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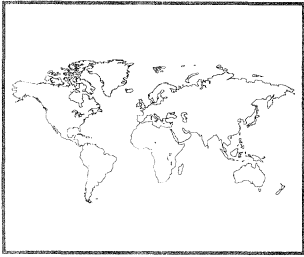
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Meeting women's needs and priorities for water and sanitation in cities

Sara Jordan and Fritz Wagner

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1. Moser, Caroline O.N. (1993), *Gender Planning and Development: Theory, Practice and Training*, Routledge, London and New York.

2. WHO (1992), *Our Planet, Our*

I. INTRODUCTION

THIS PAPER DESCRIBES the importance of safe and sufficient water supplies and provision for sanitation and drainage for health, especially for women since they take on most responsibilities for household management and childcare. It also describes how women are rarely consulted about their needs and priorities and how new orientations in water and sanitation projects which fully involve women can bring much greater health and other benefits and improve project maintenance.

The feminization of poverty is an acute reality, particularly in the Third World. Estimates suggest that women head a third of all the world's households and in urban areas, especially in Latin America and parts of Africa, the figure reaches 50 per cent or more.⁽¹⁾ A high proportion of these are among the poorest households. The starkest indicator of this condition, and perhaps the most imperative issue that will be facing these women is inadequate housing in particular, and sub-standard basic home-making conditions in general. For example, the World Health Organization (WHO) estimated that in 1988, 170 million urban dwellers lacked access to safe and adequate water supplies and 331 million lacked adequate sanitation.⁽²⁾ Currently, close to three-quarters of the population in Latin America and over one-third of the population in Asia and Africa live in urban areas,⁽³⁾ and projections suggest that most of the increase in the world's population over the next few decades will take place in urban areas.

A review of the literature shows that women are disproportionately affected by the lack of basic health infrastructure. Women are the primary procurers and users of water. In most communities, they have sole responsibility for waste management and sanitation training. Consequently, women are at a significantly higher risk of exposure to disease and general poor health than are men, as are their children, as indicated by high maternal and infant mortality rates. Furthermore, because women are increasingly the primary wage

Health, Report of the WHO Commission on Health and Environment, World Health Organization, Geneva.

3. Based on figures in United Nations (1991), *World Urbanization Prospects 1990*, Department of International Economic and Social Affairs, ST/ESA/SER.A/121, New York.

4. UNCHS (1985), "Infrastructure technology and design", a study prepared for the Women and Shelter Seminar in Vienna, UN Centre for Human Settlements (Habitat), Nairobi; also Moser, Caroline O.N. and Sylvia H. Chant (1985), "The role of women in the execution of low-income housing projects" (training module), a study commissioned by the UN Centre for Human Settlements, Development Planning Unit, University College London.

5. This discussion of the triple role draws on the work of Caroline O.N. Moser - see for instance Moser (1993) in reference 1 and Moser, Caroline O.N. (1987), "Conceptual framework for analysis and policy-making" in Moser, Caroline O.N. and Linda Peake (editors), *Women, Human Settlements and Housing*, Tavistock Publications, New York and London.

earners, both chronic illness and the time taken gathering water from inconvenient sources inhibit their ability to provide for their families. Women's difficulties are further exacerbated because of social customs and cultural constraints which limit their access to community decision-making and planning. This situation persists even though experience has proven that without the involvement of women in the planning and execution of water supply and sanitation projects, even the best projects have little chance of success. In the execution of projects, three major goals become apparent:

(1) Women's participation should be increased. Women have the right and the duty to be involved in those changes which profoundly affect their lives.

(2) Women's participation should be a means of improving project results. Because of the potential for water and sanitation projects to improve every aspect of their lives, women have a vested interest in their success. As women come to understand how the objectives of a project conform to their needs and priorities, there is more willingness on their part to commit themselves to those changes required in day-to-day life that a new technology might require.

