

Gender Mainstreaming In Participatory Irrigation Management

Impediments, Issues and Institutional Alternatives

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Abstract

Millennium Development Goals recognize the importance of women's empowerment and gender equality. In this regard, Participatory Irrigation Management is viewed as an opportunity that creates a context for mainstreaming women's participation and gender equity in irrigation management.

Therefore, promoting the participation of women-farmers in water user associations is a prerequisite for improving Participatory Irrigation Management all over in India. In this scenario, this paper endeavors to evaluate the provisions of Tamil Nadu Farmers' Management of Irrigation Systems (TNFMIS Act 2000) based on the empirical evidences about Exclusion vs. inclusion of women-farmers in Participatory Irrigation Management in Tamil Nadu.

This article examines membership, participation and representation of women farmers in water user associations in one major and one medium irrigation system in this state. It identifies passive membership, nominal participation, notional participation and non-representation of women-farmers in water user associations as factors impeding women participation in Participatory Irrigation Management. Based on these empirical findings, this article propounds that the patriarchal social structure and institutions engender gender discrimination in land ownership and women's exclusion in participation in decision making and representation in positions of authority in Participatory Irrigation Management.

Concomitantly it argues that although the TNFMIS Act envisions participation of women and men farmers, it has been to a greater extent less instrumental in bringing about gender equity in Participatory Irrigation Management. Therefore, it propounds Gender mainstreaming in Participatory Irrigation Management as the agenda of inclusive legislation to bring about enhanced

Introduction

Irrigation Development Policy in India has been re-designed for launching Participatory irrigation management in major and medium irrigation systems (Siddiqui 2008). A prominent feature of executing Participatory Irrigation Management in the 21st century is the pre-eminence accorded to the enhanced role of farmers through enactment of legislation on Participatory irrigation management (Gulati, et al 2005).

In India, National Water Policy (2002) and states' irrigation legislations have emphasized the participation of farmers both women and men

through user association for improving irrigation system performance (GOI 2002). Therefore, promoting the participation of women-farmers in water user associations has become a precondition for improving the functioning of water user associations for sustainable Participatory Irrigation Management. In this scenario, this paper evaluates the legislative paradigm of Participatory Irrigation Management in the inclusion vs. exclusion of women farmers in Participatory irrigation management.

Gender In Participatory Irrigation Management

In India, centralized irrigation bureaucracies, had for long been primarily responsible for irrigation system operation and maintenance, and including the provision of water to farmer fields (Brewer 1999). Increasing costs, low performance, and the deterioration of irrigation systems

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prompted experimentation with more decentralized management in which users of irrigation have a growing role. Further, the failure of technological and other approaches to bring about the desired improvements has also led to a greater emphasis on proper management, including greater local user involvement. Accordingly, there is a dramatic shift of emphasis from the government as the sole proprietor and manager of water resources to Water User Associations in the Operation and Maintenance of irrigation systems in more than 25 countries since the last quarter of the 20th century (ADB 2008). Concomitantly, Participatory irrigation management is adopted as the strategy for improving the performance of irrigation systems with user participation in India (Gulati et al 2005). This involves the participation of water users both women and men in the management and operation of irrigation systems (Huja 2006).

Contradictorily, a review of literature reveals that worldwide, women are either not represented at all or are greatly under represented in water user associations (Merrey and Baviskar 1998). Further, irrigation bureaucracies did not acknowledge women as farmers and irrigators. Moreover, women in many cases had no formally or legally arranged access to water; water rights were attributed to male individuals only.

In addition women are excluded because membership generally is based on holding title to land, having formal farmer status or being the head of a household – the conditions more likely suitable to men (Zwarteveen 1995). In fact, recognition of community rights to water for improving the incentives for long term conservation, by creating local stakeholders in water, is done without addressing the exclusion of women from water rights (Cesile Jackson 1998). This is because it is sometimes difficult to obtain information about women's participation in organizations especially mixed sex-groups, because people are reluctant to admit it or because women regard themselves as proxies for their husbands, the official members (Mehra et al 1993).

Even when women have membership, however, research has found that they are reluctant to participate in meetings. Sometimes they choose to send their male relatives to

meetings to represent their interests or if women do attend, they are reluctant to speak for themselves. Reasons for women's nonparticipation may include their lack of skills, training and experience in participating in male dominated public forums (Metha and Esim 1998). Moreover, Women's multiple productive and reproductive responsibilities may inhibit their participation in water user associations (Athukorala 2002).

Conversely, studies bring to light the fact that exclusion of women may be a factor hampering management-whether by users or irrigation agencies. Lack of female representation in water user associations and the failure of management to take account of gender based differences can pose management and efficiencies problems (Bruins and Heijmans 1993). Indeed the exclusion of women can be more significant for the functioning of the water user associations (Metha and Esim 1998).

