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## Household water resource management and related health issues: Women's perspective

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### Abstract

In most societies, women have primary responsibility for management of household water supply, sanitation and health. Water is necessary not only for drinking, but also for food production and preparation, care of domestic animals, personal hygiene, care of the sick, cleaning, washing and waste disposal. This paper highlights the women's participation in household water management, related problems including health problems they encounter, differences in the approaches and sensitivity of men in the context of water management. Recent status of women in water resource management at panchayat level and municipality level, their health status have been discussed. The role of women in water resource management is unquestionable. In household condition often there are imbalances between the available water resources and the daily demands. For this the effective water resource management is very important and the women play a vital role in this regard. Their full participation is therefore essential to achieve sustainable development of the water resources and maintenance of family health, hygiene and sanitation system. If women are interested and encouraged for taking action in water resources management they can.

**Keywords:** House water resource management, health, women

### 1. Introduction

Water is an essential resource for all life-forms on the planet. On the earth only three per cent of the total water resources are fresh water and two-thirds of it is locked up in ice caps and glaciers. Of the remaining one per cent, a fifth is in remote, inaccessible areas and water from seasonal rainfall and floods cannot easily be used. At present only about 0.08 per cent of all the world's fresh water (Fry, 2008) <sup>[6]</sup> is exploited by mankind and the demand is increasing for sanitation, drinking, manufacturing, leisure and agriculture. For household use water is obtained from rivers, lakes, ponds, community wells, tube-wells, municipality water supply, etc.

There is a clear link between the lack of access to clean, safe water and a host of diseases that attack the poor as well as people at all levels in developing countries. While contamination and exposure to water-borne diseases affect men and boys as well as women and girls, the latter's disadvantaged health status and their traditional role in the collection of water, leaves them particularly vulnerable to the health consequences of inadequate safe water (Orissa State Water & Sanitation Mission, 2007).

India with 2.4% of the world's total area has 16% of the world's population but has only 4% of the total available fresh water. (Chaturvedi, 2011) <sup>[3]</sup> This clearly indicates the need for water resource development, conservation and their optimum use. The crisis of access to adequate and safe water for drinking, agriculture and livelihood activity has gained currency in recent years. Improved management of water resources will have a major impact on India's social and productive progress. Nowhere this is more important than in the area of child health. Studies show that 45% of India's children are stunted and 600,000 children under five die each year, largely because of inadequate water supply and poor sanitation. Improving water supply, eradicating open defecation, improving nutrition child morbidity and mortality can be reduced.

Better management of water resources also will help to sustainable food security. The UN's Food and Agricultural Organization estimates that total water demand will equal water availability by 2025 (Prakash, Sharma and Chourey, 2013) [15].

Problem of imbalances between the available water resources and the daily demands of the household is very common today. So, the effective water resource management is very important. In this regard, the role of household women and their full participation is very essential. In most societies, women have primary responsibility for management of household water supply, sanitation and health. Water is necessary not only for drinking, but also for food production and preparation, care of domestic animals, personal hygiene, care of the sick, cleaning, washing and waste disposal. The role of women in water resource management is unquestionable.

## 2. Objectives of the study

Objectives of this study are given below

1. To understand the extent of women's participation in household water management.
2. To understand the problems including health the women encounter while managing the water in and out of their houses.
3. To trace the possible ways to overcome these problems.
4. The recent status of women regarding water resource management.

## 3. Need for the study

One of the biggest concerns of our water-based resources in the future is the sustainability of the current and even future water resource allocation. As water is becoming more and more scarce, then how it will be managed is gaining more importance. Finding a balance between what is needed by humans and what is needed in the environment is an important step in the sustainability of water resources. For this, effective water-resource management is of critical and urgent importance. This attempt starts from the household sector to the community, panchayat, municipality level respectively. In this regard women as indispensable participant in the household work are needed to take significant roles and responsibilities in water resource management. Although women take many initiatives in household water management, they face many health problems and they are still needed to be encouraged, their status is required to be improved so that they can actively participate in decision making role in water resource management.

## 4. Why women are the main participants in household water resource management?

The male members of the family remain outside of the home for most of the time on account of earning livelihood. So, most of the household works including child care and water management becomes the primary responsibility of the housewives. Moreover, in many cases, the women who are engaged in some jobs have also the burden of bearing household works in rest of the time in spite of the presence of the male members of the family.

