



Gendered and Caste Spaces in Household Water Use: A Case of Aliabad Village in Peri-urban Hyderabad, India

Anjal Prakash¹ and Sreoshi Singh²

This paper deals with the ways in which gender and caste identities marginalise particular groups from access to water in a village in periurban Hyderabad, India. It shows how the intersection of gender, caste and water issues determine allocation and access to water at the household level, in a village influenced by rapid urbanisation. Relying on a primary survey that collected gender and caste disaggregated data, this paper shows socially differentiated perceptions for water access and use and how they shape vulnerability to water insecurity and adaptation. The gender and caste inequity in access to water in the village is not an isolated case but part of the larger process of 'apolitical' water



This is one of a series of Discussion Papers from the Peri Urban Project of SaciWATERS.

About the authors:

Dr. Anjal Prakash a graduate from Tata Institute of Social Sciences, Mumbai, India, Anjal Prakash, has a Ph.D. in Environmental Science from Wageningen University and Research Center, The Netherlands. He has worked extensively on the issues of ground water management, gender, natural resource management and water supply and sanitation in India. Dr. Prakash worked with the policy team of Water Aid India based at New Delhi handling research and implementation projects related to Integrated Water Resources Management. He has contributed many papers in leading journals and chapters in edited books. He has authored the book "The Dark Zone: Groundwater Irrigation, Politics and Social Power in North Gujarat" that was published by Orient Longman. He is handling research and outreach portfolio as senior fellow under crossing boundaries project.

Sreoshi Singh holds an M Phil in Regional Development from Jawaharlal Nehru University, New Delhi and is a PhD candidate with Center for Economic and Social Studies, Hyderabad, India. She has worked on subjects concerning poverty, livelihood, health and gender. She specializes in urban development and planning and has special interest in various socio-economic and environmental aspects of urban areas for policy planning. She is also co-editing the book on Water Resources Policy in South Asia to be published by Sage. Sreoshi has worked in the Crossing Boundaries project of SaciWATERS since 2008 and presently leads the Hyderabad research team for the Peri-urban water security project.

Citation: Prakash, A., Singh, S., 2012. 'Gendered and Caste Spaces in Household Water Use: A Case of Aliabad Village in Peri-urban Hyderabad, India', Peri Urban Water Security Discussion Paper Series, Paper No. 5, SaciWATERS.

First published in 2012

© SaciWATERS 2012

Design by Mohd Abdul Fahad

For further information please contact:

SaciWATERS

H.No. B-87, Third Avenue,
Sainikpuri, Secunderabad - 500 094, Andhra Pradesh,
India.

Telefax : +91-04 - 27116721

Email : periurban@saciwaters.org

Attribution: You must attribute the work in the manner specified.

Gendered and Caste Spaces in Household Water Use: A Case of Aliabad Village in Peri-urban Hyderabad, India

Anjal Prakash¹ and Sreoshi Singh²

1.0 Introduction

One of the major changes in the water sector over the last few decades has been the enhanced thrust on institutional reforms, including the increasing recognition of the bottom-up approach to management as against the techno-centric top-down one. At the heart of this lies the concept of greater inclusiveness of all stakeholders, including women and people lower in socio-economic hierarchies. Hence the greater need of understanding their differential needs. A need to integrate gender and equity concerns in the water policy discourse stemmed from two facts: first, that women are the primary collectors of water and also responsible for health, hygiene and sanitation at the household level; second, that historically the above work has been seen as non-productive and women have not had adequate representation in decision making around water. So when water becomes a scarce good, the more privileged inevitably find ways to maintain access. In scarcity situations, access becomes tightly controlled whether it is food or water (Krishnaraj, 2011).

Consequently, the water sector became abuzz with the concepts of 'gender mainstreaming'. Inclusiveness of women became a mandate for projects funded by international and state agencies. At the level of academics, problematizing water through the lens of gender, contesting the masculine nature of the knowledge and understandings of water, and challenging the notions of gender-neutral research became evident under the broad framework of hydro-feminism (Ahmed, 2005, Lahiri-Dutta, 2006, Cleaver, 2007, Zwarteveen et al, 2012). At the level of policy formulation, there is no shortage of rhetorical support for gender inclusion by official agencies and governments. Policy makers have used many approaches to address gender concerns. For example, the efficiency approach, based on the premise that if given a chance women can be as efficient in delivering targets as men, or, in some cases, even better; the needs approach, advocating the fact that women have very specific needs related to water; or the equity approach, which makes a case for mainstreaming gender concerns in policies to address equity issues (Cap-Net, SOPPECOM and WWN, 2007). New reforms and programme documents relating to water include sections on women's role in the successful implementation of any policy/plan and the likely benefits accrued to them.

While in principle there has been an agreement to mainstream gender issues in water projects, critics have argued that the issue becomes rhetorical if not backed by adequate data collected in a disaggregated manner. Apart from gender, caste is another important factor that determines the access to water in India. However, structural inequity is one of the less addressed areas in the water sector. Much of the water discourse is dominated by issues of scarcity and conflicts with little analysis of the social composition of the water sector and the implications that has on aggravating scarcity and conflicts (Bhat et. 2012). Until now, there is virtually no gender disaggregated data on water sectors collected by the main international and state agencies in a uniform way (Seager, 2010). Without support of adequate and reliable gender and caste disaggregated data, it is difficult to track changes in gender and social relations with respect to water in the different regions and, therefore, the issue becomes either rhetoric or speculative. For example, Joy and Paranjape (2005) reported that the much talked about relationship between women and traditional water management systems did not seem to find backing from the literature available on these systems. Therefore, understanding the ways in which gender and caste identities marginalise particular groups from access to crucial resources is important for informing policies.