In India women undertake more agricultural occupation than men in addition to other livelihood activities. Hence, it is emphasized that the involvement of women can make activities more effective, inclusive and equitable (Peter 2004). However, although, the APFMIS Act, 1997, has provided that every water user association should consist of all water users who are landowners in a water user's area, since, a very small percentage of women are landowners; their opportunity to participate in water user associations is denied (Shyamala and Rao 2002). On the other hand, the Government of Madhya Pradesh amended its 1999 Act, to include the spouse of the land owner to be recognized as a full member of the water user association with voting rights. Although, 98 women were elected as presidents and 830 women as members of water user associations; women occupied the present positions at the behest of their male family members, who were motivated by their self-interest of acquiring de facto powers (ADB 2008). Moreover, "glass ceiling" exist with regard to women participation and representation in water user associations due to patriarchy in Tamil Nadu (Dasthagir 2008).

In the light of this empirical and theoretical background, this paper endeavors to examine the nature of inclusion and exclusion of gender

component in the legislative framework of Participatory Irrigation Management and its consequences to the participation of women-farmers in water user associations and in the governance of irrigation systems.

Methodology

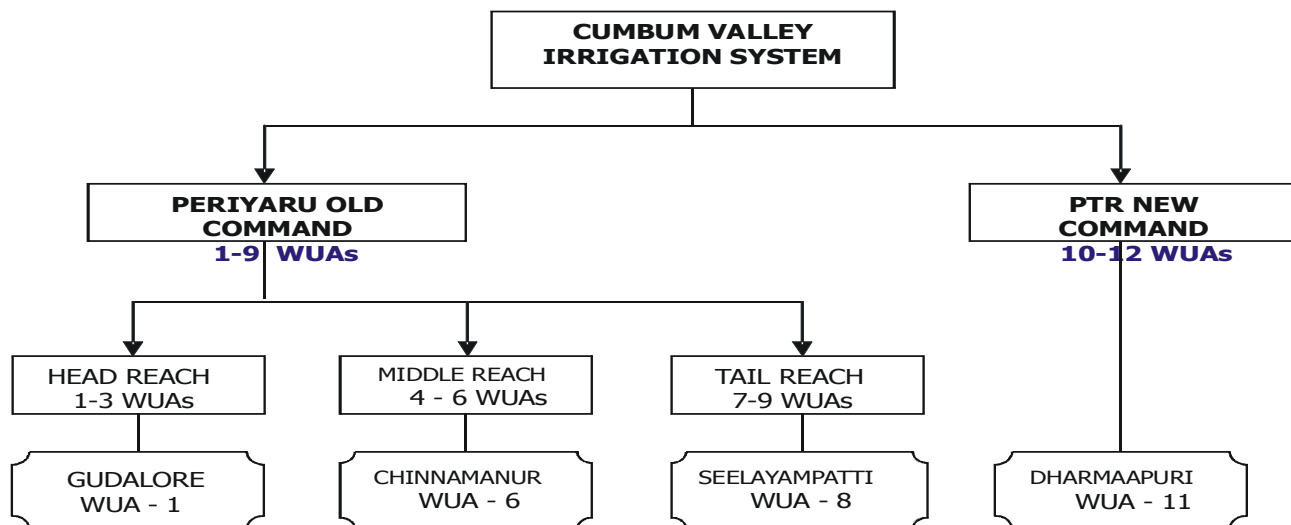
This paper is based on an evaluation of the gender component of the legislation for Participatory irrigation management and the concomitant gender participation in Participatory Irrigation Management. The specific objective of this paper is to evaluate the adequacy and relevance of gender strategy of TNFMIS Act with the survey data on participation of women-farmers in Participatory Irrigation Management in Tamil Nadu.

This evaluation study is based on the data gathered from both primary and secondary

sources. The secondary data for this study are gathered from Tamil Nadu Farmer Management of Irrigation Systems Act - Law and Rules and farmers' organizations' records. The primary data are collected through sample survey of leaders and women-farmers conducted in water user associations selected by means of stratified random sampling design.

For this purpose, multi-stage random sampling design was used. Accordingly, out of 9 major irrigation systems in Tamil Nadu, Sathanur Major Irrigation System, covering Villupuram and Thiruvannamalai districts and out of 24 medium irrigation systems in Tamil Nadu, Cumbum Valley Medium Irrigation System in the Theni district were chosen as cases for the evaluation study. In sum, nine water user associations were randomly selected..

Chart 1. Stratified Random Sampling Design



As described in the chart-1, Sathanur Irrigation System was divided into five segments viz.