## 5. The traditional role of women in water resource management in India

Women in India are considered the provider of water of their family. An average household, in developing country

like India, consumes about 40 to 60 litres of water daily for drinking, cooking, bathing, cleaning and washing, where uncontaminated water is a necessity. In addition, raising children requires pure water and water for sanitary purpose. Women are also key participants in farming. In some states water for irrigation is obtained through electric or diesel powered pumps, irrigation canals and in rest of the states, water has to be manually collected from far away sources like wells, ponds and fountains. This manual drawing of water from faraway places is mostly carried out by the women folks of the family. For their reliance on water, Indian women exhaust ample time and health to supply their needs. To meet these needs the women have to perform the following tasks.

**(a) Fetching of water:** Fetching water is an extremely hard task. In water scarce area, Indian women can take up to six trips a day to gather and transport water. In rural regions it is average ten miles a day, carrying up to fifteen liters every trip. The women load jars or buckets on their heads to carry water. In some mountainous regions women spend up to 27% of their caloric intake in fetching water. Many traditional rural water sources have become contaminated as a result of human and animal waste and agricultural activities. Especially during the dry season, rural women often collect their water from contaminated sources. In cities the condition is comparatively better. Here the women fetch water from tap, tube well at home or wait in queue for long at the communal water points to have the municipality water tank service.

**(b) Purification of water:** After fetching the water, women perform the task of water purification in various ways to maintain the family hygiene. The methods they follow are:

1. Boiling
2. Chemical treatment like Chlorine/Halogen treatment and Iodine treatment
3. Filtration
4. Geoline treatment
5. Arsenic removal (Curtis, 1998) [4].

**(c) Harvesting of water:** Due to rainfall fluctuations, frequent draught, wastage and other causes, water shortages are common in both urban and rural areas of India. In these situations women play an important role through rainwater harvesting by collecting rainwater and storing it for use in the dry season. It can provide family as well as community with greater water security (Mkandla, 2014) [11].

## 6. Problems including health faced by the women due to water management

Women face the following problems during water resource management:

**(a) Access to water:** It has been found that an average household in developing countries consumes about 40-60 L of water for daily household works. To meet this necessity, women and children have to make several trips to water-collection points, sometimes involving several hours. In some mountainous regions women spend up to 27% of their caloric intake in fetching water. During the dry season, rural households often collect their water from sources contaminated with human and animal waste and agricultural runoff (Wikigender, 2014) [19].

**(b) Distance and Time:** Collecting water is often the most time-consuming and important daily activity for women and young girls in developing country like India. Children and women walk distances of less than half a kilometer or more than two kilometers carrying water on their heads or hands. They spend a lot of time in queuing at improved and unimproved water points. As a result of carrying water they suffer from prolonged fatigue, chest pain and headache etc. Women and children often become distressed by the dangers of verbal and physical assault at these water points (Asaba, Fagan, Kabonesa and Mugumya, 2013) <sup>[1]</sup>.

**(c) Water Quantity:** In the water scarcity area, the precious, small amounts of water gathered are often only used for drinking and food preparation, leaving little hope for disease-fighting hygienic practices like hand washing, linen washing, etc. Too little water for proper hygienic behaviors perpetuates harmful bacteria, which are a major cause of diarrhea disease, sickness, malnutrition, and death. Women bear the majority of these burdens as the care giver in the family. Such situation is also reported in underdeveloped country like Africa (Wikigender, 2014) <sup>[19]</sup>.

**(d) Water Quality:** In many places, the available water source, even at a great distance, is contaminated. Many women lack access to enough fuel to boil and treat the water. Additionally, many times new technologies for water treatment are taught to the men in the community and the knowledge remains unshared with the women who manage the water collection and storage for the family. This hard-earned water, if left untreated, has the potential to infect small children and elderly adults with fatal illness. Furthermore, open drains and disposal of solid waste near sources of water may lead to presence of ammonia and coliform bacteria in the drinking water source (PEO Planning Commission, Govt. of India, 2010).

**(e) Health and Diseases:** The weight of the water women carry, added with the distance to water sources, creates fatigue, back, feet, and posture problems, pelvic deformities among women and girls and also exposes them to a greater risk of malnutrition, anemia etc. The heat increases their exhaustion. Women's reproductive health is also affected. In some cases spontaneous abortions take place.