Based on a village based case study in peri-urban Hyderabad, India, this paper dwells upon the intersection of gender, caste and water issues that determines allocation and access to water at the household level, in a village influenced by rapid urbanisation. Relying on a primary survey that collected gender and caste disaggregated data, this paper shows socially differentiated perceptions for water access and use and how they shape vulnerability to water insecurity and adaptation. This paper is divided into four sections including introduction. Section two reviews the literature on gender, caste and access to water in India and focuses on the need for data disaggregation so as to understand the process of social change taking place in gender, caste and water arenas. Section three dwells on the village based case study to show gender and caste disaggregated information on household water use through household's water access and use, gender and caste differentiated data on water access and shows that the lower caste women and men are the most vulnerable when it comes to water security. Taking examples from the present study, section four analyses

¹Executive Director, South Asia Consortium for Interdisciplinary Water Resources Studies, India

the issue of household water from gender and caste perspective and identifies lack of political understanding of water access as major reason for not reaching the unreached.

2.0 Gender, Caste and Access to Water in India: Need for data disaggregation

Rural and urban women of almost all age groups are engaged in collection of water for household needs, including water for livestock. Women balancing pots of water on their heads while travelling vast stretches is a common sight in rural India, as is the serpentine line of women standing in queues in urban slums to collect water from a single tap! Indeed, water collection is a responsibility that primarily rests on women. The average distance travelled by women every single day in rural and peri-urban India has been a subject of countless surveys, and the fact that this indeed affects their overall health and decreases productive work hours is established in many research studies. The girl child's educational and overall self-development status suffers a serious setback in a society where they are considered inferior to the male child by getting involved in water collection and other household chores constrained by water supply. Although the policy discourse has recognised this role of women, it has not come without its own peril. Women's role in government water schemes has largely been reduced to water collectors while undermining their potential for involving them in the decision-making process.

The technological interventions which do not take into account the social, economic and familial constraints of a society with respect to women may lead to unfair outcomes for them. For example, while the general impression is that introduction of hand pumps have reduced the burden of women in terms of physical labour, Narain (2003) reported that the relationship may not be as simple as that. In one of the examples from his research in village Mandhana in Haryana, it was seen that the availability of 24-hour water supply by hand pumps was accompanied by change in aspirations of the village men who then started bathing in their own houses, an activity which was earlier done at the village pond or johad. This change increased women's burden, as men expected them to carry home the water for this purpose as well. Joshi (2005), while analysing the success of project SWAJAL for domestic water and sanitation in rural areas of Uttar Pradesh and Uttaranchal, found that all the deep-rooted factors like caste, class and poverty had serious repercussions for women in all aspects of water management projects, viz. participation and decision making, income generation and empowerment. Similarly, women are primarily responsible for looking after the health, hygiene and sanitation in the household. According to Jha (2005), 'Women have, by far, the most important influence in determining household hygiene practices and in forming habits of their children'.

While gender issues are well recognised in policy and research, assumptions continue to be made in the water sector that inequalities exist "only" at the household/ community levels, ignoring the complex intersection of gender and caste which serve to restrict opportunities and access to education, skills, occupations and positions for women and some men in water implementing and policy organisations (Joshi and Zwarteveen, 2011). Scholars find sticking parallels between the cultural logic of castes and gender discrimination (Kapadia, 2002). Complex entwining of caste and gender has consistently defined water allocation and access among users and entrenched fractures in the structure and culture of the policy-implementing and regulatory institutions (Joshi, 2011). Therefore, social relations of water are poorly understood and rarely implemented with a focus to reach the most vulnerable and marginalized.

Some examples of integrated gender and equity concerns are available from Government programs. The Swajaldhara Yojana, launched in India in December 2002, envisages that at least one-third of village water supply and sanitation committees should have women members who get preference in training for repairs to hand pumps. It also lays down the guidelines for setting up of Village Water and Sanitation Committees (VWSC) with at least one-third representation of women. A review of the Total Sanitation Campaign (TSC) and Swajaldhara schemes in 10 districts in Uttar Pradesh in India revealed that in some sample villages women were using the toilets more than the men, who still defecated in the open (Chand et al., 2004). Target 10 of the seventh goal of the MDGs calls upon countries to halve, the proportion of people without sustainable access to safe drinking water and basic sanitation, by 2015. However, the lack of gender disaggregated data makes it difficult to assess the impact this would have had on the women or people from disadvantaged communities. Joshi (2005) notes- 'There is no project indicator to measure the effectiveness of Dalit representation in the VWSC or to assess gender in Dalit representation' (pp:145). So far, global commitments made in the area of water and sanitation (including the MDGs) does not specifically address the equitable division of power, work, access to and control of resources between women and men. The current system to assess global progress towards reaching the MDGs, through the Joint Monitoring Programme (JMP), until recently (2008) did not have any gender indicator for the water and sanitation goals; one gender-specific indicator has now been added. This slight representation underscores how critical it is to better mainstream gender perspectives into national and global water and sanitation (WATSAN) planning and monitoring processes to ensure that the different needs of women and men are understood, and that the specific needs and concerns of women are taken into account. In the JMP 2008 report, data was collected on the person in a household with primary responsibility for collecting water (adult male, adult female, girl, or boy). 'The 2008 database included a