(3) Women's participation should generate self-realization. Being actively involved in solutions to the problems of inadequate water supply and sanitation enhances women's self-awareness and respect and enables them to gain recognition as more valued members of their community.⁽⁴⁾ Clearly, water supply and sanitation are issues of vital importance to women.

II. THE TRIPLE ROLE OF WOMEN⁽⁵⁾

IN DEVELOPMENT STRATEGIES, two assumptions which negatively affect women have often been made: 1) that a household consists of a nuclear family (i.e. a husband, wife, and several children); and 2) that within the family there is a clear sexual division of labour, with the man as the primary earner and the woman as a household wife and homemaker responsible for the reproductive and domestic work. The first assumption is increasingly a fallacy, and the second fails to recognize women's other roles as producers/income-earners and as community participants. Women often have difficulties in trying to balance these roles. In addition, much of the work they do within the home and at community level is not recognized as economically productive. Consequently, it is not valued and not supported by public policies and plans. As a result, their specific needs are often overlooked.

Women are confronted daily with the lack of health and sanitation services and supporting infrastructures. For example, where piped and treated water supplies are lacking, water is often drawn from rivers or streams. If used for drinking, to kill contaminating micro-organisms, it should be brought to a boil. But, where firewood is not easily available or fuel is expensive, this is a luxury many families cannot afford.

Where no provision is made for sanitation, ablutions are done in the open air which is uncomfortable, embarrassing and unhygienic, and also exposes women and children to the advances of men. In some

6. WHO (undated), *Women, Water and Sanitation*, Geneva, pages 5-6, and Moser and Peake (1987) see reference 5.

7. Agarwal, Anil and Anita Anand (1982) "Ask the women who do the work", *New Scientist*, 4th April.

8. UNCHS (1985), see reference in 4.

9. UNCHS (1985), see reference in 4.

10. Chant, Sylvia (1984), "Household labour and self-help housing in Queretaro, Mexico", *Boletín de Estudios Latinoamericanos y del Caribe*, Vol. 37, pages 45-68 quoted in Moser and Chant (1985), see reference 4.

11. Cottingham, Jane (1984), "Women and health: an overview," *Women in Development*, New Society Publishers, Philadelphia, page 151.

cases, mothers must spend additional time accompanying frightened children to safer locations for defecation. For example, in the Middle East, where Purdah is observed, women can defecate only on rooftops.⁽⁶⁾ Because of a lack of toilets, women in Bangladesh can defecate only before sunrise or after sunset, which can cause serious medical problems. And in Bombay, for households without private toilets, ablutions must be done in isolated areas, making women more vulnerable to rape or to harassment.⁽⁷⁾

The introduction of wells and latrines into a community, desirable as it may be, can pose a challenge for women. In many places in Africa the bucket latrine system is used.

"...If there is only one pail and no money to buy another, of course, it will be used for everything. If there is no top for the pail, a covering with leaves is a poor substitute. If there has been only a minimum of water available, there will be no tradition of handwashing. If latrines are not appropriately designed to fit customary habits, they will be unused."⁽⁸⁾

In Queretaro, Mexico, 90 per cent of the women said that a piped water supply is the service from which they would benefit the most. But in the meantime, they are forced to resort to health-threatening and time-consuming methods of water procurement. The importance of a piped water supply is underscored by this description:

"...The tanker can only pass through three streets, and many housewives live at considerable distances from their water containers. This means that they have to carry water over long distances up and down the hillside. Another method of transporting water is by hose. However, this is not a feasible solution for those who live upslope from their source, and besides, there are major health risks. To syphon water onto one's lot involves sucking through a break in the hosepipe, and apart from the fact that all kinds of dirt may get inside the hosepipe, in an environment where 50 per cent of the population go to the lavatory out of doors, the possibilities of contracting illness by oral contact with objects left outside are quite high. If fetching water in buckets, bringing it down by hose is not possible, women may take their washing and washing implements, such as scrubbing boards, to the oil-drums. Whatever method is used, it is hard and inconvenient."⁽⁹⁾

