infrastructural projects in Lesotho and Ethiopia; 20% to 30% in Bangladesh and the Republic of Korea. An

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evaluation in Bangladesh showed that most of the women participating in such projects belonged to landless households, two-thirds being heads of household.

Women also work as paid construction workers, particularly in Asian countries. In most low-cost water supply and sanitation projects for low income communities, women motivate and contribute a substantial part of the labour input in construction of water supply systems or latrines. In Malawi, for example, it is estimated that women provide up to 70% of the labour in most of the piped water schemes implemented.

During the construction phase of a project, women can be motivated to contribute materials which are locally available. This may take the form of bricks, sand, stone, or timber. In Burkina Faso, women participate in the building of earthen dams by collecting the rocks and preparing the gravel stones needed for construction.\*

## 2. OPERATION AND MAINTENANCE

The IDWSSD, with the goal of providing, as far as possible, safe and adequate drinking water and appropriate sanitation for all, has stimulated the release of resources from governments, communities and external support agencies for the development of the sector. Unfortunately, there is a growing evidence and increasing concern within governments and the development agencies, that poor operation and maintenance (O & M) practices have in many instances largely contributed to a decreased utility, or even to an early failure of newly constructed water supply and sanitation facilities.

The introduction of proper operation and adequate maintenance practices would relieve this situation and help ensure that the resources available are utilised in the most effective way to confer maximum and enduring benefits.

Women, as primary users and beneficiaries, can contribute greatly to adequate use and satisfactory functioning of water and sanitation facilities. Various forms of their involvement in local maintenance and management are set out in Table 1.

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\* For the involvement of community participation in the construction phase, please analyse checklists in Additional reading.





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Table 1  
Forms of participation of women  
in local management and maintenance

*Site management*

- . as individual users
- . as members of user organisations

*Caretaking*

- . as members of male-female teams with culturally appropriate division of tasks
- . as caretakers doing both technical and non-technical tasks

*Local administration*

- . as members of local management committees
- . in parallel management committees for men and women



*Self-sufficient systems*

- . services operated, managed and maintained by women

2.1 Site Management

Participation for adequate operation of new facilities begins in the planning phase. In some cases, traditional norms and social control on the use of communal sources and the sense of communal ownership of new facilities are strong enough to guarantee proper use and maintenance of the site. Often, the manner of use is a form of management as it protects the durability or quality of the source. In rural communities in Botswana, "no-one fetching water from a well or hafir surrounded by a thorn fence would think of leaving without replacing the thorn bush which serves as a gate". It is likely that such rural patterns are stronger in places where the water culture is high and when users have been closely involved in the establishment of new water supply.

In other cases, satisfactory site maintenance has been achieved through the organisation of women users. Sometimes, this is a spontaneous initiative of the women themselves, presumably based on traditional arrangements. For example, in a village in Zimbabwe, the women themselves organised the use and upkeep of the communal

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water point comprising bathing and washing facilities.(A41) In an urban slum in Zambia, the women's branch of the political party organised the women on an ad hoc basis to improve the drainage of public taps.(480) In other cases, water, health or community development staff made arrangements with the user concerned. In Malawi, tap committees composed mainly of women have been established. Women have also been encouraged to use the pipeline routes as paths and to report leakages to the village caretaker. Committees have also been formed to supervise use of protected wells.

In Samoa, members of the women subcommittees used to sit in the open walled watch-house near the village bathing and drinking sources to weave their mats and at the same time to ensure proper use of these facilities. In Tanzania, women have chosen a site attendant from a nearby household, or established rosters for site upkeep and preventive maintenance.

Experience reported in the literature indicates that for site maintenance to be effective the community should be involved in project planning and later in making detailed arrangements for upkeep and maintenance. Evaluations of two hand-pump projects in Malawi show that well committees formed to maintain site hygiene neglected their work in many cases. This has been attributed to a low feeling of community responsibility, despite the fact the people had participated in well digging and in the construction of the apron, drainage channel and washing slab.(1) Another factor was found to be the absence of an agreement on the duties and rights of the village committees. Therefore, more attention is now being paid to community involvement, including the women, in local planning of well projects and in site management, and supervision of these arrangements by mixed village committees. One outcome of the discussions on the duties of management committees was that villages do not question whether women should be involved, but whether men should be involved. Another outcome was the good site hygiene perceived during field-work in the area, for which the women members of the village committee are especially responsible.(2)

When women are involved in maintenance arrangements they should be consulted as a group rather than as individuals to find a joint solution.



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*To prevent damage to the hand pump and to prevent water wastage in a rural community in Peru, the local council appointed a nearby woman as overseer. The imposition of this task did not work. Both she and a second housewife were ineffective, claiming they were too busy with domestic tasks. The pump was then padlocked, with a third housewife holding the key. This resulted in much intravillage conflict and finally to the breakage and removal of the pump.(3)*

*Although women's groups have been quite effective in carrying out tasks assigned to them, greater benefit would be derived by projects and users, if these groups were also involved in management decisions. This refers particularly to the organisation of the work and the use of water at the source.*

*In a project comprising primary health care, water and sanitation in 60 villages in Danfa, Ghana, village health committees planned and implemented the local project together with the project staff. For village refuse collection, separate women's groups were formed. Although they carried out the allotted tasks in a satisfactory manner, the work was disrupted during the agricultural season when women are particularly busy in the fields.(4) In Malawi, a tendency has been found in some areas to impose rules on tap committees instead of involving its members in management decisions. General rules have been established by the water department, but local headmen have added their own rules, such as tap water should not be used for purposes other than drinking and cooking. This has led in some places to 60% underuse and continued use of traditional water sources for washing and bathing, thus perpetuating the risk of schistosomiasis. At other taps, collection of water for brick making, house plastering, vegetable gardening and other productive purposes has been permitted.(A7)*

*Improved two-way communication would also increase women's involvement in preventive maintenance. If women are expected to contribute to maintenance by reporting problems, they need to be kept informed by local operators or management committees on matters of relevance.*

*When the taps in Zomba, Malawi, gave no water, over 80% of the users interviewed stated that they had not taken any action because they thought that project staff were cleaning the water storage tanks. Only a few reported that they had contacted their committee or that they had followed the pipes to detect leakages.*

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*Basically, this is a matter of recognition of the contribution of women to preventive maintenance and optimum water use as part of the total water supply and sanitation system. Their participation is achieved more easily at the lowest community or neighbourhood level than at higher levels.*

*One condition for better two-way communication and more influence in management decisions regarding women's issues would be a change in attitude of higher level committees. Another option would be to involve women at higher levels, with the specific task of communicating with site organisations and users in general. Steps in this direction are now being taken in Tanzania and Malawi. In Samoa, on the other hand, the Ministry of Health failed to recognise the importance of the women's groups.*



*The introduction of salaried men health workers and the delegation of overall responsibility for sanitation to the major was resented by these groups who had successfully managed the upkeep of village water sources and general community hygiene. The women lost their incentive, sense of responsibility, and prestige that contributed to effective communication with their fellow women. The result was deterioration in village sanitation at a higher cost to the government.*

## *2.2      Services operated and maintained by women*

*In a number of cases, women's organisations are fully responsible for management and financing of community water supply and sanitation. In some cases, this may mean that voluntary groups take on tasks that are officially the responsibility of the women's organisations.*

*For example, in a community in Tamil Nadu, India, a nursery schoolteacher has also been made the pump caretaker, and a women's group pays for the repairs. The voluntary agency that implemented the project has a cadre of women workers trained as pump caretakers based in about 40 villages. The agency also has a mechanic in permanent employment to whom the women report more serious problems.(5)*

*Elsewhere, participation has been a joint venture or business undertaking. In urban areas in particular, water and sanitation agencies have sought innovative ways to operate cost-recovery*



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services in low-income areas. One method is for the agency to provide the main service and a community organisation to take care of the local distribution or collection system, for example, the water kiosks run by women's organisations in Kenya and Honduras.

These organisations purchase water in bulk from the water agency and resell it at a low price to local women. The advantages of this system are not only better financial return to the agency with less administration and wastage, but also a contribution to social justice. In Kenya, women are no longer dependent on private entrepreneurs who own water kiosks and dictate the selling rates.(6) In Villa de los Laureles, a squatter settlement in the capital of Honduras, the employment opportunity is divided among those most in need. "The women organized to have every three months another female head of household assigned as water manager to control the tap and collect the 10 cents (of a lempira) fee for 10 liter water. With this fee, the government's water charge is paid as well as the salary of the water manager".(7, p. 20)

The women in Villa de los Laureles have also developed their own system of operation. In the morning, water is sold at the tap in the lower part of the barrio and in the afternoon water is sold in the higher part. This was done apparently to cope with problems of low water pressure, because of the steep slopes of the squatter settlement and the excess demand in the city as a whole.

The social justice of kiosk holders selling water should be considered in the light of the particular circumstances. In some cases, the system may be satisfactory from the point of view of the agency, but in reality for the people it may be a "tax upon cleanliness".(8, p. 40) This is not only because the wages of the kiosk operators increase the price to the users, but also because women still have to carry the water. This implies that smaller quantities of water are used and the risk of contamination is higher.(9) In such cases shared group connections and a women's organisation to collect the water rate may be just as cost-effective to the agency and more beneficial to the women. In Villa de los Laureles, such a solution seems to have been technically impossible. Also, a fixed price for the water has eliminated the considerable variation in the price consumers had to pay vendors. The price ranged from 5 to 10 cents per 10 litres in the wet season to 35 to 50 cents in the dry season.

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*Small, simple and locally-contained systems have even been handed over completely to a women's association. For example, the urban waste recycling plants which produce compost for locally owned vegetable gardens and to sell to generate funds are run by a women's cooperative in a low-income urban neighbourhood in Mexico. These women have also trained women in another community on the operation of these plants. The cooperative has chosen a woman head of household to be caretaker. Again this may reflect their awareness of the socio-economic needs and greater independence and job motivation of such women.*



*Although the dedication and personal interest of women are advantages, they are not all that is required for good management. Water committees and boards of user cooperatives may have many tasks, such as supervision and organisation of operation, maintenance and repair, finance, accounts and record keeping, hygiene improvement and health education, and communication with the users. Therefore, special training for local committees is necessary.(10)*

*Women representatives who have had less opportunity for education have been aware of the need for training, and have even taken the initiative to broaden their knowledge by attending technical training as observers, in order to be able to recognise satisfactory repairs by village caretakers and mechanics. For involvement of community participation, please analyse checklists in "Additional reading".*

### 3. BASIC ORGANISATION OF OPERATION AND MAINTENANCE

#### 3.1 The place of operation and maintenance in the project

*Operation and maintenance are affected by a wide variety of factors such as matters concerning site conditions, socio-economic factors in the supply area, the inclusion of O & M considerations during project planning and development, the institution and management structures, the use of appropriate technology, resource availability, etc. O & M, including preventive maintenance, is recognised as an integral phase of the project cycle which is initiated by project identification and proceeds through phases concerned with its planning, design and construction, O & M and evaluation. Despite this recognition, there has been a tendency to look upon that part of the cycle which culminates in system construction as a self-*

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contained achievement, overlooking the vital fact that uninterrupted operation and proper maintenance are essential to achieve the benefits for which the project was planned.

### 3.2 Planning phase of O & M

Although a rural water supply commonly serves a community which is generally unable to assure full technical or financial responsibility for O & M, it is accepted that beneficiaries should be kept informed and be consulted at all stages of the project's preparation and be encouraged to participate to the greatest practical extent. Such participation should encourage them to share in the recurrent resource burden which would otherwise have to be fully borne by the government as a social service. The extent of community involvement, particularly women's, will vary from place to place, but an objective frequently sought is for the beneficiaries to:



- 1) elect a Community Water Committee (with women representatives) or its equivalent to act as the responsible local executive body;
- 2) provide women workers for the operation and maintenance costs as circumstances permit;
- 3) bear as great a proportion of operational and maintenance costs as circumstances permit.

Experience has shown that the vesting of responsibility and authority within a specialists unit of the technical agency responsible for the development of the water supply system is often an appropriate solution for the provision of back-up support to the community for O & M. Such support would include:

- (i) the training of women provided by the community;
- (ii) periodic inspection and advice; and
- (iii) undertaking items of preventive and corrective maintenance which are beyond the means or the technical competence of the community.

For these services, the technical agency will require financial support, which is generally derived from community contributions and government subventions.



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*The division of institutional responsibility on the lines discussed above, frequently leads to the establishment of an O & M organisation which distributes responsibility between some or all of the following groups:*



- (i) community workers responsible for day-to-day O & M;*
- (ii) technical support agency staff*
  - (a) working as mobile teams which visit facilities according to a routine pre-arranged schedule;*
  - (b) attached to workshops to which items of equipment are brought at regular pre-determined intervals;*
- (iii) specialised contractors engaged to undertake specific items of maintenance on a routine basis.*

*Discussions, at an early stage of the project cycle, between the technical agency and community representatives, are required, so as to clearly define the division of administrative, technical and financial responsibility for O & M, as are additional discussions between the technical agency and the government ministry responsible for budget allocations so as to ensure the timely provision of recurrent government subventions for the agency's share of O & M expenditure. Early decision on these matters will allow:*

- (i) the sources and extent of recurrent funding to be determined and the necessary steps to be taken for their provision (e.g. drawing up of a local tariff schedule; definition of billing and collection procedures; agency budget provision);*
- (ii) women's needs to be identified and the necessary recruitment and training procedures put into effect;*
- (iii) ancillary facility and equipment needs for O & M to be identified and provided (e.g. transport, tools, workshops, stores).*

### *3.3      Design and construction phase decisions relating to O & M*

*In the drawing up of design parameters, the design of physical facilities, the selection of equipment and the choice of constructional materials and methods due consideration should be given to women's needs before O & M implications of decisions are made. Of particular relevance is the need to:*

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- (i) ensure the adoption of technology for community needs, particularly women's, is understood and of equipment which is capable of being operated and maintained by community women workers with the minimum of supervision and back-up support;
- (ii) select equipment which is socially acceptable and robust to meet the operational demands imposed upon it. In this connection, the selection of equipment should be based not only on initial capital cost considerations but should include, also, for the capitalisation of O & M costs over its expected life;
- (iii) install equipment for which spare parts and the tools and plant required can be locally obtained;
- (iv) take into consideration local customs, traditional attitudes before the choice of constructional materials and methods;
- (v) incorporate adequate quality control of purchasing and installation, and adequate testing during installation and construction to detect defects before being placed in operation or before being buried.

