Chapter 5
Gender and Water in India: A Review

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Abstract This chapter provides an overview of key issues in the area of gender and water. It gives an overview of different debates around women and environment and shows how these have shaped the discourse and practice around gender and water. The chapter then goes on to discuss the reforms in the water sector at the global level and how this has impacted the discussions around gender and water. A comprehensive review of literature is done in the context of India which covers the various writings and actions in the area of gender and water. The review specifically looks at gender and equity issues in the areas of rivers, dams and displacement, water for production and domestic water.

The chapter argues for going beyond the politics of representation and developing new agendas and creative forms of engagement with people's movements- more specifically women's movements, farmers movements and unions working on the question of growing informalisation of the economy, greater accumulation of capital, increasing injustices and disparities in everyday living- to see the linkages between land, water, rivers, natural resources and livelihoods.

Keywords Ecofeminism • Gender • Domestic water • Water for production • Dams and displacement

5.1 The Historical Context

The early 1970s witnessed a global environmental crisis with a model of limitless growth at the cost of nature. This was increasingly being challenged with questions around sustainable development raised by environmentalists the world over. Among these were also strong feminist voices questioning the unsustainable paradigm where women and mother earth were exploited. Eco-feminist thought primarily

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developed as a response against destructive nuclear power, anti nature development paradigms evolved as a powerful challenge in the first world context forcing debates on zero growth development. In the developing world however the context was different and a zero growth model could not be conceived of in the midst of poverty. Environments and their conservation had thus to be seen in the context of the millions who depended on nature for their survival.

Subsequently a large body of literature developed around the theme of Women, environment and development both in the developed and developing world, primarily as a response to the crisis on nature and its people. Actions and writings around these themes were a wakeup call for governments. The World Commission on Environment and Development (WCED), better known as the Brundtland commission was set up in 1983, which came out with the report "Our Common Future" (1987). This was followed by the Earth Summit in 1992 at Rio. The Summit marked a new momentum in the women and environment debates. Since then there have been several summits and conventions on issues related to sustainable development.

In a sense 1992 can be considered as a marker for work around gender and water emerging globally. Its roots of course lay in the rich body of work coming as a response to environmental degradation, and the limitless growth in the first world countries since the late 1970s and more so in the 1980s and 1990s. Deep Ecology, social ecology, ecofeminism (Merchant 1983; Salleh 1990, 1991; Mies 1986; Mies and Shiva 1993), political ecology (Blaikie 1985), feminist political ecology (Rocheleau et al. 1996), feminist environmentalism (Agarwal 1992) etc contributed significantly to literature and actions around gender and water.

Ecofeminist thinking however had a lasting impact on actions, programmes and writings around gender and the environment. There is however no one single ecofeminism but several ecofeminisms broadly classified as cultural and social ecofeminism. Cultural ecofeminism has been critiqued for its biological determinism which sees a close and inherent association between nature and women. Since the survival of both is so intricately linked, women are seen as the nurturers and regenerators of nature. These positions drew heavy criticisms from social ecofeminists as well as other feminists for essentialising both women and nature, for seeing them without the complex web of relations in which they are bound with each other and the larger society. Social ecofeminists or feminist environmentalists understood the relationship between women and the environment as based in a material relationship. Women's reproductive work of collecting fuel, fodder, water brings them in close connection with the environment and hence their knowledge and experience becomes crucial in the management and regeneration of nature. At a macro level the work of Maria Mies (1986) is crucial as it looks at exploitation of nature, women's labour and other subsistence workers from the developing world as a systematic process of entrenching new patriarchies and capitalist accumulation on a world scale (Mies 1986).

What is important for us is how these debates informed the women and environment related actions and policies and vice versa. In the developing world contexts

early actions and writings on gender and environment were framed within the oil crisis of the early 1970s, the increased dependence on wood fuel and women's burden in collecting wood fuel. Women were thus seen as victims of this degradation facing the brunt of degrading forests, depleting water resources. Large scale forestry programmes were planned to address this concern and by the 1980s there was a realization that most of these had failed since there was no community participation; this understanding led to programmes being planned with communities participating in forestry management and community was understood as women because of their close relationship to nature. The widely acclaimed Chipko movement from India in a sense changed the discourse with women being projected as the protectors of forests hugging trees to save them. This significantly contributed to the framing of women as the solutions to the problem of degrading environments (Shiva 1989). Thus from victims women were now being viewed as solutions to the crisis. Guha's (1989) ethnographic work which traced the long history of the movement, its Gandhian tradition gave a different view to the Chipko movement by pointing towards the shortcomings of an essentialist interpretation of Chipko which ignored history.

