

202.1 93W0



Commission of the European Communities  
Directorate General for External European Relations

LIBRARY  
INTERNATIONAL REFERENCE CENTRE  
FOR COMMUNITY WATER SUPPLY AND  
SANITATION (IRC)



## Women, water and sanitation



A summary document 1993

202.1 93W0  
12256

## *About PROWESS*

PROWESS stands for the "Promotion of the Role of Women in Water and Environmental Sanitation Services". It focuses on gender issues and relations in water supply and environmental sanitation projects, because these factors greatly affect the success of projects and the even distribution of benefits.

PROWESS was created in 1983 in response to a widely perceived imbalance between policy commitment to the involvement of women and the lack of concrete field experience. PROWESS has moved from UNDP/New York to Washington, where it is a part of the UNDP-World Bank Water and Sanitation Program. The Program is active in 40 countries around the world. PROWESS, in conjunction with the Program and the International Training Network, continues to focus on the challenge of institutionalizing participatory and gender sensitive approaches in the provision of water supply and sanitation services for the poor.

Requests for information about PROWESS should be addressed to:  
PROWESS, UNDP-World Bank Water and Sanitation Program,  
World Bank,  
1818 H Street, N.W.,  
Washington, D.C. 20433,  
U.S.A.  
Tel. +1 202 473 3994, Fax +1 202 477-0164

## *About IRC*

The IRC International Water and Sanitation Centre is an independent, non-profit organization dealing with information support and knowledge generation and exchange on water and sanitation improvement. With its partners in developing countries and with United Nations agencies, donor organizations and non-governmental organizations, IRC assists in the development, exchange and application of relevant and recent knowledge. The focus of this cooperation is on the rural and urban fringe areas, where the need for change is greatest.

Support is provided by means of publications, training and education programmes, evaluation and advice services, and development and demonstration projects. IRC's information and training programmes include community participation and management; gender and gender relations; hygiene education; human resources development; appropriate technology, including low-cost water treatment, water resource protection and rainwater harvesting; operation and maintenance of completed systems, and community-based financial management.

Requests for information about IRC should be addressed to:  
IRC,

P.O. Box 93190,  
2509 AD The Hague,  
The Netherlands.

Tel. +31-70-33 141 33, Telex 33296 irc nl, Fax +31-70-38 140 34

LIBRARY. INTERNATIONAL REFERENCE  
CENTRE FOR COMMUNITY WATER SUPPLY  
AND SANITATION (IRC)  
P.O. Box 93190, 2509 AD The Hague  
Tel. (070) 814911 ext. 141/142

RSN 12256  
LO: 202.1 9340

## Colofon

This summary publication has been drafted on the basis of the UNDP-supported IRC publication "Participation of Women in Water Supply and Sanitation" (1985) and the Abstract Journal "Woman, Water, Sanitation" (1991-1993) jointly published by the IRC International Water and Sanitation Centre and PROWESS/UNDP - World Bank, with financial support from the Government of Norway.

Its translation in French and Spanish were funded by DG I of the Commission of the European Communities.

### Compilation:

Els Heijnen  
Christine van Wijk-Sijbesma

### Editing:

Helena Brikké  
Maria Lúcia Borba

### DTP/Lay-out:

Lauren Houttuin

### Printing:

Pallas Offset

Copyright © 1993 IRC International Water and Sanitation Centre.

IRC enjoys copyright under Protocol 2 of the Universal Copyright Convention. Nevertheless, permission is hereby granted for reproduction of this material, in whole or part, for educational, scientific, or development related purposes except those involving commercial sale, provided that (a) full citation of the source is given and (b) notification is given in writing to IRC, P.O. Box 93190, 2509 AD The Hague, The Netherlands.

## Contents

<b>1. Introduction</b>	1
1.1 Why focus on women?	1
1.2 Purpose of this paper	2
<b>2. Gender aspects in water and sanitation</b>	3
2.1 Introduction	3
2.2 The concept of gender	5
2.3 Gender and change	6
2.4 Gender sensitivity in water and sanitation projects	7
2.5 Gender and health	8
<b>3. Sustainable water supply and sanitation facilities</b>	10
3.1 Issues in sustainability	10
3.2 Water sources	11
3.3 Technology choice and level of service	12
3.4 Functioning of facilities	13
3.5 Sharing in community management of improved systems	14
<b>4. Health or socio-economic benefits?</b>	17
4.1 The tortuous road to health benefits	17
4.2 Hygiene education interventions	18
4.3 Organizational aspects	20
4.4 Impact and cost effectiveness of hygiene education	21
4.5 Economic aspects of improved water supply and sanitation	22
<b>5. Bringing women in a strategy for women's participation</b>	24
5.1 How to get women involved	24
5.2 Responsibilities and involvement	25
5.3 Manpower and training	28
5.4 Evaluation and monitoring	30
<b>6. Women's involvement: Catering for practical or strategic gender needs?</b>	31
<b>References</b>	34

# 1. Introduction

The International Drinking Water Supply and Sanitation Decade showed us that new water supply and sanitation facilities need the acceptance and support of the users, if they are to be paid for, used and maintained. Many cases of rejection of new facilities and of the responsibilities attached to them have been recorded. Such reactions cannot merely be attributed to lack of interest, cultural barriers or inherent conservatism of poor rural people, because when asked, users often indicate sound reasons for their behaviour. Non-acceptance rather shows that the projects have not sufficiently involved the users. Thus choices are made that are not acceptable and sustainable. To create a positive environment for sustainable development, community participation and community management have since become concepts that are increasingly integrated in project strategies.

## 1.1 Why focus on women?

Studies carried out by IRC and others on community participation have demonstrated the need for participation by *all* sections of the community. The fact that women have been singled out for special reference in this analysis does not mean that some of the observations, for example local water knowledge and habits, cannot also be made of the role and responsibilities of men. Still, these studies have also indicated that **the special tasks and position of women and their hidden roles and knowledge warrant separate study on their involvement.**

*The Rural Water Supply Programme in Swaziland included the construction of water supplies and latrines, extension and training activities, and health education. The benefits perceived by the women themselves were: a reduction in workload and a 25% time savings, and an increased availability of water for personal hygiene and domestic tasks. However, 30% of the women, often women heading a household, do not benefit, because they cannot pay the water fees and are thus denied access to taps. Though women benefitted from the programme, using the time gains productively was severely constrained by lack of access to land, credit facilities, appropriate skills and extension services.*

*Since it was incorrectly assumed that operation and maintenance (O&M) costs were borne by men and not by women, the need to convert some of the time gains into productivity were not being addressed by the Programme. This had a negative influence on the Programme's effectiveness in O&M.*

Realization of women's importance for water and sanitation projects makes it necessary to identify and analyze their contribution in relation to the projects' objectives and to develop appropriate approaches for their involvement to optimally benefit both the projects and the women themselves. Real involvement by women does not come about automatically, however. Projects which want to be successful must work with women in a skilful and culturally sensitive way. Development strategies which overlook the key role of women are likely to be short-lived and limited in their impact.

## 1.2 Purpose of this paper

This booklet has been written for planners and managers of water supply and sanitation projects and programmes as well as for national institutions, development agencies and donor agencies concerned with Women in Development. The document is based on material published earlier by IRC in the English language on this subject. By providing a translation into the French and Spanish languages, this publication attempts to broaden access to current thinking on this aspect of the development of sustainable water and sanitation systems.

The document starts with a discussion on the importance of community participation and women involvement. It introduces the concept of gender and the specific roles of women and men in management of water supply and sanitation facilities. Operation and maintenance of facilities is treated from a perspective of sustainability and deals with tasks for women and men that have proved to be beneficial to continued functioning and management.

Improved water supply and sanitation aims to lead to improved health and well-being. What measures and approaches have been used to ensure a greater impact of such improvements? How important is the role and responsibility of women to achieve health improvements? Easy access to water can also lead to socio-economic activities that can induce a strengthening of the position and capacities of women in society. This in turn will be beneficial to the overall well-being in a community and is likely to lead to more sustainable functioning and management of the supply.

Obviously such developments do not come about just like that. Training, awareness raising and human resources development for a more gender sensitive project development is required. The document gives examples of training needs and development approaches. Finally a brief discussion is provided on gender sensitive monitoring.



## 2. *Gender Aspects in Water and Sanitation*

### 2.1 Introduction

Effective functioning and use of improved water supply and sanitation facilities is not possible without active involvement of the users. Facilities that were planned for and not with the users have often not been used as intended. In many rural water supply and sanitation projects, the main objective is the construction of facilities. Most projects either specify the number of facilities or the number of villages or households. This strong focus on numbers bypasses the principle that these facilities are not just to be installed, but that they can only serve a purpose when they are used and maintained. This automatically requires the involvement both of men and women, rich and poor.

Participation of the community should be the central point around which water supply and sanitation programmes evolve. Community participation is more than just a mere contribution of labour or financial contributions to construction and maintenance. Physical work and cash alone cannot create sustainable and reliable systems. Future users should be well informed so they can make a realistic choice on what facilities and designs they prefer and how they will maintain, run and pay for the services. In fact, the community should not only participate, but be able and willing to manage their improved water supplies.

