

## **Globalization, Gender and Governance in Irrigation: An Inquiry in to Preclusion of Women's Participation in Tamil Nadu**

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### **Abstract**

Globalization of Irrigation Management Transfer has brought institutional reforms to enhance the role of water users in the governance of bureaucratic irrigation systems in more than 60 countries of the world. Nevertheless, these new irrigation institutions have not really redefined rights which would make it more gender inclusive to enhance women's participation in user organizations for water resources management.

In the backdrop of primacy accorded by Millennium Development Goals (MDG) and irrigation management literature on the participation of women-farmers in water user associations as a precondition for the efficacy and sustainability of irrigation systems, this paper endeavours to analyse the impact of institutional reforms on gender participation in the governance of Sathanur Irrigation System with the following objectives:

To examine membership and representation of women-farmers in Water User Associations and to explicate the relationship between heterogeneity among women-farmers and their participation in Participatory Irrigation Management.

Premised on the perspective of post-structuralism that women do not constitute a single homogenous category', this paper analyses membership, participation and representation of rural women in Water User Associations. While secondary data were drawn from the WRO election reports and Water User Associations records, primary data were gathered by means of a sample survey of women-farmers of Villupuram district adopting proportionate random sampling design. The survey data were analyzed with the help of SPSS package applying Chi-Square test, Analysis of Variance (ANOVA) and Duncan Multiple Range Test (DMRT).

Analysis of secondary data elucidates the existence of gender gap in membership of Water User Associations in Sathanur irrigation system. The primary data brought evidences about the existence of heterogeneity among women in agrarian social structure. This research has also brought to light the

differences among women members of Water User Associations in relation to their participation in cultivation and Participatory Irrigation Management. Thus, this paper demonstrates that gender insensitive legal framework in the absence of gender mainstreaming in water sector, is more likely to reproduce gender discrimination and reinforce women exclusion in PARTICIPATORY IRRIGATION MANAGEMENT.

**Key words:** *Participatory irrigation management, gender discrimination, women, Tamil Nadu*

## **Introduction**

Globalization is a process of intensifying global interconnectedness, suggesting a world full of movement and mixture, contact and linkages, and persistent cultural interaction and exchange (Stryker 1998). Conversely, globalization is not simply about a global culture that all people of the world would supposedly share. It is also about how people increasingly formed local cultures, tradition and identities in term of general global models (Boyer, 1998). In so far as it is not the process of cultural homogenization, it is not experienced everywhere to the same extent. In the backdrop of worldwide wave of global modeling , this article endeavors to examine the assimilation of global gender strategy of irrigation management in the Indian context.

## **Globalization and Governance in Irrigation**

Globalization of Irrigation Management Transfer Policy has imputed participatory approach in irrigation development in consonance with the structural adjustment drive enunciated with the devolution of responsibilities from the government as the sole proprietor and manager of water resources to Water User Associations (WUAs) in the operation and maintenance of irrigation systems since the last quarter of the 20<sup>th</sup> century. Concomitantly, Irrigation Management Transfer is adopted in more than 60 countries as the strategy to improve the operation and maintenance of canal irrigation systems (Munoz et al. 2007). This global drive for enhanced user participation initiated the search for efficacious and sustainable Water User Associations (WUAs) as the managers of tertiary and secondary levels and partners of irrigation agencies in managing the main-system of bureaucratic irrigation projects (Jonson SH. Et al 2004). These countries constitute around 75% of the world population and 80% of the irrigated area of the world (Carlos et al. 2007).

In accordance with this international drive of Irrigation Management Transfer, institutional reforms are brought about in the management of major and medium

irrigation systems conceptualized Participatory Irrigation Management (PIM) in India. A pre-eminent feature of the twenty first century governance of major and medium irrigation systems in India is the emergence of legislative regime for institutionalizing PIM across the country. Since, irrigation is a state's subject under the federal setup, several Indian states have enacted legislations in this respect; Andhra Pradesh, Assam, Bihar, Chhattisgarh, Goa, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Sikkim and Tamil Nadu have enacted exclusive legislation for involvement of farmers in irrigation management.