"global" chart on this indicator based on national-level data for 19 countries which concludes that, globally, 64 per cent of water collectors are adult women, another 7 per cent girls. While the JMP report concludes that "women shoulder the largest burden in collecting water" (JMP, 2008: 37), the actual 19-country database in this report revealed that in seven (of 19) countries, men were responsible for a larger share of water collection than women. The report concludes that "men appear to play a larger role in collecting water than they were previously given credit for" (JMP, 2008: 37). These dual conclusions—"that women collect most water "globally", but that men in some countries have a surprisingly prominent role in water collection—indicate the problems of making large-scale generalisations on the basis of scant data' (Seager, 2010 :2).

The problem occurs because there is no uniform gender disaggregated data on the drinking water sector collected officially by agencies responsible for data collection and analysis. Lack of data provides lack of evidence or status of the relationship between gender and water, and hence one relies on smaller studies which cannot be extrapolated to understand larger gender relations with respect to water. Few examples show the disaggregated information collected and analysed from Bangladesh and India. Crow and Sultana (2010) discuss a framework for disaggregating conditions of access to water and use it to examine three pressing questions in Bangladesh. First, extraction of groundwater for irrigation has made many drinking-water hand pumps run dry. Second, increasing use of groundwater for drinking has been associated with the poisoning of at least 20 million people through naturally occurring arsenic in groundwater. Third, the article examines some of the ways, access to water has changed, which can be attributed to the rise in shrimp aquaculture for export. They highlight new directions for the analysis of interactions among water, class, and gender. Kulkarni (2012) discussed the social and gender equity gauge (SGEG) which is an effort to gauge the social and gender inequities in the water sector. The effort is not to pin down the inequities to a single number but greater focus on the arena of contestations over resources and rights, rules and rulemaking and authorities. She notes that household is both a site of conflict and co-operation for men and women and so is the community. SGEG methodology shows how disaggregated information collected and analysed, help in targeting the neediest women and men.

3.0 Geographic Location and socio-economic settings of the case study village

Aliabad is a peri-urban village located in the Shamirpet Mandal of the Rangareddy district of Andhra Pradesh, India. The village is located towards the north-eastern part of the city, about 15 kilometres away from the Greater Hyderabad Municipal boundary and officially is a part of the highest urban apex body in Hyderabad known as the Hyderabad Metropolitan Development Authority. The village has little over 1,500 households with over 5,000 population as per the panchayat records and the population is distributed across several colonies, each occupied by a particular caste. Mudiraj is the dominant caste (about 16 per cent) followed by Schedule Castes (SC) (about 15 per cent), Padmashalis (about 14 per cent), Reddys and Yadavas (9 per cent each). Other castes in the village include Brahmins, Rajakas, Kummaris, Vadderas, Olia Dasari. Muslims also comprise about 4 per cent of the village households.

Like most other peri-urban villages, Aliabad has been influenced by the process of urbanisation, whose main affects have been felt in the lifestyles of people because of the occupational shifts. During household survey, a large range in the main livelihood for the respondents revealed results which have been shown in the table 1.

3.1 Water Access and Use in the Household

Aliabad has a very extensive water pipeline network with about 84 per cent of the households having their own individual water connections - either inside or outside of the house; while also dependent on common stand posts or mini-tanks. The remaining households (16 per cent) that do not have a pipe connection are solely dependent on a standpost. To confirm this, household level survey was undertaken through which

Table 1 Main Livelihood of Male and Female respondents in Aliabad village

Main Livelihood of the respondents	Males (in percent)	Females (in percent)
Cultivator	10	5
Local Agricultural Labour	9	13
Industrial Labourer	19	12
Retired	5	3
Private Service	9	6
Government service	6	5
Contract Workers	1	1
Business	33	16
Unemployed	4	37
Real estate Promoter	1	0
Others (please specify)	3	2

Source: Primary Survey data: 2011-2012, SaciWATERS Peri Urban Research Project

⁵Panchayats are local self-governments at the village or small town level in India. As of 2002 there were about 265,000 village panchayats in India. The gram panchayat is the foundation of the Panchayat System, the lowest level of administration.

⁶The castes in Andhra Pradesh can be divided into two distinct categories. Brahmin, Komati, Reddy, Kamma, Velama, Kapu, Nayudu, Relli, Mala, Madiga, Yeraka, Yanadi etc., castes are based on their tribal, cultural and religious differences, while the castes like Chakali (washerman), Kummari (potter), Kammari (smith), Kamsali (goldsmith), Mangali (barber) etc are based on their duties. With a few exceptions like the Brahmin caste, all these castes are uniquely localized in Andhra Pradesh. Each caste has a deity and distinct social formalities. The interaction between various castes is difficult because of these religious, cultural and tribal considerations. (Caste\Tribal Diversity in Andhra Pradesh; Accessed online at <http://www.vepachedu.org/caste.htm#frontline> on September 1, 2012.

gender disaggregated information was collected with the idea that there would be differential understanding of water and its uses in the household, reflected through the responses from men and women regarding several questions about water sources, access and use by the household.

