

Institutionalizing Community Participation and Sustainable Irrigation Management: A Case Study from India

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Abstract

Community participation has become a key method in contemporary development projects. Most of the projects have given emphasis on community participation. Learning through experiences for proper operation and maintenance of irrigation systems and supply of irrigation water in adequate quantity according to a farmer's need on time in a predictable, reliable and equitable manner, decentralised governance of irrigation infrastructure have recently been emphasised as an essential precondition. Centre as well as some States in India has adopted various Acts to encourage farmers' participation in irrigation management. Using anthropological techniques, the present paper attempts to see the villagers' participation in traditional system of irrigation management among the tribal communities in Western Odisha. It also critically examines the intervention of new institutions in irrigation management and their impact on age-old traditional system of community management.

It is observed in our study that the collective action or community participation was quite prevalent in the traditional system of irrigation management of tribal communities. The local knowledge, community cohesion, social capitals, traditional practices, values and beliefs were playing the most important roles in the traditional system of management. The government sponsored Water Users' Association, which is not devised based on the local culture and needs of the local tribal communities, is not able to evoke their participation in the Water Users' Association. The culture of ignorance, drinking alcohol, feeling marginal, poverty, illiteracy, the improper co-ordination between irrigation officials and beneficiaries, Physical structure of canals, dominance of head reach, higher caste large farmers have influenced the participation of marginal farmers. Moreover, some of the factors like social norms define domestic works and childcare as women's work and social perceptions discount women's abilities and opinions restricts women's participation in WUAs.

Judicious management of water resources is one of the critical policy issues. The need for an action-oriented approach in this direction is mounting, as countries and communities across the globe are increasingly experiencing water stress. Large canal systems in India contain nearly 40 percent of country's total irrigation potential of 94 million hectares, a substantial part of which remains unutilised (Pant, 2008). The reason for this is not due to absolute shortage of water, but due to the absence of proper mechanisms for its conservation, distribution and efficient use. Along with bureaucratic mindsets, the destruction of traditional system of community management has further worsened the situation. During the colonial rule, and even after independence, the involvement of the government led to collapse of some of the village irrigation systems due to problems such as siltation and poor maintenance (Shankari, 1991). Faced on the one hand, by the near collapse of such irrigation systems and on the other, utter financial crunch, administrators are susceptible to donors like World Bank and Asian Development Bank, who are currently coming forward with funds with the conditionally of Participatory Irrigation Management (PIM) encouraging people's participation. Since the late 1970s, an increasing number of field studies of user managed resource systems have suggested that government management was not the only (nor even always the best) option (Tyler, 1994). Tang (1992) have pointed out that unless the farmers have the freedom to participate in both governance and management processes of their irrigation system, they will be uncertain about the returns of their efforts and, thus, have little incentive to participate in collective efforts at operation and maintenance.

To make farmers/community participation more vibrant and to devolve responsibility of irrigation management to farmers' organisations, which is known as Participatory Irrigation Management (PIM), the Indian States have brought changes in their respective State irrigation policies. As a sequel to this, the Government of Odisha, which is one of the pioneering States, enacted the *Odisha Pani Panchayat Act, 2002*, and *Pani Panchayat Rule, 2003*. The main motto of this Act was proper operation and maintenance of irrigation system and supply of irrigation water in adequate quantity on time in predictable, reliable and equitable manner to meet the needs of farmers.

Based on the above aspects the present paper has made an attempt to examine the villagers' participation in both traditional and modern system of irrigation management. While critically examining the community participation in modern means of irrigation system it tries to explore the various levels of participation.

The primary focus of this paper is towards identification of 'who' participate and 'to what extent' in the case of irrigation management in Rayagada district, Odisha. While examining the participation aspects it has tried to observe both from Policy and implementation context of the Act. While examining the levels of participation it simply does not take participation only attaining meeting it took it as various forms of involvement in decision making process, viz., plan formulation, implementation, monitoring, and evaluation and sharing the benefits of development.

Methodology

This paper is based on field data collected from *Jaya Maa Durga Pani Panchayat* under Badanalla Irrigation Project in Rayagada district of Orissa, India. Both qualitative and quantitative methods have been used in the collection of data such as use of household schedules, case study method, conduct of strategic interviews and focused group discussion and the participant's observation of everyday life and practices of tribal and non-tribal communities. Data were also gathered from other stakeholders such as representatives of various castes and communities, members of traditional council and Gram Sabha, office bearers of *Pani Panchayat* and irrigation officials.

Location and Membership

Jaya Maa Durga Pani Panchayat is situated in Padmapur block of Rayagada district, Orissa. This *Pani Panchayat* was handed over to the farmers on March 30, 2004. It covers three villages, namely, Jaripanga, Perupanga and Singpur. The village Perupanga, which is the headquarter of this *Pani Panchayat* situated two km. away from Singpur and six km. from Jaripanga village. The village Perupanga is situated around 10 kilometers away from block headquarters, 40 kilometers from Gunupur and 100 kilometers from Rayagada. There are 45 outlets that come under this Water Users' Association. Apart from Badanalla main canal, this *Pani Panchayat* serves three

Sub-Minor canals - Jaripanga Sub-Minor, Perupanga Sub-Minor, Singpur Sub-Minor and Perupanga Minor. All these canals cover around 394.10 hectares of command area.

