

Conversation and Management of Water Resources with Women Empowerment

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1. Introduction

Water is the basic need of human life. Water should be sufficient in quality and quantity, but today the thirst of cities and factories continues to increase mainly because of the growing population. We seek to manage water because it is a necessary, finite and precious resource. It is crucial to human life and to all life of human dignity. Without access to sufficient water neither women nor men can live with dignity of health. We also manage water because it is a fundamental ingredient of social and economic development and to the ecosystems on which we depend and of which we are a part.

One has to realize the need and importance of conservation of water. Conversation and management of water resources are advocated even in ancient times when there was not much pressure on this resource. This is evident from the following verse as quoted from Atharva Veda:

“Aapoyadvastapsten tam pratitaptayosmandweshti yam wayamdwishmaha”-AtharvaVeda II, 23.1 i.e. water of river, well, pond etc if used and managed efficiently will reduce the intensity of drought and scarcity. Conservation is defined as preservation against loss of waste. Technically conservation of water implies the same meaning in a much wider perspective, briefly stated, it means putting the water resource of the region for the best beneficial use with all the technologies at our command. In other words, surface water running down to sea should be stored to the maximum extent, evaporation and other losses minimized and benefits spread to the priorities like drinking, irrigation, industrial use etc. Water conservation basically aims at matching demand and supply. The strategies for water conservation may be either demand oriented or supply oriented. The strategies may vary depending upon the field of water use- domestic, irrigation or industrial. Some of the supply oriented strategies such as creation of storages, long distance transfer and control of water loss through evaporation are generally common to all the fields of water use whereas the other may be applicable only to specific field.

2. Study Region

The following measures may be adopted to conserve and manage water resources of the study region. These are:

a) Rainwater harvesting

Water harvesting consists methods to manage the water. It is collected in rivers, tanks and check dams to improve the water condition. In this activity the water has seepage into

the earth and improves the water level. Water harvesting has an impact on the quantity and quality of ground water.

b) Waste Water Treatment

Waste water treatment facilities are expensive and appropriate technology choices must be made based on waste water. The initial capital costs of Activated Sludge Treatment Plant (A.S.T.P.) and Upward Anaerobic Sludge (U.A.S.) technologies are higher but their land requirements are lower. It is clear that water quality management strategy has to be held on several approaches simultaneously to address the problems.

c) Reuse Of Water

After proper treatment, waste water can be used for irrigation, industry, recharging ground water and even for municipal use. If agricultural lands are located close to the cities, Municipal waste water can be easily used for irrigating the crops. Industrial waste water may also be used for irrigation purpose after proper treatment. Municipal waste water can also be used for industrial purpose after treatment.

d) Technical Factor

The national Drinking Water Mission (NDWM), popularly known as Technology Mission, was launched 1986. The basic objective of the mission is to provide sustainable supply of 40 liters per day safe water for human consumption. CSIR was identified as the main scientific research organization which could contribute the maximum water technologies and training to provide input in water quality testing and analysis.

The role of Women in Water Management

The role of women in water management at whole level has been alarming as water supply schemes have widely recognized. It mainly leads to more sustainable project, but the role of women in water at the national and international level is still weak. Women play a central role in managing and safeguarding the water resources. Women should be involved in water resource management because inadequate management has impacts specifically on women. Firstly, it is obvious that women and female headed households are access or water for food production, thus has impact most severely on this group.

Women have to walk long distance to fetch water. Domestic water schemes rely on good water resource management and when domestic schemes fail the impacts are felt disproportionately by women, who assure the major responsibility for fetching water for preparing food and tending to be sick. They can save water pollution by safe proper management.

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Water supply did not necessarily empower the women in the communities, but they did create an opportunity for women to become empowered should they wanted to. The biggest obstacles to women becoming empowered were their own attitude and lack of confidence in their abilities. This was exacerbated by the attitudes of the men, which were closely linked to the traditional culture and belief that men are superior to women and therefore the decision-makers.

Traditional culture (norms and values) was voiced by the women in the villages as a major barrier to becoming empowered. The process of cultural change was already well advanced and traditions were changing as demonstrated by the expressed willingness of the men to allow women to make decisions and to participate in the management of services and projects.

