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Gender Mainstreaming in Water Management

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Abstract- This paper offers an outlook on gender mainstreaming in water management in India by investigating the linkages between 'gender' and selected practices of drinking water management. Experience from several water projects have shown that gender is not mainstreamed effectively if restricted to practices that only try to make women visible or simply add a gender component in an intervention program. One of the successful community owned water project 'Aapni Yojna in 350 villages of three districts of Rajasthan, India is taken up as a case for investigation to analyze the various dimensions of gender in the context of water. Prospects for effective gender mainstreaming in water management will be the turning point on how the principal agenda can address the change of gender relations and water as a human right so as to realize the Millennium Development Goals (MDGs) in developing countries.

I. Introduction

Water is probably the most critical of natural resources in the context of human life. The relation between people and water is primal and has a long history that spans both ancient and current cultures. Restraints with water reflect the cultural values and social differences entrenched in societies, including gender differences. Worldwide, 1.1 billion poor people in rural areas and slums around big cities 70 per cent of them women, still use unsafe drinking water sources. (Source UNDP 1995) Women are most affected by poor water supply.

Gender refers to the errands of men and women and the relationship concurring different roles, responsibility and rights. Gender does not simply refer to women or men, but to the way their qualities, behaviors and identities evolve through the process of socialization. It is generally associated with unequal power and differential access to choices and resources. In Indian society the different positions of women and men are influenced by historical, religious, economic and cultural realities. These relations and responsibilities can and do change over time.

World Health Organization (2009) defines gender as a concept that refers to socially constructed roles, behavior, activities and attributes that a particular society considers appropriate and ascribes to men and women. These distinct roles and the relations between them may give rise to gender inequalities where one group is systematically favored and holds advantages over another.

In developing countries, women and girls spend an estimated 40 billion hours every year hauling water. They spend as much as 8 hours a day carrying up to 40 kg of water on their heads or hips where water is not supplied by a piped system. The age-old social hierarchy in Hindu society has historically positioned women as eternally polluted, feared to pollute sacred water sources (Joshi and Fawcett 2006). The water sources are also prohibited to caste Hindu menstruating women until they are purified on the fifth or the seventh day. If the water level suddenly drops or sources dry up, it is whispered that the water was polluted by menstruating women and purification ceremonies are performed to forgive the pollution and to get purified.

II. Gender Barriers

40 per cent of the world's population lives in conditions of water stress. Competition among users is often goaded by droughts, climatic variation, over-extraction, misuse and contamination. When conflicts arise the most powerful group usually has the advantage when it comes to accessing good quality water. Women are in an especially disadvantaged position in this competition for water if they have little or no water rights. During times of scarcity or increased competition, men's water use often takes priority, forcing women and children to travel further to find water for the household. Women in general have a committed role in ensuring productive uses of household water, though this role is not always recognized. The primary stake of women implies that logically a sound gender approach could bring benefits to water resources management. However, women still face major obstacles in participating in and benefiting from water resources. The main barriers to adoption of this approach are:

- **Gender Sightlessness:** Many men and women involved in decision making relating to water as a common property resource especially in policy making or implementation still question the relevance of gender. They fail to recognize differences in the perspectives of men and women with regard to demands, access and control of water resources and capacities. The primary obstacle is a traditional point of view that assumes that all communities are homogeneous. In reality, it is rather a heterogeneous assortment of individuals and groups who command different levels of power, wealth, influence and ability to express their needs, concerns and rights.

- **Gender Neutrality:** Governments and citizens tend to assume that all government policies and legislation, and their associated budgets and programs are gender-neutral, even though this does not imply:
  - Fairer access to water
  - Participation and empowerment of both women and men

- Gender analysis on the distribution of benefits and impacts of water allocation, use and control

III. Why Gender Matters

When there is no explicit mention and identification of the different roles, responsibilities and circumstances of men and women, boys and girls, rich and poor, the ensuing programs will probably benefit powerful group. A lack of differentiation hides differences in the impacts of land and water rights, education, employment, etc. on women and men. Though many gender stereotypes exist around water and its uses but some of the most common misconceptions are:

- Many women, and ethnic, caste or age groups find it hard to speak out about their water problems and needs. Allowing participation in water management will not remedy this situation alone. In the absence of efforts to promote self confidence and the expression of their ideas, inclusion is far from effective.