Jaya Maa Durga Pani Panchayat is situated in a predominantly tribal area where around 84.53 percent beneficiaries belong to tribal communities. The highest number of beneficiaries belongs to the village Perupanga. While almost all general category farmers and all OBC farmers belong to Perupanga village, the other two villages represent predominantly the tribal water users. The farmers belonging to Scheduled Castes are also found in all the three villages. However, the farmers belonging to *Kutia Kandha* community are confined to Jaripanga village. The farmers from Saura community (103) are more or less equally distributed among Singpur and Perupanga villages (Table 1).

Table 1: Pani Panchayat Members by Community and Village

<i>Communities</i>	<i>Sub-Communities</i>	<i>Village wise Pani Panchayat Members</i>			<i>WUA Members</i>	<i>Total WUA Members</i>
		Parupanga	Jaripanga	Singpur		
ST	<i>Saura</i>	50	00	53	103	164 (84.53)
	<i>Kutia Kandha</i>	00	58	00	58	
	<i>Jatapu</i>	3	00	00	3	
SC	<i>Palaka</i>	2	2	00	4	7 (3.60)
	<i>Gantha</i>	00	00	1	1	
	<i>Aika</i>	00	00	2	2	
OBC	<i>Panada</i>	1	00	00	1	4 (2.06)
	<i>Gauda</i>	1	00	00	1	
	<i>Behera</i>	2	00	00	2	
Brahmin (GC)	<i>Panda</i>	1	00	3	4	19 (9.79)
	<i>Panigrahi</i>	10	00	00	10	
	<i>Sahu</i>	5	00	00	5	
Total		75	60	59		194 (100)

I

Participation and Traditional Systems of Irrigation Management

It is essential to remember here that traditionally villagers, especially the tribals, managed their affairs and resources more on a sustainable basis (Roy Burman, 1993). The Indian tribal villages traditionally controlled the natural resources such as village pastures, water resources, forests,

lands and other resources collectively (Prasad, Siva and Niharranjan Mishra, 2006). The villagers in study area used to manage the water resources collectively. The entire villagers, irrespective of caste and community, used to share and manage the water collectively, and they used to take care all the source of irrigation either it is stream, tank or terrace.

By stone packed contour bonding, the Saura communities living in this locality laid out small terraced fields on the hill slopes and grew paddy. By means of channels, they used to regulate the flow of water from the natural hill streams and irrigate terraced fields on the hillsides for rice cultivation. The bed of the stream was levelled and terraced in some places. Floodwater was drained out by drains on both sides. By doing this, they used to take advantages of the perennial springs to irrigate their narrow terraced fields during late winter and early rainy months. In order to take water from one field to another, they used to make one hole in the wall of the land. The hole used to be made just 4 inches above the level of the land. Through that, the entire water would not runoff to lower land. All the farmers helped each other at the time of water scarcity. They used to obey the order of the village chief. Though some farmers individually take care the terrace attached to their land but in most of the cases the entire villagers used to join hands in the summer season to build it before the onset of monsoon.

The traditional practices, values and beliefs used to play important roles in using, sharing, managing and conserving water resources. In the traditional system, participation was evolved over centuries as a culture and was enforced by social institutions. Social mechanisms were there to ensure participation of several social groups in the maintenance of water resources. Community institutions used to encourage farmers participation in water management. For instance, surface water was traditionally harvested collectively by constructing embankments across water conduits, gullies, natural channels and dikes; whereas ground water was harvested through dug-wells.

Their cultural beliefs and practices were coincided with the process of water resource management. And these practices had not only helped in preserving the water resources but also in preserving the social solidarity. The believe that the tanks from where water used to be taken for ritual activities should be kept clean helped in preserving the water resources. The rituals that

the villagers perform at the time of scarcity used to bring all the villagers on to one platform. The cultural practice of obeying the decision of village council had helped in maintaining the social order and customary relation among the villagers.

Before 90s when the irrigation system in this area was not developed, the villagers used to depend on the mercy of monsoon for their agricultural production. In order to appease Gods and Goddess for better production and to save them from water scarcity they used to observe different rituals like *Bengainata*, *Indra puja*, *Jankiri puja*, *Gadasum Puja*, *Chaiti mangalabar*. They used to observe them in their community as a whole. At the time of draught, the *Gomango* (village chief) used to call for a meeting of villagers to discuss the situation of draught. With due permission from the village chief, the villagers used to organise the respective rituals depending on the time and situation. Having a discussion with *disari* (priest), the villagers used to select the date of observance. Though some people were intellectually rich in traditional wisdom regarding the irrigation management, but the entire community members used to share this knowledge among them. This kind of ritual observances at the time of drought had helped the villagers in establishing social capital among them.