200 respondents were surveyed from 100 households across all caste groups and religious communities who were selected through a stratified random sampling technique. However, about 65 per cent of respondents reported that they were dependent on a common water standpost to meet their basic needs of cooking, washing and bathing, which are better known as mini tanks in the village, where water from the large overhead storage is diverted through pipes and stored for use by residents.

Table 2: Primary and Secondary Source of water for households in Aliabad village

	Drinking		Cooking		Washing		Bathing	
	Primary	Secondary	Primary	Secondary	Primary	Secondary	Primary	Secondary
Panchayat borewell supply	6	56	92	5	99	0	99	0
Ground water drawn through personal pumpset	7	1	1	0	1	0	1	0
Bottled water	87	0	7	49	0	0	0	0
Don't know/Ca n't say	0	43	0	46	0	100	0	100

Source: Primary Survey data: 2011-2012, SaciWATERS Peri Urban Research Project

Table 2 shows that bottled water is a primary source for drinking while panchayat borewell supply is mostly used for cooking, washing and bathing. 87 per cent of households were dependent on bottled water, primarily because of the poor quality of the groundwater which is supplied by the panchayat in the village. However drinking water in this village has been a challenge, a problem that was detected when nearby industries started polluting the groundwater making it impossible to drink. During focus group discussions with the community, women reported that the panchayat water was often unsuitable for cooking as it spoils the food being cooked. The question about secondary source (meant to be asked to a respondent to understand the next source they turn to, if the primary source was not available), revealed that 56 per cent of the respondents would shift to the panchayat source for drinking as a temporary solution, while 43 per cent could not answer the question, since they could not think of an alternate source to depend upon. For cooking, almost 92 per cent of households usually depend on panchayat supply, but in the wake of a breakdown in the system, they would resort to bottled water as reported by 49 per cent of the households, and 46 per cent would still not know which source to depend on.

The extent of dependency of a household on the different sources for carrying out daily chores indicates the importance of panchayat supplied water. In Aliabad, the panchayat draws groundwater and stores it in two large overhead storage tanks (OST) having a capacity of 1,20,000 litres and 90,000 litres respectively and ground level storage tank (GLST) with a capacity of 3,00,000 litres. Water is supplied to various parts of the village from these storages through pipelines that extend into all wards of the village and to individual households as piped connections, while also being stored in several mini-tanks across the village. These mini-tanks serve as common standpost from where households collect water to supplement their requirement when electricity is available, without having to depend on the waterman to operate services, thus, allowing everyone to participate in smooth distribution and monitoring.

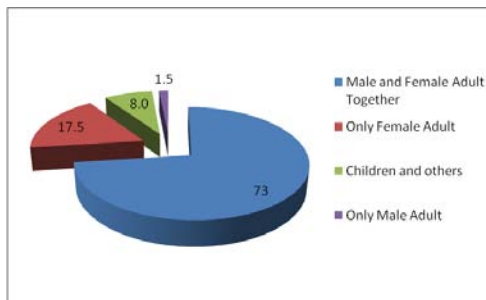
⁷This refers to panchayat water connections which appear as short pipes, sticking out of the ground in the

3.2 Women's role in collective water: What does caste disaggregated information show?

Despite a system that seems well organised, women have an important role to play as far as collection of water is concerned for the various household chores, as widely observed and documented in all developing countries. In Aliabad, men and women of the households were asked about responsibilities regarding collection of water and the results showed that men and women take equal responsibilities when it comes to collecting water (73 per cent) followed by female adults alone involved in this activity, accounting for 17 per cent of the respondents. The children in some households also collected water but some households did not engage any member, primarily because the activity was limited to attaching a pipe to the storage unit and switch off the tap once filled and therefore not a reiterative process that was time consuming and therefore lower opportunity cost. The figure 1 shows the roles of different members of the family involved in collecting water.

To understand the gendered and caste perspective in fetching water, category of male and female adult fetching water were analysed separately across the caste group. The combined role of men and women in collecting water was a trend noticed in the Scheduled Tribe (ST) community with 20 per cent respondents, followed by Padmashalis (15 per cent) and Mudiraj (14 per cent). In Padmashali households, even women appreciate the role of the men in helping to collect water, unlike in the past when water collection was the sole responsibility of women in the household. Men from this colony mostly work as labourers in the nearby factories, which operate on shifts. And according to the factory schedules, they adjust their activities to help women fill water when at home.

Figure 1: Role of household members in collecting water



Source: Primary Survey data: 2011-2012, SaciWATERS Peri Urban Research Project

On the other hand, 23 per cent respondents in Padmashalis and 29 per cent respondents in the ST community accounted for women adults alone responsible for collecting water, which however not statistically significant because only 35 respondents have reported the same, which is a small number to arrive at a conclusion. Again, a very small proportion of 1.5 per cent respondents comprising Reddys and Yadavs reported that the males alone collected water. Since a sample was taken, this particular trend could just be a coincidence and cannot be accepted with confidence, statistically, because the women of the household may be sick, away for work or due to the absence of a piped connection (a case for 6 per cent of Yadav households) or had to depend on a standpost that was distant (upto almost 200 mts for about 7 per cent Reddy households) making it probably difficult for the woman and children to travel with heavy containers.