Community management is "more than participation" in that it "emphasizes the communities' own decision-making power over those water supplies or components for which they hold or share responsibility." (Wijk-Sijbesma, 1989). It is obvious that communities have managed their own water supplies (if not "modern" water systems) for thousands of years. Water collection and use is seldom a free-for-all, and is often carefully thought out. Communities often come to explicit or implicit agreements that define uses for different sources, or different water allocations at the same source. Many of these decisions are made by women, who have long played a crucially important role in the management of water use (cf. Wijk-Sijbesma, 1985).

*Water use in the Northern Areas of Pakistan is subject to traditional rules which, although not written down, are strictly adhered to. Village water committees in projects supported by the Aga Khan Rural Support Programme (AKRSP) are able to raise additional funds to pay operation and maintenance costs by imposing fines for the breaching of these rules, including the wasting of water by leaving taps running or using drinking water for agricultural purposes.*

The primary rationale for the involvement of women is thus found in the improved management and sustainability of projects that can be brought about. Gender sensitivity and a consequently better involvement of women in planning, design, execution and management of schemes will lead to fewer losses of investment because systems will more likely be culturally accepted, supported and used. Many project and research accounts contain evidence that an active involvement of women has proved to have a beneficial impact on maintenance and functioning of water and sanitation facilities while at the same time leading to better use and hygiene. Also, the health of women and their families will

benefit from the reduction in time spent on water collection. Women need to expend less energy from their often low food intake on the heavy task of transporting water, so that they have more energy for themselves, for foetal development and breast-feeding, and more time and vigour for tasks essential to family health, including household hygiene, child care, production and processing of family food crops, cooking and income generation. An important spin-off of women involvement is further a strengthening of the capability of women to participate in mainstream development and contribute in that way again to the societal fabric needed to make a water supply or sanitation project work within a community.

*Women in Indonesia have proved to be skilled fund raisers and committed supporters of water and sanitation improvements, building on their traditional responsibility for managing household finances. In the village of Wonoanti, women established a number of fund-raising groups and made cash contributions each time the groups met. Once enough money had been raised a lottery was held and the winning group was given the money to build water-seal latrines. This system was continued until all groups were able to benefit. In the village of Kedompol, CARE assisted the community to build 60 rainwater catchment tanks, serving 190 households. The local women were sufficiently impressed to organize fund-raising meetings and succeeded in raising enough money to serve a further 250 households, entirely by their own efforts. Women's success in fund-raising has increased their influence over decision-making. More and more women are now occupying key positions on water and sanitation committees and are being consulted on important community decisions.*

The traditional roles of women and their knowledge are the basis for their active involvement in introducing improvements to water supply and sanitation and in operation, maintenance and hygiene education:

- \* involving women in project preparation and asking their views early in the project cycle has often resulted in water and sanitation emerging as major felt needs;
- \* as main interest group, and provided they are informed, involved and empowered to do so - they will give the greatest support to both the undertaking of the project and the sustenance of the facilities;
- \* the traditional skills and knowledge of women can benefit new water supply and sanitation projects; and
- \* as users and managers they have useful local knowledge, on socio-cultural aspects, environmental and technical aspects (see also chapter 4).

*In Kimuli and Nakatuba there are no women in the village council, while in Usagara there are two. The new water committee in Usagara has three male and three female members, although this is probably an effect of the HESAWA programme, which the village hopes to join soon. The men in Nakatuba explicitly said that they did not see any need for women on a water committee because "the activities involved are too difficult." They conceded, however, that there could be room in the village government for a female member, to represent the women's point of view.*

*Women in the other two villages said it was important that women be represented both in the village council and the water committees, and have a say in operation and maintenance and financing issues. In Kimuli, women's confidence has recently increased. As one woman said:*

*"During election times women did not fill in the forms. They were afraid and were not sure of men's acceptance. Now they are sure they will be accepted by all, because one of them is in the water committee and she is a good speaker." Speaking about general improvements, many women mentioned the need for proper health education and a sanitation programme. They also said they would like to be assisted with income generating projects. The need for more water points and washing slabs was also frequently mentioned.*

## **2.2 The concept of gender**

Involvement of women in water supply, sanitation and hygiene improvement, cannot be undertaken in isolation. Water, sanitation and environmental and domestic hygiene are community issues which require insight in the roles and realities of all: men, women, children. Appreciation of these roles and realities will help us to better plan and design community managed WS&S activities. Therefore, projects now focus increasingly on gender and the use of a gender sensitive approach.

Gender refers to the different areas of responsibilities, work and authority held by men and women and the impact this has on their lives and positions. Until recently projects mainly considered women's physical tasks, such as water collection and laundering. As a result they treated women as main but **passive beneficiaries** of water and sanitation projects, for whom the greatest benefit will be a lesser and easier workload. Other projects have worked especially at women's roles in family health. They singled out women and girls as a target group for health and hygiene education, and neglected men and boys.

However, in order to be successful, drinking water supply and sanitation projects and related hygiene education activities must be gender-specific. This means that in all stages, projects take into account that men and women have different roles and responsibilities, decision-making powers, access to resources and needs in order to arrive at a more equitable sharing of project benefits among men and women.

Exclusively focusing on women involves the risk of increasing the workload of women and may create unequitable situations, for example, when women work as volunteers and men are paid for the same work.

A gender perspective is further important to prevent men getting a dominant, managerial role and women a dependent role in an area where they formerly used to be independent and responsible. Any change analysis, including the assessment of unwanted side effects, should therefore preferably be carried out with men as well as with women. And as needs and priorities are not always the same, men should be made aware of the relevance of improved water supply and sanitation for the whole family.

*In Mexico, for example, a strict gender-based labour division exists for reproductive and cultural reasons: women are in charge of domestic work and men are doing wage labour and are going out into the town. Especially in the peri-urban squatter settlements women have a 40% longer working day, as goods and services normally provided by the public sector now have to be provided by the women as individuals. Improving the quality of housing has the highest priority for women. Concrete floors are a major felt need as they are easier to keep clean and prevent hook- and tapeworm. Water is another priority as water-trucks reach only the lower part of the community.*

## 2.3 Gender and change

Gender is not a static concept. Work and positions of men and women are subject to change and water supply and sanitation projects cause changes for women and for men, as well as in the **cooperation between** men and women. Water and sanitation projects have built on these existing roles but have also created new roles for women.

*The Dodota water supply project in Ethiopia trained many women in management, bookkeeping, fee collection, and construction and maintenance, in order to enable the women to operate and administer the project. The main impacts of the training were that it prepared women for qualified and salaried employment. The employed women sensed new-found freedom. And local views concerning the ability of women to perform previously unfamiliar tasks changed positively.*

In looking at gender, two areas of gender needs can be identified: practical and strategic gender needs<sup>1</sup>. Water supply programmes often limit themselves to meeting **practical** gender needs of women, by providing women with practical benefits through better accessible water and enabling them to better carry out their practical gender roles. **Strategic** gender needs can be found where women need changes in existing division or responsibilities and power roles. Such needs are seldom clearly defined, but if a project goal is to involve women fully in all aspects of the programme, strategic gender needs can be met through involvement in planning and decision-making, giving access to information and training, enabling women to fill positions at various levels and ensure that men and women share contributions and benefits more equally.

Since in the water sector more and more emphasis is put on community initiatives, the potential for participation of men and women is increasing. This sharing of responsibility for water supply and sanitation activities provides an excellent framework to address the possible resistance on the part of the men towards the changing role of women and men.

---

1) The emphasis on the physical and domestic roles of women in water supply is a reflection of what Moser calls the 'practical' gender needs of women, or the needs based on the existing divisions of labour and authority. She contrasts these practical gender needs with 'strategic' gender needs, which focus on the redressing of inequalities and a more equitable society (Moser, 1989).

In this respect, attention to the men's felt benefits can prevent that they view a domestic water supply or improved sanitation projects as especially convenient for the women and not as very relevant for themselves. Such views usually change, when it is discussed how distant or unreliable water supply influences the time women have for domestic and economic work or how a lack of good sanitation threatens the privacy and safety of wives and daughters.

## 2.4 Gender sensitivity in water and sanitation projects

Many water and sanitation projects draw the conscious or unconscious conclusion that while men are responsible for work and decisions in the public sphere and thus for public water supply and public sanitation, women are responsible for domestic water use and sanitation and hygiene at home. There are, however, strong reasons to assume that this is an oversimplification of reality. Especially where water is scarce, a rich water "culture" exists. Where a water source is shared by a particular group of women which have a sense of responsibility for it, the women are active in maintaining and managing this source. Such often hidden patterns of women's *public* management have been discovered when investigators asked *how* the source was managed rather than *who* is finally in charge.

There are similar grounds to doubt that division between public and private is as strict as often thought. The division between public and private responsibilities and authority is not only less strict than often assumed, but also not static. Women take on new public roles, such as financing and financial management but also in sanitation and handpump maintenance; first only in areas where local culture or cultural change favoured this and in areas with a high male migration, but now also in other areas, and with considerable success.