#### 4. BASIS FOR ORGANISING AND MANAGING A PREVENTIVE MAINTENANCE PROGRAMME

Preventive maintenance is considered to be a systematised and periodic maintenance procedure applied to the components of a system in order to minimise breakdowns, ensure their efficient working, and prolong their respective lives. Such maintenance is not to be confused with the corrective action taken to repair or replace system components after a breakdown has occurred, as the latter is not the subject of a planned procedure but rather a response to an operational requirement.

Essentially, a preventive maintenance programme consists of organising and managing the activities required to carry out predetermined and periodic maintenance procedures to system components installed within a defined operational area. Such a programme will be based on:

- (i) the identification of the frequency and location of the tasks to be performed and the allocation of responsibility for undertaking these tasks;

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- (ii) the identification of the resources required to carry out the tasks, expressed in terms of finance, manpower, tools and plant, workshops, transport, consumable stores, etc.;
- (iii) a reporting system which will enable programme performance to be assessed and any necessary adjustments introduced so as to improve efficiency.

A matter of major importance concerning the transition between the development and the O & M phases of the project cycle is that in most circumstances there will be a significant change in the staff responsible for construction and those responsible for subsequent O & M. Continuity in the knowledge of system layout and equipment installed is therefore not guaranteed. To overcome this deficiency, arrangements should be made for:



- (i) O & M staff to be employed on site during at least the final stages of construction, so as to become familiar with the system and to participate when plant and equipment are being tested and run in;
- (ii) the provision by the development agency of complete "as built" record drawings. These drawings should clearly show the layout of the total system, indicate the materials and diameters of the various pipes, the situations of valves, standposts, reservoirs and other structures, and the specifications for renewable items such as filter sand.

Information from the manufacturers of equipment which has been installed, such as descriptive material, should be carefully retained for future reference. Equally simple, clearly understood instructions in the local language, supported as required by illustrative drawings, should be provided, as necessary, by the technical agency for on-site use.

In general, the system components which will be subject to preventive maintenance can be broken down into the following classifications:

- (1) buildings and structures;
- (ii) pipelines, valves and fittings; wells and handpumps;
- (iii) electrical equipment, motors, switchgear and wiring;
- (iv) rotating machinery, engines, pumps, windmills, etc.;
- (v) specialised equipment such as gauges, chlorinators, etc.;
- (vi) transport, tools and plant.



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*Within any particular operational area, it will therefore be possible to compound the preventive maintenance tasks for all of the items which fall into a particular category of classification, and to identify the overall tasks which each level of responsibility will have to deal with under that classification. Such knowledge will serve as a basis for the determination of job descriptions and staff requirements, workshop and transport facilities, and overall material and stores needs.*

#### 4.1 Resources needed to support a preventive maintenance programme



*The identification of the tasks required within the overall programme, their frequency and location, and the allocation of responsibility for undertaking them, forms the basis of the preventive maintenance programme.*

*Clearly, however, no programme, no matter how well defined, will be successful if the resources required for its implementation are not available. Unfortunately, and all too frequently, the root cause of ineffective preventive maintenance has been a neglect to properly identify the extent of these resources, to plan and to budget for their timely provision. The project cycle has been seen to finish with the completion of construction, and the recurrent resource implications and requirements have been ignored.*

##### 4.1.1 Human resources

*Human resources requirements, in terms of numbers, qualifications and training needs, duties and location will depend on the size of the service area.*

*Community workers, particularly women, can perform such tasks as the tightening of bolts and the lubrication of pivot points on hand-pumps; the changing of standpost tap washers; the inspection of pipelines to detect leakage; the periodic opening of washout valves, etc. The importance of such work should, however, not be underestimated as it is on the basis of regular simple preventive maintenance of this type by locally employed staff that system life can be significantly extended at minimum cost, early recognition made of matters requiring corrective maintenance and proprietary community interest aroused and developed.*

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*Small rural water supply systems which utilise appropriate technology do not normally require highly qualified or specialised resident staff. In general, such staff will be required to perform a wide range of relatively simple tasks. Highly skilled technical expertise is therefore often less important than the possession of general manual skills and the ability to adapt and improvise in the absence of close supervision. Additionally, the village operator or caretaker, who will frequently be chosen from the local community, should have a personality which will allow him or her to ensure, with support from the community Water Committee, that instructions regarding public usage of the facilities are followed.*



*It will normally be necessary to provide training for local staff after their selection, the extent of instruction required depending largely on the technology employed and the identified tasks.*

*Community workers should be provided with clear and precise instructions which detail their operation and maintenance duties. Such instructions, provided by the technical support agency, must be simple and easy to follow, written in the local language and supported by any necessary drawings or sketches.*

*In some maintenance systems, trained community workers do all preventive maintenance and simple repairs. Until recently, women have seldom been trained as local caretakers. As this work can usually be done by either men or women, this can be attributed mainly to socio-cultural objections from authorities and project workers. The following reasons have been put forward for their lack of involvement: women do not want to do unpaid work (do men?); they are shy and illiterate; they are often away at the market; they are tied to the house and cannot report or go about the village; they are afraid to go out at night to repair a pump (is that necessary?).(11)*

*In other cases, women have been trained to do all preventive maintenance and sometimes simple repairs. Factors contributing to this choice include high male migration and mobility(12) and linkage with a women's project or organisation.(13)*

*Lesotho has many female caretakers because many male adults work in South Africa.(14) In Sudan, as male caretakers were found to be away frequently on their distant farms, the project changed to train women who farm in the villages. In Bangladesh, female hand pump caretakers have been trained as part of vegetable gardening*

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and health projects.(15) In Kenya, women running a vegetable garden project sent a number of their members for training in the operation and preventive maintenance of a diesel pump to save the cost of a hired attendant and also to be more independent.(16)



Training of women caretakers as part of ongoing government programmes has commenced in several countries, including Malawi, Mali(17), Sierra Leone, Tanzania(18), Kenya(19), and Ethiopia.(20). In Bangladesh, after evaluation of the system, it was recommended that for each hand pump, a woman and her husband or a group of women users (at least two) be trained as caretakers.

#### 4.1.2 Workshops

The requirements for workshops and their location will depend largely on the institutional allocation of responsibility for the tasks to be carried out within the overall preventive maintenance programme. The objective should, however, be to establish a system which overall will provide effective maintenance at minimum cost through an avoidance of duplication of facilities or the oversophistication of equipment, by ensuring that staff and equipment are provided only to the extent that they will be kept fully occupied.

For a rural water supply workshop, it is important to enhance and motivate women's participation and analyse necessary factors such as time of workshops, environment circumstances, local traditions, etc. Equally, more time should be dedicated to women in order to get acquainted with all necessary tools and equipment as they are primary users.

Regional or district workshops staffed by the technical support agency will be more sophisticated, and will require to be equipped with the tools necessary to carry out the tasks demanded by the facilities they are provided to service. Circumstances may show that in addition to central workshops, there will be a requirement for travelling workshops, equipped, for example, to withdraw the drop pipes from deep boreholes or to re-grind engine valves. It will often prove to be financially attractive to have a single well-equipped workshop centrally located, which can be kept fully occupied by servicing all facilities within the operational area rather than to have a number of smaller workshops, duplication of equipment and under-employment of staff.

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*In determining the extent of facilities to be provided at either the community or support agency level, sight should not be lost of the possible benefits of utilising the private sector. For example, if local garages can be utilised to decarbonise engines, the cost of their use in relation to the direct employment of preventive maintenance staff, and the equipping of workshops, should be examined.*

#### *4.1.3 Stores and spare parts*



*An initial estimate of the materials required for preventive maintenance can be made at the time when the preventive tasks are identified. Without the availability of materials and spare parts when and where required, any preventive maintenance programme will run into difficulties.*

*Where items are readily available from local suppliers at a competitive cost, it may be unnecessary to hold such items in store. Local purchase procedures must, however, be established and firmly applied as this is an area which has frequently been found to be open to abuse.*

*Preventive maintenance includes the introduction of new parts in exchange for those which have been in operation for some time. In many cases it may be economical for old parts to be reconditioned and recycled through the stores organisation for reuse. Such arrangements should be introduced where possible and procedures established for maintenance staff to be accountable for the return of old parts, for their examination prior to either write off or repair and for their return to stock after reconditioning has been completed.*

#### *4.1.4 Finance*

*It is essential that agreement be reached prior to implementation of project construction regarding recurrent funding requirements and the sources from which these funds will be provided. Numerous instances can be quoted where failure to do so has resulted in rapid deterioration, intermittent operation, and/or early abandonment of systems. As a result, capital investments are lost, public health and other social benefits unrealised, and the expectations of the benefitting communities, which may have contributed to capital investment in cash or kind, remain unfulfilled. It is accordingly incumbent upon the promoting technical agency to provide accurate*

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estimates for capital costs and for the various items of recurrent expenditure which will be required to operate, maintain and ultimately replace the facilities proposed and to meet debt service commitments. Negotiations with government, the benefitting communities, and possibly the external agency which is financing the capital development, should follow in order to obtain firm commitments that will fully cover recurrent cost requirements. A basic policy should be that a project will not be built until its recurrent funding requirements are guaranteed.

In most developing countries, governments have found that it is not possible for them to fully underwrite rural water supply recurrent costs as a social service on a national basis. Conversely, the situation in rural communities is such that they are generally unable to fully meet these costs from their own resources. As a result, a sharing of the costs is frequently found to be the solution. A common practice which has emerged is for the community to provide system operators or caretakers and to contribute in whole or in part towards the cost of operation and maintenance, any balance required being provided as a subvention by Government through the technical support agency. Apart from rare examples (e.g. the Barangay Rural Water Supply Programme in the Philippines), communities are not generally able to service the debt, this item commonly being borne in its entirety by the government.

#### 4.1.5 Evaluation

To be effective, the programme must be subjected to evaluation, so as to allow necessary modifications to be introduced in the frequency of task performance, the use of better materials and tools, improved utilisation of staff and equipment, and apportionment of responsibility with the objective of minimising breakdowns and prolonging the life of the system.

CONSTRUCTION

1. What organization will act for the community during construction?

Options include:

- same as for planning phase
- subcommittee of planning organization
- new committee
- existing self-help organization
- many neighbourhood groups

2. What responsibilities will the community organization have?

Options include:

- setting up work schedules
- providing or storing tools, equipment
- preparations (e.g. pegging out ground)
- allocating tasks
- supervising labour
- record keeping
- applying penalties/rewards
- managing community funds

3. What responsibilities will the community have for construction?

Options include:

- to provide paid or free labour
- to provide tools
- to provide local materials
- to provide food for labour
- to help construction in other communities
- to provide sites
- to provide housing for technical team

4. Will ceremonies be held (in accordance with local traditions) to indicate landmarks in the construction?

Options include:

- on choice of site (especially where religious acceptability involved)
- at beginning of construction
- at landmarks during construction
- at end of construction
- at official handover of facilities

5. How will construction tasks be phased?

To take account of:

- seasonal migrations (especially of men)
- religious ceremonies/seasons
- other demands on labour (harvest, etc.)
- effect of fasting on ability to work
- effect of weather on work conditions

6. How will possible over-burdening of communities with demands for construction labour be avoided?

Check with:

- community leaders
- other agencies (to find out their plans)
- local organizations
- district/regional offices



MANAGEMENT, OPERATION AND MAINTENANCE

1. Who will be responsible for the management of facilities at the local level?

Options include:

- water agency fully responsible
- another agency (e.g. health)
- local/district government
- local water committee representing users
- community member serving as manager
- private owner responsible
- traditional community leadership
- combinations of above

2. What will be the responsibilities of the community for management?

Options include:

- report periodically to agency
- report urgent problems immediately
- arrange taxes, water rates
- organize collection of payments
- keep accounts
- pay loans and other financial dues
- sign individual contracts
- pay home visits to non-payers and other problem households
- organize general meetings for elections, public reports, etc.
- develop and apply regulations
- deal with users' complaints
- keep minutes of meetings
- keep archives, log books
- organize demonstration, official visits
- select operators
- delegate responsibilities to operator
- supervise operators
- pay operators
- organize community contributions for upgrading, extension, repairs

3. Will community managers be able to exchange views other communities?

For example:

- through Water Committee Associations covering several communities
- through periodic training sessions, meetings
- informal mechanisms

4. If they are to be managed by the community, will the completed works be legally conveyed to the community?

Will local ceremonies be held?



5. Who will be responsible for the operation and maintenance of public facilities at the community level?

Options include:

- mobile operators within water agency
- agency operator locally based
- community member recruited and trained and responsible to agency
- as above but responsible to community
- combination of above
- local artisan (e.g. blacksmith) on contract
- community members for unskilled tasks
- national/regional agency responsible for back-up and supervision of local operation and maintenance

6. How will community members be selected as operators?

Which will be the most important criteria?

Who will make the final selection?

Options include:

- level of education
- knowledge of official language(s)
- knowledge of local language(s)
- previous related experience or skills
- age
- sex
- not on government payroll
- prolonged residence in local area
- fair guarantee of future stay in local area
- good local standing

7. What will be the duties of the local operator for public facilities?

Options include:

- routine maintenance
- simple repair
- report immediately when help needed
- report periodically to supervising body
- undergo training and refresher courses
- demonstrate system to official visitors
- arrange community labour
- collect water rates, fees
- help in health education
- advise and correct users
- deal with complaints
- control queues, disputes, etc. at standposts
- apply regulations and sanctions

8. Who will be responsible for promotion, operation and maintenance of private facilities?



Options include:

- as for public facilities
- household group leaders
- individual householders
- community level worker
- community health committee

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Whyte, A., *Extension of Community Participation in Water and Sanitation in Developing Countries*, Institute for Environmental Studies, Toronto, 1979.