- Sathanur Right Bank Canal - headreach
- Sathanur Right Bank Canal - middlereach
- Sathanur Right Bank Canal - tailreach1
- Sathanur Right Bank Canal - tailreach2 and
- Sathanur Left Bank Canal .

similarly, cumbum valley irrigation system was stratified in to four segments i.e;:

- Priyaru system head reach
- Priyaru system middle reach

Priyaru system tail reach

New PTR System

Thus, from each stratum one water user association was chosen and 10% of men and women-farmers in these nine water user associations were contacted for sample survey.

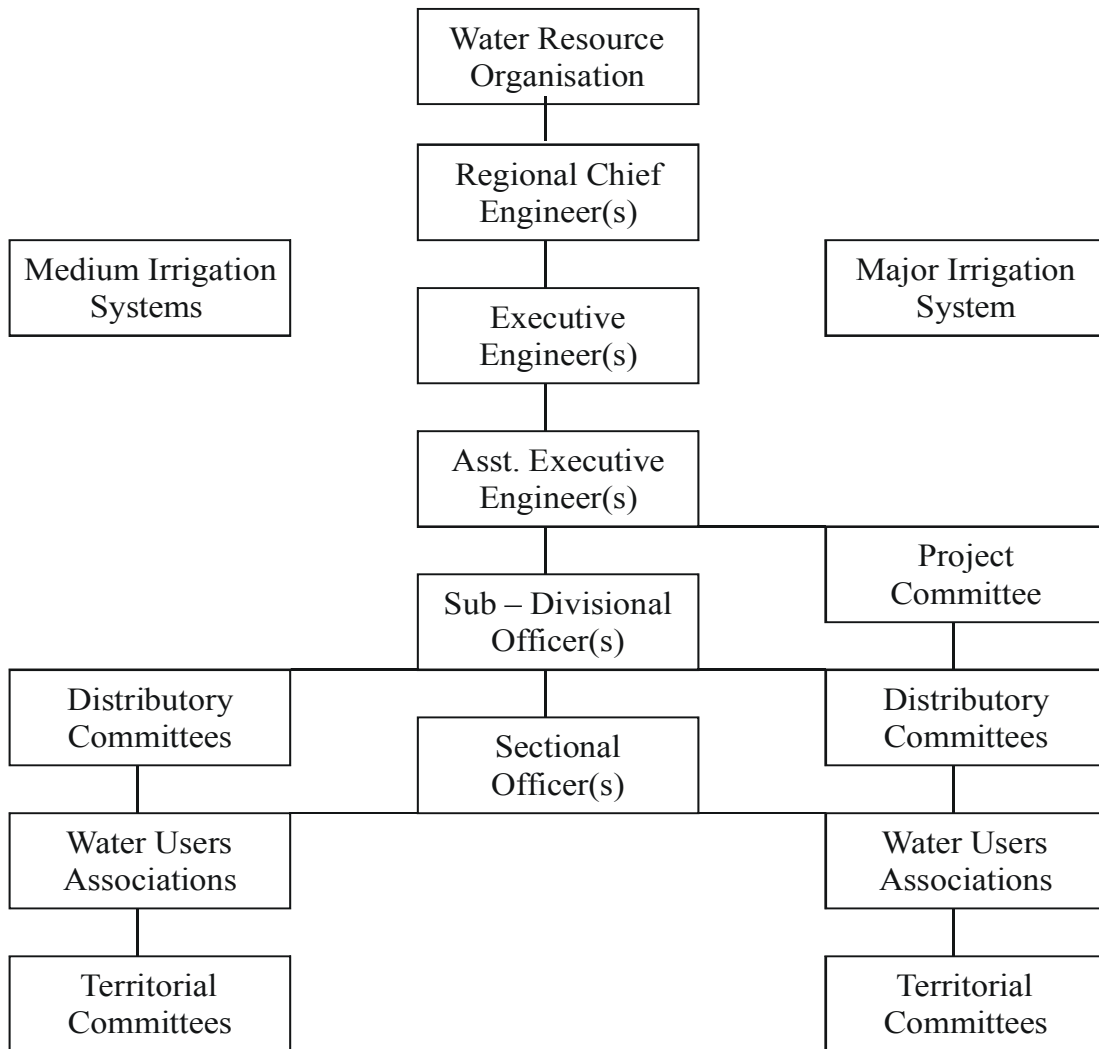
Participatory irrigation Management legislation in Tamil Nadu

Tamil Nadu is primarily an agrarian state in India. Irrigated agriculture is in vogue in 30 districts out of the total 32 districts in this state. The total command area irrigated by Major,

Medium, and Minor Irrigation Systems including tanks maintained by Water Resource Organization (WRO) of the Public Works

Department (PWD) in the state is about 21 lakh ha (GOTN 2007).