*In Niger, various villages set up a system of financial contributions and investments to cover the maintenance costs of newly installed handpumps. The water committees decided to have annual contributions in cash or in kind right after the harvest and to divide the amount to be raised between men and women. In all but five cases men were appointed treasurer. In general, women contributed about half as much as men. The money raised was invested in grain. Because of this financial system, villagers felt more responsible for the functioning of the handpump and in cases of emergency the money raised could be used as a social fund. In general the system could be considered successful, but in some villages problems occurred, such as unclear and/or improper management of the contributions raised and insufficient participation of villagers, especially women in decision-making and financial control. Given these problems and the satisfactory way the few female treasurers performed their task, in several cases villagers suggested to have women in charge of all the cash.*



*Latin America has a long tradition of small, community-managed piped water supplies. An evaluation in four villages in Colombia showed that the communities themselves, men and women, carried out and financed all daily operation, maintenance and management tasks and also managed the internal water quality control successfully. All regular operation and maintenance costs were paid from the water tariffs. Women played a prominent role in management and tariff collection.*

Projects which involve and train men and women in designing, implementing and managing a water supply and sanitation programme that meets their needs and their technical, financial and managerial capabilities can even equip communities to run a water service or sanitation programme almost by itself.

*In Colombia, community water committees successfully manage small piped schemes, including simple water treatment with slow sand filters and chlorination. An evaluation report showed that the communities carried out and financed all daily operation, maintenance and management. Although some problems remain to be solved, and full 24 hour service has yet to be achieved, this Colombian case indicates that with the right support and motivation communities are able to manage relatively sophisticated water supply technologies (CINARA, 1990).*

## **2.5 Gender and health**

A major objective of water and sanitation projects is improved health, as water and sanitation related diseases are responsible for most of the morbidity and mortality in developing countries, in particular in children. The use of more water of a better quality, adequate personal hygiene and food hygiene and the use of safe methods of excreta disposal by all members of the community can lead to significant reduction in these diseases. These measures can also decrease considerably the direct and indirect economic cost of such diseases and reduce the human suffering associated with them.

Many changes in hygiene practice are required before a public health impact can be achieved. As mothers and domestic managers, women are the key actors in bringing about these changes in individual households. At community level also, they can have considerable influence on planning and implementing local hygiene education programmes, because traditionally they play an important role in local learning systems both as participants and as leaders.

For health impact of improvements in water supply and sanitation the role of women is crucial. Women are in fact the most effective health care workers through their practices of child care, education, maintenance of a hygienic environment and first-aid (oral rehydration) in cases of diarrhoea in children.

*In Honduras and the Gambia an oral rehydration therapy programme was preceded by careful investigation of mother's views and practices on infant diarrhoea. Thereafter a primary health care mass information campaign was set up through radio messages, posters, flyers, primary health care centres, village volunteers, and a healthy baby competition. It focused on treatment of dehydration (the main cause of death) with a mixture of water, salt and sugar, and continuation of proper feeding. Radio messages were broadcast at peak listening times for women. Training covered central, regional, and area teams who in turn trained local staff and volunteers to promote and demonstrate the method at group and household level. Monitoring of the programme showed 95% knowledge and 50% use in Honduras, and 80% knowledge and 48% use in the Gambia.*

The health of women and their families will also benefit from reduction in time spent on water collection. Women need to expend less energy from their often low food intake on the heavy task of transporting water, so that they have more energy for themselves, for foetal development and breast-feeding, and more time and vigour for tasks essential to family health, including household hygiene, child care, production and processing of family food crops, cooking and income generation. Depending on the water collection patterns, reduction in time may also mean that women no longer require the assistance of their children. This can have a beneficial effect on regular school attendance by these children. Conversely, men may not feel a need to continue to assist in water collection when the waterpoint has come closer to the house. In such cases timegains by women will be minimised.

Water collection is not only energy consuming, but may also have other negative physical consequences for women. Carrying heavy water pots, for instance, is mentioned as a primary cause of pelvic distortion, which in turn may lead to death in child-birth, and to pains in the lower section of the spine. Well designed facilities may help reduce the negative impact.

The fact that women are responsible for water use, hygiene and the education of children has made them the primary target group for hygiene education. **Frequently, however, cultural divisions in labour and responsibilities do not permit women to take decisions or carry out improvements in all aspects of hygiene.** Moreover, because of their different responsibilities, men and women tend to have different knowledge, tasks and expertise in this subject area. On children's diseases, management of water and waste, and health information women are the more obvious partners, while the men may have to be approached when discussing financing or labour implications.

A third factor to take into account is the different access men and women have to information and media. Women have lower literacy rates than men and can also not leave their homes at all times. Therefore, the development of local hygiene education programmes with the community calls for a gender sensitive approach in which separate topics and approaches for men and women need to be identified.

### 3. *Sustainable Water Supply and Sanitation Facilities*

#### 3.1 **Issues in sustainability**

The objective of any water supply and sanitation project is an *improvement of the service level enjoyed by the users, and leading to a health and economic impact.*

The service should be reliable, adequate and affordable. It should not have a negative impact on the environment or the water resources situation. Communities of users would have a say in the project design and would normally be expected to take on the management responsibility for the facilities. The support institution in turn provides skills development, encouragement and monitoring. As a result, facilities function to satisfaction, are used by all and bring benefits to all users fairly and against a reasonable cost. Operation and maintenance is taken care of by the community with the support of trained (community-based) staff. Some years later, the community initiates, with technical assistance of the support institution, the improvement and/or the expansion of the facilities or the service level.

These "issues in sustainability" are deceptive in their succinctness. Behind these few lines hides a vast array of measures beyond "traditional technical project management" necessary to ensure that this level of sustainability can be achieved. The project's approach in the field, training, community-based financing, hygiene education and watershed protection are just a few issues that need to be addressed to enable a community to grow towards a sustainable water supply and sanitation situation. Often projects find it hard to meet all the demands put to it because of the sustainability clause.

Various strategies for achieving the goals of reliable, adequate and affordable water supply and sanitation facilities can be adopted. In descending order of sophistication these strategies aim to:

- \* introduce new low-cost, appropriate technologies, such as handpumps, spring protection, piped gravity systems and simple latrines, in a participatory way;
- \* improve and protect traditional water supplies by adding improved water storage, water lifting or water supply devices;
- \* keep traditional systems as they are, but introduce special water transport facilities, such as donkey- or oxcarts, so that the burden of women and children in collecting water is lessened and they can collect a greater volume in a single trip. This last type of project, and the impact it has on women's time budgets, water use and family hygiene patterns, has so far received little attention.

Whoever assists in the design of a water project should be inclined to provide a *phased development perspective* for water supply and sanitation services in such a way that communities can upgrade their facilities along with their financial and managerial capacity. Thus, improvements to traditional systems should be designed such that an eventual upgrade to handpumped or piped systems is very well possible.

Irrespective of the methods used, it is essential that the views of men and women in the different socio-economic and cultural categories of the area are asked when selecting project priority areas and determining the socio-economical and cultural aspects that have to be taken into account in the general preparation of the project. As future users and beneficiaries, women are most effective as motivators of adoption and self-help. In some cultures their direct contributions to voluntary labour has further proved substantial. As the need for and the experience with domestic water supply and sanitation concern women especially, women and their organizations can play a major role in these programmes. In West Africa, for instance, it has been advocated that leaders of traditional women's groups be selected and trained in appropriate technology to suit their needs, resources, and capabilities.

In the following sections, some specific areas are described on which women need to be involved during project preparation and execution of projects.

### 3.2 Water sources

As domestic managers women not only collect and carry the water, but they also decide which water sources to use for various purposes, how much water to use, and how to transport, store, and draw the water. Social studies show that women make careful decisions about water use patterns. In the selection of water sources, three types of criteria seem important. These relate to (1) economic aspects, (2) perceived water quality, and (3) social relationship.

Because of their workload, women tend to prefer water sources which are reliable and are lowest in costs (as measured in cash, time or energy). Many studies indicate that economic criteria are given the greatest weight. However, this is not necessarily so for all water uses. For example in villages in Mexico, women have been reported to select certain sources for drinking water, and other sources for washing, bathing, and watering cattle. Differentiation in water uses is increased when women have a choice of several sources at competitive distances. There are strong indications in the literature that in selecting sources for drinking water, women choose the nearest source of *acceptable quality*.

Local concepts of water *quality* are based mainly on sensory and functional perceptions, such as taste and suitability for preparing various kinds of food, colour and softness for clothes washing, and the perceived polluting effects of other uses of the source (watering cattle, bathing, washing cars, etc). The cleansing effect of continuously flowing or upcharging water (spring, well) is another important selection criterion. That women sometimes think water clean because it looks clean, is also a consequence of their confinement to their own environment.