These examples draw attention to the amount of time women have to spend fetching or carrying water and washing clothes and implements, when there are no safe and convenient water sources. Time is one of women's most important resources. Studies on time allocation show that women spend far more hours cooking, cleaning, washing clothes, gathering wood and hauling water than men do. In self-help settlements in Queretaro, Mexico, for example, the woman's work-day is 30-40 per cent longer than men's, and much of this time is spent in or near water.⁽¹⁰⁾ As one observer commented: "...Because it is [a] woman's task, the provision of water is undervalued. Thus, technology to alleviate this task is lacking and insufficient efforts are made to provide communities with safe and convenient sources of water."⁽¹¹⁾

Perhaps more significantly as far as long-term consequences are concerned, the time consumed by women in household and family work cuts deeply into the time available for their role in the economic arena. Considering the increasing number of families who depend on

12. UNCHS (1985), see reference 4.

the earnings of women, inadequate water supply and sanitation systems are an added burden. Where there is proper water supply and sanitation, positive examples can be found of increased economic activity. Women in Panama, for example, doubled their monthly output of small home produced goods when a piped water system was installed.⁽¹²⁾ Conversely, where there are problems with sanitation and obtaining potable water, women often become weak from disease which further limits their ability to provide for their families. Hence, women's roles as economic producers as well as reproducers are highly intertwined.

Similarly, women's roles in the community cannot be treated separately. Women have great potential to be partners with men in planning and organizing water supply and sanitation projects. They have a particular vested interest in improving living conditions because they are so adversely affected by the shortage of community services. Often, the necessity to obtain basic infrastructure provides the impetus for community and women's groups to organize. The effect of these groups on the community has been described as follows:

"...Although women do not necessarily see themselves as natural leaders, they play an important role in the formation of such organizations. In many societies both men and women consider it an extension of a woman's domestic role that she obtains services for the community. Therefore, in the long process of struggle to persuade the authorities to allocate the desired services, women are often particularly effective in lobbying and organizing community participation, despite the time-consuming nature of their domestic duties, and planners' lack of awareness of their roles and preference for negotiating with men."⁽¹³⁾

The role of women's organizations may be important. Such organizations can be effective in communities because they:

- * are traditionally health oriented;
- * provide a channel for women-to-women communication;
- * provide a forum for legitimizing and popularizing changes in behaviour concerning water and sanitation;
- * can be important fundraisers.⁽¹⁴⁾

When women are not involved in the community, their priorities are seldom taken into account. This results in the provision of services in forms and ways which are different from what they would choose or are inappropriate to their needs. In Central America, for example, toilets designed by men went unused because gaps at the bottoms of the doors exposed women's feet, which offended notions of privacy.⁽¹⁵⁾

III. WOMEN, WATER, SANITATION, AND HEALTH

THE CORRELATION BETWEEN clean water, adequate sanitation and good health is already well-recognized. Moreover, the consistently high morbidity and mortality rates of most Third World countries are to a considerable extent attributable to dirty water and improper disposal of human waste. Moreover, diarrhoeal and other diseases associated with unsafe drinking water and improper disposal of waste water and excreta figure among the leading causes of

13. Moser (1987) page 24, see reference 5.

14. "Women creating wealth: transforming economic development", Association for Women in Developing Countries Conference, Washington DC, 25-27 April 1985, page 80.

15. IWTC (1982), "Women and water", *International Women's Tribune Centre Newsletter*, No. 20, quoted in Moser (1987), see reference 5.

16. WHO (1983), *Maximizing Benefits to Health*, World Health Organization, Geneva, ETS/83.7, page 5.

17. WHO (1987), *Housing - The Implications for Health*, World Health Organization, Geneva, WHO/EHE/RUD/87.2, page 49.

death in the world.