Chart 2. Three Tier Structure of Farmer Organisation in Tamil Nadu



The adoption of Tamil Nadu Water Policy in 1994 and the Tamil Nadu Water Resources Consolidation Project (1995-2004) formalized user participation in Irrigation Management in the major and medium Irrigation Systems all over Tamil Nadu (Elumalai 2000). Accordingly, Tamil Nadu Farmer Management of Irrigation Systems Act, 2000 was enacted to legalize farmer participation in the operation and maintenance of irrigation system in Tamil Nadu (GOTN 2000). This act is brought into force in all the ayacut area maintained by the Water Resource Organization of Public Works Department spread in 30 districts of this state.

The Tamil Nadu Farmer Management of

Irrigation Systems (TNFMIS) Act has stipulated a three-tiered structure of farmer organization. It includes the following:

- a. Water User Associations - at the primary system level,
- b. Distributory Committees - at the secondary system level and
- c. Project Committees - at the main system level (TNFMIS Act -7 2001).

This act stipulates that farmer organizations have to be given the effective role in management and maintenance of the irrigation system for effective and reliable supply and distribution of water. Accordingly, the hydrological jurisdiction

of water users association has been delineated based on the field conditions and hydraulic boundaries. Within each water user associations, territorial committees (TC) have been formed ranging from a minimum of 4 and a maximum of 10 within the area demarcated for water user associations. In sum, there are 1566 water user associations and 7874 territorial committees formed in Tamil Nadu. With the conduct of elections, farmers have been bestowed with the charge of organizing the management of irrigation systems below the branch canals in these irrigation systems.

Gender Strategy of Participatory Irrigation Management In Tamil Nadu

The TNFMIS act enshrines democratic participation and representation of all sections of water users in the organization of irrigation management (**Tamil Nadu Gazette Part-II, 2007**). It stipulates that all the registered land owners in the major and medium bureaucratic canal irrigation systems in Tamil Nadu are the members of water user associations. Thus, women farmers as registered land owners in Tamil Nadu are legally enrolled as members of water user associations.

Accordingly, the TNFMIS act has enunciated the following Rights of Women-farmers in Participatory Irrigation Management (**Dasthagir 2009**):

Membership in Water User Associations

As per this act, every registered male and female land owner is enlisted as member of water user association based on the geographical location of their agricultural lands as per the revenue records.

Voting in elections of Water User Associations

According to this act, men and women-farmers have the right to vote in elections of leaders of water user association through secret ballot.

Contest in elections of Water User Associations

As per this act, men and women- farmers are eligible to contest in elections for leadership positions of water user association.

Participate in meetings of Water User Associations

This act lays down that every male and female farmer as the member has right to participate in the meetings of water user association.

Participate in Decision making in Water User Associations

As per this act, men and women farmers are eligible to participate in the decision making process of water user associations.

Represent at various levels of Water User Associations

According to this act, every male and female farmer as the member has the right to contest and get elected to represent in leadership positions of water user associations.

Thus, women farmers have gained these afore stated rights all over Tamil Nadu since 2001.

Women's inclusion vs. Exclusion in participatory irrigation management in tamil nadu

As per the TNFMIS Act, all registered land owners - both men and women - as per the records of the Water Resource Organization without choice are enrolled as participants in water user associations. Hence, an attempt is made to analyse the participation and representation of women-farmers in participatory irrigation management.

Participation of Women -Farmers In Irrigation Management

The primary condition for participation in organization is membership. Therefore, membership data in water user associations are analyzed in the following tables:

Table 1. Gender wise distribution of farmers in Sathanur Irrigation System

S. No.	Name of Water User Association	Number of Farmers		
		Male	Female	Total
1.	Melandur	626(83.24%)	126 (16.75%)	752 (100 %)
2.	Pakkampudur	494 (92.16%)	42 (7.83%)	536 (100 %)
3.	Vanapuram	2440(95.27%)	121 (4.72%)	2561 (100 %)
4.	S. Kolathur	1456 (90.32%)	156 (9.67%)	1612 (100 %)
5.	Aarur	830 (92.22%)	70 (7.77%)	900 (100 %)
	Total	5846 (91.90%)	515 (8.09%)	6361 (100 %)

The table -1 reveals that there 16.75%, 7.83%, 4.72%, 9.67% and 7.77% women –farmers in five water user associations studied in sathananur irrigation system. In sum, out of 6361members

there are 515(i.e.)8.09 % women members only are in water user associations.