Learnings from this body of work led to formulations which tried to locate the environment and gender question within broader frameworks by addressing the dynamic and complex relationship of nature, and genders, diversity and development (Agarwal 1992; Green et al. 1998; Jackson 1993; Rocheleau et al. 1996). The backdrop of this discussion is important for us to locate work around gender and water which was largely informed by these debates.

5.2 Global Policy Changes in Water

In Dublin in Ireland in January 1992 the International conference on water and environment for the first time stressed the importance of women's participation in water management. Strangely it was the same conference which also clearly laid the basis for commoditization of water. All of the four principles[1] were accepted and were recommended to the countries across the globe at the Rio Earth Summit held later in the same year. Participation through decentralised planning and management and cost recovery through pricing were considered as important measures in water management in the post Dublin era. It also marked a clear shift from a

[1] The four principles Principle 1: Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment.

Principle 2: Water development and management should be based on a participatory approach, involving users, planners and policy-makers at all levels.

Principle 3: Women play a central part in the provision, management and safeguarding of water.

Principle 4: Water has an economic value in all its competing uses and should be recognized as an economic good.

technocentric approach to water management to one which recognized the need for institutional restructuring and economic reform. Following this were the World Water Forums since 1997. The first one was in Morocco, Marrakech in 1997 where the main theme was to develop the "Vision for Water, Life and the Environment in the 21st Century." It was in the second world water forum held in 2000 at the Hague that gender issues got firmly entrenched with the formation of the Gender and Water Alliance or the GWA (genderwateralliance.org). International agencies acknowledged the need to involve men and women in planning for water (UNDP 2003). As part of the Global Water Partnership formed in 1996, country water partnerships were set up in different countries and many in South Asia had Women and Water networks that emerged from the country partnerships. Much has happened since at the global level in terms of recognizing water as a human rights issue on the one hand and commoditizing it on the other, however gender remains a stated but unaddressed cause. The rhetoric on gender will remain a distant dream unless it is located historically and understood as a set of complex relations between the different genders, defined identities and embedded in hegemonic power relations (cutting across caste, class and race) that serve the interest of state, capital and patriarchy.

5.3 The Gender and Water Literature: An Overview

Much of the documented work on gender and water emerges in the post Dublin period. A fall out of this was a spate of programmes designed to include women in water management, largely at the micro level institutions planned around domestic water. Most national and state governments brought in women's participation in their policy documents guided largely by agendas set by multilateral agencies. Feminist writings approached the question by highlighting the contradictions between recognizing women's contribution as significant on the one hand and turning water into an economic good on the other (Cleaver and Elson 1995; Green and Baden 1995; Zwarteveen 1998).

Framing women as being connected closely with nature and thus as privileged knowers and placing undue burden of water management and conservation on women drew heavy criticism from feminists. These critiques brought out the instrumental approach to women's participation in water. They also pointed to flaws in understanding women and communities as homogenous without addressing the structures (caste, class, race and other differences), identities and discourses that determine access to water (Ahmed 2005; Joshi and Fawcett 2005; Kulkarni et al. 2007; Rocheleau et al. 1996).They called for a more nuanced approach to understanding gender and water, locating it in the larger political ecology framework. In a nutshell then, we have literature that supports the essentialist view of women's close association with nature and hence water and that which counters this view by saying there is nothing inherent and essential in the association. Within the realm of these debates policy makers and to a great extent uncritical practitioners continue to understand women as instruments to address the water crisis, especially at the micro level.

It is indeed a difficult task to take complete stock of gender and water issues in the Indian context in one article here. The first challenge is to organize the multifarious and overlapping writings on this topic in any compartments. But a broad categorization that seems useful for this particular review looks at writings and work around (a) rivers, dams and displacement (b) domestic water and (c) water for production. Again these are not mutually exclusive categories but would help us unravel the different meanings around water and its relation to gender. We already have two good books, namely, 'Flowing Upstream', edited by Sara Ahmed (2005) and the more recent one 'Diverting the Flow' edited by Zwarteveen et al. (2012) in the Indian and South Asian context which are devoted to gender and water and they become important references for those interested in this topic.

The second challenge is to bring readers to appreciate the rich and path breaking work by feminists in unpacking the basic concepts of gender, sex, labour, social/gender relations, division of labour, productive and reproductive labour, intersection of gender with caste, class race and other forms of social and economic discrimination. Rather than going into an elucidation of this work here I would like the water readers to refer to some basic writings on gender and patriarchy in the Indian context (Geetha 2002; Chakravarti 2006; Menon 2012; Mohanty 2004; Ghosh 2009) that show that gender is a social construct that intersects with other hegemonic structures like caste, class, race etc to create unequal power relations which greatly disadvantage women especially so from disadvantaged social groups. It is an organising principle that creates identities which determine how we are perceived and expected to think and act. Gender relations are thus social relations between the different genders that reflect the distribution of power. They also determine the work we do and the work that gets valued or not. Productive work is considered as valued work, which creates surpluses and is largely done by men it is believed while reproductive work is largely unpaid work that is significant from the point of view of subsistence and welfare of the household. Much of this work is done by women and is not recognized as work and less still as work that contributes to accumulation of capital. These images, symbols and meanings around gender and gender relations get firmly entrenched and carried forward through institutions like family, marriage, state, religion and markets for example. With this as a historical context we can now see how and why gender mainstreaming in water is not only about changing water policies but about bringing about a paradigmatic change in our understanding of water and gender.