Another major barrier was the fact that most women in the villages were illiterate and had not received any formal education or training. However, the training did not impact on the empowerment of the women as it was technical training and did not afford the women the opportunity to influence decision-making or take part in the decision-making process.

The time constraints women have as a result of their household duties can also be barrier to their empowerment. Linked to this is the lack of access to resources such as money, transport etc. for the women in the villages to attend meetings, training courses or planning sessions.

3. Objectives

The major aim of present research work is to find out various possible alternatives for proper development of conversation and management of water resources with the role of women in water management.

The main objectives are:

- To analyse the public and private water supply pattern and distribution of water sources in relation to area a population.
- To investigate the various uses of water for domestic, industrial, municipal, commercial and others in terms of requirement and supply.
- To measure the problems of water scarcity and water pollution.
- To maintain sanitary conditions so as to promote health and wealth of people by preventing water borne diseases.
- To examine the government's policies and programs in respect to drinking water.
- To suggest a new plan for optimum utilization of water resources and their management.
- To analyse the role and impact of women's involvement in water supply and sanitation projects.
- To analyse the impact of women's involvement in water supply on the empowerment of women.
- To assist in the development of strategy for the enhancement of the role of women in water supply.

4. Methodology

This Research was launched to provide the government, international agencies, developers/ implementers and policy makers with information and guidelines regarding the involvement and participation of women and men in water supply. The process of a project, and the policies implemented, has great impacts on how men and women act in normal life. Instead of increasing the divide between men and women, policies regarding gender roles and responsibilities in water supply should seek greater co-operation between the sexes in achieving the mutual goals of providing a basic service, alleviating poverty and securing the environment. This studies role of women in water supply.

5. Literature Review

a) Development internationally

Development is concerned with enabling people to take charges of their own lives, and escape from the poverty that arises, not from lack of productivity but from oppression and exploitation. The central issue of women's development is the empowerment of women, to enable women to take an equal place with men and to participate equally in the development process in order to achieve control over the factors of production on an equal basis with the men.

b) Water supply and women's roles

Work can be divided into three main categories and women's encompass work in all these categories. Productive work involves the production of goods and services for consummation and trade. Reproductive work involves the care and maintenance of the household and its members, including bearing and caring for children, food preparation, water and fuel collection, shopping, housekeeping and family health care. Reproductive work is crucial to human survival but is seldom considered real work. Reproductive work is almost always the responsibility of women and girls. Community work involves the collective organization of social events and services, ceremonies and celebrations, local political activities, community improvement activities etc. The role of women is taken for granted and given relatively little recognition.

6. Results and Discussions

In this research rainwater harvesting, waste water treatment, reuse of water, technical factor, the role of women in water management measures may be adopted to converse and manage water resources or the study region.

Rainwater harvesting, there are a source of recharge of shallow wells, this water is generally of good quality and is major source of drinking water for the residents the dry season.

Waste water treatment facilities are expensive and appropriate technology choices must be made based on waste water. It is clear that water quality management strategy has to be held on several approaches simultaneously to address the problems. Four such approaches may be highlighted below:

- **People's participation:-** Involve local people on water management, provide information to public, initiate water conservation awareness campaign.
- **Institutional arrangements:-** Strengthen control and state pollution control boards, empower municipalities to control pollution, involve private sector in water supply, waste water collection and treatment in urban areas, build clean water technology, time bound programme to cover towns and cities with sewage treatment.
- **Cleaner technologies:-** Introduce cleaner technologies, reuse and recycling of water in industry, reduce municipality's water use through water conservation technologies, encourage integrated pest management practices, encourage use of vermiculture and organic manures, cheaper technologies for treatment of domestic effluent.
- **Economic incentives:-** Price of water should reflect its scarcity value and environmental costs, reduce water use through pricing, operationalize polluter pays principle through tax based on pollution load rather than on water consumption, higher credit rating for green industries, reduce subsidies on fertilizer and pesticides.
- NGOs, business groups, local economic considerations, political decisions and sociological aspects which together regulate various environment issues related to each other and may not be possible to view water pollution in isolation of other aspects of degradation or our environment.
- **Law:-** Many law or situations related to water pollution (at world level) can be summarized as under-1987: Agreement on the action plan for the Environmentally Sound Management Of Water Resources in Daube basin. 1974: Water Prevention and Control Of Pollution Act. 1986: Environmental Protection Act. Montreal guidelines for protection of marine environment against pollution from land based sources. 1972: Conversation On The Prevention Of Marine Pollution By Dumping Of Water And Other Matter. The following recommendations for establishing a global strategy and also recommendations for strategy for India at the national, State and Local level for conversation and management of urban water bodies, may be made.
- **Reuse of water:-** Municipal waste water can also be used for industrial purpose after treatment, In any reuse scheme major constituents of waste water like pathogenic bacteria and viruses, parasite eggs, salts and nitrates have to be completely removed.
- **Technical factor:-** The prime role of CSIR in Rajiv Gandhi National Drinking Water Mission is to enhance performance, speed and cost effectiveness of current technologies, practices used for the supply of drinking water quality assessment of water, ground water exploration and related water management in selected districts. The following are some of the vital aspects of technologies programme as recommended- The agency should have the sole responsibility within the health authority for providing surveillance services to protect the public from water borne diseases and other hazards associated with water supply, Water quality surveillance should be integrated with other health measures, especially sanitation, To provide specialized knowledge, the agency should include personnel, trained in matters, such as sanitary engineering, community health,