3.3 Inequity in household water: a gendered perception

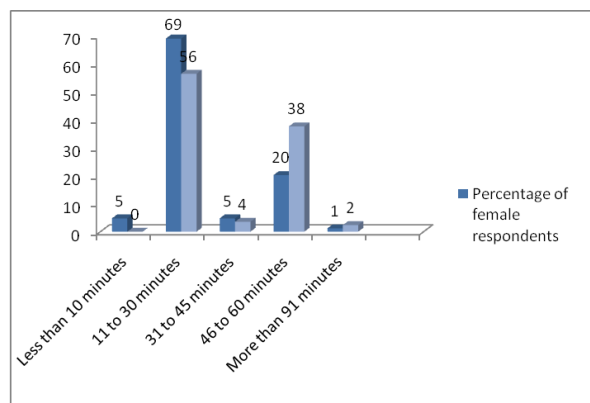
As already mentioned, Aliabad being a peri-urban village is subjected to pressures of urbanisation, with several industries and commercial complexes located in the vicinity, although residential complexes are still limited and not yet operational in full swing. The key informant interviews revealed that the quality and quantity of water has been compromised in recent years and certain communities have to bear the brunt of this impact more than the others. Hence per capita availability of water varies across the groups and it was necessary to identify the factors playing a role in differential availability and how women and men's perception of these factors vary. The analysis revealed that per capita water availability is not influenced by gender disaggregated responses. Once this was derived, further analysis of factors (identified during key informant interviews) were taken up using t-test viz. presence or absence of a piped connection, dependence on a standpost, ownership of a personal pumpset, ownership of a two wheeler (for carrying larger amounts of water easily in case of short erratic supply), the role of household members in collecting water, and correlations with distance of the standpost and number of trips made every day, frequency of supply of pipe connection, number of minutes, storage capacity of the household.

For analysing whether per capita water consumption was associated with the possession of a pipe connection in side or in front of the house, a t-test was conducted which revealed a statistically insignificant result. The same test was run using the other variables listed above, none of which revealed statistically significant results except for household member's role. Another set of analysis was done using correlation with the remaining variables which revealed spurious correlations, except number of minutes, which showed a negative correlation although not statistically significant. In case of average minutes however, male and female responses differed significantly as compared to the other parameters. The responses about the average minutes of water supply through panchayat varies (see figure 2)

The question is – why a differential availability of water existed and how this could be investigated? To investigate further, a one-way ANOVA was run between per capita water consumption (defining variable)

and the caste groups (explanatory categorical variable), where the per capita water consumption was not found to be a defining factor between the caste groups which was indicated by the statistically insignificant value of 0.09. However, post hoc tables generated as part of this analysis showed that there was a difference between the marginalised castes, SC and STs with the 'others' group (comprising Brahmin, Oli Dasari, Kumaaris, Kammaris, Nayee Brahmins, Vishwa Brahmin households) indicating a value of 0.054. However, this value indicated that the differences in the average values across the two groups existed, but not very significant. So the next step was to verify this trend using the reasons that were stated by households during the primary survey for water not being sufficient to meet their household needs. Although 47 per cent of households have reported that the water available was insufficient to meet their household needs, the phenomenon was identified largely amongst the Padmashali, Yadav and Reddy households.

Figure 2: Duration of panchayat water supply for those with pipe connection



Source: Primary Survey data: 2011-2012, SaciWATERS Peri Urban Research Project

3.4 Who is the most vulnerable with regard to water access?

The basic need for water includes water used for personal hygiene, but defining a minimum has limited significance as the volume of water used by households depends on accessibility as determined primarily by distance and time, but also including reliability and potential cost. This paper uses the WHO

Table 3.: Health Risk Categories based on Per capita was consumption

	Percentage male responses	Percentage female responses
>=5 to <20 LPCD (High Health risk)	12	8
>=20 to <50 LPCD (medium to high health risk)	69	71
>=50 to <100 LPCD (low health risk)	17	18
>= 100 LPCD (very low health risk)	2	3
Total	100	100

Source: Primary Survey data: 2011-2012, SaciWATERS Peri Urban Research Project

(2003) criterion which classifies water accessibility and service levels to indicate levels of health risks. Five health risks categories were devised using per capita water consumption data namely - very high (Less than 5 lpcd), high (>=5 to <20 lpcd), medium to high (>=20 to <50 lpcd), low (>=0 to <100 lpcd) and very low (>=100 lpcd). The gender disaggregated information shows that women are at a higher health risk than men in the medium to high risk category (see Table 3). It also indicates that women's perception of the safety and basic sense of health and hygiene was slightly lower than men.