Sometimes women are at a higher risk for infections due to their frequent contact with contaminated water. Trachoma, a water-conveyed disease that can lead to blindness, is transmitted through contaminated water where women gather. Women and girls collecting water are also susceptible to diarrhea, hepatitis A, and leptospirosis, a bacterial infection from water that is tainted by animal urine. Washing clothes, bathing children, drawing water from surface sources, and, in some regions, working in flooded rice fields all increase rural women's risk of exposure to disease-ridden water sources.

**(f) Education:** The huge burden of fetching water hinders women and girls' participation in activities such as education, politics, business, and recreation. In rural areas girls often drop out of school to help carry out the burden of moving water. Consequently, they miss classes and lag behind enough in school and in extreme cases they are compelled to abandon their education midway. Another basis for their low attendance is due to a lack of sanitation

and water systems at their schools during the monthly menstruation cycles.

**(g) Gender differences:** Women and men assume distinct responsibilities in using and managing water and water systems. In most societies, women and girls collect every litre of water for cooking, bathing, cleaning, maintaining health and hygiene, raising small livestock and growing food. Rural men need water for irrigation and larger livestock, but women often care for the milking cattle and young animals. They also oversee family health. Because of these different gender roles, women and men have different stakes in water use (Bulos, 2012) <sup>[2]</sup>.

**(h) Decision-making related to water use:** As they are in charge of procuring water for their families and communities, women have a much deeper relationship to essential water resources, they know the locations of all the available and seasonable water sources as well as which water source is safest. Yet in many places around the world their knowledge and hard work is ignored when it comes to community decision-making around the provision of clean water and sanitation strategies. Women's limited decision-making influence over household finances may make them reluctant to suggest greater expenditure on improved access to water, particularly if this expenditure would primarily benefit the women by easing the burden of their household work.

Women's capacity to have input into water-resource use and management is further hampered by their lack of exposure to the basic knowledge of science and understanding of the technologies regarding water resource management. To make informed choices and decisions, potential beneficiaries of water systems should have basic knowledge and understanding of the technologies involved. Women are particularly disadvantaged because of their lack of confidence about technological matters and because of negative male attitudes towards female technical knowledge. (Wikigender, 2014) <sup>[19]</sup>.

## 7. How these problems can be overcome?

The above discussed problems regarding water resource management confronted by the women may be overcome by the following suggested ways:

**(a) Providing easy Access to safe water:** Government schemes should be implemented properly to secure potable and safe water resources.

**(b) Developing awareness:** Women should be made aware of the importance of preventing contamination of water and also of the importance of clean and healthy surroundings near water sources. Effective campaign by civil society will play an important role in spreading awareness.

**(c) Accountability:** Women should also realize their individual responsibility in maintaining the quality of water supplied to them (Khurana and Sen, n.d.).

**(d) Empowerment:** Women may be empowered so that they can play the key roles in the water resource management and maintenance of water related health and hygiene. Empowerment may be through building confidence among them, providing education including training for

water related technical skills, woman by creating notions of self-worth and dignity, bodily integrity, control and influence over household and public resources and experience with or appreciation of the value of collective effort and solidarity among women.

**(e) Economical Independence:** Women must be given opportunities to become economically independent so that they can take their own decision without seeking permission from their male family members.

**(f) Through the positive promotion of the values of women:** Traditional beliefs of people rooted in our society such as women are weak, sexual objects etc must be changed through the positive promotion of the values of women. We must rear our daughter with opportunities to develop their decision-making skills and provide equal access to the quantity, quality and type of education as sons. (Guha, 2010)<sup>[8]</sup>.

**(g) Health Education:** (i) Promoting the involvement of women in sanitation and hygiene education programs, (ii) Incorporating gender-sensitive hygiene education in school curricula and ensuring the provision of separate sanitation facilities for boys and girls in all schools and (iii) Incorporating gender-sensitive hygiene education in school curricula and ensuring the provision of separate sanitation facilities for boys and girls in all schools. Promoting sanitation and hygiene education and awareness, including through social marketing and public information campaign such as Water, Sanitation and Hygiene for all (wash), and improving understanding of the linkages among sanitation, hygiene and health. (Anonymous, 2015).

**(h) Implementing policies and programs:** The provision of clean drinking water has been given priority in the constitution of India, with Article 47 conferring the duty of providing clean drinking water and improving public health (Khurana and Sen, n.d.). The central government introduced a variety of policies and programs throughout the Five Years Plans to address the issue of the drinking water. For instances, national water supply and sanitation programs, Accredited Rural Water Supply Programme, Rajib Gandhi National Drinking water Mission (RGNDWM), (Anonymous, 2010).