epidemiology, chemistry, biology etc. Health authorities should possess centralized laboratories and other services which can be advantageously used for the conduct of programmes surveillance of water supplies. Periodic reports should be published regarding the public health situation of the water supplies.

- **Women role :** The women also showed a tendency to push the men to the fore when interaction had to take place with people from outside the community. Literacy and education were valued highly by the community members. The focus of the young girls and the women was on the family and the household, The workload of women and girls was also such that they did not have time to attend schools or training courses. Women who were educated were more confident about participating in the projects and decisions-making processes. In the villages where women performed key roles such as chairperson or treasurer on a committee, they were normally active and respected in the community before the start of the any project. This led to the acceptance of the any project by the community, which is a necessity for the sustainability of any project.

7. Conclusions

The women were not entirely excluded from making decisions during any project planning and implementation, but the involvement of the women was very informal and unobtrusive. However, even though the women's involvement was almost invisible, they exercised their powers in more subtle ways (at home) in order to sway the decision-making to fit their needs and goals. Water management did not necessarily empower the communities, but it did create an opportunity for women to become empowered as they wanted to. The biggest obstacles to women becoming empowered were their own attitude and lack of confidence in their abilities. The time constraints women have as a result of their household duties can also be a barrier to their empowerment.

Management of water resources recommendations for strategy at global, national and state level are: **Global level:** Work towards the establishment of an international protocol for urban water bodies. Establish an international network of individual and organization, utilization and management of urban water bodies. Call for an international conference to debate and discuss experience related to conversation and management. Establish an international training centre for training in waste water treatment pollution, control and management of urban water bodies. Management of urban bodies in relation to financial, technology, social and ecological sustainability. **National level:** Formulate a national policy to address issues related to urban bodies. An appropriate legal frame work to cover urban bodies. **State level:** Enact the Lake conversation Act which calls for inter department co-ordination and provide a legal frame work with flexibility for implementation of opportunities local solutions including the involvement of civil society at highest level.

8. Suggestions

After analyzing and examining in the various aspects and problems of water resources and women empowerment. A number of remedial measures and recommendations for proper management of water resources and women role may be suggested. There are-

- 1) Various new techniques in the urban system of water distribution such as using special kinds of taps and replacement of air desert coolers etc. should be introduced.
- 2) Partnership between private and public institutions for waste water treatment facilities should be explored to provide domestic water supply.
- 3) Public must be prohibited to wash clothes or bath in rivers and lakes.
- 4) Public work departments should make certain arrangements to control surface evaporation losses.
- 5) The Department of water affairs and forestry already has a policy on gender issues in place. It is necessary that other government departments also invest in developing women role policies and regulations in their areas of expertise.
- 6) This women awareness will encourage women to attend empowerment workshops or courses in order to become more empowered in their own communities.
- 7) While the women awareness programme is being implemented, an empowerment programme for women should be developed so that, when the women awareness programme has run its course, the empowerment programme is already in place to facilities the growth and establishment of empowered rural women.
- 8) The empowerment workshops should enable the women participants to become confident, self-motivated and self-reliant in managing projects and impacting on the other community without being ostracized or looked down upon by the other communities.

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