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*Draft Guide for the Design of a National Support Programme for Community Education and Participation in Water Supply and Sanitation, World Health Organisation/International Reference Centre, The Hague, 1980.*

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3.1 KEY ISSUE - CHECKLISTS

1. LIST MAIN FACTORS FOR ORGANISING AND MANAGING PREVENTIVE MAINTENANCE PROGRAMMES.
2. LIST ACTIVITIES YOU WOULD INCLUDE AND PERFORM TO ENLARGE WOMEN'S PARTICIPATION IN CONSTRUCTION, OPERATION AND MAINTENANCE STAGES.
3. INDICATE HOW YOU WOULD ENVISAGE TECHNICAL TRAINING PROGRAMMES TO IMPROVE THE EFFECTIVENESS OF WOMEN'S PARTICIPATION IN OPERATIONAL STAGES OF WSS PROJECTS.
4. INDICATE HOW YOU WOULD RECOMMEND TO GOVERNMENT OFFICIALS TO PAY MORE ATTENTION TO WOMEN'S PARTICIPATION IN CONSTRUCTION, OPERATION AND PREVENTIVE MAINTENANCE.

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NAME OF PARTICIPANT

.....

INSTITUTION

.....

OCCUPATION

.....

COUNTRY

.....

DATE

.....

Mark the box which corresponds best to your opinion to each question.

1. Your degree of interest in the particular topic of this module was:



high                      | |   | |   | |   | |                      low

2. The objectives of this module were:

clear                      | |   | |   | |   | |                      not clear

3. The contents of this module were:

well structured        | |   | |   | |   | |        badly structured

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4. *The terminology in this module was:*

<i>easy to</i>								<i>hard to</i>
<i>understand</i>								<i>understand</i>

5. *The visual material (slides, drawings, diagrams...) used in this module was:*

<i>clear</i>							<i>confused</i>
<i>useful</i>							<i>useless</i>

6. *The checklists have covered the subject studied?*

<i>completely</i>							<i>not at all</i>
-------------------	--	--	--	--	--	--	-------------------



7. *The checklists were:*

<i>useful</i>						<i>useless</i>
<i>too simple</i>						<i>too complicated</i>
<i>sufficient</i>						<i>insufficient</i>

8. *Studying this module enabled you to learn:*

<i>many new things</i>						<i>nothing new</i>
------------------------	--	--	--	--	--	--------------------



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9. The knowledge acquired through the module's study will in your present profession be:

useful                      | |    | |    | |    | |                      useless

10. The knowledge acquired through the module's study will in the near future be (reply to this question only if the answer n. 9 is negative):



useful                      | |    | |    | |    | |                      useless

11. List the topics you would like to have treated more extensively:

- 1).....
- 2).....
- 3).....

12. List the topics you would like to have treated to a lesser extent:

- 1).....
- 2).....
- 3).....



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13. *List the topics not included in this module which you think are of essential interest to your profession:*

- 1).....
- 2).....
- 3).....

14. *Please list any suggestions you have to offer for improvement of this training module.*

- .....
- .....
- .....

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### *HARDWARE*

*OVERHEAD PROJECTOR*

*SCREEN*

*FLIP-CHART*

### *DOCUMENTS TO BE USED BY THE TRAINER*

*See "module structure" p. 3*

### *DOCUMENTS TO BE DISTRIBUTED TO TRAINEES*

*OBJECTIVES*

*TARGET POPULATION*

*TABLE OF CONTENTS*

*TEXT*

*GLOSSARY*



*BIBLIOGRAPHY*

*CHECKLISTS*

*ADDITIONAL MATERIAL*

*EVALUATION QUESTIONNAIRE*

*Check that this material has not been previously distributed to the trainee.*

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**KEY POINTS**

**TRAINING  
METHODS AND  
ACTIVITIES**

**DOCUMENTS  
TO BE  
DISTRIBUTED**

**AVA**

**INTRODUCTION**

**1. OBJECTIVES**

**PRESENTATION**

*Additional  
reading*

**2. INTRODUCTION TO  
OPERATION AND  
MAINTENANCE**

**PRESENTATION/  
DISCUSSION**

**T1**

**PRESENTATION**

**3. WOMEN AS CONSTRUC-  
TION WORKERS**

**PRESENTATION/  
DISCUSSION**

**4. WOMEN'S ACTIVITIES  
IN OPERATION AND  
MAINTENANCE**

**PRESENTATION**



**T2**

**5. BASIC ORGANISATION  
OF OPERATION AND  
MAINTENANCE**

**PRESENTATION/  
DISCUSSION**

**6. BASIS FOR ORGANISING  
AND MANAGING A  
PREVENTIVE MAIN-  
TENANCE PROGRAMME**

**PRESENTATION/  
DISCUSSION**

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### *SUMMARY*

*KEY ISSUE CHECKLISTS*

*GROUP  
DISCUSSION*

*Checklist*

*PRESENTATION OF  
CHECKLISTS*

*PLENARY  
DISCUSSION*

### *CONTROL*

*KEY ISSUE CHECKLISTS*

*THE PARTICIPANTS  
WILL WORK IN  
SMALL GROUPS  
AND DISCUSS  
VARIOUS PROPOSALS*

*MODULE EVALUATION*

*INDIVIDUAL  
ACTIVITY*

*Evaluation  
questionnaire*

*We suggest that the officer in charge follow strictly the sequence of key points as given in this guide including the related audiovisual material (AVA). As far as training methodology is concerned, the selection and adoption of the most suitable methods, with reference to the characteristics of the target population being trained, is left to the ability and experience of the trainer.*

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		LIST OF TRANSPARENCIES	SUB-MODULE VI/5.1	

1.      *WOMEN'S ROLE IN OPERATIONAL STAGE*
2.      *WOMEN'S ROLE IN OPERATIONAL STAGE*

# OPERATIONAL STAGE OF WSS PROJECTS

## CONSTRUCTION OF FACILITIES

Women construction workers

## OPERATION MAINTENANCE LOCAL MANAGEMENT



Participation in.

site management

caretaking

local administration

self-sufficient systems

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UN (WVSS) WOMEN, WATER SUPPLY AND SANITATION.		TRANSPARANCIES	
OPERATIONAL STAGE		MAY 86	
W.O.		1	



UN (WWSS) WOMEN, WATER SUPPLY AND SANITATION.

MAY 86.

W.O

TRANSPARANCIES

OPERATIONAL STAGE

2

## TRAINING

Adaption of pumps and  
other installations to  
womens' needs



PREFACE

The content of this modular unit has been developed on the basis of:

- 1) INSTRAW/INTER-AGENCY TASK FORCE ON WOMEN/UNICEF,  
"WOMEN AND THE INTERNATIONAL DRINKING WATER  
SUPPLY AND SANITATION DECADE", JUNE 1985.
- 2) TAG, DISCUSSION PAPER NUMBER 3, "INVOLVING WOMEN IN  
SANITATION PROJECTS", BY HELI E. PERRETT, MAY  
1985.
- 3) WASH, TECHNICAL REPORT NO. 11, "THE ROLE OF WOMEN AS  
PARTICIPANTS AND BENEFICIARIES IN WATER SUPPLY  
AND SANITATION PROGRAMS", PREPARED BY MARY  
L. ELMENDORF AND RAYMOND B. ISELY, DECEMBER  
1981.
- 4) WHO, "MINIMUM EVALUATION PROCEDURE (MEP) FOR WATER  
SUPPLY AND SANITATION PROJECTS" (ETS/83.1,  
CDD/OPR/83.1), FEBRUARY 1983.
- 5) WHO, "GUIDELINES FOR PLANNING COMMUNITY PARTICIPATION  
IN WATER SUPPLY AND SANITATION PROJECTS",  
PREPARED BY ANNE WHYTE, ETS/83.8.
6. FAO, "GUIDELINES FOR WOMEN IN LAND AND WATER  
DEVELOPMENT", LAND AND WATER DEVELOPMENT  
DIVISION, FAO, ROME, W/P7586, 1982.

*Evaluation is quite simply....*

*looking where we are and where we've been so that we can  
better know where to go!*



TURIN  
CENTRE



UN  
INSTRAW

UN (WWSS) WOMEN, WATER SUPPLY AND SANITATION.



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SUB-MODULE VII



EVALUATION AND PROCEDURES FOR  
WSS PROJECTS

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### MODULE STRUCTURE

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5.2 <i>TRANSPARENCIES</i>	

*The officer in charge will make use of the five components indicated above, while the participants will be provided with the material related to components 1, 2 and 3.*

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## 1.1 OBJECTIVES



### GENERAL

*The participants will have an understanding of the basic concepts, techniques and practices used in evaluating procedures of WSS projects.*

### SPECIFIC



*On completion of this unit, the participants should be able to:*

- 1) *recognise the main steps involved in carrying out an evaluation procedure;*
- 2) *identify how women's organisations can formulate recommendations to government officials in evaluation procedures for measuring the project impacts on women.*

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1.2      TARGET POPULATION

LEADERS AND SENIOR OFFICIALS OF WOMEN'S ORGANISATIONS AT  
NATIONAL, REGIONAL AND INTERNATIONAL LEVELS.

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## 2.2 NOTES FOR PRESENTATION

### 1. EVALUATION

Little is known as yet about effective planning and organisation of women's participation in sanitation activities. Monitoring of the process is therefore essential, with rapid feedback to management. Evaluation can also be useful for checking on the commonly made assumptions that:



- a) women participants will benefit from their efforts; and
- b) the project will benefit from women's participation.

In order to understand what are the essential components of an evaluation procedure, this modular unit is using Minimum Evaluation Procedure (MEP), produced by WHO (ETS/83.1, CDD/OPR/83.1) as a demonstration of a cheap, simple and quick procedure.

#### 1.1 Purpose of evaluation

Evaluation is a systematic way of learning from experience and of using the lessons learned both to improve the planning of future projects and also to take corrective action to improve the functioning, utilisation and impact of existing projects. The evaluation does not in itself improve anything. It should not be just a listing of problems, and their possible causes, but should also include recommendations of the following types:

- (i) actions need to
  - get a non-functioning facility into operation;
  - improve a functioning facility;
  - improve the utilisation of facilities;
- (ii) complementary activities that need to be initiated or re-emphasised for benefits to materialise or increase;
- (iii) modifications needed to future projects;
- (iv) actions needed to ensure that lessons learned are conveyed to other programmes and other agencies.

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*These recommendations can be arrived at without an evaluation of impacts. As this document does not include detailed guidelines on the design of impact studies it has been labelled "Minimum Evaluation Procedure" (MEP).*

## *1.2      Scope and purpose of the MEP*

*The ultimate objectives of allocating resources for water supply and sanitation investments are to improve the health, welfare and economic status of the users of the facilities constructed. These objectives cannot be fully achieved unless the facilities are, firstly, functioning in the correct way and, secondly, utilised by the community. Thus the MEP is designed to evaluate functioning and utilisation and concludes with a discussion of impact study methodology and findings from documented impact studies. This approach is set out in Figures 1 and 2. Detailed guidelines for the evaluation of impact will be covered in a separate document.*

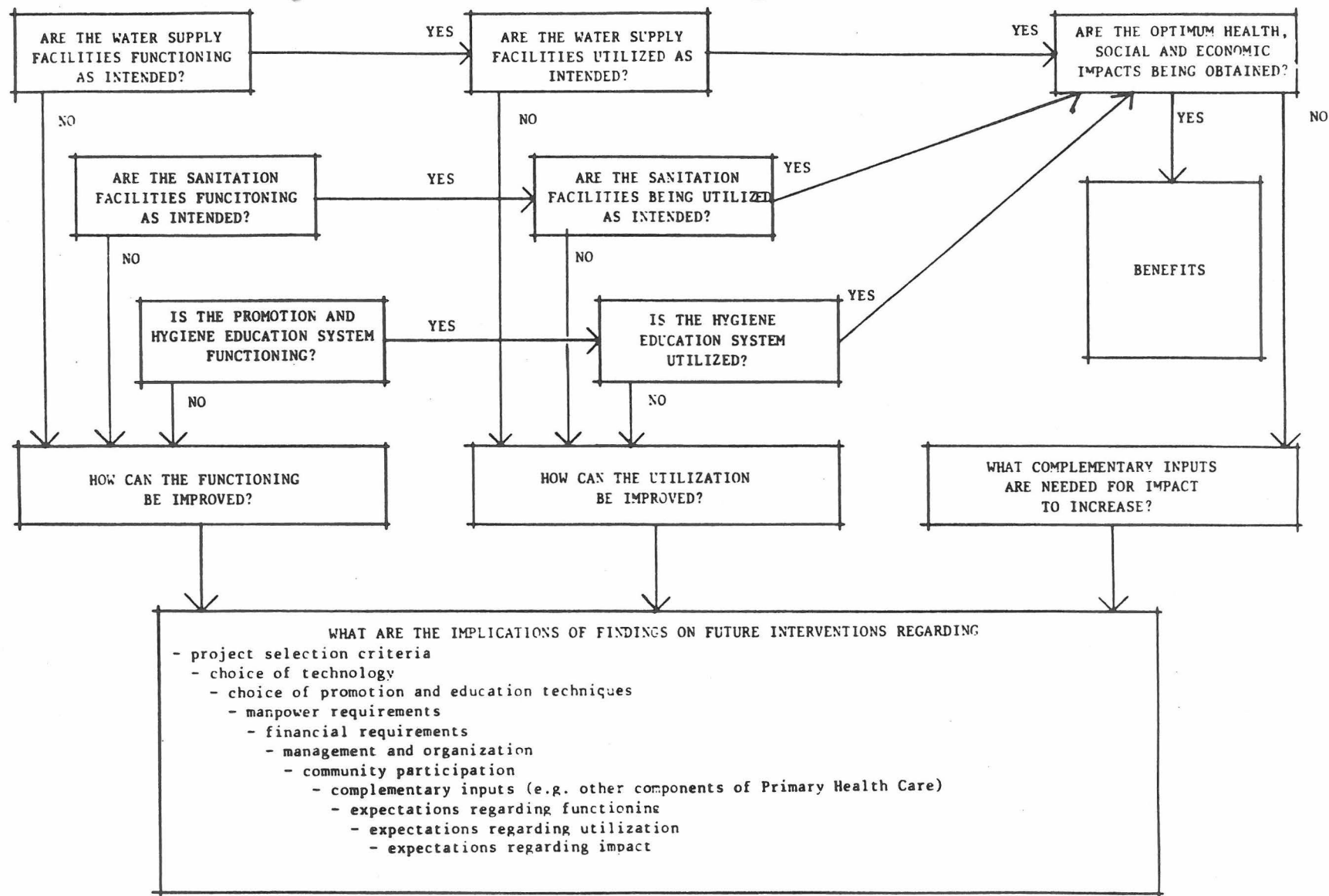
*The evaluation may focus on one or more of the three stages of functioning, utilisation and impact (Figure 2). Deficiencies found in the evaluation of a particular stage call for improvements in the output of the previous stage or in the inputs to the stage under review. There is, therefore, little value in evaluating a particular stage unless the objectives of the previous stage have been largely achieved. Evaluation of impact is only appropriate for a project known to be correctly functioning and well utilised.*

*These guidelines are written primarily for projects which employ simple technologies. They are less appropriate for large urban projects employing sophisticated technology.*

*The guidelines are written for global application and can therefore not cover data collection, analyses and recommendations for corrective action to any great depth. They must be adapted to local conditions bearing in mind the purpose of the evaluation, institutional arrangements and technologies employed in the projects to be evaluated.*

*The guidelines are written primarily for managers responsible for the construction and/or operation and maintenance of water supply and sanitation programmes in developing countries and for others*





Note: YES = Yes, to a great extent.  
NO = No, to a great extent.