*Women drawing water for drinking often prefer to do so in the morning "when no other water uses have contaminated the source". They do however not realize that water and land use elsewhere in the watershed can influence their drinking water just as much. It is thus not sufficient to select and protect for its local water quality when that quality is not also safeguarded through the protection of the entire watershed.*

Careful and deliberate behaviour based on age-long experience and social learning is apparent in women's *domestic* management of water and waste. This is particularly evident in hardship areas.

*For instance women in Yemen preserve the cleanest and freshest water for drinking, personal washing, and cooking. Grey water is saved for washing and rinsing clothes and for watering plants. Water used for washing food is given to poultry and cattle, and water used for clothes washing is reused to clean floors and wash dishes.*

Reuse of waste and waste water is also reported in studies from Central America and the Caribbean and other regions. Women also take care of refuse disposal and are usually responsible for cleaning latrines and training children in their use. They collect water for personal cleansing (ablution) in places where this hygiene custom exists.

Knowledge of such patterns of use during project planning and consultation of women on the acceptability of the location of the new water sources and - points during the implementation of the project will greatly contribute to a more accepted, used and sustained water system.

### **3.3 Technology choice and level of service**

Cases of rejection of improved water and sanitation facilities and also of the responsibilities attached to their introduction have often been put down to lack of education of the users. Partial adoption or rejection of facilities however, becomes understandable when viewed in the light of decision-making at community level, workload and the position of women. Women make reasoned choices and have some basic, although not necessarily complete, understanding of the relationship between water, sanitation and health. The answer is thus not to give users more education, but to adapt projects more to *locally acceptable and sustainable improvements*. Because conditions, needs and capabilities differ between communities, this means a greater flexibility in types of technologies and service levels.

In a community which has a distant water supply and uses less than 10 litres of water per person per day, most health and socio-economic improvements may be expected from increasing the quantity of water per person per day to 20 litres. And improvement of existing sources or increasing the number of hand-dug wells may be a better solution for some villages than the introduction of handpump wells or boreholes with motorized pumps when their repair and maintenance cannot be guaranteed. At the other end of the range there are the more developed communities which need and can afford a piped system with private or group connections. They may even be able to manage a small treatment plant.

Where communities are required to manage their own systems, they should be given all the information necessary to make an *informed decision* on the types of improved water and sanitation facilities that are feasible. Only when men and women have an idea what the costs are of each option, what their technical and managerial implications, the consequences to health and hygiene, and their potential for social and economic benefits, will they be able to weigh the various possibilities and decide on the optimum. As the decisions will affect

both men and women, both should be informed and have a say in the ultimate choice of technology and level of service. Chapter 5 describes in more detail how women can be brought into this process.

### **3.4 Functioning of facilities**

For continued functioning, a lesser number of breakdowns and quick repair 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 design. For instance, they know the location, reliability and quality criteria applied to traditional water sources in their communities, and therefore should be consulted in preliminary geo-hydrological surveys. Their personal interest in good and reliable facilities can also motivate villagers to follow closely all local construction work or install local management committees to check the quality of the ongoing construction.

Training of women for local maintenance tasks can be given more serious consideration by agencies and also by communities. Reasons advanced include the direct concern and personal interest of women in their water supply; their regular visits to water 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 from other women to do a good job; the importance of health aspects; the lower career orientation and labour mobility of women; and the recognition that comes with training for modern technology, 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 handpump caretakers and scheme attendants did not reveal any tasks that could not be done or organized by women. Also, the physical strength of rural women accustomed to heavy work in agriculture and food processing should not be underestimated. When provided with the correct tools and training, they should be able to do all regular maintenance tasks, while they can request assistance from others for the occasional heavier task.

Greatest developments have taken place in the area of handpump maintenance. Involvement of women in more technical maintenance and repair tasks started in areas of high male migration and in specific women projects, but has since expanded to other areas. In several handpump projects, training of men has been replaced by training of women, as women are already doing the actual work, can combine daily water collection with routine inspections and are more suited to educate fellow women and children on proper operation, environmental cleanliness and hygienic water use. Handpump maintenance by women is in general acceptable to men, although the confidence of male family members and community leaders has to be won first.

Where women are involved in other forms of maintenance, their role has been closely related to their traditional management tasks. They have to keep standposts and drains clean, collect rates, report problems, and provide other volunteer services.

In some cases, arrangements have been made spontaneously, thus preserving their original tasks as users and informal managers. In other cases, special tasks have been formulated and women selected in consultation with the water agency. These have varied from appointment of a woman to look after the waterpoint, to a site committee, an user roster, or a team of a male and a female caretaker with the woman responsible for hygiene and the man for technical matters. Experience indicates that factors relevant to smooth performance are that **maintenance is not imposed but agreed upon jointly**; that women choose who will be trained and that they not only **know what to do but also why**; and that there is two-way communication with higher level maintenance actors so that users know why there is no water at certain times and where to get support in case of problems beyond their capacity.

For these inputs women are not always recognized in status and authority and often remain in a dependent position with regard to the follow-up of their reports or the use of the funds collected. When giving women any new tasks or positions it is thus essential that the work involved does not become a **new burden** and that it brings a sufficient increase in authority and benefits to compensate for the extra work involved.

In the past, no written records were available to assess how effectively male and female caretakers and mechanics maintain handpumps, and whether their involvement reduces agency maintenance costs and increases reliability over time. This situation is gradually changing and monitoring systems for (handpump) maintenance are being established. However, more *hard* data have to be collected on maintenance efficiency, with more attention being given to the role and workload of women in caretaking, maintenance and social control.

The practical approach, which sees the involvement of women mainly as a means to achieve better functioning, use, hygiene and finances, has also led to negative impacts for women. While work from water collection has been reduced, work in management, maintenance and maintenance financing may have increased.

### **3.5 Sharing in community management of improved systems**

Only recently, women's support for timely maintenance, repairs and maintenance financing is recognized and women are increasingly trained for preventive maintenance and repairs and are members of local water management organizations.

Although more time is sometimes needed, attitudes can be seen to change gradually from maintenance and management as a sole government responsibility to a system in which communities and women have a role to play.

The longest and most extensive experience of the participation of women in local management committees for water and sanitation is probably in Central and Latin America. Qualitative data on the involvement of women in management indicate that they make special efforts to solve local problems, including fee collection and fund raising for repairs. Women members of a board often hold the position of treasurer.

*In Western Kenya it was found that while men and women were equally represented in a sample of 124 water committees, men occupied the position of chairman in 85% of the cases. On the other hand 64% of the committees had a woman as treasurer. Similarly, in the Southern Zone of Colombia most of the water committees that have women in their board, have a woman as treasurer.*

Probable reasons for the trust put in women treasurers include their honesty and reliability with cash, a dislike of male collectors visiting during the day when husbands are absent, association with patterns of social visits and management of household budgets by women, women's high commitment to the water systems and its reliable functioning, and less conflicting interests.

Usually, women are elected to local management committees by the users, but sometimes formal barriers impede their election. Women have been excluded from decision-making and managing functions when only heads of households have been permitted to be members of user associations. Because water committee members are usually chosen from association members, excellent woman candidates who are not heads of household may have been excluded from committee functions. Individual membership of user cooperatives have given women more guarantee of a voice in collective decisions and a greater chance of being elected for management positions.

This is not to suggest that women do not have indirect influence. Both in Burkina Faso and in Central America, women were found to have informal influence on the performance of the male water committee. However, this influence was not recognized and both men and women ascribed *formal* management tasks to men, also where decisions were *informally* guided or made by women.

In a number of cases, management of water systems is a joint venture or business undertaking. In urban areas in particular, water and sanitation agencies have sought innovative ways to operate cost-recovery services in low-income areas. One method is for the agency to provide the main service and a community organization to take care of the local distribution or collection system, for example, the water kiosks run by women's organizations in Honduras and Burkina Faso.

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 sale to locally owned vegetable gardens are run by a women's cooperative in a low-income urban neighbourhood in Mexico.

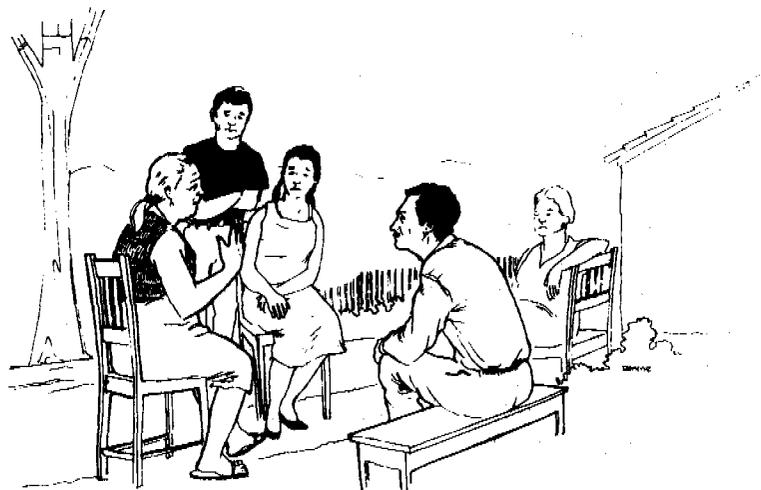
Experience indicates that, depending on cultural circumstances, integration of women and involvement of separate women's organizations can contribute to better local administration and that women can make good managers of local drinking water supply and sanitation facilities. Simply including women in water management organizations is not sufficient. Much depends on the quality of the overall participation process, e.g. whether committees are imposed, or local men and women choose their own members for their capacities, time and ability to communicate with fellow users.