What, perhaps, is not as well-recognized is that, because women care for the health needs of their children as well as for themselves, they are more affected than men by the consequences of inadequate sanitation. For example, diarrhoea is the leading cause of childhood deaths (50,000 each week) and one of the main causes of malnutrition in Third World countries. It is caused primarily through faecal contact (i.e. dirty hands or eating utensils), through contaminated food or water. While one estimate suggested that diarrhoea morbidity could be reduced by 25 per cent with improved sanitation, a study in India found a 7 per cent reduction over a ten-month period when houses were cleaned regularly and water storage vessels chlorinated.⁽¹⁶⁾

Measures are needed to minimize the faecal-oral transmission of disease and the breeding of insect vectors of disease through sanitary excreta disposal. Latrines must be placed at appropriate distances from wells, have adequate drainage, and be maintained. A World Health Organization report stated that: "Latrine overflows will result in unsanitary muddy conditions that expose people directly to ... parasites and other pathogenic organisms, as well as encouraging fly infestations."⁽¹⁷⁾ This is a situation of particular concern in slum areas and squatter settlements where facilities are lacking, insufficient or deteriorating.

Beliefs that children's faeces are harmless perpetuate the disease cycle, particularly when faeces are thrown into a nearby garbage heap or diapers are washed out at the standpipe. Women in many areas, such as those in the Yucatan, do not use diapers at all. Instead, mothers simply hold their babies away from them as they defecate or urinate in the dirt, which can result in infection for everyone. Dark or too distant latrines, or fear of falling in the large openings may

Box 1: Diseases related to water supply and sanitation: control measures^a

Disease	Type and importance of control measures ^b					
	improvement in water quality	improvement in water supply quantity/convenience	personal and domestic hygiene	wastewater disposal/drainage	excreta disposal	food hygiene
Diarrhoea:						
viral diarrhoea	●●	●●●	●●●	—	●●	●●
bacterial diarrhoea	●●●	●●●	●●●	—	●●	●●●
protozoal diarrhoea	●	●●●	●●●	—	●●	●●
Poliomyelitis and hepatitis A	●	●●●	●●●	—	●●	●●
Worm infections:						
ascaris, trichuris	●	●	●	●	●●●	●●
hookworm	●	●	●	—	●●●	—
pinworm, dwarf tapeworm	—	●●●	●●●	—	●●	●
other tapeworms	—	●●	●	—	●●●	●●●
schistosomiasis	●	●	—	●	●●●	—
guinea-worm	●●●	—	—	—	—	—
other worms with aquatic hosts	—	—	—	—	●●	●●●
Skin infections	—	●●●	●●●	—	—	—
Eye infections	●	●●●	●●●	●	●	—
Insect-transmitted diseases:						
malaria	—	—	—	●	—	—
urban yellow fever, dengue	—	—	● ^c	●●	—	—
bancroftian filariasis	—	—	—	●●●	●●●	—
onchocerciasis	—	—	—	—	—	—

^a From: *Intersectoral action for health*. Geneva, World Health Organization, 1986.
^b Importance of control measures: ●●● high ●● medium ● low to negligible.
^c Vectors breed in water storage containers.

18. UNCHS (1985), see reference 4.

encourage older children to also defecate on the ground near the house. This problem is magnified as population density increases. Even if the water supply is poor, general health improves as water is available for sanitation and personal hygiene.⁽¹⁸⁾ Box 1 illustrates the linkages between common diseases and water quality, the quantity available to households, personal and domestic hygiene, the disposal of wastewater (including provision for drainage), excreta disposal and food sanitation.

Besides constant exposure to human faeces, women face other water and sanitation related health risks. In some countries, washing clothes and utensils in rivers and streams makes them more at risk from schistosomiasis, a disease transmitted by snails. Because women spend sometimes up to six hours a day fetching and carrying water, stretched ligaments and muscles can result in a prolapsed uterus. Genital tract infections are extremely common due to poor hygiene and unsanitary water used during childbirth, abortion, and sterilization. These help contribute to maternal mortality rates which are 500-1,000 per 100,000 in many Third World countries, 100-200 times more than in Europe and North America. Better personal health is just one reason why improving water supply and sanitation is critical to women.