- Although some governments have included gender issues in the water agenda, implementation efforts have been insufficient and merely a tokenism. In many projects gender is considered a marginal issue, and gender concerns are relegated to be handled by separate programme officer (women participation).

- Water institutions and decision-making processes include women based on quota policies, which fail to empower such representatives to raise gender issues and make a difference

- Millennium Development Goals target relating to water, are unlikely to be achieved unless gender perspectives are integrated into planning and implementation activities.

- Reduced time, health, and care-giving burdens from improved water services give women more time for productive endeavors, adult education, empowerment activities.

- Higher rates of child survival are a prerequisite for the demographic transition to lower fertility rates; having fewer children reduces women's household responsibilities and increases their opportunities for her own empowerment.

IV. Gender Responses in Policy

Gender in Water Policy is the starting point for gender mainstreaming, as this is when a government demonstrates its intention to redress inequality and adopt a gendered approach. The policy in spin forms the documented basis for strategy development and resource allocation.

The intention behind women and gender policies has evolved over past decades. Taking an historical dimension, until the early 1970s, policies addressed the needs of women entirely in the context of their role as wives and mothers. Policies shaped by this paradigm took the welfare approach, and focus was on mother and child health, childcare, and nutrition. The weakness was that policy objectives treated women as passive recipients of benefits, rather than partners.

From the 1970s and 1980s, a 'women in development' (WID) policy was mostly pursued, which aimed to integrate women into the existing development process by targeting them, often through women-specific activities. Although many WID initiatives improved health, income, or resources in the short term, they did not address the more fundamental issues of unequal relationships, and the structures enforcing these, which in turn negatively affected project sustainability.

From the late 1980s on, the 'gender and development' (GAD) approach was developed with the objective of removing disparities in social, economic, and political spheres and to achieve better balance between women and men as a pre-condition for achieving people centered development. In more recent years, a gender and empowerment philosophy has attempted to transform existing gender relations by stressing women's self-empowerment.

Water utilities and other water supply systems often fail to recognize the complexity of administration, especially at the community level. It takes time, extensive social efforts and continued support to build a community water management system. In many societies, formal administration and decision-making are misconceived as men's work even though women may manage water in practice. In these situations, women's interests and concerns are ignored and their roles within the water system are lost. Many administrative failures at the community level occur when women's commitment and interest are not recognized.

Rodda (1991) says that women do numerous water-related tasks at home. When water sources are far from their homes, unclean, or in short supplies, women are the first to suffer from the resulting fatigue and disease that inevitably affect both themselves and their families. When children or other family members are sick on account of water-borne or water related diseases women take care for those who are ill, thus having less time to care for the other family members, to support their children's schooling, to work in the field and do other activities.
There are significant gender differences in use, access and management of water. It was seen that in many cases, gender discrimination can limit the women's and men's chances to access vital water resources, by putting restriction in their autonomy. Attitudes such as, "Women should or should not do this and that" or "Men are supposed to do this but not that", may prevent either women or men from acting on water use, access or management. These practices often result in unfair and self-perpetuating impacts on the lives of both women and men as it reduces the benefits of development among underprivileged groups and marginalizes their contribution to society.

Addressing gender and water together acknowledges these imbalances and seeks to ensure that the contributions of both men and women are recognized to manage water effectively and

sustainably. Re-examining how women and men manage water will allow us to:

- Share benefits from use of water
- Make progress towards more sustainable use of water; and
- Maximize social and economic benefit from sustainable use of water.

Water practitioners have recognized the importance of incorporating a gender perspective based among others, the below observations:

Women and girls are most often the primary users, providers and managers of water in their households and are the guardians of household hygiene. If a water system falls into disorder, women are the ones forced to travel long distances over many hours to meet their families' water needs.