### **Globalization and Gender Strategy in Irrigation**

While institutional reforms have streamlined user participation in management as the corner stone of participatory irrigation management, greater participation by women like men as water users in their own right is necessary to make water user associations functional and irrigation systems sustainable. The central role of women in water management was recognized in the Dublin Principles (adopted at the International Conference on Water and the Environment, Dublin) in 1992 calls for efforts to include women in user organizations for water resources management and conservation globally (**Meinzen-Dic, 1998**). In accordance with this panacea of enhanced user participation in the management of irrigation systems, international policymakers are increasingly recognizing women's roles in agriculture, in general and irrigated agriculture in particular, in the light of the Millennium Development Goal (MDG3) including the resolution declaring 2005-2015 the International Water for Life Decade (Van Koppen, B et al 2006). Concomitantly, irrigation Management Transfer is to be viewed as an opportunity for improving the efficacy and sustainability of irrigation systems by mainstreaming gender participation and equity in irrigation all over the world.

These policies have not been adequately translated into practice due to a lack of understanding of gender issues by policymakers and project staff, a lack of will and commitment at the project design and implementation phases, a lack of capacity among project staff in skills and the use of relevant tools, unavailability of gender disaggregated data and prevailing cultural norms in the societies (IFAD, 2007).

The primacy of promoting participation of women farmers in water user associations as a precondition for the efficacy and sustainability of turned-over irrigation systems is categorically laid down by irrigation institutions. Evidently, the national water policy 2002, states that women should be assigned

a suitable role in participatory management of water resources. The 12th five year plan (2012-2017) states that women are expected to play a key role in water use and water management (GOI 2012). In the backdrop of primacy accorded by Millennium Development Goals (MDG3) and national as well as International Development Agencies on gender mainstreaming, this paper endeavors to analyze the impact of institutional reforms on gender participation in Participatory Irrigation Management.

## **Methodology**

Premised on the discourse of post-structuralism that 'women do not constitute a homogeneous category', this article inquires into the structural and institutional conditions impeding rural women's membership and participation in WUAs with an attempt to:

Examine the impact of legislation on membership of women in WUAs and

Analyze the extent of participation and level of attitude of different categories of women landowners in Water User Associations.

Among the 32 districts in the state of Tamil Nadu, India, Villupuram District ranks lowest in the level of gender development with a GDI Value of 0.582. Therefore, 24 WUAs located in 68 villages of this district are chosen for this study based on primary and secondary sources of data. Secondary data is drawn from the Water Resources Organization (WRO) election reports and WUA records. Primary data is gathered through a sample survey of 412 women, WUA members adopting a proportionate stratified random sampling design, with the use of an interview schedule<sup>1</sup> besides, in-depth interview with women and men leaders of WUAs. The data gathered from a sample survey of women farmers were analyzed with the help of the SPSS package. The analyzed data is presented in the form of bi-variate tables and bar diagrams.

Chi-Square test was applied to examine the association between participation in cultivation, participation in WUA and knowledge about PIM of women members of WUAs. Analysis of Variance (ANOVA) and Duncan Multiple Range Test (DMRT) was employed to explicate the differences among different categories of women members of WUAs in terms of their attitude towards gender inclusive PIM.

## **Impact of Legislation on Women Membership in Water User Associations**

The Government of Tamil Nadu enacted the Tamil Nadu Farmer's Management of Irrigation Systems (TNFMIS) legislation in 2000 where WUAs are given a role in the management and maintenance of canal irrigation systems for effective and reliable supply and distribution of water. According to this Act, every registered land owner, who is over 18 years of age, is a member of a WUA. Consequently, women farmers as registered land owners in Tamil Nadu are automatically enrolled as members of WUAs as per the 'records of rights'.

Secondary data culled out from records of Water Resource Organization elucidates the existence of a gender gap in membership of WUAs in Sathanur irrigation system. Overtly, out of 21058 members in 24 WUAs, there are 18535 (88.02 %) male members as against 2523 (11.98%) women members in WUAs.