5.4 Rivers, Dams and Displacement

Rivers have several meanings in India; they are the source of life and livelihood and have a strong religious and cultural meaning in people's lives. In the Indian context reference to rivers has often been as female. Feldhaus (1995) points out how waters in rivers are attributed with feminine properties in folk as well as classical material in rural Maharashtra as elsewhere in India. She points to not only the purifying

powers of the rivers but also their fertilizing properties. Her work discusses the folklore around rivers in Maharashtra, which she shows is linked to different goddesses of fertility and fecundity. They depict the different cycles of life i.e birth, growth and death. Feldhaus gives several references from the Vedas that refer to river in the feminine and describe the beauty, benevolence and the rage of the river.

Lahiri Dutt's work also discusses through an ethnographic work on the Bengal deltaic rivers how the images around rivers in these regions are constructed as feminine with qualities such as benevolence, nourishing and yet at the same time fearsome and frightening (Lahiri-Dutt 2006). She further goes on to show how natures are constructed within ideological frameworks and the construction of feminine rivers also reflects the gender relations within society that encompass love, hate and fear of women. Lahiri's work brings out the close relationship between the symbolism associated with nature and with women. She argues how this is used to the disadvantage of subaltern groups in this case women, as an "anchoring platform" to reproduce inequalities.

Shiva's work for example in Staying Alive (1989) points out how irrigation development, or damming rivers, to be more specific "violates cycles of life in rivers." and leads to drought and women's exploitation. She says "violence to the water cycle is one of the worst but invisible form of violence …. destroying the feminine principle and sustaining power of water and destroying women's knowledge and productivity in providing sustenance".

This literature informed by cultural studies looks at water not as part of the physical environment but also very much part of our social and cultural lives. While one strand tends to essentialise women by invoking the feminine principle the other uses this imagery to show how these symbols are selectively used to power over women and nature.

Construction of water scarcity and thus the justification for creating large dams has been one of the critical areas of work in water. Displacement caused due to submergence affects social and cultural lives of people in a significant way. Literature around gendered dimensions of large dams has received very little attention, despite the fact that several anti dam protests have seen women in the lead. Large dams change the entire landscape of a place by bringing in tenurial changes and property ownerships. It changes the way informal arrangements in resource sharing took place prior to the project. Women are most affected by these changes as it puts them in vulnerable positions. They lose out on their status in the community and their bargaining power becoming more prone to abuse. Literature has also shown how new formalized institutions in fact have a male character to them. Interestingly women are at the forefront of these struggles, but do not seem to benefit very much from them in terms of addressing gender inequities. These struggles however display the strong urge of women to change the course of dominant understandings around development (Mehta 2009; Lahiri-Dutt 2012). The Narmada movement and the lesser known movements in South Maharashtra are testimony to this. These are struggles against dispossession from land and water and the livelihood rights of people. But they also raise questions about the change that these projects bring about in their lives in terms of the social and cultural meanings that the rivers held for them.