Clearly, the combination of improved water supply and of sanitation have perhaps the most significant effect on the health status of the poor, particularly when these efforts are accompanied by improvements in other forms of infrastructure and services and socio-economic improvements. In summary, the provision of a safe, ample and convenient water supply may be the most important single step that can be taken in the interests of good health, especially for women.

IV. THE COST OF URBANIZATION

ONE OF THE consequences of rapid urbanization has been the development of squatter settlements or informal settlements on illegal sub-divisions around cities. Shelters in such settlements are often constructed of tin, cardboard, waste wood and other temporary materials. Even though most governments are aware of this situation, they remain unwilling to do anything, arguing that the settlements are illegal, which therefore releases them from the responsibility of providing services or, due to a lack of funds, they claim that they are unable to do very much. The estimated total cost of providing water and sanitation alone throughout the world is between US\$ 3 and 5 billion a year. Although the inhabitants of these settlements often develop some basic forms of infrastructure and service themselves, their meagre and uncertain financial resources cannot provide for electricity, running water, sewerage, and roads. A woman in Guayaquil, the largest city in Ecuador, described living conditions in the settlements built on stilts over a tidal floodplain connected by catwalks - where more than half the city's population lives:

"... To live on the catwalks without light, without water, without anything, was excessively terrible. To live in hope that friends from outside would help to get water was terribly difficult. Often there would not even be a drop of water to drink. Because if one wanted to eat one would have to bring the tank of water from over there, and they charged so much for bringing it here in a canoe. When my husband

19. Commentary from one of the residents of Indio Guayas in Guayaquil in Moser, Caroline O.N. (1987), "Mobilization is women's work: struggles for infrastructure in Guayaquil, Ecuador", page 173 in Moser and Peake (1987), see reference 5.

20. WHO (undated), see reference 6.

21. UNCHS (1985), see reference 4.

22. UNCHS (1985), see reference 4.

had time he sometimes carried it. I did not carry any because I was afraid, because those catwalks were very high and they would often collapse. Women would fall off and they would injure themselves, they would get sticks stuck in themselves and get, what do you call it, gangrene. Two women died of that.."⁽¹⁹⁾

Certainly, women in this community, like many others throughout the world, have suffered because of little or no access to an affordable, reliable water source.

The use of standpipes and pumps, which provide the best means of adequate quantities of safe water, offers another alternative to water needs. Yet, as in Central America, many pumps, designed for men, are broken or unused because the handles are too high and heavy for many women to manage.⁽²⁰⁾ According to one estimate, even where the pumps are functioning, 15 trips to the standpipe would be required to provide each member in a family of five with the average five litres of water a day needed for cooking and drinking, and to provide 5-45 litres for bathing and cleaning. For women in Mexico living up a steep hill about 500 metres from the nearest pipe, a journey to obtain enough water to wash 12 items, after waiting in line, could take as much as an hour and a half.⁽²¹⁾ Often, there are too few standpipes in relation to the number of families in a community.

From this discussion of the problems of obtaining water in irregular settlements, it is clear that:

"...Women have to spend a great deal of their time and have to go to a great deal of trouble to ensure that their needs are met, even if inadequately. If water cannot be found, or a household worker has not got the time to fetch it or boil it, people go thirsty, personal hygiene suffers and there is a greater risk of becoming ill. Water is vital to daily survival and most women work long days to compensate for the lack of a reliable domestic supply."⁽²²⁾

V. WOMEN IN WATER SUPPLY AND SANITATION PROJECTS

"..AN ADEQUATE WATER supply of safe and potable drinking water assists in preventing the spread of gastro-intestinal diseases, supports domestic and personal hygiene, and provides an improved standard of living." Principle 1.1 of the World Health Organization's "Health Principles for Housing".