Figure 1 : Questions to be answered in the evaluation of water supply and sanitation programmes  
WHO, "Minimum Evaluation Procedure (MEP) For Water Supply and Sanitation Projects, ETS/83.1 CDD/OPR/83.1/56

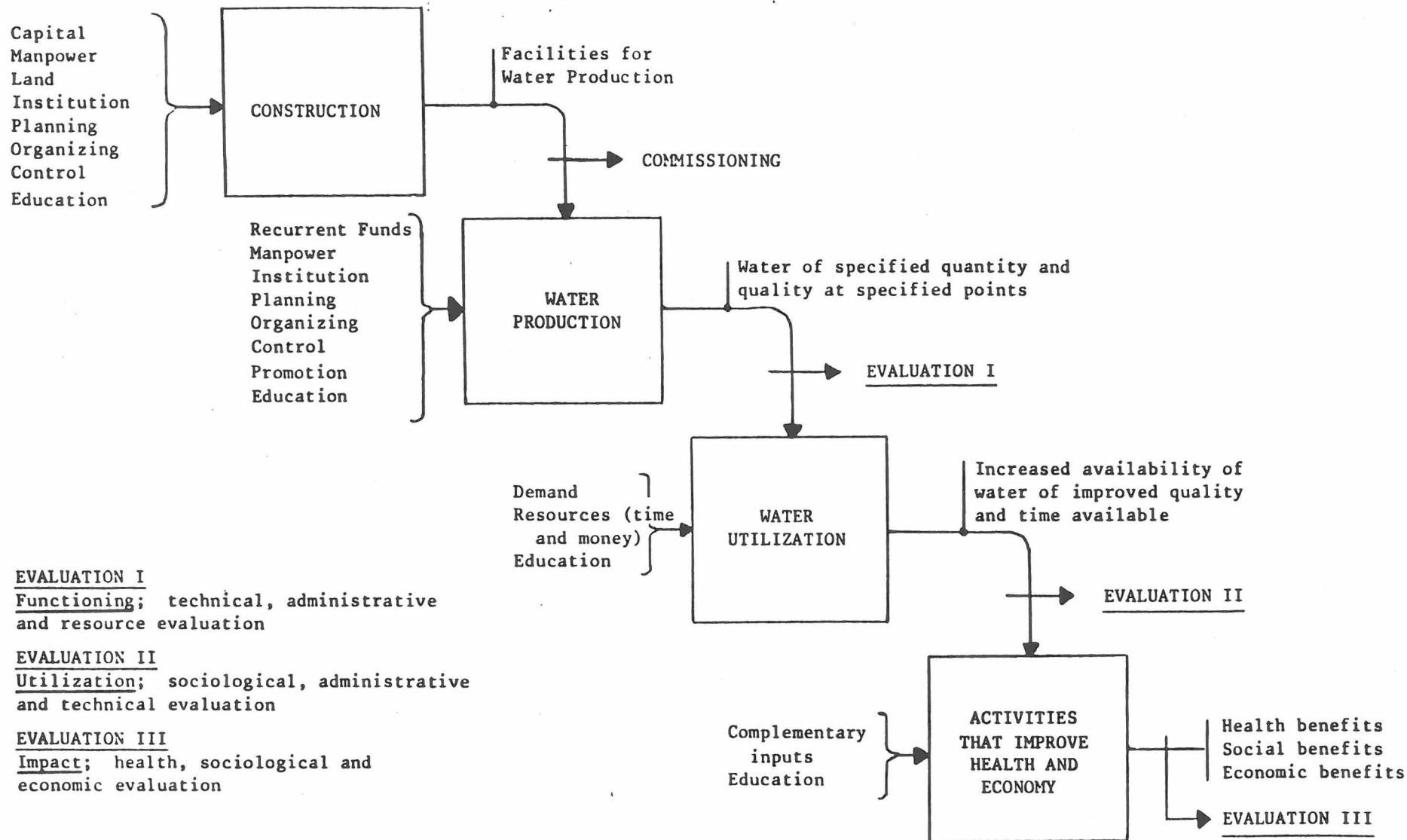




Figure 2 : Evaluation of benefits from water supply investments and intermediate steps

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who may be responsible for conducting or organising evaluations. The scope of any particular evaluation will be defined in one of the following ways:

- by ongoing or completed programmes;
- by geographic area (e.g. by province);
- by technology (e.g. handpumps on shallow wells);
- by agency (e.g. facilities built by the Ministry of Health);
- by donor (e.g. programmes supported by UNICEF);
- by age (e.g. facilities developed before 1970);
- by socio-economic group (e.g. landless people);
- by emergency or disaster (e.g. the area affected by a cholera epidemic).

Evaluations can be continuous, carried out regularly (e.g. annually) or at special points in time when maximum use of the results can be expected (e.g. prior to a new planning cycle, prior to negotiations with external support agencies or after disasters such as wars or natural disasters).

These guidelines do not recommend research-oriented sophisticated methods of establishing the linkage between clean water, adequate sanitation, hygiene education and health. Nor do they provide methodologies to conduct benefit/cost analysis. The emphasis is rather on the collection of basic information on the functioning and utilisation of projects and the employment of this information to improve project and programme performance.

### 1.3 Procedure for evaluation

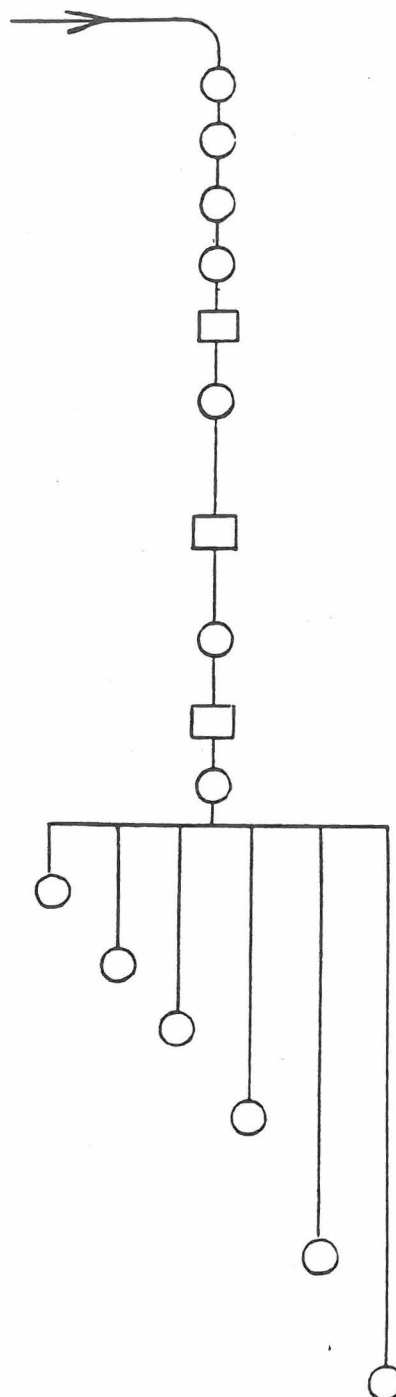
The main steps involved in carrying out an evaluation are shown in Figure 3. A brief summary of these steps is presented below.

#### 1.3.1 Decision to evaluate

The initiative may come from the ministry responsible for water supply and/or sanitation, the Ministry of Health or from the Ministry of Planning, possibly encouraged by an external agency providing resources for the programme. The level within the organisation at which the evaluation is initiated may determine what follow-up action can be expected from the evaluation. The recommen-



DECIDE TO EVALUATE  
 SELECT TEAM LEADER  
 ESTABLISH TERMS OF REFERENCE  
 DESK STUDY  
 VISIT FIELD TO PLAN THE EVALUATION  
 DECIDE ON FOCUS OF EVALUATION  
 COLLECT DATA ON RESULTS  
 (Project and Programme Levels)  
 ASSESS THE DATA COLLECTED  
 (Project and Programme Levels)  
 AND DEVELOP ALTERNATIVE  
 SOLUTIONS TO PROBLEMS  
 PREPARE RECOMMENDATIONS AND  
 ESTABLISH PRIORITIES  
 REVIEW REPORT  
 INITIATE FOLLOW-UP ACTIONS

GET NON-FUNCTIONING FACILITIES  
 INTO OPERATION  
 IMPROVE FUNCTIONING OF FACILITIES  
 IMPROVE UTILIZATION OF FACILITIES  
 INTRODUCE COMPLEMENTARY  
 ACTIVITIES FOR BENEFITS TO  
 MATERIALIZE OR INCREASE  
 MODIFY PLANNING, DESIGN,  
 CONSTRUCTION AND/OR OPERATION  
 AND MAINTENANCE OF FUTURE  
 PROGRAMMES AND PROJECTS  
 CONVEY LESSONS LEARNED TO OTHER  
 AGENCIES AND AREAS



LEGEND : ○ = Action  
 □ = Critical Review

Figure 3 : Procedure for Evaluation

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*dations for action in the evaluation report should preferably fall within the area of responsibility of the person to whom the report is directed.*

*Some organisations have already reached the stage where evaluation is built into the planning process and therefore is a continuous rather than ad hoc activity.*

### *1.3.2      Selection of persons responsible for the evaluation*

*The person given the responsibility to carry out the evaluation should preferably be familiar with the project, or similar projects, but without having been so closely involved that the outcome might be biased.*



### *1.3.3      Establish terms of reference for the evaluation*

*The person selected to be responsible for the evaluation should develop detailed terms of reference in close cooperation with the person(s) to whom she or he should be reporting.*

*The terms of reference should define:*

- objectives
- project area
- design of the study
- methods
- organisation and manpower resources
- reporting
- time schedule
- financial requirements

*The resources of personnel, time and money required to carry out the evaluation depend on the objectives, the depth of the evaluation and the size of the project being evaluated. The costs of evaluation will typically increase with the time taken, whereas the interest of those who initiated the evaluation has a tendency to decrease as time passes. There will be considerable variation in the time from initiation of the evaluation to the reporting, but this might typically be three to six months, with a four to six weeks concentrated effort in the field to collect the data.*

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#### 1.3.4 Desk study

The person responsible for the evaluation needs some time to study the documentation about the project. The expected outcome of a community water supply and/or sanitation project is usually expressed in longer term development objectives as well as shorter term immediate objectives. The former are, as a rule, given in very general terms indicating that health, economic and social benefits are expected to materialise. Intended coverage (population and/or geographic area covered) and level of service (communal standposts or wells with handpumps, yard or house connections, number of people per water point, volume per capita for each type of service, water quality requirements, maximum distance to water points) are usually spelled out in the immediate objectives. Goals for promotion of consumer interest in new supplies and sanitation facilities, community involvement, community contribution to construction, operation and maintenance and education on hygienic use of facilities are usually expressed in the project documents.



The desk study should also include an analysis of actual cost data to establish unit costs (cost per individual water scheme, cost per person served, cost per latrine, etc.) and the distribution of costs between the government agencies involved and the customers. Documentation on the institutional arrangements for construction and operation and maintenance and pricing policies for the operational phase should also be reviewed at this stage.

#### 1.3.5 Field visit to plan the evaluation

Most rural water supply and sanitation projects are spread over large areas. A short visit to a few sites at an early stage is almost essential to facilitate the planning of the evaluation. Note difficulties in the physical terrain, talk informally with field staff about their problems, note residence patterns, especially of disadvantaged groups, talk informally to a few householders; establish if there are severe problems with the functioning and/or utilisation of the facilities and if there are large seasonal variations in supply and/or demand.