*The issue of the involvement of women in the HESAWA programme has sparked off a lively and controversial debate, the full outcome of which has yet to be seen. Of all the programme elements, this is the one which is most often perceived by Tanzanians as having been imposed by the donor agency. While many staff clearly recognize the disadvantaged position of women in the Lake Zone as a whole, and accept that special efforts must be made to ensure that women are as fully involved in the programme as possible, a full commitment to supporting an enhanced role for women as a development goal has not yet been achieved.*

*That the position of women is being advanced through the programme is not well understood by many male staff, and there appears to be a significant degree of resistance to putting the principle of women's involvement into meaningful practice. If further progress is to be made, the programme should closely review the way in which the arguments for women's involvement are being packaged and presented, both to programme staff and in the villages, and set out in more detail the precise goals of women's involvement. Greater attention also needs to be paid to what women in the villages are saying on their own behalf, and how they define their own needs.*

It also makes a difference when male members appreciate the reasons for women's membership and welcome their views, or in the case of a separate women's committee, support their role. Other important factors are whether women have earlier had a say in the design and location of the facilities they manage and in the choice of the financing system; how well the management organization and the women themselves are prepared for their management tasks; whether women are also represented on higher, decision-making bodies, and whether other essential factors, such as the availability of spare parts, have been addressed.

If such issues are not taken into account, merely having women on a water management organization makes little or no difference to the functioning and administration of the systems.



## 4. *Health or Socio-Economic Benefits?*

Water supply and sanitation projects want to achieve health benefits, but the people, men and women, are often more interested in social and economic benefits, such as better services, lesser burden, more privacy and safety, higher status, etc. Health benefits do occur, but are difficult to prove statistically, because of the complex relationship between improved water, sanitation and hygiene on the one hand and the incidence of water/sanitation related diseases on the other, and also because of the lack of reliable health statistics in many developing countries.

### 4.1 **The tortuous road to health benefits**

Many studies have been carried out to determine the impact of improved water supply and/or sanitation on public health. Because of methodological problems, results are often inconclusive. Some evidence supports the positive linkage between sanitary water supply and excreta disposal and long-term improvements in health status. Where results are inconclusive or negative, poverty and underdevelopment dominate the situation. The tortuous road to health benefits suggests that the success of a project depends on the way it addresses underdevelopment and lack of awareness. It makes no sense to measure health impacts when only one or two of a range of risks in transmitting water supply and sanitation related diseases are eliminated.

Cross-cultural observations show that the risk of contamination of safe drinking water often persists after the introduction of an improved water supply system. In many cases, along with good habits harmful practices have been observed, such as no separate storage of drinking water; open storage vessels for drinking water; collection storage without regular cleaning of vessels; and use of communal cups to draw drinking water or hands touching the water. Investigation has revealed that contamination (by E-coli and helminthic ova) is greater in the earthen pots of poorer households than in brass and copper pots owned by better off families, even when the water is not touched by hands. Earthen pots are not only less effective but unlike copper pots cannot be scoured too often with sand because this closes the pores that help to keep the water cool by evaporation. A substantial number of households further continue to use unprotected, contaminated sources for drinking water. Such practices reduce the beneficial effect of improved drinking water supplies on the incidence of diarrhoeal disease.

The importance of safe disposal of excreta in reducing the incidence of water and sanitation related diseases is also evident. 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. Further, acceptance of latrines does not necessarily mean general and correct use. Non-use by children is widespread, because of practical problems, and also cross-cultural beliefs in the harmlessness of their excreta. Latrines are also less often used by men and at night, this being related to the distance from the house. Also hand washing after latrine use is not universal. Other risks observed in excreta disposal are soiled latrines, no covers, and cleaning material left lying about. Thus, latrines can become a source of infection rather than the barrier intended.

Risks reported in food handling include unhygienic kitchen conditions and practices. Hand washing before meals seems to be more common than before food preparation and after latrine use. Mothers who prepare the household food and care for the children may unknowingly become a link in the faecal-oral chain of disease transmission.

Domestic water supplies (e.g. storage containers), improper drainage and water-borne, on-site waste disposal can also create breeding places for mosquitoes and other disease-transmitting vectors.

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 palms have been planted to absorb excess water. Elsewhere, women use wastewater for dry season vegetable gardens.

**Eliminating environmental health risks requires more comprehensive and participatory programmes which assist people to find *affordable* and *appropriate* solutions to the whole complex of disease transmission risks in their environment.**

*Hand washing is a case in point. A study in Bangladesh showed that most women only used water for hand washing as they could not afford soap. Many were not aware of the benefits of hand washing at all. Mud and ash proved however equally efficient cleaning agent as soap. One of the recommendations was therefore that health education programmes should concentrate on increasing women's awareness of the importance of hand washing and promote the habit of using traditional cleaning agents.*

## **4.2 Hygiene education interventions**

After the introduction of improved facilities the risks of transmission of water and sanitation related diseases remains, making hygiene education support programmes necessary. The technical facilities themselves, though, should function, be accessible to all and be an improvement over the existing facilities, otherwise the addition of hygiene education will make little or no difference. Where a hygiene education programme is added to a project, it is frequently the only part of the project in which women are involved. Many of them treat women as a passive target group for information and instructions on hygiene. These programmes have not been successful.

**Hygiene education can improve local hygiene conditions and practices, but only in combination with more participatory projects which give an reliable, accepted and sustained service.**

The exclusive focus on women and girls in hygiene education bypasses, however, that *men and boys* need to support and adopt improved hygiene practices as well and that the responsibility for health and hygiene should not be placed on the women alone. Risk-reduction requires active involvement of men, women and children, because they all

have their own places of contact and their own tasks, activities and habits. This means that within a hygiene education programme one should adapt to gender differences: where will men play a role and where women, what concerns boys and what girls. A one-way didactic style of teaching may increase women's health knowledge, but it is unlikely to change actual practices. Hygiene education programmes which are based on a thorough knowledge and appreciation of the local health culture, and which use a non-directive approach to help local men and women identify local hygiene risks and make appropriate changes, are more effective. Facilitation of hygiene changes, like for example provision of safer water storage containers with a tap is found to be most effective, but may not be replicable on a large scale, unless the devices promoted can be obtained locally and are generally affordable.

The first condition for impact is that hygiene education programmes are accessible to 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 cultures that demand the seclusion of women, access to hygiene education is even more difficult for them. Several programmes have succeeded in reaching women better at their meeting places. The choice of the site will depend on local socio-cultural circumstances, this may be the marketplace or a communal washing place or water collection places. In addition, members of the community water committees can make home visits to discuss how sanitation could be improved. In Muslim communities, health discussions have been organized at family gatherings and informal meetings in women's homes.

Radio-broadcasting also has been advocated for hygiene education, especially for women in remote rural areas and in more protective cultures. Conditions for effective use of radio's 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. Women's participation in hygiene education and other health related development activities has further been facilitated by provision of child-care facilities.

A serious constraint to participation voiced by women is the *lack of direct relevance* of many hygiene education programmes. Especially poor women feel that time spent away from their families should contribute primarily to the family income. Also, some hygiene education programmes advocate unrealistic changes, such as hand washing with soap when soap is not available or too expensive.

The advantage of a participatory approach to hygiene education is that it allows the concerted use of several mechanisms for behaviour change. 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, by making utensils from local materials; public commitment and group pressure to achieve the changes identified; and appeal to status group symbolism and authoritative assurances. 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 hygiene education 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.

### 4.3 Organizational aspects

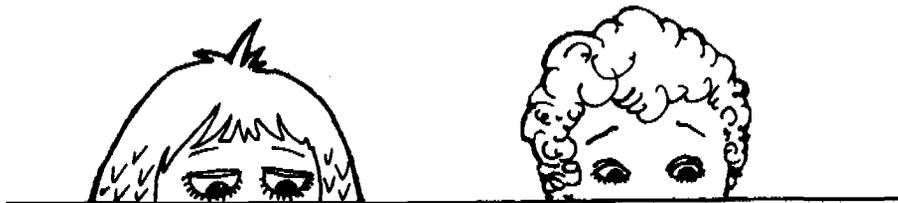
Many communities have trained community health workers, men and women. Experience shows that mature women especially are stable and effective communicators and motivators of health improvements. Selection of those to be trained is best left with the group concerned. In a village in Tanzania, for example, women were asked to select the women they considered to be most suitable for training as environmental health educators. Evaluation often 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. Technical projects can benefit greatly from close cooperation with these women. Selecting candidates on the basis of a project's own criteria may prove ineffective when the final choice of candidates is not shared by the community.