5.5 Domestic Water: Female Domain

Documented examples of water for domestic use abound in the literature around gender and water. Several of these documented examples are also from regions where there have been stronger NGOs or organisations working on women, SHGs and rural livelihood issues. Women's collectivisation around water for domestic use stems from their role as providers of household care. Thus lack of water for drinking and domestic use implies hardships for women in performing their role as providers of care and nurture. We therefore find several examples where women have come together and responded to crisis of domestic water in very creative ways, either through engagement with the state, or through acquiring new skills in water harvesting, conservation, repair and maintenance and management. There are also examples of how women's collectives have through participatory processes resolved the water crisis of their villages. It may not be possible here to take stock of all the examples around drinking and domestic water, simply because there are a large number of such examples both documented and undocumented. For example noted socialist leader from Mumbai, Mrunal Gore was fondly remembered as Paniwali bai or water lady because she led several struggles for water, price rise and basic amenities in urban slums, and women were in the forefront of these struggles. As early as 1968 she fought for the right for water and other civic amenities for slum dwellers in Mumbai (Gavankar 2003). Numerous such tales abound in history where women have collectivised for water, largely to reduce their burdens of going through hardships to collect scarce water from long distances. Women's struggles around domestic water need to be understood in the context of the established system of division of labour where women's work includes domestic work of caring, cleaning, fetching water, fuel, fodder, cooking etc. or what is often referred to as reproductive labour in feminist work. In fact gender and water often gets equated with women and domestic water largely neglecting women's work with productive water. For example women's extensive labour in different stages of irrigated agriculture or use of water for tanning and other village industries hardly gets accounted as work related to water. Feminists have critiqued this division of water domains where domestic is considered as the female domain and productive water as the male. The established division of labour extends to the water sector as much as to any other dimension of work (Zwarteveen 1995, 1998; Kulkarni et al. 2007). Productive water involves commodity production, marketing and cash exchanges thereby giving an economic value to water, whereas domestic water remains as a consumption resource with no evident economic value. Feminists have pointed out that it is in fact these 'domestic' tasks of women that contribute to surplus generation and capital accumulation. However this analysis has not been systematically applied in the context of water.

Some of the well documented and visible examples of work around gender and water are those initiated by well established NGOs and organisations, such as Utthan, SEWA and Tarun Bharat Sangh to name a few.

In the Bhal region of Gujarat which has scanty rainfall and saline groundwater, women under the banner of Utthan formed a coalition called Mahiti and demanded solutions for clean and adequate water. The Gujarat water supply board thus agreed

to approving a project to promote decentralised rain water harvesting structures, such as plastic lined ponds, roof top water collection tanks and similar such local solutions to address the water problem (*utthangujarat.org, accessed 11 june 2013)*. Sewa trained its women members in hand pump repairs so that they are equipped to deal with problems that arise due to failure of hand pumps. These trained women not only work as barefoot water technicians but in turn have also trained several women to deal with similar crises (Iyenger 2000; Ahmed 2000).

Tarun Bharat Sangh (TBS) in Rajasthan has been working for more than two decades now on revival of traditional water structures in Rajasthan and the idea of water parliaments has been a much acclaimed one. Increasingly TBS is engaging with women through the establishment of Mahila Jal Biradaris which is a village level collective that identifies the key reasons for the crisis and also looks for possible solutions for addressing it. Documented reports show that such processes have contributed to addressing water scarcity and reducing the drudgery of women (Field work discussions with TBS staff 2010).

In 2007 with a severe drought affecting the Bundelkhad region a local group Parmarth mobilised rural dalit women through its informal initiatives of pani panchayat and jal sahelis with the aim of conserving traditional water bodies and preparing water conservation plans for some of the districts in this region. For dalit women to come forward and challenge the caste ridden society, this was indeed a challenge. With a network of 2000 women across 60 gram panchayats in three districts of Bundelkhand they have not only addressed the water question but importantly also challenged the caste and patriarchal order of society and established right to water as a human right (Singh 2012).

These and many more examples from the rural context occurred in the post 1990s, which coincided with the Dublin principles of course, but also with increasing scarcity and mismanagement of water due to the extractive and iniquitous policies of the early 1970s especially with relation to ground water. All of these examples challenged the mainstream thinking around women and water. Utthan's experiment is important from the point of view of women's collectives being able to counter the conventional wisdom of the water departments to invest in large centralised pipeline projects which have not necessarily found answers to certain kinds of local problems such as this one. Both SEWA and TBS examples become important as they challenge the static understanding around gender roles as providers of care and nurture. While in SEWA women take on the role of technicians, which is otherwise considered as a male domain, in TBS women analyse, think together and find solutions again understood to be a male trait and prerogative. In both cases women take on new roles, challenge stereotypes and yet continue performing their old tasks as well. New work simply gets added on. How do we understand these examples- as using women as solutions to the problem and burdening them or as an opportunity to discuss the age old feminist question of division of labour. Unfortunately most gender and water interventions stop at the solution and do not use the space provided to challenge gender roles and division of labour thereby burdening the already overburdened women. Much of the gender and water work as we can see remains isolated from feminist politics despite the challenges it posed to water paradigm as well as to gender stereotypes.

5.6 Water for Production: The Male Domain

In the post 1980s reforms were being brought into public sector irrigation across the globe. Poor uptake of irrigation, failure of the governments to maintain and sustain irrigation systems both physically and financially were some of the evident triggers for this reform. Thus transferring irrigation management popularly known as Irrigation Management Transfer (IMT) and transferring operation and maintenance to the farmers, were the key elements of the irrigation reform process.