The water can contribute to redressing inequality and can impact positively on the social, political and economic position of women. Well targeted services can improve the health and security of women and their families, and free them to engage in social, economic, and political activities, thus tackling 'time poverty' the situation where women's time is inflexible, consumed by routine and non-productive tasks, perpetuating their absence from decision making and other profitable pursuits (World Bank, 2006).

A gendered approach can create a framework of cooperation between men and women, so that the insights and abilities of both men and women are available to shape programs and meet sector objectives. Common societal practices that determine men as property owners, heads of households and main decision makers in the public sphere often result in marginalizing the views and preferences of women and girls. Yet, studies have shown that equal involvement of men and women is positively correlated with improved sustainability of water supplies (Narayan, 1995), as well as improved transparency and governance in management.

V. Interrelationships between Gender Caste and Water

Deepa Joshi focuses on the multifaceted interrelationships between gender caste and water, given the historic role of these factors in defining a persisting disparity in India (Joshi and Fawcett 2006; Kapoor 2007). Tamang (2002) argues that the politics at the category of developing poor women in third world expediently "destroy ethnic, religious gendered differences among heterogeneous communities and construct an [illusory] category of women generically poor, backward and needy yet willing, capable and committed" to make projects work. This analysis applies glowing to the drinking water sector. Disparity by gender is not only deeply cross-cut by many social vectors; it is never absent (Whitehead 1979).

Several decades of gendered interventions in the sector have made little dent in women's tasks of "carrying water" home (O'Reilly et al 2009). No water project, however rhetorically grounded in gender, applauds or encourages the sharing of unequal gendered water burdens. Instead, as Molyneux (2007) mentions, there is a contrary feminizing of these tasks and a layering of additional project-related burdens on women. However, along with age and social status, caste in particular intertwines with the ingrained local patriarchy making some women far more constrained than others in the meeting of their water burdens.

Developing institutional arrangements to manage water in the form of India's drinking water management, governance and policy framework evolved from community to colonial to centralized state management to more recent "fluid, fast-changing terrains" of "neo-liberal prescriptions" (Baviskar 2007). Comparing three specific periods, pre-colonial or "traditional" Water management, centralized state interventions and recent neo-liberal interventions, pre-colonial orthodoxy describes "harmonious traditional communities, ecologically sensitive resource users of women as primary keepers of a special conservationist ethic" (Sinha et al 1997). Yet, as Mosse (2008) argues, these stories were mostly "veins of myth and memory". Colonialism shifted the ownership and management of water from the community to centralized state water institutions, a practice that continued in subsequent nationalization. The effectiveness and appropriateness of the state's role in water management is much disputed. On the one hand, arguments presented by authors like Cullet (2009) conjure notions of a welfare state and its official intent to address the fundamental right to water. Others like Shiva (2001) find little to give a round of applause in the state, which she sees as "institutions constituted to achieve colonial economic and political ambition, and now intervening through policies, rules, laws, investment, and technology to facilitate privatization and globalization". By romanticizing the community in water "Traditional or pre-colonial Indian society is generally eulogized as far less burdened by gender, economic and environmental exploitation" (Sinha et al 1997: 67). However, there are few "real" accounts of water rights and management which can be traced prior to independence. Narratives of collective action or equitable governance, as well as women's inherent knowledge of nature (water) are drawn from later critiques of the "perceived" damage and loss of traditional technical inventiveness at the hands of exploitative colonial bureaucracies.

In the different veins of praise for traditional environmentalism, the uniqueness of Hindu culture is acclaimed, in particular the sacredness and femininity of water (Shiva 1989; Agarwal and Narain 1997; Rawat and Sah 2009). Agarwal and Narain's (1997) seminal anthology on traditional water systems in India noted a mutually beneficial entwining of Hindu ritualism and conservation which served to conserve both the source and the system.

A clause giving priority coverage of drinking water supply to Schedule Caste was applied in policy in the early 1980s. This acknowledged a debilitating lack of access to drinking water for the lower castes which was said to be furthered by deep-rooted caste connivance between local officials and villagers of identical castes (Agarwal 1981). However, no strategy was identified to challenge this deep-rooted connivance. It is therefore no surprise that after two decades of prioritized access, Tiwari (2006) quotes official data from the 2001 Census to show how *dalit* households continue to have reduced access to and also travel significantly longer to fetch drinking water.