Non-governmental and inter-governmental organizations, and governments at all levels have been building latrines, digging wells, laying pipes and installing pumps. But in many areas, existing water and sanitation projects are insufficient not only because of a lack of resources but also because of a lack of training, poor design of equipment, and a lack of understanding of the people, and this includes women - the main water users and overseers of sanitation facilities. For water and sanitation projects, changes are needed in hardware (equipment, supplies, machines, the drills, the pumps, the concrete for latrine slabs, the mechanisms for disposal of excreta and waste water, the water pumps and disinfecting chemicals) and software (education and logistic questions). Women can and should have a vital role in both through training. To ensure that water and sanitation projects are successful and can be maintained, the entire

community must be involved at all stages of planning and implementation. A Sri Lankan planner, in describing her experience of designing a public toilet, provides another example:

“...Looking at the plan, in the design of which I had been involved, suddenly something struck me as strange. Six toilet cubicles at the right, six at the left, equal (enormous) size septic tanks on both sides, and two equal size bathrooms of the same design with two taps each attached to the block; the same provisions, the same design for both men and women. It did not make sense! Clearly, the requirements and needs of the two ‘gender’ groups differed. Men (in Sri Lanka) require less privacy than women; women must use the bathroom also to bathe their children and to do their laundry; more women than men are present at the settlement during the day. It was only logical to expect different designs on the two sides of the public facility. So why were they the same?”⁽²³⁾

Sensitivity to the differential impact of development projects on men and women is thus an important step in project planning.

“...Men and women play different roles in society with gender differences shaped by ideological, historical, religious, ethnic, cultural and economic determinants. These roles show both similarities and differences across and between classes as well as societies. An understanding of the social construction of gender relations also recognizes that because men and women play different roles in society they often have different needs. Planning at the level of the household or family does not necessarily accommodate these needs. Therefore in the examination of gender and human settlements, and the planning of housing policy, it becomes important to disaggregate within families and communities on the basis of gender.”⁽²⁴⁾

Obviously, women’s approval and acceptance of the design of a water or sanitation system is essential not only for women but for the entire community. Knowing the water sources and quantities that are available during dry and wet seasons, and through their experiences as water-drawers, women can provide information on the most efficient use of these resources. In a village in the Philippines, for example, information of a short-cut leading from the village to the spring resulted in the extension of service to an additional eight villages with the leftover piping.

While in many countries community involvement has increased, women’s participation and exposure to information is still limited. This is often due to a lack of women’s groups and the failure of community leaders and planners to make information and work opportunities accessible to them. Some of the barriers to involving women at the planning stage of projects include: 1) illiteracy, which makes written information inaccessible; 2) restricted mobility beyond the work area; 3) holding planning meetings during the day when childcare and household chores make it difficult for women to attend; and 4) the practice of visiting agencies to call only on the elders and men’s groups to make presentations. Clearly, there is progress to be made in including women at this level.

Inter-governmental organizations are becoming more sensitive to their role in helping women to become part of development activities. The World Bank is placing greater emphasis on helping women progress, recognizing that development cannot proceed by ignoring

23. Institute for Housing Studies (1988), *Newsletter*, Vol. 3, No. 2, page 3.

24. Moser, Caroline O.N. (1987), “Introduction”, page 6 in Moser and Peake (1987), see reference 5.

25. UNDP (1992), *Human Development Report*, Oxford University Press, New York and Oxford, table 5.

women. UNESCO is embarking on a major literacy campaign to offset illiteracy among women. For example, in 1990, female illiteracy was 53 per cent in Haiti, 29 per cent in Bolivia, 53 per cent in Guatemala, and 87 per cent in Nepal.⁽²⁵⁾

One way to elicit information from women, and especially those who are illiterate, is through household surveys. It is critical, however, that no assumption is made that they are part of a nuclear family. In homes where men are present, separate interviews should be done with women so that men don't assume the role of speaking on behalf of the family, since it is not usually the man who is involved in the daily activities. Moreover, with men present, women may be inhibited from discussing personal habits.

Women should also have a very important role in the project implementation stage. Participation by women in implementation can enhance their self-confidence and teach them new skills which give them an economic advantage. It can project the spirit of the changing role of women among other participants. During the construction phase of a project, women can be motivated to contribute materials which are locally available (i.e. bricks, sand, stone or timber), further solidifying their involvement in the project and thereby projecting a sense that the new facilities belong to the entire community. Presumably, better care will be taken of the facilities as women learn how to maintain them.