However, disaggregating this information further with caste hierarchy indicates that 15 per cent of Mudiraj, 16 per cent of SCs and STs (taken together), 10 per cent of Padmashali and 18 per cent respondents from the others category within their respective caste groups are found to be part of the medium to high health risk category based on their per capita water consumption. 5 per cent Mudiraj, 4 per cent SC and ST and 3 per cent respondents from the Others category within their respective caste groups belong to the high risk category. This result corroborates with the opinion of lower caste groups that the available water was not sufficient to meet their household needs. Only 18 per cent of population across all castes was found to be in the low and very low health risk categories and therefore about 80 per cent of the population is at high health risk as regard water consumption is concern. Therefore, lower caste populations are at higher risks and are more vulnerable.

An important question following this is to identify reasons behind the level of vulnerability. The figure 3 represents male and female perception about the reason for the panchayat water not being sufficient to meet their household requirement. On the whole, erratic and short supply has been considered as the primary reason for water not being sufficient for household needs; responses which vary slightly across males and females.

4.0 Gender and Caste Spaces in Household Water: Informing the Reforms

Unlike popular belief, in Aliabad village, the data collected in 2011-12 revealed that there is insignificant gender differentiation in perception of water and related insecurity. This is more because water inequity is rampant in the village and more of a common knowledge. Both men and women feel that it is the technical

problem related to frequent power cuts, low pressure of water during summers, absence of a direct connection, which increases the burden of water collection and reduces the amount of water collected. However, there is a difference of understanding of the minutes of water supply (see figure 3) wherein women perceive that water is supplied for shorter time span against the popular belief of the men. So how does one interpret this? Time use survey data, in most countries, show that women work longer than men and the time they spend on domestic work is added to the hours they work outside the home such as agriculture or industry. Similarly, data for developing countries show that girls tend to spend more time on domestic chores than boys and thus have more limited opportunities for education and leisure activities. These gender differences in time use can be expected to have welfare and policy implications that are missing in empirical work that does not distinguish between different tasks of women (Apps, 2003).

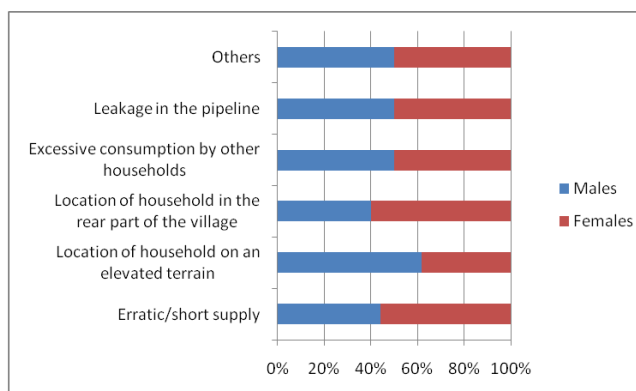
Caste is one of the important factors for water access. In Aliabad, lower caste communities are at the rear end of the village where water supply lines are problematic. Being on the rear part of the village has made the Scheduled Caste population more vulnerable especially when there are voltage fluctuations inhibiting the water to reach the farthest location. Focus group discussions with communities have also reconfirmed the understanding that jammed and blocked pipes in certain sections of the village prevent the smooth flow of water to all wards.

The perception and knowledge of water access and use within the male and female respondents in Aliabad have been relatively uniform, but the impact and therefore the coping mechanism are often different. Most women have to bear the brunt of the inequities and this forces them to travel more often to the standpost to fill more containers or to prioritise the use of water at home. Discussions with women of the Padmashali caste revealed that water supply timings vary with supply of power to the village. While supply from the OST is well regulated and coordinated, the common standposts or taps near the two bores operate only when there is power. Since there is only a certain amount of water that can be filled in the one hour of scheduled water supply, a woman's work at home largely depends on the timing of power supply. This is further constrained by lack of large storage containers for water. Unlike the rest of the village this colony does not have mini storage tanks that provide water irrespective of power supply. So women have to travel longer distances to collect water if necessary or have to constantly keep a watch out for the power supply schedule and adjust their daily schedules to accommodate the important activity of "filling water".

The daily activity calendar for women reveals that women get up as early as 5 am to fill water from their taps at home. In case of early morning power cut schedules, additional water from the common taps is filled the previous night. This is an important exercise as the one hour water supply schedule from the panchayat water supply is not sufficient to meet their daily requirements. With an average family size of 5, the women then carry out household chores like cooking and washing and getting their children ready for school. Water drawn from the common standposts as well as from taps within their homes is hard water. This water, according to the group, leaves a white deposit on the sides of vessels if left standing for long hours. Thus it is used only for household chores like washing clothes and vessels and bathing. This water was used for drinking in the past, but women began to suffer from severe joint pains which they attribute to high fluoride and other salt levels in the water.

In the SC colony of Aliyabad peri-urban village, the pollution of groundwater has made households more dependent on water from private filtration plants that are located a kilometre away and is a burden for women to travel so far to fetch drinking water, perhaps the reason why men are involved together with women for water collection as revealed from the analysis earlier. In some cases, they collect water from the connection that is available to a temple nearby; otherwise getting water to be delivered to the door step is often a rupee expensive and is a burden for the household on a regular basis. Because of the high fluoride content in the groundwater, women who drink this water complain of getting joint pains and fever, which further affects their ability to walk longer distances to fetch water when necessary. However, women although not technically educated are well aware of the ill effects of the process of reverse osmosis through increased deposits of salts in ground water. During discussion, women raised questions on whether filtered water is a good option in the long run, which indicates that their understanding of sustainability is deeper than their male counterparts and emphasized the need for cleaning and improving the public distribution system as was in the past.