This data amplifies the impact of gender discrimination in agricultural land ownership on membership in WUAs. Consequently, gender inequality in land ownership is replicated in gender wise enrollment of members in WUAs. Therefore, since there is a small proportion of registered women land owners, women membership in WUAs is conspicuously limited in this irrigation system. In so far as holding title to land is the **legislative criterion** for WUA membership, gender discrimination in land ownership renders women farmers numerically less preponderant in WUAs.

Consequently, women who come from land holding households but do not own land themselves are excluded from membership. They manage irrigated agricultural activities along with their husbands or by themselves, but are not members of WUAs since they are landless. Thus, landless women cultivators who are the largest category of rural society are excluded from WUA membership.

### **Gender Participation in Water User Associations**

It is explicit from the secondary data that legislative criterion of landownership has considerably limited membership of women in WUAs. Hence, investigation is directed to inquire in to the nature and extent of participation of women members in WUAs.

Table 1: Women Participation in Water User Association

Categories of Women Members	Level of Participation in WUA			Chi-Square	P-Value
	No Participation	Low Participation	Total		
House wife	141 80.6% 47.3%	34 19.4% 29.8%	175 100.0% 42.5%	16.572	0.001**
Owner Cultivator	127 62.6% 42.6%	76 37.4% 66.7%	203 100.0% 49.3%		
Employed	7 50.0% 1.9%	4 50.0% 2.0%	8 100.0% 1.9%		
Landed Laborers	19 73.1% 8.8%	7 26.9% 3.6%	26 100.0% 6.3%		
Total	298 52.4% 100.0%	114 47.6% 100.0%	412 100.0% 100.0%		

Note : \*\* denotes significance at 1% level

The table elucidates the categories of women land owners in agrarian social structure as cribbed below:

**Women Owner Cultivators:** A large proportion (49.3 percent) of women members of WUAs not only own agricultural land but also manage cultivation of their lands. Therefore, these women are classified as "Women Owner Cultivators". **Land Owning Women Agricultural Laborers:** There are a small number (6.3 percent) of women members who despite ownership of land work as agricultural wage laborers on other people's land. This is mainly due to the uncertainties in canal rotations often leading to their land lying fallow. This

indicates that land ownership alone cannot guarantee water security. Factors like location of land in the command do play a role in assuring water security.

**Non-cultivating Women Land owners:** About 42 percent of the women surveyed were such that they owned land but worked only in the domestic sphere. Traditional roles and expectations do not allow these women to work beyond the domestic sphere thus indicating that ownership of land alone cannot liberate them.

**Land Owning Women Employees:** A very small number of women who are engaged in a full time vocation in the private or the public sector are not able to work on their lands and they often hand it over to the male relatives for cultivation.

### **Notional membership of women in WUAs**

The survey has brought to light the prevalence of non-participation among women members of WUAs. It is apparent that a vast majority (72.3 percent) of women members of WUAs do not participate in the activities of WUAs.<sup>4</sup> The data explicates that a vast majority of housewives (80.5 percent), women employees (87.5 percent) and wage laborers (92.3 percent) do not participate in WUA activities.

### **Nominal participation of women members in WUAs**

It is evident that the level of participation of women in WUAs is either nil or negligible across the different activities of WUAs. Indeed the statistically assumed high level of women participation never occurs in reality. It should be noted that the category of non-participating women members are those who have never taken part in WUAs activities right from its inception.

A small proportion of women (27.7 percent) take part in WUAs. However this participation is of a limited nature and often is confined to being present in one or two meetings in a year and on many an occasion with husbands or some male relative.

### **Active participation of women cultivators in WUAs**

As mentioned earlier, cultivator women members are found to be more active participants in WUAs than their counterparts. The Chi-Square analysis testing the relationship between categories of women members and their level of participation suggests the presence of a highly significant relationship with the p

value 0.001. Therefore it is established that women land owner' s participation in cultivation determines their participation in WUAs. The analysis draws the generalization that women cultivators are more likely to devote greater time and efforts towards the functioning of WUAs.