Unfortunately these changes did not happen in the drinking water sector. As Iyer (2007) notes, the official intent in relation to basic rights to water has been no more than a "mere declaration on paper". Mosse (2008) points out that the "twenty-first-century neoliberal reverse 'rolling-back' of the state focuses on the 'revival' of community [read women] water management", however the intent was primarily to enhance economic efficiency.

Transferring operational costs and managerial responsibilities to voluntarily participating women significantly reduced the costs of delivering water with few real gains to the women themselves (Cleaver 1997). Thus, contrary to Cullet's concerns on a loss of equity, the emphasis on involving women is much more prominent in neo-liberal approaches to managing domestic water.

However, rather than attempt to analyze or correct these drawbacks, the report called for, "an urgent shift from supply-driven to demand-oriented approaches, an explicit engagement of non- government stakeholders in sector activities with an aim to achieving financial viability of service delivery" (World Bank 1998). The report advocated the multiple social and financial merits of a demand responsive approach (DRA).

There was an overwhelming belief that, in place of overstaffed, corrupt, politicized state government implementing organizations who practiced an inflexible technology, NGOs and private consultants would empower village communities, especially women, and provide evidence of the effectiveness of community ownership of water infrastructure (World Bank 1996).

VI. Gender Perspective in Aapni Yojna

In order to measure participation of women in decision making at Aapni Yojna (An integrated water sanitation and health education project funded by KfW Germany and Government of Rajasthan) in three districts of Rajasthan, India, namely Churu, Hanumangarh and Jhunjhunu due to availability of water at their door steps in 350 odd villages. The uniqueness of the project is to involve the community at every step in decision making. Water and Sanitation committee of the villages pay 50 million India rupees per year to GoR as water revenue. Community Base Organisation (CBO) also takes care of the operation and maintenance, upkeep of assets, dispute resolving and issues related to water and sanitation.

To understand women empowerment in the project area, researcher through Focus Group Discussion (FGD) asked women to report who in their households makes decisions. Analysis suggested that, women in project villages were most likely to participate in the decision about what to cook: 66 per cent of women made this decision on their own and another 16 per cent made this decision jointly with their husband or someone else in the household. However, 18 per cent were not involved in the decision regarding what to cook. In addition, about three out of every five women were not involved at all in decisions about seeking health care for themselves (59 per cent), purchasing jewellery or other major household items (57 per cent), and going and staying with parents or siblings (61 per cent).

In the project villages, about 81 per cent of women reported that they have been shared the project information by the project officials, where as 91 per cent respondents shared that they have been involved in selecting the women's representative for WHCs. Similarly 96, 94 and 89 per cent women reported participating in social mapping exercise, selection of site for Public Stand Post (PSP) and Cattle Water Trough (CWT) respectively.

Table 1: Involvement of women in decision making

Sn	Questions only to women of project area		n=4942.Frequency (in percentage)	
			Yes	No
1	Did anybody from project meet you to share project information with you?		81.2	18.8
2	Are you a member in WHC/VWHC?		4.2	95.8
3	Did you participate in a group meeting to select women representative in WHC/VWSC?		91.9	8.1
4	Are there any WG or SHG in your village?	(A)Yes, only WG	18.6	30.0
		(B) Yes, only SHG	11.4	
		(C)Both WG & SHG	6.7	
5	Are you a member of WG or SHG?	(A)Yes, only WG	15.5	26.5
		(B)Yes, only SHG	11.0	
		(C)Both WG & SHG	5.5	
6	Is your group involved in some economic activity?		13.9	86.1
7	Did you participate in social mapping exercise?		96.3	3.7
8	Did you participate in selection of site for PSP and CWTs?		93.6	6.4
9	Are you a member of user group?		89.0	11.0
10	Are you contributing towards household income?		69.5	30.5
11	Do you have better say in household matter?		88.5	11.5
12	Have you been able to save time now?		90.9	9.1

A majority (91 per cent) of the women were found to save time due to easy access to water and now more likely to participate in decisions about their own health care, contributing directly and indirectly towards household income and a better say in household matter and decisions.