Figure 3: Male and Female perception of the reasons of inadequate water supply



Source: Primary Survey data: 2011-2012, SaciWATERs Peri Urban Research Project

An important question that follows the analysis of primary data is the caste and gender based inequity in access to water in a village which is very close to an urban centre, for eg Hyderabad. Is access to water only a technical problem where solution lies in having better infrastructure or is it much more deep rooted in a stratified Indian society? Sector reforms in the domestic water sector began in 1990s in India as a part of pilot projects funded by International Financial Institutions (IFIs). These reforms have now penetrated into policy and legal frameworks of water governance at the national as well as state levels. These reforms are crucial for many reasons. First, the reforms acquire importance because of the centrality accorded to them in sector governance. Second, reforms are making fundamental changes to the values and principles underlying laws and policies. Third, these reforms are comprehensive, covering all important aspects and elements of the sector. Fourth, and most importantly, many of the reforms have brought in changes in not only policies and laws but also in the institutional structures and even ground conditions that are very difficult to reverse (Warghade and Wagle, 2011). Principles for reforms are by and large, in opposition to the principles that guide governmental action for the previous decades. This is of no concern in itself since evolving conditions often require policy changes to address evolving challenges. There is, however, an additional issue that arises where a fundamental human right is concerned. While the government is at liberty to adopt different policies to realise its constitutional obligations, in the case of a fundamental right, it is the ultimate protector of human rights (Cullet, 2009). Citing the case of rural drinking water reforms in Maharashtra, India, Sangameswaran (2010) points out the lack of recognition and attention of local inequalities and power dynamics. The perceived withdrawal of the state, and the speed at which far-reaching legal changes are being made, sees the process as manifestation of the neo-liberal policies stemming from donor conditionality and/or particular kinds of water discourses at the international level such as the Dublin principles that consider water to be an economic good. Prakash and Sama (2008) shows how power structure and social hierarchy goes hand in hand in providing access to water for the lower castes in the western Indian state of Gujarat. They showed that sector reforms can speed up service delivery but do not have a political will to tackle structural issues which are at the core of access issues around water. David Mosse (2004) shows that regardless of policy and corresponding institutional arrangements, disparities by caste and gender have been consistently reproduced as water governance and management changed hands from community to state to recent neo-liberal institutional arrangements in India. The gender and caste inequity in access to water in Aliabad is not an isolated village case study but part of the process of 'apolitical' water reforms that chooses to ignore gender and caste inequalities and therefore misses out on reaching the last person.

References:

- Ahmed, S. 2005. *Flowing Upstream: Empowering Women Through Water Management Initiatives in India*. Ahmedabad: Centre for Environment Education and New Delhi: Foundation Books.
- Apps, P. 2003. *Gender, Time Use and Models of the Household*. Discussion Paper No. 796. Institute of Study of Labour. IZA, Germany: Bonn .
- Bhat, S.; Pomane, R. and Kulkarni, S. 2012. *Assessing Social and Gender Equity in the Water Sector*. Water Policy Research Highlight No.-22, IWMI Tata Water Policy Program. [Available online: http://www.iwmi.cgiar.org/iwmi-tata/PDFs/2012_Highlight-22.pdf Accessed August 25, 2012].
- Cap-Net, India, SOPPECOM, Women Water Network (WWN). 2007. *Water for Livelihoods: A Gender Perspective*. (Based on writings of Ahmed, S.; S. Arya, S.; Joy, K.J.; Kulkarni, S.; Panda, S.M. & Paranjape, S.) Ch. 5. Pune: Cap-Net, India, SOPPECOM and WWN, pp. 60-76.
- Chand, D.; Dey, C.; Prakash, M. & Kullappa, M.. 2004. *Review Report on Total Sanitation Campaign / Swajaldhara Projects in Uttar Pradesh*. Available at: http://www.mdws.gov.in/hindi/sites/upload_files/ddwshindi/files/pdf/rev_up_04_0.pdf. [Accessed on August 10, 2012].
- Cleaver, J. 2007. *Understanding Agency in Collective Action*. *Journal of Human Development*, 8 (2), pp. 223-244.
- Crow, B. & Sultana, F. 2002. *Gender, Class, and Access to Water: Three Cases in a Poor and Crowded Delta*. *Society & Natural Resources: An International Journal*, 15(8), pp. 709-724.
- Cullet, P. 2009. *New Policy Framework for Rural Drinking Water Supply: Swajaldhara Guidelines*. *Economic & Political Weekly*, 44(50), December 12, 2009, pp. 47-54.
- Jha, P.K. 2005. *Sustainable Technologies for On-site Human Waste and Wastewater Management: Sulabh Experience*. [Available online: [ww.bvsde.paho.org/texcom/cd050999/pkjha.pdf](http://www.bvsde.paho.org/texcom/cd050999/pkjha.pdf) Accessed on August 20, 2012].
- Joint Monitoring Program (JMP). 2008. *Progress in Drinking-Water and Sanitation: Special Focus on Sanitation*. New York: UN Water.