#### 1.3.6 Decide on focus of the evaluation

The general purpose of the evaluation will have been established at the initiation of the exercise (Item 1.3.1 above). Information obtained during the study of project documents, and the field visit,

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*will make it possible to define more precisely the focus of the evaluation. If the initial field visit revealed severe problems with the functioning of the facilities, there is no point in carrying out an evaluation of utilisation or impact.*

*Some of the aspects to be considered in deciding on the focus of the evaluation are tabulated in Table 1.*

*Within a project that consists of a number of individual water schemes one might wish to emphasise functional aspects on schemes with functional problems; utilisation aspects on schemes which function well but have utilisation problems and for schemes with both satisfactory functioning and utilisation, a special impact study could be carried out (detailed guidelines for impact evaluation are not included in these "Minimum Evaluation Procedures").*

#### *1.3.7      Collection of data*

*Three main types of data need to be collected: data on functioning of the facilities and educating services, data on utilisation of services and institutional and financial data related to the project. Somewhat different approaches are needed to collect these three kinds of data.*

*Functioning of facilities and education services should be assessed wherever possible by engineering inspection and scientific observation. For instance, a faulty pump should be inspected by a competent technician (not merely recorded as being faulty because of a report given by a user) and polluted water should be examined for enteric bacteria (not merely recorded as polluted because someone said it was). The opinions and attitudes of the users should be recorded, but they should be backed up by direct inspection and appropriate laboratory tests. A sample of consumers should be asked to comment on their perceptions of educational messages and approaches. If the project being evaluated consists of many individual schemes, time might not permit all schemes to be visited in which case a selection of representative schemes to be visited should be made by the evaluation team.*

*Utilisation of the services should be recorded by a mixture of questioning users about utilisation and corroborating this by observing utilisation or signs of utilisation (for instance stools around the yard are a sign of non-utilisation of latrines). Factors*

Table 1 : Aspects to be considered in establishing the focus of the evaluation



MAIN PURPOSE OF THE EVALUATION	TYPE OF EVALUATION	CRITERIA	REMARKS
<p>To establish actions needed</p> <p>- to get non-functioning facilities into operation</p> <p>- to improve the functioning of facilities</p>	<p><u>Functioning of facilities</u> (Evaluation I, Figure 2)</p>	<p>At least some of the schemes within the project should have been completed</p>	<p>The focus is on (1) the physical systems and their engineering aspects and (2) institutions responsible for hygiene education.</p> <p>Recommended actions should be checked against the views, attitudes and desires of the community as the malfunctioning could reflect sociological rather than technical problems.</p>
<p>To establish actions needed to increase</p> <p>- coverage*</p> <p>- water and sanitation usage**</p>	<p><u>Utilization*** of facilities</u> (Evaluation II, Figure 2)</p>	<p>The facilities and the educational services under review need to be functioning fairly well.</p>	<p>The focus is more on sociological and administrative aspects. Recommended actions should be checked against engineering feasibility and capabilities of education institutions as they might affect functioning.</p> <p>Recommended actions should also be checked against potential impact on health and economy of the community to ensure that they will result in positive results.</p>
<p>To establish benefits from water supply and sanitation investments.</p> <p>To establish actions needed to optimize benefits.</p>	<p><u>Impact of the use of the facilities</u> (Evaluation III, Figure 2)</p>	<p>The facilities and educational services under review need to be functioning fairly well, be reliable and utilized by a high proportion of the community</p>	<p>Recommendations made should be checked against engineering feasibility and acceptance by the communities concerned.</p>

\* COVERAGE =  $\frac{\text{Number of people using the facility.}}{\text{Number of people living in the area the facility.}}$   $\frac{\text{Number of households who have built a latrine}}{\text{Number of households with access to the programme}}$

\*\* USAGE refers to volume of water used per person; proportion of household members and households that use latrines that have been built; proportion of people who understand hygiene education messages.

\*\*\* UTILIZATION takes coverage as well as usage into account



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that constrain people from using facilities, such as lack of money to buy water or soap, or fear that their children will fall into latrine pits, should be recorded.

Household information will always be required on utilisation of services and will also be required on services provided for single households (e.g. house and plot connections or private latrines). Household information can be obtained in various ways, some of which are summarised in Table 2.

The least costly method of arriving at reasonably accurate definitions of problems with the functioning and utilisation of facilities is to combine observation studies (Item 1, Table 2) with conversational interviews (Item 2, Table 2). The data gathering can be applied to whole villages, if they are small. For larger villages, stratified samples (Item 3, Table 2) can be taken.

Complementary information can be obtained at low cost through school children (Item 4, Table 2) and through community questionnaires (Item 5, Table 2).

A questionnaire survey (Item 6, Table 2) gives more precision to the findings and allows statistical analyses of the data. It requires, on the other hand, substantial resources for planning, training of interviewers, coding and analysis of data. A poorly planned and executed household sample survey can be very misleading.

The workshop method (Item 7, Table 2) can be used for definition of problems as well as for finding solutions to problems identified by other methods. Further details about the techniques for data gathering are given in Annex 1.

Institutional and financial data is obtained through the desk study (item 1.3.4 above) complemented by interviews and review of documentation at regional and/or district levels and on the project site. Information provided at the central level about back-up maintenance and revenue collected often reflects what is desired or aimed at and is frequently in conflict with the information obtained at decentralised levels which is likely to be more accurate.



Crucial government and consumer inputs as described in project documents should be identified and compared with actual delivery of these inputs.

Table 2 : Methods of Obtaining Household Information  
(for further details see Annex 1)

Method	Advantages	Disadvantages
<p>1. <u>Direct observation</u> of a sample of households to record:</p> <ol style="list-style-type: none"> <li>1. Types of households or neighbourhoods that do not have access to facilities from the project</li> <li>2. Hygiene use of the facilities</li> <li>3. Technical reasons for malfunctioning.</li> <li>4. How much water is being collected and/or for what purposes the water is being used.</li> <li>5. Use of latrines.</li> </ol>	<p>Immediate, vivid understanding of problems, low cost</p>	<p>Disadvantaged households and neighbourhoods may not be found and observed, especially if the evaluators are not familiar with the local area. People may object to being observed, in particular when it comes to use of latrines. The sample is small.</p>
<p>2. <u>Small sample household survey</u> using brief interview schedules and <u>conversational interview</u> technique. Enquiry is sharply focused on only a few essential topics.</p>	<p>Conversations, rather than direct questioning is usually perceived by rural people to be more polite, more interesting and expressing a genuine concern about them and their health. Since only a few topics are discussed in depth, the quality of information is good. Unanticipated constraints and perceptions may emerge.</p>	<p>There is a smaller quantity of information. Responses are not so easily coded and compared with other responses. The scope of enquiry is limited. The technique requires considerable skill of the interviewers.</p>
<p>3. <u>Stratified samples</u> of groups chosen by level of service, type of facility, level of utilization, socio-economic strata or other socio-cultural criteria.</p>	<p>The extremes of service and/or wealth can be covered with specific samples allowing smaller total survey size than in method 5 described below. Conditions of especially disadvantaged groups in the community can be investigated and compared with the most advantaged groups.</p>	<p>Poor households may not be clustered and easily identified. Methods of statistical analysis will have to be modified to deal with non-random distribution.</p>
<p>4. <u>Information gathering by school children</u> from their own houses and possibly neighbours. (The method might be applied together with one of the other methods.)</p>	<p>A large sample can be obtained at low cost.</p>	<p>The sample could be biased if the homes of the children are not representative. Investigations must be well supervised.</p>

Table 2 : Methods of Obtaining Household Information (cont'd)  
(for further details see Annex 1)

Method	Advantages	Disadvantages
5. <u>Community questionnaires</u> Information about a village is provided by a committee of village leaders.	Information can be obtained at very low cost.	The information could be biased, the situation for the poorer sections of the population might not be reflected.
6. <u>Questionnaire survey of households selected at random or clusters of households selected at random.</u>	The sample is both large and chosen at random. Therefore, disadvantaged households are guaranteed to be within the survey sample. Less skillful interviewers may be used.	A large sample is required to cover the whole spectrum of: (i) levels of service (ii) social strata Questions which are needed to identify the socio-economic position of households may be perceived as threatening. Questionnaires must be used for reasons of efficiency but may yield superficial or evasive responses. Large surveys are costly, time consuming and it might take a long time to process the data. Results may not be readily understood by project staff or the project beneficiaries.
7. <u>Workshops</u> in project areas in which project staff, primary health care workers and representatives of the recipients (including women) identify problems and develop solutions to achieving good functioning, utilization and hygienic practices. (This method could be combined with one or several of the other methods to identify the problems.)	A simple effective way to evaluate progress and develop possible modifications to design and/or implementation. Project personnel can make immediate use of the information.	Participants may not have systematically observed the functioning and utilization of facilities; quantified information may thus not be available to persuade decision makers at higher levels.

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*Government inputs, e.g.:*

- involvement of consumers in the planning process
- promotional and educational programme
- training of project staff (for construction and operation and maintenance)
- production and delivery of latrine and water supply components
- construction of demonstration latrines
- construction or construction supervision

*Consumer inputs, e.g.:*

- contribution to the planning process
- contributions to the construction and operation and maintenance in cash or in kind.

1.3.8 Assessment of data

Data collected from individual projects should be assessed to establish how the functioning, utilisation and impacts of the projects could be improved through corrective actions and further interventions.

Some of the improvements can be accomplished through interventions at the individual scheme or project level. There are, however, many topics that will require assessment, policy changes and interventions on a broader basis, possibly for nationwide consideration.

*For instance:*

- selection criteria;
- choice of technology;
- management and organisation (especially of the maintenance programme);
- distribution between Government input and consumer input (in cash or in kind) during the construction phase;
- pricing policy and revenue collection;
- promotional and educational methods;
- community participation;
- manpower development;
- complementary inputs.

### 1.3.9 Preparation of recommendations

The scope and depth of the recommendations depend on the terms of reference for the evaluation and the level at which the evaluation report is being reviewed.

An evaluation is likely to result in a large number of recommendations of varying importance. In order to assist those who will be deciding on a follow-up action programme, it is important that consideration be given to the following three criteria of each recommendation:



- feasibility (from political and technical points of view);
- impact;
- cost (capital and recurrent costs, public and private resources required).

In order to arrive at a priority ranking of the recommendations, they can be classified as high, medium and low for feasibility impact and cost. The priority ranking then depends on the weight given to the three criteria. If the highest weight is given to feasibility, and the second highest to impact, the order would be as follows:

Priority	Feasibility	Impact	Cost
I	High	High	Low
II	High	High	Medium
III	High	Medium	Low
IV	Medium	High	Low
Last*	Low	Low	High

\* This is merely a theoretical example; recommendations that have a low feasibility, low impact and high cost should obviously not be included in the report.

To facilitate follow-up of the recommendations it might be desirable to group them in accordance with the level at which action has to be taken.

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*There is a tendency to concentrate on the negative aspects of the project in evaluation reports. It should be remembered that for the planning of future projects it is of equal if not greater importance to know what aspects of the project have been successful and the underlying reasons for the success.*

#### *1.3.10 Review of the report*

*At the review of the report, a plan of action for follow-up, including a time schedule, should be discussed and agreed upon in principle. Persons to be responsible for the implementation of specific recommendations that have been accepted should be selected. A method sometimes used to arrive at an agreement upon the action plan is to arrange a workshop with the key people concerned to review the evaluation report and to decide on actions to be taken.*

#### *1.3.11 Follow-up action*

*It is most important that the results of the evaluation be conveyed to all project staff, to complementary workers such as primary health care staff, and to the users of the water supply and/or sanitation facilities and that they are involved in the planning and execution of follow-up actions.*



## *2. EVALUATION OF WOMEN'S PARTICIPATION*

*Self-evaluation has worked well in some notable projects, and could be applied more frequently. A recent INSTRAL report made an argument:*

*"Self-evaluation is an effective tool in community education. Therefore, women and the community should be encouraged to evaluate their own progress in water supply and sanitation activities in order to improve their role in this field."*

### *2.1 Data collection*

*The following types of information need to be collected to establish whether women have been involved and to extent of their involvement in the project.*

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1. Are there women sitting on the existing village water committee or its equivalent? If so, what is the percentage of women and what role do they play?
2. Are women consulted on the choice of technology, the selection of well sites or pump site? Are they consulted on additional facilities such as washing, bathing facilities?
3. Are women involved in the construction? If so, what is the percentage of women's labour input in construction? Do women contribute in other ways, i.e. food, laundry, etc.?
4. Are women given training in maintenance of water supply schemes? If so, what is the percentage of women trained as preventive maintenance workers/caretakers/managers of the facilities?
5. Are women trained as health/hygiene educators? If so, what is the percentage of women trained, as compared to men? What is the relative impact made by trained men and women? A further survey could be done to check the turnover rate of trained women as compared to trained men.

The diagram presents a preliminary framework for monitoring and evaluation of women's participation. The framework includes three dimensions: monitoring and process of women's participation; evaluating its impact on the project; and evaluating impact on women. Sources of data and data collection techniques would be varied and include review of project records, analysis of existing background data, observation, interviews with informants, and interviews with women participants themselves.

## 2.2 Implications for evaluation design

Warner (1975) has suggested that evaluation of water and sanitation improvements should be viewed in three stages (see figure 2).

### Stage 1 - Project Operation

In this phase the functional or engineering aspects of the project are assessed and the system itself is the object for evaluation by the potential users for appropriateness to their needs and their ability to operate and maintain it.