*In a piped water supply programme in two villages in Guatemala the health communicators (men and women) were selected by the (male) water committee. They made little or no impact, probably because: "The young women were selected by the committee for their knowledge of Spanish, and not for a role in the community's informal health network".*

Traditional *women's organizations* also have been very effective in developing peer group support for environmental change. However, husbands in both secluded and non-secluded societies have sometimes opposed the participation of their wives in women's educational programmes. Such opposition has generally been overcome by obtaining support from male leaders and by involving husbands in some of the activities. Special attention though is needed to evaluate which women are reached, as experiences from various programmes reveal that mainly women of a higher status who have the time, money and interest to learn prestigious domestic skills, are reached through these women programmes.

Frequently, cultural division of labour and responsibilities do not permit women to make decisions or carry out improvements in all aspects of hygiene. Therefore, in the development of local hygiene 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. Further, involvement of men will help abate opposition from husbands and will also counteract impressions created by some programmes in hygiene education and mother and child care that responsibilities for children rest with their mothers only.

The involvement of *children of school age* in hygiene 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. Little is known of the methods and effects of health education programmes in schools. Programmes range from teaching academic information about causes, transmissions and prevention of water and sanitation related diseases to actively involving children in improvements in their schools and communities. And a complicating factor in improving family hygiene through school health education is that many girls do not go to school, or leave school at an early age.



*School children participated in the evaluation of the rural sanitation project through a community mapping activity. The instructions for the mapping activity were simple. Working in groups, fifth grade children were asked to draw their communities, including problems, resources, water sources, and places of defecation. The activity unleashed such energy and enthusiasm that the children were moved outdoors. All four groups of students reported three major community problems; public drunkenness, bad roads, and little use of latrines. The resources identified included people, trees, VIP latrines, shops, water supplies, animals, and forms of transportation. Latrines, bushes, and forests were commonly depicted as defecation sites. Water sources included unprotected springs, wells, ponds and standposts. What the children reported in their drawings was confirmed by their school teachers.*

*The mapping activity produced valuable information on the community water and sanitation situation and helped to establish whether or not latrines were being used. The next step is group discussion and joint solving of identified sanitation problems.*

One way to ensure that hygiene education is integrated into water projects is for technical projects to organize concurrent and short term *hygiene education campaigns*. This approach is used in Latin America in particular. In general, closer cooperation with local health workers and **training of local men and women** is probably needed to safeguard the continuation of local hygiene education and action programmes after the completion of technical projects. Depending on local needs, linkage with economic activities may also be necessary.

#### **4.4 Impact and cost effectiveness of hygiene education**

Determination of health impacts is complex and makes only sense when all major risks have been reduced. An intermediate way to determine the impact of the technical and educational activities on health and hygiene is to make changes in local hygiene conditions and practices. When this is done in a participatory fashion, by involving men and women in risk identification and change measurement, the process is also an educational one. The work by Paulo Freire in identifying local conditions through pictorial discussions is a famous example of such a process.

From the preceding paragraphs it is clear that this process and the resulting data should also be gender specific, e.g. whether users of latrines include women and men, boys and girls, and whether husbands support any measurable domestic hygiene improvements such as safer water storage containers, and water and soap at latrines.

At the moment not enough is known about what educational methods are most effective and at what cost. Adding change measurements<sup>2</sup> to hygiene education and technology programmes in water supply and sanitation can help to better determine the cost effectiveness of these programmes as far as health behaviour is concerned.

#### 4.5 Economic aspects of improved water supply and sanitation

Women's economic contribution especially in food production and the informal sector is substantial and can take up 40 - 90% of this part of the local economy. For many women, the improved collection and use of water, and disposal of waste has important *economic implications*. Reduced times for water collection, waste disposal and cleaning are used for collecting firewood, growing vegetables, making beer, or taking an external job. When asked about the effect of water and sanitation projects, either in the preparatory stage (expected impacts) or in evaluations (experienced impacts), women not only mention the impact of the project on their domestic lives, but also on their roles as producers. Health benefits, the major objective of most governments and donors, are seldom mentioned by the women themselves. It is clear that these economic benefits deserve more attention, both in project objectives and as part of project preparation and evaluation.

The *methodology* underlying the planning or evaluation of economic use of time gains and improved water availability is not always strong. It is, for example, necessary to study conditions over a full cycle of seasons and to assess whether the local water collection patterns and system performance actually allow for time savings and for whom. When the new supply is nearer, the women may, for example, decide to make more trips and collect more water. This can reduce their time benefits, but may have a positive impact on domestic and personal hygiene and the incidence of water-washed diseases. Seasonal time savings in water collection may also not coincide with peak times for other economic work, eg. in agriculture, so that the time saved will be used for domestic work, education, social activities, or rest, rather than for work in the fields.

It is worthwhile to investigate further whether an improved water supply and sanitation project can provide enough extra time and/or surplus water for an *income-generating project*. Some women already started such projects on a small scale. Where these opportunities are large and reliable enough, linking up with government departments and NGOs which support and implement such projects (eg. social forestry, manufacturing and sale of fuel-efficient cooking stoves, food processing) can be of great help. In fact, the design of the project should be adapted to these opportunities, both in the technical design of the water supply and in the linkage with other possible programme elements, such as training, credit facilities and small scale income generating activities.

---

2) *Actions Speak*, a publication jointly developed by the London School of Hygiene and Tropical Medicine and IRC provides a methodological framework for such change measurement.

Apart from coincidence of demands for water collection and other economic work, opportunities for economic use of water or time depend also on whether women have access to all other means and conditions, such as land, raw materials, credit, training, extension, quality control, transport and markets. This accessibility is likely to differ not only between regions, but also for different classes of women within a region.

The *professional expertise* required for a successful economic project is not to be underestimated, as one weak link in the chain of conditions may cause a project to fail. To make economic use of water and time worthwhile, production should, for example, be sufficiently high and the net prices adequate for the women to earn a reasonable income. Neither should they have to hand this income over for uses on which they do not agree or have to shoulder more financial responsibilities than before, e.g. by being forced to pay for a substantially larger share of the water rates from their own hard earned income.

Where water schemes can be linked up with women's economic activities, they can fulfil an essential need for the women, strengthen the economic base of the project and make clear that better water supply and sanitation is not only a domestic but also an economic service.



## 5. *Bringing Women in a Strategy for Women's Participation*

A strategy for women's participation needs to consider water supply and sanitation as an integral part of the entire development process. More so as improved water supply and sanitation facilities may also bring an improved potential for economic and social development, such as rise in productivity, incomes and an improved standard of living. But projects may also have *undesirable* social or economic consequences, such as a reduction of meeting possibilities for women in areas where their mobility is already restricted, or loss of work for poor women or men, eg. when jobs in water collection or waste disposal become redundant with the introduction of a new technology. Knowing what local men and women expect or fear from a project will be of value not only to promote the project, but also to plan better for expected benefits.

### 5.1 How to get women involved

The basis for participation of women in water, sanitation and hygiene improvements must be laid already during **project preparation**. Experience suggests that guided discussions with groups of women are more useful than questionnaires, as the latter do not unite women around themes of common interest and do not stimulate joint problem-solving behaviour. Failure to consult women during local planning has led, among other things, to the adoption of inconvenient designs and locations, and the subsequent non-use of facilities. Local views on water quality and on sanitation are also important. Apart from the specific goal of women's involvement, practical and culturally appropriate measures need to be identified and applied to achieve women's full participation in the project and project benefits.

As a first step during project planning, it is often necessary to contact the men or male leaders, to explain why participation of women is wanted and to obtain their support. Special measures are also needed to ensure that project information reaches women and that they can and will attend project meetings. In those cases some special effort needs to be made, and some suggestions are:

- Try to meet with women separately. Sometimes if men and women are together, it is much more difficult for women to talk.
- Get permission of the head of household to invite the women of the household to join the hygiene education activities by making your intentions clear.
- Permission of senior women might have to be secured to talk to younger women.
- Meet with women in places where they are likely to be found: at home, in the field, at the water points, at women's gatherings.
- Contact women's leaders, women's organizations and wives of local leaders right from the start. They can assist in reaching other women in the community.
- Often, community members themselves can suggest the best ways to arrive at active women's participation. The facilitator's task is thus more to raise the point if necessary and to make sure it is happening, than to find a solution him/herself.

Involvement in decision-making is particularly important in those subject matters which are related to women's work, knowledge, capabilities and interests. This will include location and design of facilities, e.g. what - within the technical possibilities - is the preferred site for a handpump, whether wells should have a handpump or a pulley and rope with a fixed bucket, the preferred type of handpumps and the design of the latrine. Other decisions in which consultation of women was found beneficial are sharing arrangements, selection of caretakers and choice of water committee members for capability, time etc, and choice of financing system.

A growing number of projects have come to the conclusion that **the best way of taking the views of women into account is to consult them early on in the process** and give them a say in negotiations on choice of technology and local designs, rather than trying to get them to adopt unsuitable technologies and designs through promotional talks afterwards.