Utilization of the Saved Time
Table 2: Utilization of the saved time

Sl. No	Mode of utilization of save time	Percentage of women population. n = 4942
1	Economic activities	3.2 (158)
2	To relax	8.2 (405)
3	With family	25.1 (1240)
4	Household chore	72.3 (3573)
5	Other	1.0 (49)

Above table 2 shows that 72 per cent women were involved in household activities whereas 25 per cent women reported to have spent more time with family members with the saved time. It is noteworthy that the proportion of women not involved in any decision making varies little by education, religion, cash employment, and standard of living. Schedule tribe women are less likely than other women to participate in household decision making. This is particularly true for decisions regarding their own health care.

In Focus Group Discussion (FGD), researcher tried to understand the desire to invest in improving the quality of children. It has been asked to married women about how much education should, in their opinion, be given to a girl or a boy. Women's responses to these questions also provide an indication of the extent of preference for son prevailing at the time of the survey. 51 per cent of women believed that a boy should be given as much education as he desires compared to only 29 per cent who believed that a girl should be given as much education as she wants. Twenty-one per cent of women told that education above high school (higher secondary school, graduate and above, or professional degree) is appropriate for boys compared to only 12 per cent who felt that it is appropriate for girls. Notably, four per cent women reported that girls should not be given any education, and 33 per cent replied that girls should be given an education but not beyond middle school. The corresponding proportions for boys were less than one per cent and six per cent, respectively. Nine per cent women did not specify a level of education appropriate for girls, and 14 per cent did not specify an appropriate level for boys.

Case study 1: Women's voices

"Extreme water scarcity in the village had given it a bad name... People from other villages were reluctant to get their daughters married to our boys... We wondered if young men in our village would remain bachelors for life – But the situation has changed now. We have Aapni Yojna – water year round!!"

"The drudgery of fetching water from far away sources had taken away all joy from our life – even the joy of having a beautiful daughter-in-law! She too had to spend long hours in scorching heat to fetch water... water supply was scarce and erratic. The smile on her face had gradually turned into a chronic frown. What wrenched my heart was that she too had started having the mark on her head from carrying heavy pots over long distances. But today all this is over – Aapni Yojna has given us filtered drinking water at our door step!" **–Village Godas, Taranagar, Churu, Rajasthan**

VII. Involvement of Women in WDM

Maithreyi Krishnaraj (1986) has argued that despite the policy initiatives and attendant programmes to expand access to water users, given our hierarchical society, the conversion of drinking water into a private good, where the market plays an important role in who can benefit and who pays the cost, adversely affects women, lower castes and classes. While power and authority are nominally granted to women to manage water resources in the new decentralized governance structures on the assumption that domestic water supply is the legitimate domain of women, there remain many questions.

To what extent does women's representation in decision making bodies empower them or does it only reinforce traditional social hierarchies in subtle ways? Does the emergence of women's visibility in the public sphere hold the promise of emancipation and greater gender equality?

There is often a euphoric and idealistic recital of the traditional knowledge of water management, which is not supported by any empirical or historical data. There certainly were community managed systems, but claims of social equity for such practices cannot be sustained because of un-equitably sharing such village resources. While many caste households had a well, the lower castes could not draw water from these wells.

VIII. Alternative Views

There are some who now argue that treating water as a public good does not address problems of distribution and equity. Water has the characteristics of an "impure" public good. Why is it an impure public good? It is a common pool resource that is non-excludable yet in actual consumption it has a competitive element. Mehta (2006), using a human development approach, makes a case for moving away from regarding water purely in bio-physical terms to focusing on socially constructed scarcity. We need to disaggregate users and their entitlements and to look at the politics of distribution within a political economy. If scarcity is constructed as a lack of supply or an excess of demand, the solution is to increase supply or organize more efficient use. Participation of women in the planning, implementation and monitoring phases of the Aapni Yojna

Project was an important aspect in the project implementation stage.