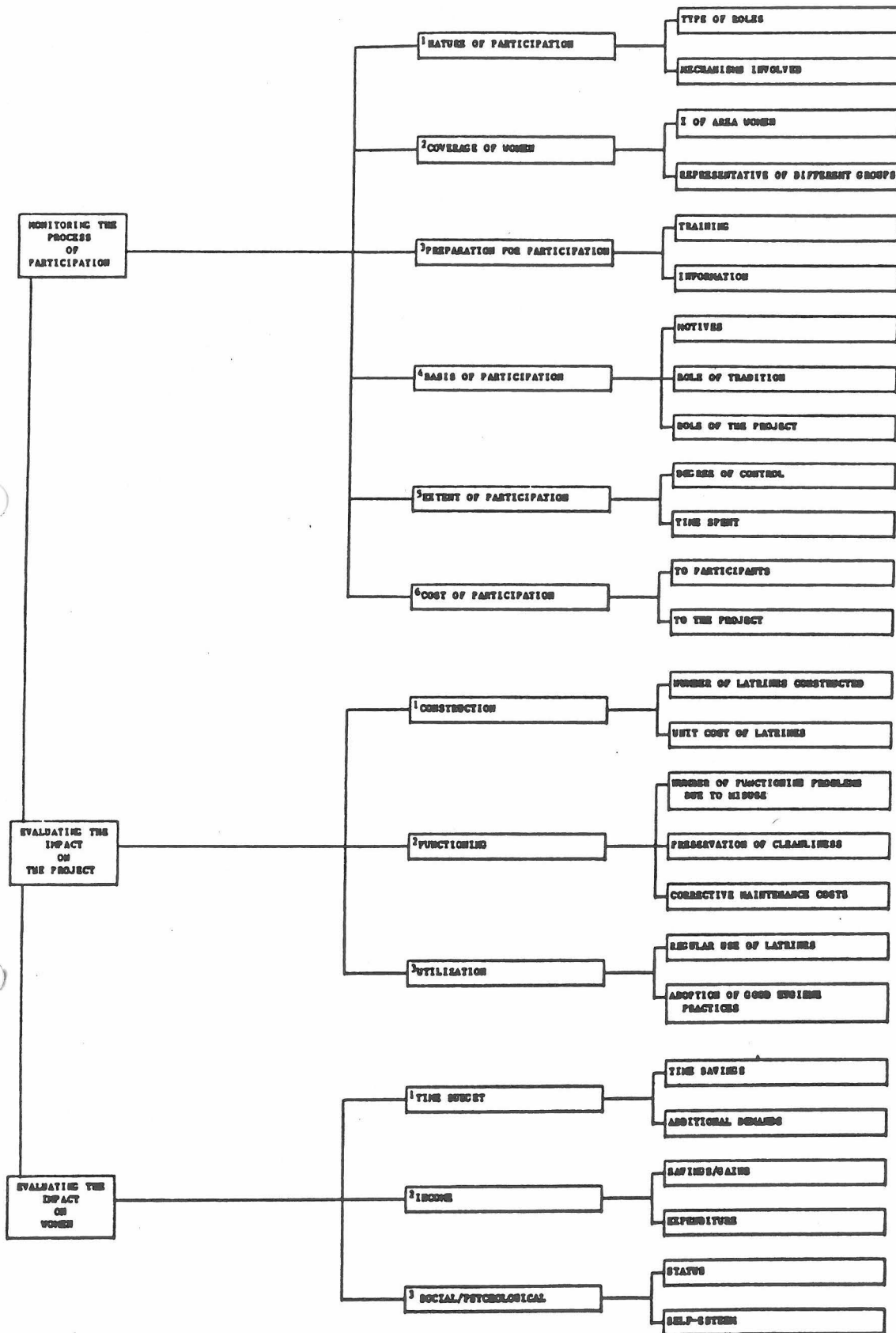




Diagram 03



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### Stage 2 - Project Performance

*This stage concerns a process evaluation of the use of facilities in which individuals and communities as users form the object for evaluation. In fact, it is important to distinguish between the kinds of usages and various treatments from the source to the ultimate use. Women as carriers, managers and manipulators of water merit key consideration at this stage of evaluation.*

### Stage 3 - Project Impacts

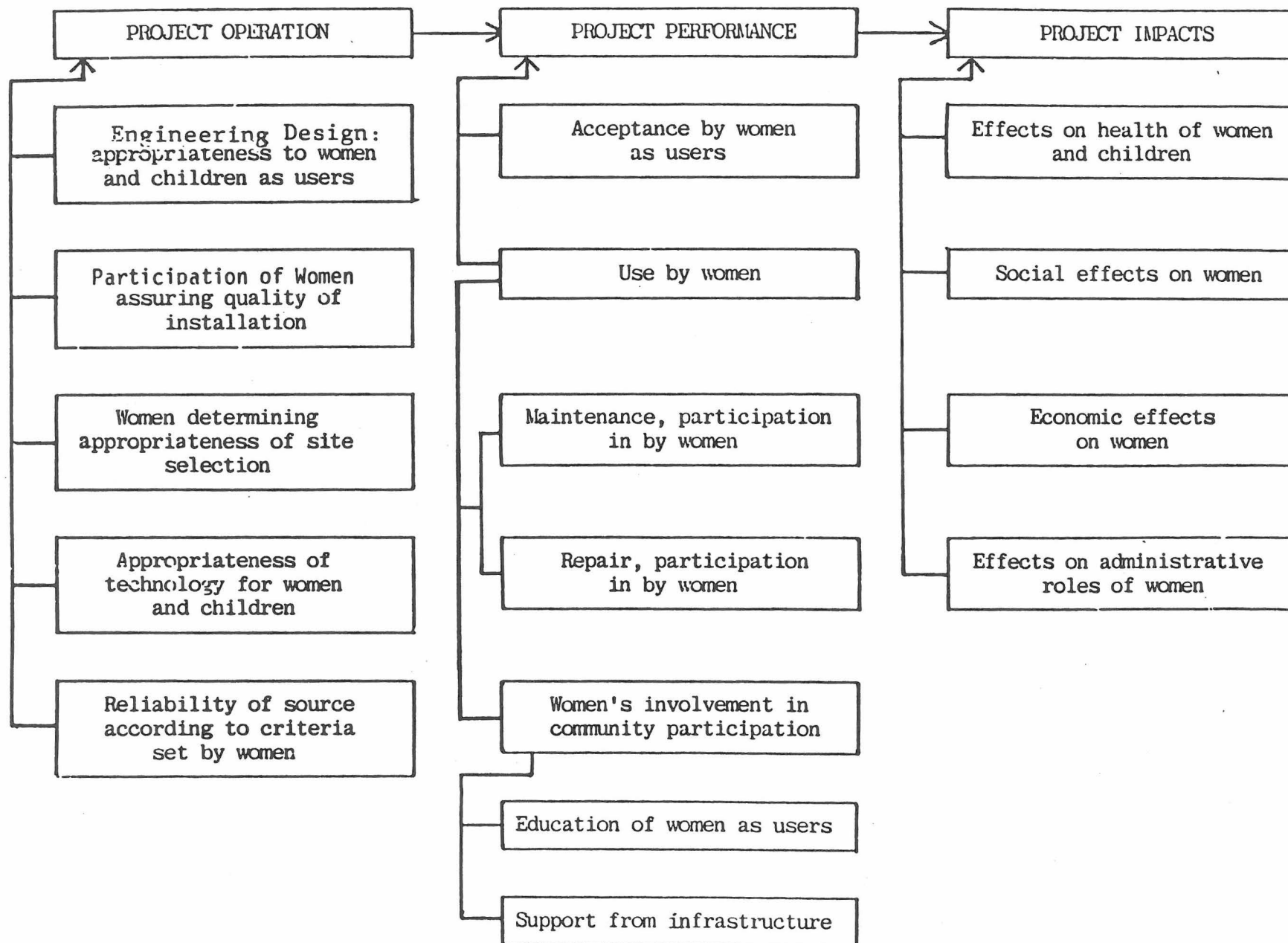
*This final or end-stage evaluation encompasses measurements of the health, social/organisational, economic and administrative effects of the facilities on individuals, households and communities. At this point outside evaluators and techniques are important, but eliciting participatory evaluation by women as well as men adds needed insight into community and personal perceptions of the project impacts as meaningful additions to the quantitative data.*



*At each stage of evaluation, whether one is describing the function of a pump or its use by villagers, if one is to effectively evaluate results one must account for the role of women as diffusers of knowledge, attitudes and behaviour associated with new water and sanitation technologies. (See figure for an evaluation model incorporating women's roles.) In effect, if one has not included the role of women as a key moderating variable, one is likely to miss a large share of the factors explaining the end-products of a given project.*

## 2.3 Implications for evaluation methodology

*Valid explanations of results of water and sanitation projects demand that women be entrusted with the responsibility of identifying criteria for each stage of the evaluation, for the collection and recording of data, and for a share in the interpretation of results. Only thus will reliable collection of evaluation data be achieved. With a stake in the outcome of the evaluation, women will be more likely to see that the necessary care is taken to select feasible data items and to collect them reliably. At the same time they will feel responsible for suggesting modifications or changes in the facilities themselves based on interpretation of the data gathered.*

A Model for the Evaluation of Water Supply and Sanitation  
Projects in Developing Countries: Illustrating the Broad Role of Women



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To evaluate the impact of water projects on women, time saving as a project objective can be easily identified and evaluated. Time budget studies of women's daily routines on a seasonal basis will indicate whether or not time has been released to women and how women use the time released. Such a study should investigate the following types of questions:

- Do women derive economic benefits from the release time? How women use the saved time for income generating activities such as sewing, handicrafts, vegetable growing, for greater involvement in the local market system, for educational and training or learning new skills, or others.
- Do women achieve health improvements? The type of benefits received: more time to take care of children, more water for washing, bathing, personal hygiene, acquire more knowledge about hygiene and water related diseases, change of behaviour in water usage, food preparation, personal hygiene, environmental cleanliness, better disposal of wastes, etc.
- Do women receive any income during the construction of the project?
- Do women learn new skills?\*

#### 2.4 Monitoring and evaluation of the impact of the project on women in rural areas



- 1) The type of questions to be covered in monitoring project performance:

##### TARGET POPULATION

- the percentage of women among participants in project activities by type;
- ratio of female participants to total potential female participants;
- socio-economic group of female participants.

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\* In additional reading, there are checklists and guidelines for community participation in the evaluation stage of WSS projects.

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### PROJECT OUTPUTS

- percentage of women among persons trained;
- percentage of women among persons for whom jobs are created;
- percentage of women among members and leaders of groups organised.



b) The type of questions to be covered in monitoring project impact include:

### ECONOMIC IMPACT

- percentage increase in yield of women's production activities;
- percentage increase in individual income of female participants;
- percentage increase in income from women's production activities;
- net change in female employment (type, increase/decrease).

### SOCIAL IMPACT

- changes in the division of labour by sex (including workload);
- changes in the distribution of production resources (male/female ratio);
- changes in income distribution (male/female);
- changes in the distribution of knowledge and skills (male/female);
- changes in women's community participation.

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## 2.3 GLOSSARY

### **Arithmetic mean or average:**

*The sum of the values recorded in a series of observations divided by the number of observations.*

### **Cluster sampling:**

*A cluster is a randomly selected group of households. All households in the area to be surveyed have an equal chance of being included in a cluster. Cluster sampling has the advantages of relative speed, low cost, and low personnel requirements.*

### **Chlorination:**

*The application of chlorine to drinking water for disinfection or oxidation of undesirable compounds.*

### **Contamination:**

*A general term signifying the introduction into water of micro-organisms, chemicals, wastes or sewage which renders the water unfit for its intended use.*

### **Groundwater:**

*The supply of freshwater under the earth's surface in an aquifer or soil that forms the natural reservoir for man's use.*

### **Pollution:**

*The presence of matter whose nature, location or quantity produces undesired environmental effects.*

### **Prevalence rate:**



*The number of illnesses existing at a specified point of time related to the number of persons exposed to risk at that point of time.*

### **Sampling:**

*Observations are made on a sample with the purpose of generalising from them to the entire study population.*

### **Sampling frame:**

*A list of population (could also be settlements or household depending on the unit of study) from which the sample is to be drawn.*

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### **Sanitation:**

The usual definition is very broad: "The control of all the factors in a man's physical environment that exercise or can exercise a deleterious effect on his physical development, health and survival". In this document, the word sanitation is used in the narrow sense of "the control of human faeces and urine".

### **Silt:**

Finely divided particles of soil or rock. Often carried in cloudy suspension in water and eventually deposited as sediment.

### **Simple random sampling:**

Drawing a sample from a population by a random method, e.g. by the use of random sampling numbers, which gives every individual in the population an equal and independent chance of appearing in the sample.

### **Stratified random sampling:**

Drawing a sample from a population which has first been divided into sub-groups or strata. From each sub-group a sample is drawn by a random method which gives every individual in the sub-group an equal and independent chance of appearing in the sample.

### **Two-stage sampling:**

A process of sampling a population in a series of consecutive steps, e.g. after specific projects have been selected for evaluation, households to be surveyed within a project can be selected randomly using a list of households as sampling frame.

### **Water pollution:**

The addition of sewage, industrial wastes or other harmful or objectionable material to water in concentrations or in sufficient quantities to result in measurable degradation of water quality.

### **Water supply system:**

The system for the collection, treatment, storage and distribution of potable water from the sources of supply to the consumer.

## 2.4 ADDITIONAL READING

### DATA GATHERING TECHNIQUES

Throughout the guideline "the household" has been referred to as the unit to which water and sanitation programmes are directed.

There is no universal definition of a household. Many situations fit into the following definition: A household comprises a person, or group of persons, generally bound by ties of kinship; who live together under a single roof or within a single compound, and who share a community life. (Casley and Luvy, 1982). In many rural areas the household is a unit which consumes what it produces.

There are several methods of obtaining information on the availability, utilization and impact of water supplies, sanitation facilities and complementary hygiene education. The investigators may:

- (1) Make direct observations.
- (2) Hold conversational interviews with selected samples of households.
- (3) Survey stratified samples; the poorest and the wealthiest household clusters.
- (4) Use school children to collect household data.
- (5) Use community questionnaires.
- (6) Hold workshops to identify and solve problems.
- (7) Carry out a household sample survey.

A brief description of each of these techniques follows:

#### 1. OBSERVATION STUDIES

Some of the factual information needed is best obtained through inspection or observation by enumerators. Three examples of observation studies are given below. Observations are most efficiently made in area cluster samples. Every latrine, water point or household in a few geographically defined project areas should be observed. These should be compared with observations made by the same investigator in comparison areas outside the project area. The comparison areas should be matched for socio-economic status, authenticity, climate, terrain and other relevant variables.

##### 1.1 Inspection of latrines

Through inspection rather than interviewing more uniform criteria will be applied in the evaluation of the state of latrines. A simple protocol should be developed to ensure that indicators of problems with functioning and utilization of the latrine are recorded in a uniform way. A sample protocol is attached which could be modified and adapted to the local situation. The protocol must be tested before use on any large scale.

##### 1.2 Observation at water points

Observations at water points over a period of several days can provide valuable information on waiting time at water points, peak periods of use, who collects water, type of containers used, volume of water collected per journey, use of water at the water point, etc. Interviews with the drawers of water can provide information on how far afield they have come from, number of journeys per day, frequencies of water point failures, etc.

For ease of recording and analysis a standardized protocol should be developed to obtain the specific information needed.

Similar observations can be made at traditional water points where interviews with those collecting water may reveal reasons for non-use of the water supply.