### Impediments to Women Participation in Water User Associations

The foregoing analysis reveals the low participation of women in WUAs. Therefore, an attempt is made to examine the conditions leading to the preclusion of women from PIM.

Table 2: Knowledge of Women Farmers about Participatory Irrigation Management

Categories of Women Members	Level of Knowledge about PIM				Chi-Square	P-Value
	Unaware	Low	High	Total		
House wife	104 59.4% 41.1%	61 34.9% 44.2%	10 5.7% 47.6%	175 100.0% 42.5%	6.099	0.412
Owner Cultivator	127 62.6% 50.2%	68 33.5% 49.3%	8 3.9% 38.1%	203 100.0% 49.3%		
Employed	4 50.0% 1.6%	4 50.0% 2.9%	0 .0% .0%	8 100.0% 1.9%		
Others	18 69.2% 7.1%	5 19.2% 3.6%	3 11.5% 14.3%	26 100.0% 6.3%		
Total	253 61.4% 100.0%	138 33.5% 100.0%	21 5.1% 100.0%	412 100.0% 100.0%		



Functioning of WUAs necessitates the execution of managerial tasks in the way of associational activities. However, the table indicates the prevalence of non-awareness among women members of WUAs about PIM. It is evident from the data a majority (61.4%) of women members of WUAs lack awareness about PIM. These findings throw light on the level of ignorance among women and also the extent of exclusion of women members of WUAs from the process of PIM.

On the other hand, there is a sizeable proportion of women who have knowledge of the formation and functioning of WUAs (38.6%). Precisely, there are women with low (33.5%) and high (5.1%) level of knowledge about PIM.

Nonetheless, women members who lack awareness about PIM are drawn from all the categories. This finding is of great significance since, in the absence of knowledge about WUAs women members could not be enabled to participate in the activities of WUAs, The category of unaware is an outcome of statistical measure of complete absence of knowledge about all aspects of WUAs. Consequently under such circumstances these women cannot be assumed or enabled to participate in any aspects of WUAs. In this scenario, the policy prescription of inclusion of women and women participation is far from being realized in reality due to total negation of women in creating knowledge about WUAs.

Having examined the nature of participation of women in irrigation and their awareness about PIM, it is relevant to analyze the attitude of women to participate in WUAs and PIM. Attitudes are the important factors determining human action. Hence, women's attitude is measured on a 5 point scale to identify the categorization of women in terms of the level of attitude viz. low, moderate and high.

Table 3: Attitude of Women Farmers towards Gender Inclusive Participatory Irrigation Management

Type of Water Users	Level of attitude to women participation				Chi-square value	P - value
	Low	Average	High	Total		
House wife	67 38.3% 65.7%	76 43.4% 44.4%	32 18.3% 23.0%	175 100.0% 42.5%	50.621	0.000**
Cultivator	28 13.8% 27.5%	81 39.9% 47.4%	94 46.3% 67.6%	203 100.0% 49.3%		
Employed	1 12.5% 1.0%	6 75.0% 3.5%	1 12.5% .7%	8 100.0% 1.9%		
Others	6 23.1% 5.9%	8 30.8% 4.7%	12 46.2% 8.6%	26 100.0% 6.3%		
Total	102 24.8% 100.0%	171 41.5% 100.0%	139 33.7% 100.0%	412 100.0% 100.0%		

Note : \*\* denotes significance at 1% level

The table explicates the categorization of women members of WUA in relation to their attitude towards gender inclusive PIM. It is evident that women owner cultivators and landed labourers are to a greater extent positively inclined towards gender inclusive PIM than house wives and employed women members of WUA's. statistically, the mean value is found to be higher for women cultivators (42.30) and landed labourers (41.12). Since the P-Value is less than 0.01, it is established that there is significant difference between women participation in cultivation with regard to women's attitude towards gender inclusive PIM.