Table 2. Gender-Wise Distribution of farmers in Cumbum Valley Irrigation System

S.No.	Name of the Water User Association	Number of Farmers		
		Male	Female	Total
1.	Gudalore	1561 (79.40%)	405 (20.60%)	1966 (100%)
2.	Chinnamanur	1238 (75.53%)	401 (24.47%)	1639 (100%)
3.	Seelayampatti	536 (79.06 %)	142 (20.94 %)	678 (100%)
4.	Dharmaapuri	965 (83.55%)	190 (16.45 %)	1155 (100%)
	Total	4300 (79.07%)	1138 (20.93%)	5438 (100%)

It is apparent from the table-2 that there are 20.6%, 24.5%, 20.9% and 16.5% women patta holders in four water user associations studied. Consequently, out of 5438 members there are 1138 (i.e.) 20.93% on an average women members only are in water user associations.

property ownership due to patriarchal social structure. This structural condition concomitantly leads to nominal membership and notional participation of women-farmers in Participatory Irrigation Management .

The data presented in table-1&2 elucidate the influence of gender on the pattern of land holding and the concomitant membership in water user associations. It is amplified by the data that women farmers constitute merely 08.32 percent in Sathanur whereas there are 20.93 percent women members in Cumbum Valley irrigation system. This finding establishes the influence of patriarchy on the pattern of land ownership in rural India.

In fact, although women by virtue of law have gained membership in water user associations without choice or selection, their proportion of membership in water user associations is conspicuously low. Such low membership of women farmers is to a greater extent attributable to patriarchy that perpetuates gender discrimination in property ownership. Therefore, inquiry is directed in to the reasons for the notional -participation of women-farmers in Water User Associations’ activities. For this purpose, the data about farmers’ awareness about Participatory Irrigation Management legislation was gathered .

This phenomenon brings to light the existence of gender discrimination in the holding of agricultural lands and women’s exclusion from

Table 3. Gender-wise Awareness about TNFMIS Act

Gender stratification	Number of Farmers		
	Aware	Unaware	total
Women farmers	52 (31.52%) (07.59%)	113 (68.48%) (23.64%)	165 (100%) (14.19%)
Men farmers	632 (63.40%) (92.39%)	365 (36.60%) (76.35%)	997 (100%) (85.80%)
Total	684 (58.86%) (100%)	478 (41.14%) (100%)	1162 (100%) (100%)

The TNFMIS act has been executed since 2004 in all the districts of Tamil Nadu. It mandates farmers' membership and participation in the management of irrigation system.

In this regard, the data gathered through sample survey of farmers from nine water user associations in two irrigation systems summarised in table-3 brings to light the nature of awareness among farmers about the TNFMIS Act. It is apparent from the table that a majority of farmers (58.86%) are aware of this act. Nonetheless, a vast majority among them (92.39%) are men-farmers. While only a small percentage of women farmers (07.59%) have awareness.

In contrast, a sizeable number of farmers (41.14%) are unaware of this act. It is striking to note that a vast majority of (68.48%) women-farmers are unaware of this act. It is implicit that they are also unaware of their duties and roles enshrined in Participatory Irrigation Management

Consequently, Women farmers are neither invited to meetings of Water User Associations nor consulted in decision making in Participatory Irrigation Management. Thereby, a large number of women-farmers neither attend meetings of Water User Associations nor participate in decision making in Participatory Irrigation Management. Thus, Women's participation in meetings and decision making is rendered unnecessary as the quorum of 50 per cent attendance can be reached even in the complete absence of women members(Dasthagir 2009). This reveals that the participation of women

farmers in Water User Associations is not considered important.

These evidences elucidates the influence of gender on the pattern of land holding and on membership in Water User Associations. This data highlights women's exclusion from property ownership due to the existing patriarchal social institutions and social structure. Women's membership and participation in activities such as irrigation management is thus largely limited because landownership and with it public participation is heavily if not exclusively male-dominated.

Representation Of Women -Farmers In Irrigation Management

The three tier structure of Participatory Irrigation Management is represented by a cadre of farmer representatives as depicted in chart-2. Accordingly, each water user association is represented by territorial committee representatives and headed by presidents chosen through direct elections. Further, Distributory Committees are headed by Distributory Committee DC presidents and the Project Committees in major irrigation systems are headed by Project presidents chosen through indirect elections.

Election of water user association's presidents and territorial committee members was held in 2004. However, a vast majority of Women members did not contest in elections and did not exercise their right to vote and choose their representatives. Thus, in the 2004 elections the women -farmers were alienated from election.

Table 4. Gender-wise Distribution of Water User Associations' Leaders in Sathanur

S.No.	Leadership Positions	No. of Representatives		
		Male	Female	Total
1.	TC Representatives	(100%)	0 (0%)	(100%)
2.	WUA Presidents	49 (100%)	0 (0%)	49 (100%)
3.	DC Presidents	17 (100%)	0 (0%)	17 (100%)
4.	PC Presidents	1 (100%)	0 (0%)	1 (100%)
	Total	(100%)	0 (0%)	(100%)

In Tamil Nadu, major irrigation systems are governed by Territorial Committee representatives, water user associations' presidents, Distributory Committee presidents and Project Committee president. The table-4 unfolds that all the posts of president at the three

tiers are invariably filled by men. Nonetheless, there are only 6 Territorial Committee women representatives and they belong to upper-class and high caste groups.