## 8. Recent status of women in water resource management

**(a) Improvement in Women's Condition:** An evaluation study on Rajib Gandhi National Water mission, 1991 launched by Government of India shows that in 75% cases as there is increase in water availability, there is reduction in work load by women. It is almost 95% in Himachal Pradesh where as in west Bengal it is 59.8%. 75% of the women have admitted the significant reduction in fatigue experience due to reduced work load. The positive impact is highest in Himachal Pradesh (97%) and in West Bengal it is 59.8%. Due to reduced work load and fatigue experience there is increase in women's participation in various community activities. In Himachal Pradesh it is highest (96%) and in West Bengal it is 58.8%.

**(b) Improvement in Health Status:** The evaluation study also have reported a little positive impact on the overall health status of families in households due to increase in

water availability. They are not now required as frequently to spend time and money in travelling to health facilities and are able to save money spent on doctor's fee and for medicines (PEO Planning Commission, Govt. of India, 2010).

**(c) At Panchayat level:** In some village panchayats the women has started a revolution in water management. For example at Rajasthan a water management council naming "Paani Panchayat" has been established by the Rajasthani women. They are motivated to conserve every drops of water within their panchayat and to fight against water crisis in their villages. West Bengal is not far behind, there is the "Sanitary mart" strategy in East Midnapore, where, Involvement of women panchayat leaders made the total sanitation campaign successful (UNICEF, n.d.).

In Tamil Nadu a wonder woman named Backlam, a water and sanitation promoter in Pallandanpatti Panchayat in Viralimalai block of Pudukkottai district is trained on various aspects of sanitation and personal hygiene and she trains the village children. She also solves any doubts by villagers on anything related to sanitation. She advises them how to construct a toilet or get individual water pipe connection for their homes and so on (Gopalakrishnan, 2013). Similar example is from Malhanpura village of Jalaun district in Uttar Pradesh, where women formed a 'water committee' or 'Paani Panchayat' to make their life less burdensome by working on issue of water access (Philipose, 2013)<sup>[14]</sup>.

**(d) At Municipality level:** In some urban municipality areas a number of women are actively participating in water resource management programmes. Such women's organization and entrepreneurs have improved their skills in management, negotiations, lobbying, governance, resource mobilization for water and sanitation related issues. These activities have increased the access to water and sanitation services for the most poor mainly women and child-headed household. But the participation of women is restricted to a particular level. Poor women living in slums and informal settlements still need to know about and understand legal systems related to water and sanitation if they are to claim their rights (UN-HABITAT United Nations Human Settlements Programme, n.d.). For example, Nehar ka Nagla, a suburb at Agra in Uttar Pradesh, where six women came up from slum area and formed a self-help group (SHG), called Nai-Asha Swaya Sahayata Samuha, with the aim to provide clean drinking water to their neighborhood (Deepika, 2013).

**(e) Changes in intra-household decision-making:** Some improvements in women's involvement in household decision-making in male-headed households on water resource management are being seen. But till now, the traditional gender-based divisions persist in intra-household decision-making. In the case of mobility and social interaction there is greater improvements among women heads of households, older women, and more educated women. They are now taking potential role in water and related hygiene management. (IFAD, n.d.).

## 9. Conclusion

From the above discussion it is found that women play a key role in local water management – they have considerable

knowledge of water sources, availability, quality, and conservation techniques. The present study highlights the work, efforts and skills that women put into the management and use of water in household conditions as well as in community, panchayat and municipality level. They not only perform numerous roles in the household but also take responsibilities of keeping health and hygiene of their families through water resource management. They regularly confront many problems in terms of access to water, education, participation in decision making, gender differences and capacity etc. These pose extra burdens on them. In spite of these problems, women are coming forward to share their role in more effective way regarding water resource management for sustainable development. Indian Government also applying many policies and programmes for providing adequate safe drinking water and water for other household works, sanitation, maintenance of health and hygiene. These are working gradually. As women's empowerment status is not much satisfactory till now, they have to take more interest in this issue. Once they show interest that will provide a platform for empowerment, training and active participation in the field of water resource management. If women have the tools and technologies in their hands, the strategies to transform their knowledge into livelihoods, and the willingness to challenge stereotypes, they can thrive and have the power to transform their burdens into opportunities. Improved and safe water supply not only reduces the burden of domestic tasks on women, but also reduces the incidence of water-borne diseases in the household.

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