Table 3: Women's involvement in water distribution management

Sn	Activities in relation to water distribution management	Percentage of women's involvement (n=4942)		
		Preparation	Implementation	Maintenance
1	Allocation of water tariff	38.5 (1903)	37.3 (1843)	37.5 (1853)
2	Collection of water tariff	38.5 (1903)	37.3 (1803)	37.5 (1853)
3	Keeping account of water charges collected	21.3 (1053)	21.3 (1053)	21.3 (1053)
4	Maintenance and repair	22.8 (1127)	22.7 (1122)	43.8 (2165)
5	Fault reporting	5.0 (247)	48.4 (2392)	78.3 (3870)
6	Awareness generation	23.0 (1137)	22.6 (1117)	22.6 (1117)
7	Health education	22.0 (1087)	22.0 (1087)	22.0 (1087)
8	Motivation campaign for an adoption of hygienic behavior	22.4 (1107)	22.3 (1102)	22.2 (1097)

As the table 3 shows, only over one third of the total women members participated in water distribution management in all the three stages of the project viz., planning, implementation and monitoring. Over 30 per cent women participated in awareness generation during monitoring stage where as only 20 per cent created awareness during implementation stage.

Though the participation of women in the programme had not been as much as expected but women members have played some roles in planning and implementation of the project. According to the women members, because of the project now they have a better say in household matters.

Participation in social mapping has also been encouraging in the project villages. Even after considering the background of the area an overall average close to 71 and 76 per cent respectively in project villages can be considered as a good step and an achievement for the project.

Table 4: Participated in social mapping exercise

Sn	District	Participation in social mapping exercise						Total	
		Yes		No		Don't know			
		Per cent	n	Per cent	n	Per cent	n	Per cent	n
1	Churu	70.6	744	14.9	157	14.5	153	100	1054
2	Hanumangarh	76.1	213	13.2	37	10.7	30	100	280
3	Sikar*	5.3	37	82.7	577	12	84	100	698
Total		48.9	994	38.0	771	13.1	267	100.	2032
Z* Value			8.586						
P Value			<0.05						

**Sikar is the control district*

***Note** : * Alpha = 0.05, two tailed. Z (critical) = ± 1.96*

Table 5: Social mapping

Caste/Sub-caste	Participated	Total	Per cent
Jat	57	584	9.7
ST	4	60	6.7
SC	25	239	10.4
OBC	22	154	14.3
Others	50	366	13.7
Total	**158**	**1403**	**11.3**

Participation of women in the planning, implementation and monitoring phases of the project was an important aspect in the project implementation stage. It can be observed from the table 5, that the women of the SC category have turned out to be leaders in more occasions than the women of the higher caste, though participation of lower caste has been much less than higher caste. A similar trend was observed in case of social mapping as well. The maximum participation here is observed from the Other Backward Classes (Jat) who are the dominant caste in the area.

To assess the significance of the difference in proportions among project villages and non project villages regarding participation in social mapping exercise, Z test was applied. The Z values indicate the participation in social mapping in project villages and non project villages differ significantly ($p<0.05$). More importantly the same is statistically significant with the Z value being 8.586.

Table 6: Site selection for the installation of the PSP

Sl	District	Selection of site for installation of the PSP								Total	
		Women members of the village		WHC/ VWSC		PMC/ PHED		Others			
		Per cent	n	Per cent	n	Per cent	n	Per cent	n	Per cent	n
1	Churu	77.0	812	12.7	134	1.3	14	8.9	94	100	1054
2	Hanumangarh	72.5	203	20	56	0.4	1	7.1	20	100	280
3	Sikar	2.9	20	32.8	229	12.6	88	51.7	361	100	698
Total		50.9	1035	20.6	419	5.1	103	23.4	475	100	2032
Z value			0.69		-11.07		0.18		7.22		
P value			>0.05		<0.05		>0.05		<0.05		

As women were the end users of the water, hence researcher tried to understand the involvement of women in site selection of Public Stand Post (PSPs). Analyzing the data on same, it was found that in project villages, three fourth of the PSPs have been selected by the women through PRA exercises whereas in non project villages it was found very less, only three per cent; otherwise in half the cases it was selected by other influential people. One can say that the projects had given an opportunity to women to decide the location of PSPs. The same was supported by the statistical analysis. The statistical Z test of difference in proportions (involvement of women in site selection of Public Stand Post) between project villages and non-project villages shows site selection by women and VWSC makes statistically significant difference.