Table 5. Gender-wise Distribution of Water User Associations' Leaders in Cumbum valley

S.No.	Leadership Positions	No. of Representatives		
		Male	Female	Total
1.	TC Representatives	78 (100%)	0 (0%)	78 (100%)
2.	WUA Presidents	12 (100%)	0 (0%)	12 (100%)
3.	DC Presidents	1 (100%)	0 (0%)	1 (100%)
	Total	91 (100%)	0 (0%)	91 (100%)

Medium irrigation systems are lead by Territorial Committee representatives, water user associations' presidents and Distributory Committee presidents.

The election of the Water User Associations' Presidents and Territorial Committee members was held in 2004. What actually happened was that influential leaders unanimously chose 78 Territorial Committee members and Presidents of each of the 12 Water User Associations in the Cumbum Valley. Consequently women members were deprived of the opportunity to contest in participatory irrigation management elections, and were denied their right to vote and choose their representatives. Effectively, women

patta holders in the Cumbum Valley do not take part in irrigation management as they were tactically excluded and denied the realisation of their potential as leaders, the exercise of authority and the opportunities given to them by law for participation. The absence of women especially as Presidents of Water User Associations leads to their exclusion from all higher levels of farmer management of irrigation systems (Dasthagir 2009).

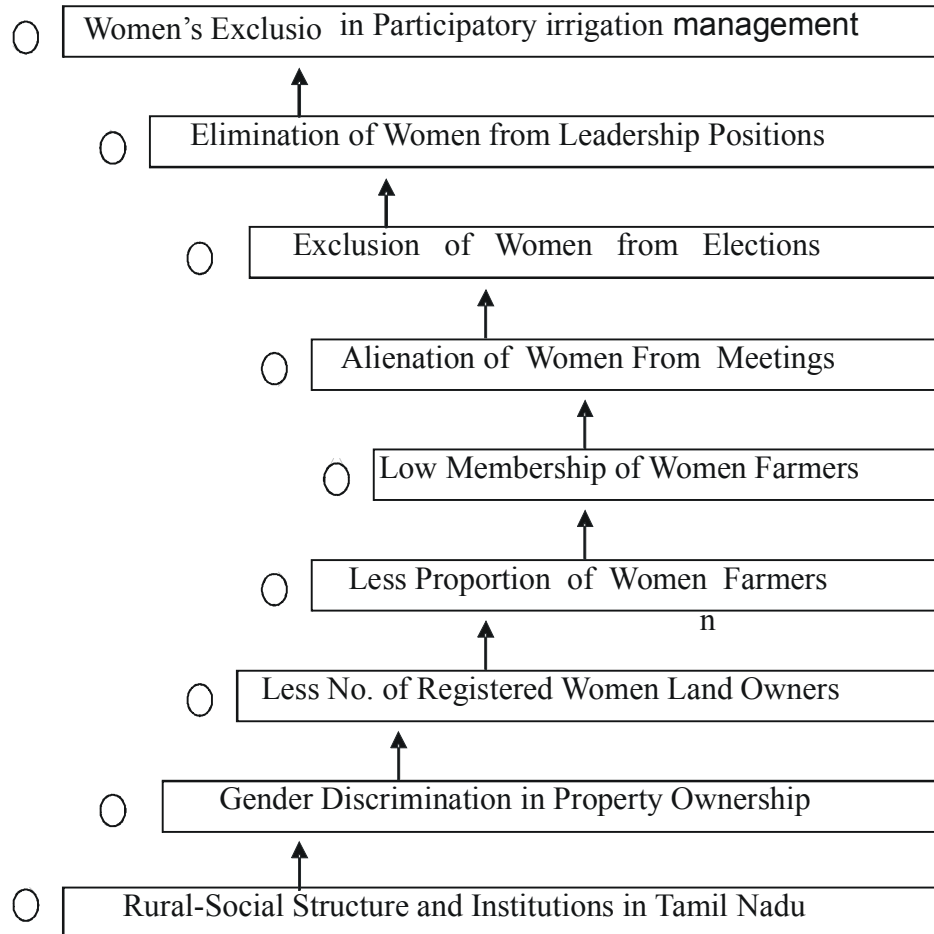
The table-5 brings to light the fact that all these positions in Cumbum Valley have been entirely filled by male members only. It reveals the fact that the leadership positions are denied to women.

Thus, despite the fact that women are members, they have been discriminated and neglected from taking up leadership position in water user associations. Moreover, by occupying these leadership positions, men have gained legal authority to make and exercise decisions in irrigation management. In the absence of participation of women in elections and choice by influential leaders, the women farmers were denied of these positions. By not occupying these leadership positions, women are denied legal

authority to represent and make decision in water user associations.