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WHO, "Minimum Evaluation Procedure (MEP) For Water Supply and Sanitation Projects, ETS/83.1 CDD/OPR 83.1, February 1983.

PROGRAMME:PROTOCOL FOR INSPECTION OF LATRINES

Province:  
 District:  
 Village:  
 Inspected by:  
 Date:

1. Household identification \_\_\_\_\_
2. Superstructure, type \_\_\_\_\_

Functioning  
 Gives privacy  
 Gives protection from rain

Yes	No

3. Fixtures, type \_\_\_\_\_

Water in water seal  
 OR  
 Lid  
 Suitable

Yes	No

, if no specify what problem

4. Pit
- Lined ☐ Yes ☐ No
- Free Depth \_\_\_\_\_ meters

5. Cleansing material
- Available ☐ Yes ☐ No

6. Water for handwashing
- Available at what distance? \_\_\_\_\_ meters

7. General condition as regards,

Smell  
 Flies  
 Mosquitoes  
 Fauling

good	acceptable	bad	very bad

8. Any other comments?



### 1.3 Observation of behaviour effected by hygiene education

At a minimum, hygiene education programme would encourage handwashing following defecation and protection of stored water in the home. Observe all households in area clusters to see if water for handwashing is available near the latrine. Ask to see the handwashing material (soap, sand, etc.). Ask to see household water storage containers and note if they are covered. In some areas people may traditionally cover their containers. If so, investigators should ask how frequently the container is emptied and cleaned. Since these verbal responses may be idealized statements of what should be done rather than what people actually do, a few observations of women bring water home will help to evaluate the accuracy of verbal responses.

## 2. CONVERSATIONAL INTERVIEWS

When a particular utilization problem, such as fouled latrines, is identified, select a sample of households that exhibit this problem. Have a very brief interview schedule of 3 or 4 open questions. Discuss these questions with all members of the household who are present, especially adult women. The questions should stimulate the householders to talk about the problem as they perceive it, and to suggest solutions. The investigator stimulates the conversation and lists all responses. Later, responses are classified and tabulated.

These conversations should reveal the householders' economic, physical and social constraints. For example, they may lack water for washing the squatting plate, and the solution is to integrate the provision of water supply and latrine building in the same area. Or, the latrines may be fouled from high water table flooding in the wet season and the solution is mounted latrines. If the area around the latrine is fouled it may be because people are afraid children will fall down the pit, and demonstrating the strength of the squatting plate may make a difference or shallow children's pits might be encouraged. In a further example, if men and women (or certain categories of kin) should not use the same latrine the solution might be a superstructure with two cubicles over the pit.

## 3. COMPARISON OF TWO CONTRASTING STRATIFIED SAMPLES

In some project areas poor people live in easily identified residential clusters. They are the group most likely to lack money to obtain new latrine materials, or water from a water project with water charges. They are also the group that more educated health workers and teachers tend to overlook in favour of their equals with whom conversation is more comfortable. Therefore, if resources for an evaluation (time, money, trained personnel) are scarce, those poor households, with the worst health status, should constitute a minimum sample. This sample should be compared with a stratified sample selected from the most healthy households in the project area. Households not sampled are presumed to fall somewhere between these two extremes.

## 4. USE OF SCHOOL CHILDREN IN DATA COLLECTION

In some instances, particularly when the proportion of children attending school is very high, a good data base on the functioning and utilization of water supply and sanitation facilities can be obtained at a low cost with the help of school children.

A procedure along the following lines could be followed:

### (i) Select schools

School within possibly both the project area and a comparison area to be selected.

(ii) Discussion about the issues at the schools

The persons responsible for the evaluation to arrange for say one half day's discussion with the 15 best pupils in one or several classes at each school. The older the children are, the more reliable will be the information they obtain. The bias will on the other hand also increase with the age of the children as it is likely that children from families with higher socio-economic status, and therefore better water supply and sanitation facilities, are over represented in the higher classes. The optimal age is likely to be between the age of ten and fourteen years.

Alternative water supply and sanitation facilities available to the households could be discussed with the children and a simple questionnaire developed together with them. The number of questions should not exceed ten and preferably be limited to five.

(iii) Questionnaire filled in by the school children

After the questionnaire has been duplicated the children could be asked to interview their parents and fill in the questionnaire at home. To increase the sample they could be asked to interview one or more neighbouring households who do not have children in the classes concerned. In that way the bias referred to above could also be reduced.

(iv) Discussion of the findings

When children return their data sheets, the sheets should be sampled and discussed with the students to ensure accuracy. When the results are presented to the students, they might be asked for further clarification on some of the issues.

5. COMMUNITY QUESTIONNAIRES

An alternative low cost method of obtaining information on the functioning and utilization of water supply and sanitation facilities is to prepare a questionnaire for a whole village or other administrative unit. A committee with the village leaders including the village health worker, if there is one available, could be requested to provide the information. One possible problem with this method is that the situation for poorer sections of the population might not be reflected as they are likely to have less influence on the committee than the more well to do households.

Another problem is that there will be a considerable variation in the quality of the data obtained from one village to another.

6. WORKSHOPS TO IDENTIFY AND SOLVE PROBLEMS

A relatively low-cost method of problem identification is to hold workshops with those concerned with the project under evaluation. Those who have been involved in the planning, design and construction and those responsible for operation and maintenance and, most important, the consumers should be represented. The consumers should be represented by a group of people to avoid being totally outnumbered by the technocrats and reluctant to participate fully and frankly in the discussions.

The programme should be structured and cover functioning, utilization, organizational and financial aspects. The workshop should preferably be held in the project area with field visits included in the programme.

The workshop method can also be very productive in arriving at possible solutions to problems that have been identified through the workshop or through any of the other methods outlined in this Annex.

## 7. HOUSEHOLD SAMPLE SURVEY

The most common method of data gathering if the results are to be statistically analyzed is a household sample survey where information is obtained through an interview with an adult member of the household based on a questionnaire. The procedures for a household sample survey are elaborated upon below:

- (i) Establish how many households are needed in the sample  
Consultation with a statistician is needed.
- (ii) Establish sampling procedures  
Consultation with a statistician is needed.
- (iii) Develop a draft questionnaire or interview schedule (compare with item 2 above)  
Attached is a questionnaire that could serve as a checklist. The questionnaire must always be adapted to the local situation. Many of the questions in the example will have to be modified (e.g. question No. 5). In the draft questionnaire it is best if some questions are left open without alternative answers listed (questions 15, 19, 25 and 29 in the example are closed questions; they have alternative responses listed).
- (iv) Test the draft questionnaire and develop it further  
The draft questionnaire should be thoroughly scrutinized through a pilot survey of some interested household members who would be subjected to the questionnaire. At this stage free responses to some of the open questions should be categorized and the suitability of changing them into closed questions decided upon. If all questions are closed from the beginning there is a risk that responses of importance are overlooked altogether. At the testing one would also establish if additional questions are needed and of equal importance if the answers to some of the questions are already known which would make the questions superfluous. It is important that the questionnaire or interview schedule is kept as brief as possible.
- (v) Translate the questionnaire and test the translation  
If the draft questionnaire has been developed in a different language from its final form it is very important that the translation is thoroughly checked. This is best done through an independent translation of the final questionnaire to the language in which it was drafted and then a comparison with the original draft.
- (vi) Duplicate the questionnaire  
The layout is very important and should be designed with ease of reading, recording and interpretation in mind. Printing should only be done on one side of the paper and the size and quality of paper selected to facilitate the work of the interviewer.
- (vii) Establish how many interviewers are needed  
It is common to underestimate the average time required per interview. Proper consideration should be given to the time it takes for transport at the beginning and end of the working day and transport between households.
- (viii) Train the interviewers  
Even the conducting of interviews on the basis of relatively simple questionnaires will require training of the interviewers to ensure that they can introduce themselves and explain the purpose of their interview to householders in a satisfactory way, that they are familiar with the subject of the interview so that they can answer questions that householders might raise, that they thoroughly understand all the questions and can carry out the interview and record the answers in a confident manner.

(ix) Establish logistic back-up needed

Items to bear in mind include; transport for interviewers, printing, distribution and collection of interview forms, salaries and per diem for interviewers.

(x) Inform the people concerned

Before the survey can start in a project area, people concerned should be briefed on the purpose of the survey. Village leaders and government employees concerned with the project on the site should be thoroughly informed and given an opportunity to ask questions and make suggestions for the organization of the survey.

(xi) Carry out the survey

If the households to be interviewed are selected randomly, instructions should be given on how to handle non-response. If no adult household member is present, an effort should be made to make a second visit to minimize the chances of getting a bias sample.

(xii) Data analysis

See the text under each indicator in the main body of the guideline.

PROGRAMME:HOUSEHOLD SURVEY QUESTIONNAIRE

Province:  
 District:  
 Village:  
 Interviewer:  
 Date:

Indi-  
cator

1. Household identification

\_\_\_\_\_  
 (Use number from sampling frame)

- W1 2. Number of household members

Total

Adults		Children ≤ 5 years	
M	F	M	F

3. Socio-economic status

\_\_\_\_\_  
 (Use plot size, house size, number of cattle, educational level  
 or other locally relevant indicators of wealth and/or income.)

#### WATER SUPPLY

- W5 4. Are you using water from the community water supply?

Yes ☐ No ☐ , of no continue to Question 17

- W5 5. What type of service do you have?

House connection ☐ , continue to Question 9

Plot connection ☐ , continue to Question 9

Communal water point ☐

Well with handpump ☐

Well without handpump ☐

Other ☐

- W4 6. How far away is the water point? \_\_\_\_\_ meters (estimated)

- W4 7. How long does it take to go there, \_\_\_\_\_ minutes (estimated)  
 fetch water and come back?

Indicator

8. Who collects the water?

Children

Women

Men

Usually	Sometimes

W6 9. How much water is collected each time? \_\_\_\_\_ litres (estimate)

W6 10. How many times a day is water collected? \_\_\_\_\_

W3 11. When was the supply last not functioning? \_\_\_\_\_

W3 12. How frequently do breakdowns occur?

Never ☐ Dry Season ☐ Monthly ☐ Weekly ☐Other ☐ , specify \_\_\_\_\_

W3 13. For how long do breakdowns last? \_\_\_\_\_

W5 14. How much do you pay for the water service? \_\_\_\_\_

W6 15. For what purpose is the water collected being used?

ActivityApproximate estimate of  
percent or proportion

Drinking and cooking

Washing of food and utensils

Personal washing

Washing of clothes

Watering of animals

Watering of garden

Other, specify

100%

W6 16. Do you use any other water source  
for any of the above activities  
or any other activities? \_\_\_\_\_

Indi-  
cator

- W5 17. What water source do you use for the following activities?  
(This question only applies to those who are not using the water supply.)

	Activity	Water Source	Distance (estimate)
A. <u>DRY SEASON</u>	Drinking and cooking	_____	_____
	Washing food and utensils	_____	_____
	Personal washing	_____	_____
	Washing of clothes	_____	_____
	Other	_____	_____
B. <u>WET SEASON</u>	Drinking and cooking	_____	_____
	Washing food and utensils	_____	_____
	Personal washing	_____	_____
	Washing of clothes	_____	_____
	Other	_____	_____

- W4 18. What is the distance from your house to the closest project water point? \_\_\_\_\_ meters

- W5 19. For what reason(s) are you not using the water supply?

- |   |                          |  |
|---|--------------------------|--|
| Traditional source more convenient            | <input type="checkbox"/> | } Some probable categories, actual categories to be established through pilot interviews |
| Water supply too expensive                    | <input type="checkbox"/> |  |
| Water from the supply does not taste good     | <input type="checkbox"/> |  |
| Considers water from the supply unhealthy     | <input type="checkbox"/> |  |
| Conditions at water point unsanitary          | <input type="checkbox"/> |  |
| Children cannot reach or turn the tap         | <input type="checkbox"/> |  |
| Children cannot operate the handpump          | <input type="checkbox"/> |  |
| The supply is unreliable                      | <input type="checkbox"/> |  |
| Would like to participate but cannot because: |                          |  |
| - not a member of the water group             | <input type="checkbox"/> |  |
| - have not paid the fees                      | <input type="checkbox"/> |  |
| - other reason(s), specify                    | <input type="checkbox"/> |  |
| Excluded by others because:                   |                          |  |
| - social, cultural or religious reasons       | <input type="checkbox"/> |  |

- W5 20. What changes would be needed for you to use the supply?  
(This question applies to those not using the supply)

Indi-  
cator

- W5 21. In what way would you suggest the water supply services could be improved?  
(More information to and involvement of consumers, improvements in the system for revenue collection, improvements in maintenance, training to operators, removal of social barriers)

SANITATION

- S2 22. Have you built a latrine?

Yes ☐ , which type (if options)

No ☐ , continue to Question 27

- S2 23. When was it completed? \_\_\_\_\_ (month/year)

- S5 24. How many of the household use the latrine regularly?

Adults		Children ≤ 5 years		
M	F	M	F	

- S3,S4 25. Are there any problems with the latrine?

e.g. Flies and/or mosquitoes ☐

Smell ☐

Flooding in rainy season ☐

Difficulties for the younger children to use it ☐

Emptying (if applicable) ☐

Other ☐

Some probable categories,  
actual categories to be  
established through  
pilot interviews

- S3,S4 26. How do you think the latrine could be improved?

- S1 27. Have you been informed about the support the Government is providing for latrine construction? (Applies to those without a latrine)

Yes ☐ No ☐



Indi-  
cator

S2 28. If yes, have you considered participating in the programme?

Yes ☐ No ☐

S2 29. What is the reason(s) why you have not yet joined or why you do not wish to join?

The latrine is not needed ☐

The latrine is too expensive ☐

No time to build ☐

Do not know how to build ☐

Have tried but have been told  
it is not yet my turn ☐

There are no squatting slabs left ☐

Other reason ☐

} Some possible categories,  
actual categories to be  
established through  
pilot interviews.

In the approach to community participation recommended here, considerable emphasis is placed on evaluation. It is seen as a means of fine-tuning programmes once they are underway and is obviously a key to matching projects to user expectation and satisfaction.