IX. Responsibility to Collect Water

More than half of the households(refer table 7) in both the project districts reported both male and female members being responsible to collect water, where as in non project villages in 71 per cent of the houses only females were found to be responsible to collect water for house-chore activities. In VAP projects in other parts of Rajasthan also we have observed that in more than 90 per cent cases women were found to be responsible to collect water for their households needs.

Table 7: Responsible to collect water

Sl	District	Responsibilities for water collection										Total	
		Male		Female		Children		Both Male and Female		Others			
		per cent	n	per cent	n	per cent	n	per cent	n	per cent	n	per cent	n
1	Churu	5.4	57	35.6	375	1.6	17	57.2	603	0.2	2	100	1054
2	Hanumangarh	12.	34	33.6	94	2.5	7	51.8	145	0	0	100	280
3	Sikar	2.3	16	70.8	494	0.4	3	26.4	184	0.1	1	100	698
Total		5.3	107	47.4	963	1.3	27	45.9	932	0.1	3	100	2032
Z value			0.72		-8.07		0.21		5.22				
P value			>0.05		<0.05		>0.05		<0.05				

The Z test showed that in both the project districts both male and female collected water and the same was statistically significant in comparison with non-project villages, whereas in non project villages females were found responsible for water collection.

X. Gendered Costs of Drinking Water's Commodification: "They Are Not of This House"

The Aapni Yojna, drinking water project began in the early 1990s and was completed in 2005, having connected approximately 350 villages and two towns to drinking water through public stand posts (taps). The Government of Rajasthan (GoR) owns the water supply but as per decentralization, villagers manage and maintain the system inside their own village (O'Reilly and Dhanju in review). Villagers also now pay for water that they previously got for free (O'Reilly 2006a). The GoR relies on community participation through village water committees for village scale infrastructure maintenance (e g, tap replacement) and bill collection. Every village has a single meter at its entrance that measures the amount of water the village uses monthly. Each household pays a portion of the metered bill based on the number of members and livestock per family. A dedicated group of NGO workers of Community Participation Unit was responsible for generating participation of the society during the implementation phase that would support decentralized management and payment for water.

Project plans assumed a gendered division of labor that naturalized women's water work (e g, water collection for use in housework), and built on those assumptions by expecting that women, because they were those who relied on the system the

most, would be the most eager and reliable to maintain it (O'Reilly 2006a). Women's participation would, serve the purpose of making the water supply system sustainable in the long run" (CPU, Handbook on Women's Participation).

Community Participation Unit (CPU) staff involved women in the project in a variety of activities, including: representatives to village water committees; public tap caretakers; members of women's groups; income-generating activities and health education. A majority of CPU staff signaled through their words and practices some about the importance of women's participation in the project (O'Reilly 2006). Through their discourses and practices, however, they forwarded assumptions that all women were responsible for drinking water supply and payment. O'Reilly (2006) said that there was no field notes indicating that CPU staff suggested girls should be excluded as household members who pay for water.

The drinking water supply payment system was based on *anga*, a traditional system of water payment that divides the cost of water consumed by the total number of water consumers (people and livestock) in the village, giving a unit price. Each household pays the unit price multiplied by its number of members and livestock. In most villages, one animal counted as one person. *Anga* as a traditional village payment system was somehow expected to be more egalitarian than other ways of paying for drinking water.

The GoR set a price range for water with the maximum price at Rs 16 for 40 litres per day. Households paid an average of Rs 3 to Rs 8 per head, per month. A young man acting as payment collector attested that they had trouble getting some households to pay saying that people would argue about paying and would lie about how many number of cattle they had. In a meeting with a group of 30 men, some of whom were on the village water committee, told us that people who lived far from a public tap threatened not to pay, but through neighbor-hood pressure, they eventually paid. They said, "People try to lie to pay less but we have *angas* listed".