Despite the fact that women are members, they have been discriminated from taking up leadership position in water user associations due to “male domination”. Ironically, non-representation of women as water user associations’ presidents denies the possibilities of women’s participation and representation in all higher-levels of participatory irrigation management.

Chart 3. Trajectory of Gender Discrimination in Participatory Irrigation Management



Theoretical Propositions

The afore stated findings unambiguously establish the fact that women-farmers are to a greater extent excluded from the management of irrigation systems. Indeed, women-farmers are denied of their opportunity and rights in irrigation affairs due to male domination. Concomitantly, their participation to a large degree remains mandatory, nominal, notional and passive in the absence of role in decision

making and representation in irrigation management.

Based on these findings, the following theoretical propositions are put forth on women’s exclusion in Participatory Irrigation Management:

Lesser the proportion of women owning land due to gender discrimination, lower is the membership of women farmers in water user associations.

Lesser the women members, greater is their

absence in meetings and elections of water user associations.

Lesser the participation of women farmers in meetings and elections, greater is the probability of notional participation and non-representation of women farmers in water user associations.

Higher the probability of nominal membership, notional participation, and non-representation of women- farmers, greater is the eventuality of women's exclusion in Participatory Irrigation Management.

Thus, despite the fact that the legislative framework of participatory irrigation management visualizes women farmers as members to represent, to make decisions and serve as leaders in participatory irrigation management, none of these is realized in reality.

Impediments To Gender Mainstreaming In Participatory Irrigation Management

The foregoing discussion has unambiguously brought to light that user participation in irrigation management is largely construed by gender discrimination with the hegemony of patriarchy. Correspondingly, the impediments confronting gender mainstreaming in Participatory irrigation management are presented below:

Passive Membership of women farmers

As per the records of the irrigation bureaucracy, all men and women land-owners without choice are enrolled as participants in water user associations. Thus, women farmers only by virtue of law gain membership in water user associations without choice or selection.

Notional Participation of women farmers

Our survey indicates that a vast majority of women-farmers to a large extent do not directly take part in Irrigation Management. On the contrary, their male relatives (husband or sons) of the women patta holders organize and manage cultivation and irrigation. In other cases, women substitute men-farmers in their absence. Consequently, women -farmers remain notional members of water user associations.

Nominal Participation of women farmers

The proportion of women-farmers is numerically less preponderant and they

constitute only a minority in water user associations. Moreover, their participation in meetings and decision making is deemed less necessary as their proportion is numerically less significant. Thus, the participation of women in water user associations is rather nominal.

Non-Representation of women farmers

Choice by influential farmers lead to the exclusion of women land-owners in the elections of water user associations. Accordingly, non-representation of women as Water User Associations' Presidents ruled out the possibilities of women's participation at all levels of user participation in irrigation management.

Thus, despite the fact that the legislation for participatory irrigation management enunciates rights to women farmers as members to represent, to make decisions and serve as leaders in participatory irrigation management, none of these is realized in reality. Hence, there is a need for "mainstreaming gender" in participatory irrigation management in order to enhance women participation for improving the functioning of water user associations and sustainability of gender participation in irrigation development.

Institutional Issues in Gender Mainstreaming in Participatory Irrigation Management

Participatory Irrigation Management is incorporated in the water policy and irrigation legislations of more than 25 countries and in 10 Indian states (ADB 2008). Since user participation in management is the corner stone of participatory irrigation management, ultimately greater participation by women like men as water users in their own right is necessary to make water user associations functional and sustainable.

Nevertheless, irrigation is gendered institution in which the hegemony of patriarchy prevails in gender participation in the management of water and maintenance of conveying structures (Meinzen-Dick 1998). Moreover, the New Water Policy environment has not really redefined rights, which would make it more inclusive, as decentralization does not guarantee that women would be provided a role in the decision making process (Kulkarni, 2007). Consequently, advocacy for gender mainstreaming remains at the level of rhetoric, serving to mask the instrumentalist

approach of the state and interests of the elite (Kelkar, 2007).

Evidently, although the TNFMIS Act envisions participation of women and men farmers, it has been to a greater extent less instrumental in bringing about gender equality in participatory irrigation management. In fact, it stipulates that every registered land owner is a member of water user associations based on the geographical location of their agricultural lands as per the revenue records. Moreover, as per this act, farmers have the right to vote in elections of leaders of water user association through secret ballot. Nevertheless, this legislative paradigm is found to be less adequate in terms of the following gender dimension of irrigation development:

Gender Participation in Water User Associations

This act lays down that every farmer as the member has right to participate in the meetings of water user association. Nevertheless, it has not stipulated for gender representation in the quorum of such meetings. As the data reveal, women-farmers are numerically less preponderant in each water user association. Consequently, in the absence of legislative stipulation of mandatory women attendance in terms of the "Gender based Quorum", women farmers do not get opportunity to participate in the meetings and decision making in water user associations.