Joshi, D. 2005. Misunderstanding Gender in Water: Addressing or Reproducing Exclusion. IN: A. Coles, A. & Wallace, T. (eds). *Gender, Water and Development*. Ch 8. :Berg Publishers, Oxford-UK.

Joshi, D. & Zwartveen, M. 2011. Gender in Drinking Water and Sanitation: An Introduction. IN: Zwartveen, M.; Ahmed, S. & Rimal, S.G. (Eds). *Diverting the Flow: Gender Equity and Water in South Asia*. Zubaan-, Delhi. India, pp. 161-174.

Joshi, D. 2011. Caste, Gender and the Rhetoric of Reform in India's Drinking Water Sector, *Economic and Political Weekly*, 46(18), April 30 2011, pp. 56-63.

Joy, K. J. & Paranjpe. S. 2005. WOMEN AND WATER: Relationships, Issues, Experiences, Approaches. Lecture notes provided for the 5th South Asia Training Programme on Gender, Water and Equity, Kathmandu in 2010 by Cap-Net, GWA, SaciWATERs, SOPPECOM, UN HABITAT and WSSCC.

Kapadia, K. (eds). 2002. *The Violence of Development: The Politics of Identity, Gender and Social Inequalities in India*. New Delhi: Kali for Women...

Krishnaraj ,M. 2011. Women and Water: Issues of Gender, Caste, Class and Institutions. *Economic and Political Weekly*, xlvii46(18), April 30 2011, pp. 37-39.

Lahiri-Dutt, K. (eds) 2006. *Fluid Bonds: Views on gender and water*, Calcutta: Stree Samya Books. Mosse, D. 2004. Is Good Policy Unimplementable? Reflections on the Ethnography of Aid Policy and Practice. *Development and Change*, 35(4), pp. 639-671.

Narain, V. 2003. Water Scarcity and Institutional Adaptation: Lessons from Four Case Studies, IN: TERI. *Environmental Threats, Vulnerability, and Adaptation: Case Studies from India*. New Delhi: The Energy and Resources Institute, pp 107-120.

Prakash, A. & Sama, R.K. 2008. Social Undercurrents in a Gujarat Village: Irrigation for the Rich vs. Drinking Water for the Poor. *Water Conflicts in India: A Million Revolts in the Making*. New Delhi: Routledge, pp. 38-43.

Sangameswaran, P. 2010. Rural Drinking Water Reforms in Maharashtra: The Role of Neo-liberalism. *Economic & Political Weekly*, 55(4), pp. 62-69.

Seager, J. 2010. Gender and Water: Good Rhetoric, but it doesn't "count." Editorial, *Geoforum*, 41(1-3), pp-

WHO, 2003. *Domestic Water Quantity, Service, Level and Health*. World Health Organization. Available online at: [Accessed on August 27, 2012].

Warghade, S. & Wagle, S. 2011. Water Sector Reforms: Implications on Empowerment and Equity. IN IDFC (ed): *India Infrastructure Report 2011*. Oxford University Press New Delhi, pp. 325-336.

Zwartveen, M.; Ahmed, S. & Rimal, S.G. (Eds). 2012. *Diverting the Flow: Gender Equity and Water in South Asia*. Zubaan- Delhi.



Water Security in Peri Urban South Asia: Adapting to Climate Change and Urbanization

Working primarily on water security issues in Peri-Urban South Asia, across India, Bangladesh and Nepal, the project's main concerns are the rapidly changing peri-urban landscapes due to urbanisation and implications for water security in specific locations in the larger context of climate change. As an action research project, working across four locations in South Asia, it will serve as a basis for capacity-building at the grass roots level to address concerns of the poor, marginalised and other vulnerable communities to water security and seek to understand the dynamics of adaptation in the specific locations, for action and policy agenda at the regional level. It will build their capacities to cope with climate change induced water in-security.

www.saciwaters.org/periurban

Coordinating Institution:

The project is being coordinated by **SaciWATERS**, Hyderabad, India. SaciWATERS focuses on transforming water resources knowledge systems, key ideas being an interdisciplinary approach to understanding water resources issues, from a pro-poor, human development perspective, with an emphasis on exchange, interaction and collaboration at South Asia level.

Partner Institutions:

Bangladesh University of Engineering and Technology (BUET) is the oldest and leading university in Bangladesh in the area of technology. IWFM is a premier institute for the advancement of knowledge and development of human resources in water and flood management.

Nepal Engineering College (NEC) was established in 1994, as a non-profit organization under private sector initiative, to function as center for advanced learning in engineering and allied sciences. It has been offering the Interdisciplinary Water Resources Management (IWRM) Program since the beginning July, 2007 under the support of Crossing Boundaries (CB) Project funded by Government of the Netherlands.

Project Support:

This project is supported by Canada's **International Development Research Centre (IDRC)**. IDRC is one of the world's leading institutions in the generation and application of new knowledge to meet the challenges of international development. For nearly 40 years, IDRC has worked in close collaboration with researchers from the developing world in their search for the means to build healthier, more equitable, and more prosperous societies.

Project Partners

SaciWATERS



Project Support

IDRC  **CRDI**