## **5.2 Responsibilities and involvement**

Men and women traditionally have different areas of responsibilities and control, and when left to chance, women will often not take part in the various project activities and decisions. It is therefore important to define early in what functions and organizations women will be represented, how they will be involved in decisions, and what special staff and training provisions will be made to secure their involvement, both during the project's implementation and afterwards (operation, maintenance, management). Provisions for training will include training for women, either exclusively or alongside men, to enhance women's capacities. Training is also needed on women's involvement as an issue, to create more understanding and expertise on this subject among male and female project staff and among community leaders and to prevent feelings of exclusion or antagonism from male villagers when separate activities are organized with women.

Drinking water supply, sanitation and hygiene education projects do not always pay attention to the more public roles of women in local water supply and sanitation systems. This neglect has sometimes caused women to become more dependent in an area where they formerly used to be independent and responsible. As an excuse, it is often said that getting women involved is difficult and against the culture.

However, many projects have shown that **good analysis, increased gender awareness among staff and specific monitoring and evaluation of women's involvement can help overcome socio-cultural biases and practical constraints.**

Up till now active involvement of women in water supply and sanitation projects often concerns isolated projects. There is a need to integrate the involvement of women in a *process approach* to water supply and sanitation, including regular monitoring and feedback on both the process and the effect of their involvement.

A common strategy in a process approach is to inform all users, including minority and disadvantaged groups about the project, and give them a choice in local decisions. Planning usually consists of three activities:

- \* to consult with the users about their needs, preferences and expectations;
- \* to discuss options; and

- \* to reach agreement on all major issues such as technology, local design, community maintenance and finance.

Many reports and studies from the field show that, in spite of their traditional roles, women face problems in participating in this planning process. This also affects their participation in follow-up arrangements for health and hygiene education, maintenance and management. These problems originate partly from the position of women in different socio-economic classes, age and stages in the life-cycle, and in different cultures.

But, lack of involvement may also stem from the fact that external projects take water supply, sanitation and health out of the women's sphere into the male public decision-making domain. This occurs because the projects are usually carried out by male staff who communicate with male community leaders. It may also explain why much traditional maintenance done by women has remained hidden. Very often the true role of women has not emerged until traditional maintenance and decision-making processes were discussed, for example, in a meeting of local women with a woman field-worker.

From literature reviews, several strategies have emerged which have been used to involve women more actively in local planning. They have been integrated directly in general community participation structures by practical measures, such as facilitation of attendance at meetings and training activities, and by the development of positive attitudes of men of their involvement in accordance with women's customary tasks. Elsewhere, especially in areas where women and men have segregated but complementary and equivalent spheres of influence, women have been consulted at separate meetings or at places where they gather for daily activities. An alternative to an integrated approach is the involvement or development of separate women's organizations, either formal or informal, as for example in hygiene education and site maintenance of communal water collection points. Finally, women have been reached individually at home, for example in community surveys in project planning or evaluation, and in hygiene education, using both women workers and trained women from the community. There is evidence that the women themselves know best which is the most appropriate approach in their particular society and so it makes sense to find out early in the project planning phase what are the most appropriate ways of establishing effective communication with women to ensure their representation and involvement in the activity.



## TEN MEASURES FOR A GENDER-SENSITIVE APPROACH IN DRINKING WATER SUPPLY AND SANITATION PROJECTS

It is recommended that the communities decide on these points after explanation and discussion on the roles of men and women.

- 1. Information.** Make sure, by using suitable communication channels and methods, that project information reaches men and women (each group may need different channels). In data collection and analysis distinguish between information from men and women.
- 2. Gender division.** Assess with men and women what work and responsibilities they have in land and water use, care of traditional water sources, construction, care and upkeep of households/school latrines, family health and hygiene, communication with other men, women, and household finance.
- 3. Meetings.** Facilitate women's participation in meetings: time and place suitable for women, women informed and encouraged to attend, seating and language is so all can hear and react, speaking out by women is facilitated (sit together, breaks for internal discussion, choose spokeswoman, etc.). Insist that women can react in a mixed or separate meeting as a condition for project continuation.
- 4. Planning.** Give men and women a say to achieve acceptable solutions on: design and location of the facilities, choice of local maintenance and management system, choice of committee members, mechanics, caretakers, health promoters, local financing system.
- 5. Committees.** Determine [by law] that a minimal proportion of committees is female. Enable men and women to choose their own representatives on trust and suitability for tasks. Encourage that women are chosen as treasures (have proved to be most trustworthy). Committees should account for their proper management to male and female users. Higher committees should include men as well as women.
- 6. Hygiene education.** Involve women as planners and change agents, not as passive audiences. Involve also men, for issues concerning men.
- 7. Training.** Make sure that men and women are trained for technical as well as managerial tasks. Adapt training provisions to the requirements of women (place, methods, literacy level). Train and reward women for new functions: waterpoint repair (they visit daily), latrine masons (they can work in homes), treasurers (they are trustworthy and can easily visit households for home collection), monitoring (idem).
- 8. Means.** Ensure that credit, materials and skills are available to men and women to make their own improvements in water supply, sanitation and hygiene. Where feasible and relevant, undertake or link up with income generation projects.
- 9. Gender-sensitiveness.** Make project staff and management aware why gender is important and how a gender-sensitive approach is applied.
- 10. Staffing.** Employ female staff and equip them, as well as male staff, for dealing with gender issues. Work in case of shortage of female staff with gender-sensitive male staff and female intermediaries in the communities.

---

**AUTHORS:** Mrs. Saquib from Afghanistan, Mr. J. Rose working in Egypt, Ms. Mathew and Messrs. Bokepalli, Buch, Nadaf, Nagrecha and Thirubathaiyah from India, Mrs. de Jong based in Guinea Bissau, Ms. G.W. Gichuri and Messrs. K.C. Abdi and A.Chemnonges from Kenya, Messrs. M. Al-Abiad and M. Hasson from Yemen and Mr. T. Zai from Liberia and Ms. C. van Wijk, IRC.

### 5.3 Manpower and training

The dedication and personal interest of women are advantages, but they are not all that is required for good local management. Water committees and boards of user cooperatives may have many tasks, such as supervision and organization of operation, maintenance and repair finance, accounts and record keeping, hygiene improvement and hygiene education, and communication with the users. Therefore, special training for local committees is necessary. Women representatives, who have had less opportunity for education are greatly 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 recognize satisfactory repairs by community caretakers and mechanics.

In this context, the lack of expertise in training for community management within the technical support agencies themselves is a problem.

Involvement of women at community level requires the support of both men and women at higher levels, from field staff to programme planners and policy makers. In communities in which women live in seclusion, communication between women in two important phases in a project, **planning** and **training**, requires the mediation of women field-workers. For water and sanitation projects carried out in the confines of the house, this also means training women technicians. Also in other cultures, women staff are still at an advantage because of easier and more effective communication and cooperation with other women. It is further noticeable that with the right attitude and approach, some male agency staff have effectively involved women in local planning and management of water supply and sanitation. The difference with other projects was that these men were, or had become aware of the benefits of women's involvement and had made explicit and culturally appropriate efforts to contact the women.

NGOs and women's organizations are valuable supplementary resources for national water and sanitation programmes. Most have a high credibility in the communities and can easily contact and work with women. This gives them a strong potential to help communities or groups to improve existing conditions with local means, or to take part in programmes with other, more technical agencies.

#### *Selection of trainees*

No clear pattern emerged from the literature reviews regarding selection criteria for women project staff. Trained young, unmarried girls as field-workers have the advantage that they have a higher level of education and are more mobile, but usually older women have more **authority** and **credibility**. To combine maturity with mobility, young but married women have been employed in Guinea Bissau. In accordance with African custom, they carry their babies on their backs while working. This has also facilitated communication with other mothers on nutrition and hygiene. Other projects have employed women heads of household (widows) who combine maturity and mobility with high motivation for the job.

With the increase of community management in water services, sanitation programmes and hygiene education and action programmes, the planning of which villagers should be trained thus becomes more essential and should be resolved gender-specific. In general, experience

is that women make excellent site managers and are also very good and conscientious in technical maintenance, especially in handpump projects, where the longest and greatest experience with female mechanics exists. Projects also exist which have effectively trained and employed or set up female latrine masons, eg. in Lesotho, Mozambique and India; and as technical field staff, eg. in Sri Lanka. It is however important to choose the right candidates, and to adapt training and working conditions. Doing this in a joint decision-making process with a group of women is often helpful, resulting in suggestions on good candidates, peer support in taking up the job, offers for help at home when the candidate goes for training, etc.

*In Kahagara village the possibility of having female caretakers was discussed with a group of women. Opinions differed, some stating that female caretakers would do better because they are directly benefitting from well-maintained water sources. Others thought that women would not have enough authority to enforce rules, or not enough time. As solutions to these constraints the women agreed on the importance of caretakers and village health workers getting support from the village council and the necessity for them to be paid for their time.*

### **Training materials**

Training materials to train project staff on methods and techniques to involve local men and women in water and sanitation projects, are becoming increasingly available. They are a valuable supplement to earlier materials, particularly because they focus more on training methodology. It is very important that field staff are not trained in a conventional, didactic style, since they will then use the same style to 'instruct' villagers, and will inadequately use open discussions, practical work and problem-solving methods.