Although, this act declares that farmers are eligible to contest in elections for leadership positions of water user association, it has not made any reservation of seats and offices for women. As the findings establish, women-farmers are not represented as presidents of water user associations due to male domination. As a result they do not get entry for Representation at the higher levels of irrigation management in the absence of legal prioritization and reservation.

Thus, the legislation of Participatory irrigation management in Tamil Nadu and other states in India, do not stipulate provisions for women participation in decision making and representation in leadership positions at various levels of participatory irrigation management.

Institutional Alternatives For Mainstreaming Gender In Participatory Irrigation Management

Millennium Development Goal (MDG3) recognizes the importance of women's empowerment and gender equality. Concomitantly, participatory irrigation management is viewed as an opportunity that creates a context for gender equity in irrigation management thereby reducing the risks of gender biases.

Accordingly, action plans and recommendations have called for efforts to strengthen women's capacity to implement and manage water projects as well as provide them with equal access to information and decision making channels.

In the light of this international agenda, This study has brought to light that women-farmers are to a greater extent excluded from the management of irrigation systems. This is largely because irrigation is gendered institution in which the hegemony of patriarchy prevails in gender participation in the management of water and maintenance of conveying structures. Further, patriarchal social structure engenders gender discrimination in property acquisition and to a greater extent inhibited women's ownership of agricultural lands.

Consequently, women farmers are less preponderant and thereby constitute a minority in the membership of water user associations. Accordingly, their attendance in meetings and participation in decision making of water user associations is deemed less significant. Above all, they are subjugated to male domination with regard to their representation in leadership positions at all levels of participatory irrigation management. Therefore, the participation of women farmers to a large degree remains mandatory, nominal and passive in the absence of representation and decision making in participatory irrigation management.

As a corollary, in the absence of gender prioritization or reservation in legislation, participation and representation of women farmers is to a large extent made less possible in the actual process of Participatory irrigation management. Concomitantly, despite the fact that the irrigation management legislation

enunciates rights to women farmers as members to represent, to make decisions and serve as leaders in WATER USER ASSOCIATIONS, these remain as desirable conditions uninstitutionalised in reality. Therefore, this paper propounds "gender mainstreaming in participatory irrigation management" as the agenda of inclusive legislation in order to improve the functioning of water user associations with enhanced gender participation in irrigation development.

In this respect, the following institutional strategies are recommended for "mainstreaming gender" in participatory irrigation management for enhanced participation of women-farmers in order to realize inclusive irrigation development in India:

Legislative Amendment

The paradigm of Participatory Irrigation Management needs to be restructured incorporating gender perspectives and issues for enabling the participation of women-farmers in decision making and their representation in leadership positions in participatory irrigation management. Therefore, Irrigation Management legislation needs to be amended to make provisions for the following.

Quorum for gender participation in meetings and decision making in Participatory Irrigation Management and

reservation and rotation of seats and offices for women in water user associations.

These legislative promulgations - comparable to 73rd constitutional amendment for women representation in local-self-government - are needed to institutionalize the participation and representation of women farmers in all the tiers of Participatory Irrigation Management.

Research Interventions

A great deal of research has focused on developing and strengthening Water User Associations as a mechanism for implementing successful management transfer. However, Gender related research on irrigation management is largely limited (IWMI 2008). Concomitantly, research is needed to identify the factors that facilitate or inhibit women participation in water user associations based on the following questions.

*Are women deliberately excluded from Water User Associations due to patriarchy?

*Are women reluctant to participate because they do not participate in irrigation management?

Do women not participate because they lack awareness about their role in participatory irrigation management? and

*Are women reluctant to participate because they lack empowerment?

Thus, gender analysis is needed of women's successful participation and representation at the same time to identify the constraints experienced by women-farmers in Participatory Irrigation Management to obtain lessons learnt for wider application.

Capacity Building

Lack of awareness among women-farmers about participatory irrigation management and the legislation has been one among the major factor inhibiting their participation and representation in water user associations. Therefore, various strategies be evolved such as seminars and workshops and implemented to create awareness among women about the provisions and the process of participatory irrigation management. Besides, training for women farmers with regard to cultivation and irrigation practices, leadership, problem-solving and decision making skills should be provided. Women self help groups could be employed in this respect.

Thus, gender mainstreaming through the amendment of Participatory Irrigation Management legislation and the capacity building programmes can engender participation, representation and empowerment of women-farmers that can ultimately contribute to gender inclusive Irrigation development in India.

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