Gender was not on the radar of irrigation thinking since its objectives were clearly geared towards sustainable management of the systems and the increased efficiency of irrigation and crop productivity. Women were not considered as users and farmers were typically male. Thus in the initial years one finds little writing and thinking on gender and irrigation. Some of the early assessments of the IMT programmes were done by IWMI (then IIMI) Colombo which clearly showed that IMT was a mixed bag of experiences. Some were positive and many not so positive. However much of this analysis was within the framework of normal irrigation thinking guided by efficiency, productivity and financial recovery improvements (Vermillion 1997).

Critical writing on how the shifts in water policy impacted women in the context of irrigation also emerged around the mid-nineties. These writings pointed to the commoditization of water and a gradual erosion of water rights especially for women (Zwarteveen 1997, 1998; Kulkarni et al. 2008). However there were also cautionary articles pointing to the need to not ignore the agency of women and men in these changing contexts. Jackson (1998) argues the need to look at the subjectivities of women and their embodied livelihoods to understand the ways in which women relate to water (Jackson 1998).

Some of the early writings on role of women in irrigation also came from IWMI's gender group and it highlighted both the role of women in irrigation and also the impact of IMT on female farmers. These studies showed that a water user is not a neutral homogenous category, but there are differences between male and female water users since roles in farming are different. The authors thus argued that the impacts of IMT vary significantly across different groups of users (Zwarteveen and Neupane 1996).

Despite these differences women were not identified as farmers and were excluded from farmer organizations. Their interests were thus marginalized and this exclusion, the studies concluded, is constraining and may have serious impacts on women's well being (Merrey 1997).

Researches done in different parts of Africa and Asia also showed similar findings in terms of women's exclusion from irrigation planning, in some cases these exclusions were related to ownership of land and in others simply because of a lack of formalized policies of inclusion of women in different for a to allow for better allocation of irrigated lands (van Koppen 1998). Extensive researches were done to identify and typify women farmers across different regions of the globe and provide a tool base for assessment of indicators for improvement of gender performance (van Koppen 2002).

In the Indian context IMT was largely known by the name of Participatory Irrigation Management. Although there are historical evidences of community managed irrigation systems that can be traced to centuries ago the formal idea is as recent as the twentieth century. In fact Maharashtra and Gujarat had formed water users associations as early as the 1930s. Although there was little response then, the PIM movement in India geared up towards the late 1980s with the first formal Water Users Association being formed in Maharashtra, in Ahmednagar district on one minor canal of the Mula Major Irrigation Project in 1989 (SOPPECOM 2004). Since then there has been leapfrogging in India with several states by the end of 2012 making PIM mandatory (Shah 2011).

Literature in the context of gender and irrigation is very sparse in the Indian context. Broadly it can be classified as literature that came from (a) critical understanding of irrigation as a modernizing project, increasing undue burdens of the laboring classes and (b) from experiences gained through including women in the PIM process.

Critical writings on irrigation and women's role came in the late 1980s and early 1990s. As mentioned earlier Shiva's writings brought out the destructive powers of irrigation through the damming of rivers- on both rivers and women. Agarwal and others have contested these views but in a different way shown how irrigated agriculture in fact hinges on the availability of cheap female labour thereby leading to their exploitation. In her study she showed how among the Garo tribes irrigation led to privatization of land and subsequent displacement of women from critical role in agriculture (Agarwal 1994). Agarwal and Shiva essentially show how development of irrigation in fact commoditised agriculture and displaced women from subsistence agriculture. This was also lucidly brought out by Ramamurthy in her study of WUAs in Andhra Pradesh where she shows how irrigation as a modernizing strategy has led to increased agricultural productivity and surpluses and in the process altered the sexual division of labour, workloads and labour processes of women across castes and classes to the disadvantage of women (Ramamurthy 1991). Studies in Maharashtra have also shown how irrigation, resultant sugarcane cultivation has led to intensified alcoholism amongst men and subsequently increased violence against women (Seshu and Bhosale 1990).

The other set of writings around gender and water in irrigation come from groups working in the public irrigation sector. This was partly as a response to donor agendas which in turn were also largely influenced by critical work around gender and water. Much of this work was within the framework of providing women with facilities that are directly related to their current roles of cleaning, cooking, washing etc. Thus bathing steps in canals or clearly demarcated spaces for washing and cleaning were some of the policy and programmatic prescriptions in the context of gender and irrigation (Shah 2002). This work pointed out that women's priority concerns and needs are around domestic water i.e. cooking, bathing washing i.e around the reproductive needs and not so much around the productive needs despite the fact that they were served by the canal. However it also brought out how women make multiple uses of a water system. Much of this literature emerged from practitioners