The combination of "expert" knowledge and a "non-expert" approach is most effective in communication with local communities. Participatory tools, especially when made by the staff themselves can be a good help for such communications. Several tools have been developed to give project staff a start to community participation processes.

*"Experience showed that it is best to make our own extension materials which fit our hygiene education activities. The type of material did not prove to be important as in general any material used received a lot of attention and made discussions easier. Surprise increases attention. Therefore, we try to use a variety of materials, such as self made flannel graphs, photos, products bought from the shop, things women bring from their houses. The extension material we use most often consists of examples of daily life, such as a child having dirty nails, a child refusing to wear its shoes, chicken running around in a kitchen."*

Existing materials are developed for training field staff in working in a more participatory way with villagers and/or give specific modules and activities to train villagers in technical or managerial tasks. However, most materials stress participatory working *methods* and pay only limited attention to questions such as for what tasks and functions women are needed, what constraints they face in taking part, and how these constraints can be overcome.

## 5.4 Evaluation and monitoring

Evaluation and monitoring of water and sanitation projects have become important management tools. They serve to improve the implementation of projects, and especially their effective life after completion of the installation works.

There are a number of *key questions* in monitoring and evaluation. These first of all focus on *project performance* in a technical and social sense (implementation related to progress, costs, quality, reliability, acceptability of the service, etc.).

A second set of questions focuses on *community management* roles in the technical and health education process. The evaluation of women's involvement focuses, on the one hand, on the way women take part in local planning, management, evaluation and training, and whether these roles should be improved, and on the other hand on the impact projects have on women's work and the position in their households and communities. Issues receiving attention should include improved water use and hygiene practices, reduction of time and efforts for women and children, effects of projects on women's activities, status, skills and self-esteem, enhanced cooperation between women for better services and community life, and the avoidance of negative project impacts on women, such as loss of traditional management roles and increase of voluntary work without accompanying status, remuneration and authority.

A third set of questions looks at the *sustainability and replicability* of the results over time. Have communities and agencies developed the capacities to preserve the proper functioning, use, hygiene improvements and other local developments over time? Can they, when needed with external inputs, expand and improve their existing system and add new water points, latrines, drains, source protection measures by themselves? Evaluation on such issues should take place at regular stages in the programme cycle, e.g. after the pilot phase, after handing over a new batch of projects, and some time after having handed over each project batch.

**Monitoring**, on the other hand, should take place throughout time on a scheduled basis. It provides project management with important data for day-to-day project steering as well as factual inputs for specific evaluations. On women's involvement, project management will be particularly interested in knowing to what extent women already take part in local planning, implementation, maintenance and management of water and sanitation projects and hygiene education activities, and what effects this involvement has on project functioning, use and impacts.

In both monitoring and evaluation, **women** and **women workers** are important partners in the participation process, as they have personal experience with local water and sanitation conditions and much of the work involved is socio-culturally appropriate for them. However, this can only be effective when in the design of evaluations and monitoring systems their roles are already taken into account and provisions are made enabling them to participate.

## 6. *Women's Involvement: Catering for Practical or Strategic Gender Needs?*

The emphasis on the physical and domestic roles of women in water supply and sanitation is a reflection of what Moser calls the 'practical' gender needs of women, or the immediate perceived needs women experience within the existing gender related divisions of labour and authority. She contrasts these practical gender needs with 'strategic' gender needs, which focus on the redressing of inequalities and a more equitable society (Moser, 1989).

In drinking water supply projects and programmes emphasis is often on practical gender needs: more water available at closer distances, household latrines providing more privacy and safety for women and girls. By involving women in project planning, implementation and maintenance, projects cannot only answer these needs, but also enhance their own efficiency, eg. by achieving a better functioning of the facilities, a more general and more hygienic use of facilities and an enhanced coverage of capital and/or operation and maintenance costs. Many of these benefits do indeed take place. Women's involvement in local planning and management has resulted in a better distribution and use of facilities and has given projects access to the substantial social and cultural knowledge of local women.

More recently, women's support for timely maintenance, repairs and maintenance financing, is recognized and women are increasingly trained for preventive maintenance and repairs and are members of local water management organizations.

Experiences in handpump maintenance indicate that some costs are higher for female mechanics, eg. because they need more training and their more restricted mobility reduces the number of pumps they can maintain. Their effectiveness in regular and preventive maintenance is better, however, and costs of repair campaigns are reduced.

*In Burkina Faso a comparative study of two villages, one with and one without an improved water supply indicates how women as well as men benefitted from the new water supply. Women gave improved working conditions and saved time as the most important positive effects of their new pump. They reported to spend the saved time on various domestic tasks, income generation and firewood collection. Other perceived benefits were reduced illness and social conflicts. Also men benefitted from the new water supply as watering their cattle took less time than before.*

Well-planned and implemented activities for women's involvement benefit not only the projects, but also the women themselves. Where women were **not** involved and projects **not** adapted to their capacities, poor women in particular did not get access to improved services. Without participation, they also had no control over resources, which was reflected in erratic service hours and installation of too many private connections, so that the public taps fell dry. Effective participation has not only led to better services and financing, but more participation and better hygiene also enhanced women's leadership and improved their working conditions and status. This practical approach, which sees the involvement of

**Table 1: Ways in which water and sanitation projects have worsened the position of women**

---

1. **Certain categories of women are excluded from access:**
    - poor women
    - minority groups
    - female heads of household
  
  2. **Special needs of women are not met, e.g.:**
    - location, design of facilities
    - bathing, laundry provisions
    - service operating hours
    - alternative opportunities for meeting and social learning
  
  3. **Involvement of women has been limited to:**
    - physical labour to construction, maintenance
    - passive audiences for health education
    - separate women's projects
  
  4. **Introduction of new technologies and systems has led to:**
    - reduced control of women over water and sanitation conditions
    - bypassing of women's traditional expertise
    - neglect of existing water systems
  
  5. **Workload of women has been increased by:**
    - loss of assistance in water collection
    - voluntary labour for construction and maintenance
  
  6. **Poor women, or their husbands, have lost employment in:**
    - water collection
    - waste collection
    - waste recycling
  
  7. **Wealthier households benefit most from better access, flat tariffs and/or productive uses of domestic water, thus widening further the gap between rich and poor**
  
  8. **Women use time and energy gain or surplus water from an improved water supply for work in agriculture, horticulture or dairying, but have no access to the resulting income or say over its use.**
-

women mainly as a means to achieve better functioning, use, hygiene and finances, has also led to negative impacts for women (see Table 1). While work from water collection has been reduced, work in management, maintenance and financing may have increased ( eg. collection of fees, time spent to attend meetings).

Paying more attention to the division of labour and decision-making between men and women will not only contribute to the effectiveness of drinking water supply, sanitation and hygiene education projects, but will also show up inequalities. Moreover, a gender-conscious approach enhances the degree of women's involvement and improves the benefits of the projects for women as well as men.

Trends are that *practical* gender needs are increasingly taken into account when water supply, sanitation or hygiene education programmes are planned, implemented and evaluated. The more *strategic* gender needs, which assure a better position for women and a more equitable distribution of work, influence and benefits, still get less attention. In particular, there is sometimes a tendency to give women new *physical* tasks, which are not matched with a greater degree of influence or an improved economic position.

**Linkages of improved water supply, sanitation and hygiene with the domestic economy also need more attention.** Now most projects in regions where such linkages are wanted and feasible only focus on health benefits. Better analysis of the more strategic gender needs will recognize women's economic needs and help avoid situations where water supply and sanitation projects place new demands on women which increase their labour in maintenance, management or financing without addressing existing inequalities.

## References

Moser, Caroline O.N. (1989). Gender planning in the Third World : meeting practical and strategic gender needs. In: *World Development*, vol. 17, no. 11, p. 1799-1825

Wijk-Sijbesma, Christine van (1985). *Participation of women in water supply and sanitation : roles and realities* (Technical Paper no. 22). The Hague, The Netherlands, IRC International Water and Sanitation Centre

Wijk-Sijbesma, Christine van and Bolt, Eveline (1992). *Woman, Water, Sanitation* (Annual Abstract Journal, no. 1). The Hague, The Netherlands, IRC International Water and Sanitation Centre

Wijk-Sijbesma, Christine van and Bolt, Eveline (1991). *Woman, Water, Sanitation* (Annual Abstract Journal, no. 2). The Hague, The Netherlands, IRC International Water and Sanitation Centre

In addition, case examples have been taken from:

CINARA (1990). *Evaluación de sistemas de abastecimiento de agua con plantas de tratamiento administrado por comunidades*, Cali, Colombia

Evans, Phil and Appleton, Brian (1993). *Community Management Today* (Occasional Paper no. 20). The Hague, The Netherlands, IRC International Water and Sanitation Centre

Smet, J. et al. (1993). *Health through sanitation and water*. The Hague, IRC International Water and Sanitation Centre and Nairobi, Kenya, AMREF African Medical and Research Foundation.