Payment for water is at the heart of controversies over whether water is a human right or an economic good (Bakker 2007). In terms of gender, the economic condition of water users is a critical consideration since women cannot pay for water with the same ability as men (Zwarteveen 1998). In this case study from Rajasthan "We consider the intersection of gender and poverty in terms of who is charged for water and who pays for water. On the one hand, collective payment for girls gives assistance to poor families who have girls. On the other hand, it also means that a poor family with sons and no daughters subsidizes wealthy families who have daughters. While girls were discriminated against in terms of payment, there were no further discriminatory subdivisions along caste and class lines.

XI. Issues of Gender Equity

The forms of neo-liberal water governance include the decentralization of water management to the village scale, democratization in the form of community participation in village water committees and commodification of water that begins with the onset of payment.

As villagers were quite sharp on the issue of water bills, households certainly realized that not charging girls for water meant the overall price per person and head of livestock went up, since the village water bill was then divided by fewer heads. Village size where girls were not charged for water varied from 350-7,500 people, with a mean of 1,360 (n=10). In villages where girls did not pay, most households paid Rs 3-Rs 8 per *anga*, with one of 10 villages reporting paying Rs 2. In villages that did charge girls for water, most households paid between Rs 3-Rs 8 per person for water, with four of 43 villages reporting paying Rs 2, and six reporting a range of Rs 3 to Rs 8. Whether girls paid or not, the price range was roughly the same. Payment was not only intended to empower villagers as customers vis-à-vis the Rajasthan state as provider (O'Reilly and Dhanju), but also enabled the further marginalization of girl children. By their exclusion from participatory activities from management decisions to water payment, they are the least likely to develop the water conservation awareness and feelings of system ownership that the GoR depends on for sustainability. If, as Agrawal (2001) suggests, it takes only a tiny portion of daily experience over time to alter environmental beliefs, then an opportunity is lost in not attempting to affect girls' relationship to the use and care of drinking water systems. Concealing social relations, CPU staff left that heteronormative belief unquestioned when they targeted women for women's participation. Project plans took for granted that it was married women who would be approached in their roles as mothers and homemakers (Cleaver 2001; O'Reilly 2006a). Cleaver (2001) and Wallace and Coles (2005) argue that participatory approaches treat gender as a different kind of technical problem, one that can be solved by the inclusion of women in projects. Too much attention to "women" and not "gender" means that projects focus on what women do, not on men and women in relationship to each other. Agarwal (2001) suggests that separation may not sharpen gendered segregation, nor do separate groups seem to impact behaviors in mixed groups.

Furthermore, as Cleaver (2001) points out, a failure to closely examine water use would suggest that girls should be included in participatory approaches, because they do the work of fetching water. Drawing on these ideas, we must allow that gendered relationships with respect to drinking water have been impacted through the components of women's participation in the project. The focus on efficiencies through women's participation in the drinking water project begs the question then of how women's participation could be a prime feature, but girls could be marginalized. When their own families recognized the importance of their labor, how/why did project plans overlook the contributions of girls?

XII. Conclusions

It can be concluded that multi-tasking of women in water projects and excellent financial performances is not an indicator of success in tackling gender discrimination. Moreover it is not able to dismiss the existent imbalances.

Participation in water supply provided an easy and relatively reliable way to "make projects work". Indeed, it is for this reason that neo-liberal demand- led projects seem focused on "engaging women" far more than welfare-based supply-driven approaches.

This view of involving women has persisted in evolving policies, resulting in the situation in which fundamentally diverse policies and institutional arrangements have produced strangely similar outcomes of a persisting inequity. When social identities and responsibilities limit engagement or result in ineffectual representation, the victims are readily blamed for their disinterest.

There may be excellent instruments for developments to address changing objectives. The question now posed is, what skills are required to enable them for multi tasking. Saving practices and credit may be an entry point for mobilization, but the long-term objectives have to be overall development which includes gender balancing.

There is also another issue of people with differential interest who cannot sustain common interests together for a long term sustainability, the institutes should built the capacity of its members and focus on the overall development. The success of water project has no doubt encouraged multi-tasking, but effective strategies need to be evolved before women are entrusted with additional roles. Caution has to be taken not to dismantle the successful strategy with excess pressure.

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