working in the irrigation sector guided largely by the understanding that participation is a means to an end and in this case the end is clearly that of improving irrigation efficiency. Women are simply an add on. It also comes from disciplinary understandings that seldom challenge the existing social order. So neither are the goals of irrigation seen beyond efficiency and nor are women seen beyond their role of nurture and care for the household. The same organizations that set out with these understandings of irrigation and women also changed their objectives over time with exchange of new perspectives and ideas. A significant example in this regard is that of Aga Khan Rural Support Programme (AKRSP) in Gujarat which has been working on PIM extensively. Recognising that canals were used for multiple purposes such as washing, bathing, livestock and of course irrigation, the organisation decided to rethink canal management. They introduced women's nominal membership to the WUA committees irrespective of ownership to land in commands. Women were thus recognised as users of water. AKRSP fought against the rules of the Irrigation department and brought women onto committees. The experience has been positive and AKRSP has documented the change this action has brought about in women in terms of their active interest in management activities, participation in agriculture and farming related trainings, but above all the confidence in dealing with Irrigation officials and talking to them of their problems (Vasavada 2005).

However around the same time or a little earlier there were writings in India looking at lift irrigation schemes and women's participation in it from a feminist perspective. These writings looked at empowerment and changing gender relations as a result of irrigation and related interventions (Ahmed 1999). Sadguru foundation working in tribal areas of Gujarat in its lift irrigation interventions involved women in decision making. Despite the restrictive rules of the government in terms of including women in the executive committee of the lift co-operatives, Sadguru went ahead and formed the committees with nominal membership of women. Later in 1996 the law was amended to include three women on the executive committee of the Lift Irrigation co-operative. According to Sara Ahmed's study of three lift co-operatives of Sadguru, women's lives have changed substantially. In her study she brings out the positive impact of women's participation in the scheme and the role they played in resolving conflicts related to water sharing and water rotation. She has also documented changes in women's self perception, confidence and importantly mapped the changes in gender roles that were brought out so vividly after Sadguru's participatory exercise to map changes in sexual division of labour.

In Jharkhand with support from Professional Assistance for Development Action (PRADAN) an innovative programme around women's participation in Community managed lift irrigation schemes (CMLI) was initiated. Initially designed to be the male irrigators programme in the dry areas of Jharkhand, the CMLIS were later controlled by all women WUAs linked to the SHGs. When managed by the men farmers, WUAs it was reported were not effective as water charges were not being collected, and maintenance was not being done apart from several other problems in running the scheme effectively. When Pradan decided to finally close down these schemes, they thought of using the rich SHG experience with women and asked

women if they would be able to manage the WUAs. After considerable inputs in terms of organising the WUAs around the existing SHGs, training the women in O&M, all women WUAs were formed and full charge of these WUAs was then taken over by the women, cutting across different SHGs. The successful management of this activity, enhanced the self esteem of women and their confidence grew (Sarkar and Sarkar 2005).

Earlier still from the late 1980s to early 1990s there were new ideas being discussed in non party political groups in Maharashtra which looked at water as a means of production and thus calling for sharing this resource in an equitable manner. Shramik Mukti Dal (SMD), a left thinking group articulated this in the form of right to assured water for livelihoods at an affordable cost. SMD worked out through intensive field based experiments the quantum of water that a household of five would require annually in a drought prone region. The demand was also expressed in terms of a per capita requirement to ensure that women are not excluded from this right in a household context irrespective of landholding. In principle thus SMD included the rights of women and landless in the context of water. The operationalisation of this right was of course a far more complex matter. Thus when the organization after a long struggle against the sand mafia planned and implemented its first people's dam- Baliraja, it ensured sharing of water rights not only on a household basis but made separate allocations within the household for women. This was exemplary and radical and addressed the gender question in the broader framework of societal change and gender justice. A few experiments were initiated on a few plots where one tenth of an acre was carved out for women and they began cultivating it using some of the water allocated as a household resource. This initiative needed a concerted effort for it to see its fuller development (Joy and Paranjape 2005).

In Karnataka the example of women's collectivisation in Kolar district of Karnataka where rural women were organised since the mid 1980s by Grama Vikas is significant. Kolar district has about 4500 traditional tanks which were constructed and managed under royal patronage. Most of these tanks were filled with silt and were no longer able to fulfil the water requirements of the communities living in the area. Women spoke about this to Gram Vikas and thus Grameen Mahila Okkuta (rural women's collective) was formed. With a strong mobilisation they were able to pressurise the government to repair and desilt these traditional tanks which then became a significant source of water (Joy and Paranjape 2005).