Further the differences among the categories of women members of WUA in relation to their attitude towards gender inclusive PIM is brought to light by Duncan Multiple Range Test (DMRT). It is amply clear from the analysis that house wives differ significantly from owner cultivators and landed labourers with regard to their attitude towards gender inclusive PIM. The Duncan Multiple Range Test (DMRT) reveals that housewife differ significantly from cultivator, employees and landed labourers but there is no significant difference between Cultivator and landed labourers at 1% level. Thus, it is evident that cultivating women to a greater degree not only participate in WUAs but are more inclined towards greater role for women in PIM.

### **Conclusion**

Thus, this research demonstrates that legal framework is more likely to reproduce gender discrimination and reinforce women exclusion in PIM, in the absence of gender mainstreaming in irrigation sector by explicating the reality of the Indian rural society contradicting the global concern for efficacious and sustainable user organizations due to the legislative strategy of enlisting user participation in WUAs based on agricultural land ownership circumscribed by patriarchal institutions engendering gender disparity in membership of WUAs.

### **Recommendations**

The following strategies are therefore recommended for promoting and advancing the participation of women farmers in WUAs:

- Census survey of women farmers
- Conscientization
- Inclusion of women in PIM training programs
- Gender mainstreaming
- Gender Quota
- Inclusion of Landless women cultivators in PIM
- Capacity building to women farmers
- Gender sensitization of male leaders and officials

- Gender awareness to bureaucrats
- Gender cell

Thus the census survey of women farmers would facilitate the identification of actual water users, capacity building and gender sensitization programmes would enable women empowerment, while gender mainstreaming would usher a new era of sustainable user participation with gender equity.

## Reference

Asian Development Bank (2008), *Irrigation Management Transfer: Strategies and Best Practices*. New Delhi: Sage Publication.

Athukorala, Kusum (2002), 'Gender Gaps, Governance Gaps – A View of Sri Lankan Water Management', in Imbulana, Peter Droogers and Ian W. Makin (eds), *World Water Assessment Programme Sri Lanka Case Study- Ruhuna Basins*, Proceedings of a Workshop, 6,7 April 2002. Sri Lanka.

Dasthagir, Gulam K (2009), 'Women's Exclusion in Farmer Management of Irrigation Systems in Tamil Nadu: A Case Study', *Indian Journal of Gender Studies*, Vol.16:No.3, pp. 401-410.

Government of India (2002), *National Water Policy*. New Delhi: Ministry of Water Resources.

Government of Tamil Nadu (2000), TNFMIS Act. Chennai: Water resources organization.

Government of Tamil Nadu (2007), Gazette-Part II. Regd. No. TN/CCN/117/2006-08. Chennai: Water resources organization.

Hooja, Rakesh (2006), *Management of water for Agriculture*. Jaipur: Rawat Publications.

Jackson, Cecile (1998), 'Gender, Irrigation and Environment: Arguing for Agency', in Douglas Merrey and Shirish Baviskar (eds), *Gender Analysis and Reform of Irrigation Management: Concepts, Cases and Gaps in Knowledge*, Colombo, Sri Lanka.

Kulkarni, Seema (2007), 'Women and Water Policy: Issues and Alternatives', in Sumi Krishna (eds), *Women's Livelihood Rights: Recasting Citizenship for Development*. New Delhi: Sage Publications

Meinzen-Dick, Ruth S. and Margreet Zwarteveen (1998), 'Gendered Participation in Water Management: Issues and Illustrations from water user associations in South Asia, in Douglas Merrey and Shirish Baviskar (eds), *Gender Analysis and Reform of Irrigation Management: Concepts, Cases and Gaps in Knowledge*. Colombo, Sri Lanka.

Siddiqui, Mohd Shawahiq (2008), 'Water Policies and Legal Framework in India', *Managing Water in the Face of Growing Scarcity, Inequity and Declining Returns: Exploring Fresh Approaches*, Program, Proceedings of the 7th Annual Partners' meet. Hyderabad: IWMI.

Vapnek Jessica (2009), *Law for water management*. Jaipur: Rawat Publications.