Furthermore, men and women sharing in the responsibilities of operation and maintenance ensures the effectiveness of water supply and sanitation projects. For example, in Malawi, after a water supply system was completed, "tap committees" composed of mostly women were organized to enforce water-use rules and to care for the tap, its surroundings, and the replacement of washers and broken tap parts. After a year, such community maintenance resulted in an average of nearly 90 per cent level of service.⁽²⁶⁾ The education of the community to use clean, closable containers is vital if one is to keep carried water protected both in transport (in movement) and storage. Removing structural barriers and reducing contamination from unsanitary human and animal behaviours through treatment such as filtration and chlorination are further operational ways to protect the water supply. In addition, the continual testing of water samples for micro-organisms is important, although this information is only useful if it is widely disseminated.

Women can be especially effective in disseminating information to other women. Besides the basics of health education (i.e. the correlation between water, sanitation and disease, how to change behaviour and how to secure soap and clean water), women also need to know:

- * how to detect problems;
- * how to repair equipment;
- * when to seek outside help;
- * how to protect water sources;
- * how to keep latrines clean;
- * how to keep food safe;
- * where to wash clothes, and so on.⁽²⁷⁾

26. UNCHS (1985), page 13, see reference 4.

27. WHO (undated), see reference 6.

In summary, the more women are involved at all levels of water and sanitation projects, international, national and local goals of improved health and a higher standard of living for all are more likely to be met. The money, time, and lives saved through clean, accessible water and

proper waste disposal make their provision imperative. Surely, no one has more to gain, or lose, through these projects than women.

VI. CONCLUSIONS AND RECOMMENDATIONS

A NEWSPAPER ARTICLE about women in Bangladesh, chronicled the changes in the life of a Bangladeshi woman since a tube well was installed in her village. This simple statement tells the story: "Before, I had to walk a mile, three or four times a day, to get my cooking and drinking water, which was not pure. This water is good to drink, and now I use the time I save for spinning thread."⁽²⁸⁾

It summarizes three main points brought out in this paper:

- * that the lack of clean and accessible water dooms women to poverty and sickness;
- * that the time and energy required to obtain water for basic daily needs consumes time which could be well spent on economic pursuits; and
- * that women throughout the world are anxious to improve their situations when not limited by social and technological restraints.

As a means to that end, the International Drinking Water Supply and Sanitation

Decade in conjunction with World Health Organization's Programme of "Health for All by the Year 2000" has defined the following goal:

"...To provide safe drinking water and adequate sanitation services to the greatest possible number of inhabitants by 1990, and [to extend] access to drinking water supply and excreta disposal services to 100 per cent of the population by the year 2000 and to promote and strengthen economic and social development..."⁽²⁹⁾

Given the aforementioned discussion and research findings, we believe that women's goals in this effort can be achieved through the implementation of six recommendations:

- (1) Recognize and respect all the roles women perform as contributing members of society;
- (2) Compile gender specific statistics and information which can be used in decision-making phases of development projects;
- (3) Incorporate women's needs and aspirations, as well as social traditions and local customs, in technological designs and plans;
- (4) Encourage women's activity in the "hardware" of programmes to enhance income-generating skills;
- (5) Encourage the organization of women's groups at the local level and improve coordinating with national and international groups;
- (6) Make development information available to women by educating men at the local level of the importance of women's participation in the community, and by stepping up efforts to combat illiteracy.

28. Helmore, Kristen (1989), "Banking on a better life", *Christian Science Monitor*, 15 March, pages 12-13.

29. WHO (1982), *Strategy for WHO's Participation in the International Drinking Water Supply and Sanitation Decade*, World Health Organization, Geneva, EHE/82/29 Rev. I.

Lastly, it is only through a sustained programme to provide safe water, adequate sanitation and drainage, appropriate waste disposal, and acceptable housing that women in Third World countries can experience improved physical and mental health.