NGO efforts in involving women in decision making in PIM were seen across the country through the 1990s. In Orissa PIM was introduced in the mid nineties through a state level policy. Thereafter formation of water users associations (WUAs) and transferring of management of irrigation to these WUAs became a targetted programme of the Irrigation department. In the initial stages there were no special efforts made to involve women in these WUAs. Aunli command of Angul district was one of the early experiments in irrigation to involve women in planning and decision making (Dalwai undated). This was possible because interestingly 67 % of women owned land in this canal command. Men had not responded to the governments call to form a WUA, but women saw the potential and collectivized to form

the WUA and an all women's executive committee that took and implemented key decisions. This example is very important and marks a milestone in the history of women and irrigation in India (cited in Joy and Paranjape 2005).

Following on this in the mid 1990s a different kind of an experiment was initiated in Khudawadi village of Osmanabad district of Maharashtra. On a medium irrigation project of this drought prone region a WUA was formed on one minor canal of the Kurnur Medium Irrigation project with the initiative of SOPPECOM. Frustrated with their experience with the Irrigation department for more than 20 years since the completion of the irrigation project, farmers in Khudawadi responded to SOPPECOM's initiative of forming a WUA and entering into an agreement with the department. In this case however the farmers at the behest of SOPPEOM also added a new component of extending equity beyond the command area by including landless women as beneficiaries of irrigation water. The WUA thus agreed to a 15 % share of their water quota for landless women to use water outside the command areas. Lands were thus leased in by the women's collectives; storage ponds were constructed to lift the canal water and use it on the leased lands to grow fodder and fuel and some food.[2] In several ways this action countered the conventional thinking that irrigation is male and that it is limited to canal command (Kulkarni 2005).

Efforts on expanding the notion of equity in the irrigation sector continued and this is reflected in the writings in the post 2002 period. Stronger critiques of irrigation policies and programmes from a feminist perspective were gradually emerging on the gender water scenario in India (Kulkarni 2005; Kulkarni et al. 2007; Vasavada 2005). These critiques were also informing programmes and policy issues in the irrigation sector. They challenged the notion that women's realm is restricted to the domestic and the productive is for the men. These alternative frameworks have raised considerable questions regarding the conventional and instrumental roles expected of women in the water sector.

All of these examples where diverse groups of women stood up in a primarily male domain are noteworthy. Examples from Orissa, Jharkhand, Gujarat and Karnataka, indicate women's overriding considerations for survival and livelihoods and hence the need to take on challenges that men do not. These experiences do empower them and create some spaces to negotiate power within the households as was evident from the work in Sadguru. However, to conclude that water intervention alone led to these changes would be rather presumptuous. Examples from Maharashtra aim to change the discourses around water and gender. The SMD example particularly is making an effort to address the issue beyond water by looking at structures, identities and also the mainstream discourses around both water and society.

Two significant findings emerged from these early experiences (1) women play a significant role in irrigated agriculture and (2) despite this they are excluded from

[2] Details of how the negotiations were worked out can be found in Looking back … in flowing upstream.

formally or informally being represented in water users associations and involved in planning and decision making.

These findings helped in policy advocacy and mainstreaming some of these ideas in the field. It also led to stronger advocacy to define women as a category worthy of notice in irrigation and the need to bring them in decision making committees of the WUAs (Kulkarni 2005; Vasavada 2005).

PIM legislations brought in the recent years did introduce some changes in its governance structures. With the introduction of quotas in the managing committees for women and in some states[3] joint membership of men and women from land holding families within command areas have at least legally created a space for women in irrigation. The potential is large and some efforts are being made to use this space in Maharashtra and elsewhere. However, women's lack of participation in irrigation goes beyond the hitherto lack of legal or formal spaces. It goes back to the construction of irrigation as a male activity and the farmer as a male entity. It overlooks the labour of women in both the reproductive and productive terrains which contribute towards household survival.

While formal representation was being seen as an important demand by gender water advocates different studies since the late 1990s also showed how formal representation does not necessarily bring women into active decision making (Meinzen-Dick and Zwarteveen 1998); (Kulkarni 2011). In 1997 Ruth and Margreet's study on women and irrigation in the context of South Asia shows that despite some of the formal spaces granted in policies women are rarely able to use these spaces due to the iniquitous structures. As recently as in 2011, a study done by SOPPECOM, Utthan and TISS on decentralization, gender and water, points to women's lack of participation in decision making especially in the irrigation sector. It shows that despite formal representation women are simply not able to participate effectively as a result of past histories of patriarchy and caste (Kulkarni 2011; Kulkarni and Joy 2012).

In irrigation, of course formal representation remained limited to women who own lands in the command areas of these irrigation projects. Participatory Irrigation Management laws restrict membership of WUAs to owners or holders of land within the command areas of canals. This is the first level of exclusion and so far there has not been any headway in this regard. Madhya Pradesh is the only state which has made some progress by including spouses of land holders and owners in canal commands as members of WUAs. Thus in general the demand for recognising women as farmers and with a legitimate right to assured water has not been acknowledged by policy makers.