It is recommended that:

- (a) evaluation studies always be included in a programme
- (b) evaluation studies be designed as part of the initial planning stage so that necessary baseline (control) data are collected
- (c) evaluation studies involve as much local participation as possible.

One of the best arguments for developing community participation in sector projects is that it enables local knowledge, attitudes and perceptions to be communicated directly to project planners. Nowhere is this more important than in evaluating projects. Communities represent the users who ultimately have the last word about the success or failure of a project. They also represent a large potential body of information and manpower resources to monitor, evaluate and improve the design of future programmes.

Evaluation is often a neglected aspect of sector projects. The successful progress of the Decade towards its target may, however, depend on proper evaluation.

EVALUATION IS AN OPERATIONAL ACTIVITY  
INTEGRAL TO THE SUCCESSFUL IMPLEMENTATION  
AND CONTINUANCE OF PROJECTS.

It is strongly recommended that the decisions outlined in Workplan .. are not left for later discussion but are part of the overall planning process from the beginning.

Those involved in the design of evaluation and monitoring should include research social scientists; people with previous experience in CEP projects (especially those involved in Stage Two) and technical personnel at all levels who will be implementing the projects.

PERFORMANCE EVALUATION AND PROGRESS MONITORING

1. Will there be any system for local evaluation of schemes?

Checklist of possibilities:

- recording of how facilities function
- feedback channels from users at local level
- feedback channels to agency
- regular evaluation meetings with or without agency
- regular evaluation meetings with other communities
- survey of user satisfaction
- community collect data on user satisfaction themselves

2. How can community initiate upgrading of facilities?

Checklist of possibilities:

- same procedure as for new project
- by application to agency
- independently
- already covered in project documents/contracts

3. What indicators of CEP activities will be monitored?

Checklist of possibilities:

- number and type of programme information activities
- target groups identified and reached
- total hours spent on different CEP activities by agency manpower (daily logs)
- number and identity of key individuals contacted for each project stage
- number of mass meetings held
- quantity of printed materials distributed
- number of specialist group meetings held
- number of activities centred on schools
- number of medical examinations held
- numbers attending training courses
- number of field visits made by agency personnel (all levels) to projects

4. What other data on CEP will be gathered at community level (including qualitative data)?

Checklist of possibilities:

- reactions to programme information activities
- initial and continued participation of community representatives
- type of people attending meetings
- degree of participation in meetings (e.g. number and type of questions)
- degree of understanding of projects
- numbers/types of people contributing organizational help/labour/cash/etc.
- attendance at self-help work force
- progress + performance of work force

5. What indicators will be monitored to evaluate the effectiveness of the CEP programme?

Checklist of possibilities:

- number (%) of households using improved public water supply
- number (%) of house/connections
- membership of users' groups
- number (%) of households improving waste disposal facilities
- number (%) of households with improved water storage
- number (%) of households improving housing (floor type, raised stove, smokeless stove, insect control, washing facilities)
- how far improvements have reached most disadvantaged groups (poor, women, remote communities)
- conditions around supply points

6. What focus will evaluation studies have?

Checklist of possibilities:

- impact of information on awareness of programme, criteria, etc.
- cost-effectiveness of participation in construction
- cost-effectiveness of participation in management/operation/maintenance
- impact of CEP on users' acceptance of project
- impact of CEP on health knowledge, adoption of improved facilities and behaviour
- impact of users' education on operation and maintenance costs (reduction of misuse, etc.)
- impact of project on health
- socio-economic impact of project
- impact of project on willingness, aspirations for other projects
- impact of project on redistribution of burdens and benefits
- in particular, impact of any of above on most disadvantaged groups

7. What design(s) for evaluation will be used?

Checklist of possibilities:

- post-project one-shot case study
- as above with control
- as above with several communities involving range of project treatments
- pre-test and post-test (baseline plus post-project evaluation)
- longitudinal (baseline plus several during and post-project evaluations)
- time series (as above with more interim measurements)
- quasi-experimental (baseline studies in project and control communities followed by post-project evaluation)
- experimental (as above with random allocation of communities to control or project conditions)

8. Who will undertake any monitoring and evaluation activities or impact studies?

Checklist of possibilities:

- members of community (paid/unpaid)
- community committee
- community level worker
- technical operators
- mobile agency team
- district regional office
- agency headquarters personnel
- independent national (international) body
- infant mortality/morbidity study teams

9. What will evaluation of participation in management, operation and maintenance be based on?

Checklist of possibilities:

- number, duration and type of breakdown
- amount lost through leakage
- costs of operation and maintenance
- costs of management
- payment records
- users' participation in operation and maintenance (report breakdowns, provide labour for occasional maintenance)
- users' satisfaction (number and type of complaints)
- number of water quality tests at source and in households conducted and accepted
- hygiene around source
- duration between breakdown and report

10. What will cost-effectiveness of participation in administration, operation and maintenance be based on?

Checklist of possibilities:

- value of all local workers (labour, community level worker, committee) to national salary and wage scales for comparable tasks
- value of local materials
- value of services for local workers and visiting agency personnel (food, housing)
- value of revenues collected
- costs of additional CEP inputs required (training, supervision, tool kits, etc.)
- costs of breakdown/delay due to poor management, operation and maintenance
- costs of bookkeeping, etc.
- costs of incentives, salaries
- benefits of self-development experience
- benefit of community spirit
- benefit of increased skills and organizational capacities
- benefit of increased information about government programmes, etc.

11. What will cost-effectiveness of self-help participation in construction be based on?

Checklist of possibilities:

- value of cash contributions
- value of land donated
- value of local materials donated or sold at lower price
- value of voluntary labour (compared with tender prices, construction work, wages, cost of using heavy equipment)
- value of services provided (savings on housing, transport, food, etc.)
- costs of manpower, materials for CEP component
- costs of labour instruction, training and supervision for self-help
- costs of additional tools, food, etc.
- costs of delays, conflicts
- costs of poor workmanship
- costs of adaptation of design
- costs of changing task order
- costs of incentives (reduction of water rate to workers, etc.)
- benefits of self-development experience
- benefit of cooperativeness, community spirit

(cont'd)

11.(cont'd)

- benefit of increased skills and capabilities
- benefit of cash inflow to community (wages, services to agency personnel)
- benefit of greater acceptance and use of facilities
- benefit of continuing functioning of facilities

12. How will education component be evaluated?



Checklist of possibilities:

- % adopting and using improvements
- % problems arising from misuse of facilities
- reduction in user complaints
- attendance at education meetings, clinics
- KAP survey of change in attitudes
- self-rating survey of attitude or knowledge change
- user satisfaction measures
- reduction in incidence of specified diseases (e.g. infant diarrhoea)
- reduction in infant mortality
- how far most disadvantaged groups have received benefits

13. What behavioural/attitudinal changes in community will be measured?

Checklist of possibilities:

- number with improved health knowledge
- number with satisfactory knowledge to use technology
- number immunized
- number using improved water and waste disposal facilities
- number adopting specific hygiene practices (e.g. using soap, daily bath of children)
- number using improved health facilities
- reduction in water wastage
- reduction in vector breeding places

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	BIBLIOGRAPHY	2.5		W.O.
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### 3.1 KEY ISSUE - CHECKLISTS

1. LIST THE BASIC STEPS FOR EVALUATION PROCEDURE.
2. INDICATE THE TYPES OF DATA COLLECTION FOR EVALUATION.
3. LIST MAIN CONCEPTS YOU WILL INTRODUCE WHEN SUGGESTING RECOMMENDATIONS TO GOVERNMENT OFFICIALS FOR EVALUATION PROCEDURES CONCERNING WOMEN'S PARTICIPATION.

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NAME OF PARTICIPANT

.....

INSTITUTION

.....

OCCUPATION

.....

COUNTRY

.....

DATE

.....

Mark the box which corresponds best to your opinion to each question.

1. Your degree of interest in the particular topic of this module was:

high

| | | | | |

low

2. The objectives of this module were:

clear

| | | | | |



not clear

3. The contents of this module were:

well structured

| | | | | |

badly structured

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4. The terminology in this module was:

easy to								hard to
understand								understand

5. The visual material (slides, drawings, diagrams...) used in this module was:

clear							confused
useful							useless

6. The checklists have covered the subject studied?



completely							not at all
------------	--	--	--	--	--	--	------------

7. The checklists were:

useful						useless
too simple						too complicated
sufficient						insufficient

8. Studying this module enabled you to learn:

many new things						nothing new
-----------------	--	--	--	--	--	-------------

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9. The knowledge acquired through the module's study will in your present profession be:

useful                      | |    | |    | |    | |                      useless

10. The knowledge acquired through the module's study will in the near future be (reply to this question only if the answer n. 9 is negative):



useful                      | |    | |    | |    | |                      useless

11. List the topics you would like to have treated more extensively:

- 1).....
- 2).....
- 3).....

12. List the topics you would like to have treated to a lesser extent:

- 1).....
- 2).....
- 3).....



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13. List the topics not included in this module which you think are of essential interest to your profession:

- 1).....
- 2).....
- 3).....

14. Please list any suggestions you have to offer for improvement of this training module.

- .....
- .....
- .....

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		<b>LIST OF TRAINING MATERIAL</b>	<b>4.1</b>	<b>W.O.</b>
				<b>54/56</b>

## ***HARDWARE***

*PROJECTOR  
SCREEN  
TAPE RECORDER WITH SPEAKERS  
OVERHEAD PROJECTOR*

## ***DOCUMENTS TO BE USED BY THE TRAINER***

*See "module structure" p. 3*

## ***DOCUMENTS TO BE DISTRIBUTED TO TRAINEES***

*OBJECTIVES  
TARGET POPULATION  
TABLE OF CONTENTS  
TEXT  
GLOSSARY  
BIBLIOGRAPHY  
CHECKLISTS  
ADDITIONAL MATERIAL  
EVALUATION QUESTIONNAIRE*

*Check that this material has not been previously distributed to the trainee.*



## KEY POINTS

TRAINING  
METHODS AND  
ACTIVITIESDOCUMENTS  
TO BE  
DISTRIBUTED

## AVA

## INTRODUCTION

## 1. OBJECTIVES

PRESENTATION

Additional  
readingSound-slide  
package  
"MEP" with  
booklet2. PURPOSE OF  
EVALUATIONPRESENTATION/  
DISCUSSION

T1/T1A

## PRESENTATION

3. SCOPE AND PURPOSE  
OF MEP

PRESENTATION

4. PROCEDURE FOR  
EVALUATION

PRESENTATION

5. DECISION TO  
EVALUATE

PRESENTATION

6. COLLECTION OF  
DATAPRESENTATION/  
DISCUSSION

## 7. ASSESSMENT OF DATA

PRESENTATION

8. PREPARATION OF  
RECOMMENDATIONPRESENTATION/  
DISCUSSION

## 9. FOLLOW-UP ACTION

DISCUSSION



10. EVALUATION OF  
WOMEN'S PARTICIPA-  
TION

PRESENTATION

T2/T2A/T2B

11. EVALUATION  
METHODOLOGYPRESENTATION/  
DISCUSSION

T3

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### *SUMMARY*

<i>KEY ISSUE CHECKLISTS</i>	<i>GROUP</i>	<i>Checklist</i>
	<i>DISCUSSION</i>	

<i>PRESENTATION OF</i>	<i>PLENARY</i>
<i>CHECKLISTS</i>	<i>DISCUSSION</i>


### *CONTROL*

<i>KEY ISSUE CHECKLISTS</i>	<i>THE PARTICIPANTS</i>
	<i>WILL WORK IN</i>
	<i>SMALL GROUPS</i>
	<i>AND DISCUSS</i>
	<i>VARIOUS PROPOSALS</i>

<i>MODULE EVALUATION</i>	<i>INDIVIDUAL</i>	<i>Evaluation</i>
	<i>ACTIVITY</i>	<i>questionnaire</i>

*We suggest that the officer in charge follow strictly the sequence of key points as given in this guide including the related audiovisual material (AVA). As far as training methodology is concerned, the selection and adoption of the most suitable methods, with reference to the characteristics of the target population being trained, is left to the ability and experience of the trainer.*



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		LIST OF TRANSPARENCIES	SUB-MODULE VII/5.1	W.O.

1. *CHECKLIST*
  - 1.A *CHECKLIST*
2. *PROJECT OPERATION*
  - 2.A *PROJECT PERFORMANCE*
  - 2.B *PROJECT IMPACTS*
3. *IMPACT OF WATER PROJECTS ON WOMEN*

## EVALUATION

ARE WOMEN...



Sitting in water  
committee?

What percentage? What  
role do they play?

Consulted on the choice  
of technology and  
additional facilities?

Involved in the  
construction? What  
percentage trained as  
preventive maintenance?

Trained as health/  
hygiene educators?

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TRANSPARANCIES		EVALUATION	
1		W. O.	MAY 86



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TRANSPARANCIES

EVALUATION

W.O.

1 A

## evaluation

Does the programme have  
a management information  
system which allows  
monitoring of its effects  
on women?



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TRANSPARANCIES

EVALUATION

W.O.

2

**PROJECT OPERATION  
ENGINEERING DESIGN  
QUALITY OF INSTALLATION  
SITE SELECTION  
TECHNOLOGY  
RELIABILITY OF SOURCES**



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MAY 8

TRANSPARANCIES

EVALUATION

40.

2A

**PROJECT PERFORMANCE**

**ACCEPTANCE**

**USE**

**MAINTENANCE**

**REPAIR**

**INVOLVEMENT**

**EDUCATION**

**SUPPORT**



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MAY 86

TRANSPARANCIES

EVALUATION

1<sup>st</sup> -0.

2B

# PROJECT IMPACTS

HEALTH

SOCIAL

ECONOMIC

EFFECTS

EFFECTS

EFFECTS

# **IMPACT of WATER PROJECTS on WOMEN**

**Do women derive economic benefits?**



**How women use the saved time for income generating activities?**

**Do women achieve health improvements?**

**Which type of benefits?**

**Do women receive any income?**

**Do women learn new skills?**

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EVALUATION		MAY 86 W.O. 3	