Right to water for production often becomes a tricky issue in the context of water for women especially because it is so closely linked with access to land. Studies around landownership have shown that not more than 11–12 % women own land (Agarwal 1994). Secondly mobilising women for water rights which are largely usufruct rights is complex as women are divided across social groups such as that of

[3] Madhya Pradesh PIM Act includes spouses of landowners and holders to become members.

caste, class, religion and across households. Identities around social groups and households are stronger, especially when it comes to livelihood resources.

As we can see much of the research and practice in the area of gender and irrigation has largely focused on making women visible through documenting gendered work patterns, which provides a case for improving their rights over water use and their representation in water related institutions like the water users association. While this body of work has been very useful in establishing a case for women and recognizing them as stakeholders in the sector, it has neglected some of the central issues of critiquing irrigation, its association with men and technocracy and the resultant exclusion of the weak or the powerless. Presence of women in water management is not only about ensuring that they enter the predefined formal spaces in irrigation decision making, but also how these pre-defined boundaries of thinking and practice can change. A comparison between both the sectors has shown us how the drawing of these boundaries has in fact served to maintain and strengthen the existing gender hierarchies and identities that foreclose options for change, how policy and programmatic changes are also constrained by the imagery and belief systems that surround irrigation thinking. As recent literature (see Zwarteveen 2008 for example) points out, exploring this relationship is perhaps what lies at the heart of understanding the power relations within the sector.

This has also led to developing another aspect of gender and water which focuses on men, masculinities and water (Zwarteveen 2008). This body of work looks at the association between masculinity and professional water performance and brings out how power and politics in water appear as self evident, static and gender neutral. It thus argues for the need for going beyond representation of women to critically looking at the nature of water knowledges. An initial exploratory study in the Indian context in this regard was done in the field of women as water professionals. This study done by SOPPECOM at the behest of SaciWATERs (SOPPECOM 2009) looked at mainly women engineers and other managerial level women professionals working in the water sector mainly with government departments across South Asia. The study clearly brought out the low numbers of women professionals in water bureaucracy and this linked to their understanding of water as a technocentric and masculine subject. It was also evident from the way water priorities were set (emphasis on infrastructure over participation), work allocations were decided (site work for men and desk work for women or financial and design planning for men and the administrative work for women) and of course infrastructure was available (no toilets and child care facilities in offices for example). Such studies would help unpack the gender question in the context of water in a qualitatively different way by understanding irrigation as a masculine and hegemonic discipline that constrains participation of women and other discriminated groups. The focus would then be to rethinking irrigation and revisiting our ideas around different genders, castes, class and power dynamics within and among them.

5.7 Concluding Remarks

While grassroots initiatives related to gender and water have responded to everyday crises related to water and social injustice, policies to address gender equity in the water sector have often been in an awkward relationship with the ground realities where gender and other forms of social discrimination pervade all aspects of life. They are simply not able to capture the social barriers that cause unequal access to water and an undemocratic decision making process.

A considered approach to gender or caste question in water would call for a critical analysis of the constraints imposed on women's and men's access to resources by social structures, the gendered divisions of labour and a water paradigm that brings in new reallocations and altered social and labour relations which firmly entrench new forms of discrimination.

Learnings from over two decades of work around this question urge us to give fresh insights to the question. While a social justice agenda that brings in representation of women and socially disadvantaged groups in decision making and access to basic livelihood water would be an important policy measure, there is a need to go beyond this policy rhetoric and address several other stakeholders through engaging them in creative ways of addressing inequities in water.

That there is a need to restructure both the water sector as well as our understanding of what constitutes the notion of women and gender relations has been stated on several forums. Policy suggestions based on this understanding have seen the inclusion of women and other socially disadvantaged groups in water institutions but has not improved their access to the resource (SOPPECOM 2002).

So while policy advocacy within water remains an important area of intervention, it's time that new agendas and creative forms of engagement are available for people's movements- more specifically women's movements, farmers movements and unions working on the question of growing informalisation of the economy, greater accumulation of capital increasing injustices and disparities in everyday living- to see the linkages between land, water, rivers, natural resources and livelihoods. There is a need to cut across sectoral understandings around natural resources since they are being appropriated by capital with active connivance of the state to the disadvantage of the socially and economically discriminated groups. There is a need to bring in interdisciplinarity in research and activism. It might be worthwhile for example to explore how (a) reallocations of water are modifying tenure, labour and consumption relations and identities, in particular focusing on caste, class and gender divisions and identities; (b) identifying new possibilities and proposals for influencing water decision making and water activism to arrive at forms of water allocation that are fair – in terms of how incomes and benefits as well as costs and risks are shared among different (groups of) people at different and across scales – and sustainable.

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