The case of community participation was quite prevalent in the case of *bandha* (tank) management in study area. Traditionally, *bandhas* were providing protective irrigation on a limited scale. Here the irrigation system was a community constructed, maintained and operated entity. The village *zamindars* or the kings in that region built the *bandhas*. The Jaipur king had made a big *bandha* called *Raj bandha* in this area. This *bandha* was over ten acres of land, and was providing water to around two hundred acres of land. There were three outlets to this *bandha*. The farmers who had their lands near that *bandha* constituted a committee (Water Users' Committee). The members of that committee were not confined to the farmers of the Saura Singpur village only to which the *bandha* belongs. It is a coalition of farmers whose membership was defined by field location. The water users' committee was headed by the *gomango* (the village chief) of the Saurasingpur village. He was considered as the leader of the water users' committee. The *gomango* was responsible for the distribution and allocation of water and the settlement of disputes and enforcement of rules. The *gomango* used to ensure that each farmer gets adequate water so that even the last field in the village is irrigated. The

gomango used to mobilize the water users to contribute labour for a routine repair and also for the maintenance of the *bandha*.

The routine work involves clearing and de-silting of *bandha* and the maintenance of water conveyance network, while the system is in operation. Ordinary maintenance, such as the periodic clearance of silt, repair of the *bandha* and field channels used to be done by the committee members before the onset of monsoon. They used to take care of the problems of encroachment near by the village *bandha*. All the committee members work together in filling up the *bandha* during rainy season. They were making small canal kind of structures directing the water flow from hills towards *bandha*.

Since the traditional *bandha* management composed of water users, mostly from the same village, organization of the *bandha* is along village lines and the village chief often served as the irrigation leader. In this pattern of organization, there are obvious advantages with regard to communication between water users and the water authority. In this traditional system of management, the post of irrigation leader was hereditary. For his service the *gomango* used to receive compensation directly in the form of exemption from labour.

The *gomango* appointed a person as *barika*, from a scheduled caste family to look after the *bandha*. The post of *barika* was hereditary in nature. The same *barika* took care of all the activities of the village, which were assigned to him either by the village chief or by the village committee. The duty of the *barika* was to open and close the outlet. He used to see the flow of water, and further he used to inform the village farmers the opening and closing of the outlet; he kept an eye on channels through which water used to come to the *bandha* and also go to the fields. In case of any requirement, with the prior permission of the *gomango*, *barika* informed the village farmers about the time and place of meeting. In that meeting the farmers took decision about which outlet will be opened and when and how much water will be provided to whom.

The farmers in the respective Water Users' Committee used to give some amount of paddy to the *barika* after harvesting. All farmers, rich or poor and large or small, had land in head and tail reach of the irrigation channel. As a result, all cultivators in the irrigation command co-operated

each other in sharing shared irrigation water. Thus, people's collective action finds place in operational as well as in maintenance works. The operational works include cutting and closing embankments for diversion, erection of *bandha*, opening and closing of outlets.

In order to manage limited water in the tank in an equitable manner among all the farmers in the command area, the village chief with prior consultation with the farmers imposes restriction on water intensive cropping pattern and other agricultural practices. Sometimes they advised to reduce the area of paddy or go for some mixed crops. If some conflicts occur among farmers relating to irrigation, the farmers of that outlet try to solve the disputes among themselves. If they fail to resolve among them, they would draw the attention of the *gomango*, who would in turn call for a meeting of farmers through *barika*. All the farmers had a strong faith on *gomango*. Some fine used to be imposed by the *gomango* in case of violation of the rules.

II

Farmers' Participation and Pani Panchayat

This will focus to what extent PIM that is *Pani Panchayat* has given place to community members especially the tribal communities in various levels of participation in irrigation management.

Identification of Membership

As per the *Pani Panchayat Act 2002*, every *Pani Panchayat* shall consist of all water users who are recorded landholders and tenants in the area of a *Pani Panchayat*. The Act specifies that a landholder may nominate any adult member or his or her family to be the member of the *Pani Panchayat*.

In the study area, the landless constitute more than half of the households. Most of the landless households belong to tribal and Scheduled Caste communities. Their main source of livelihood was agro-based wage labour and fishing. However, the introduction of *Pani Panchayat*, restricted their right over canal water, which deprived some of the poor landless from their traditional livelihood of fishing. Thus, restricted membership based on only landownership denied the landless their right to access water. Most often this has led to building up of tension

between members and non members for which the landless are being blamed by landlords and higher caste farmers.

Apart from the landless, women also do not figure in the *Pani Panchayat*. Irrigation management is not the business of men only. Women provide labour or other resources to the maintenance of irrigation system. They do so mostly in their capacity as co-farmers, working in close collaboration with their husbands to cultivate crops on their family's plot. It is pertinent to note that while majority of the agriculture operations are performed by women, they are not involved in decision making pertaining to the management of agriculture, including *Pani Panchayat*. In the study area, only 11 women out of 194 are members of the *Pani Panchayat* based on their legal ownership of land. Thus, it is not surprising to find the Orissa *Pani Panchayat* Act excludes women from becoming members of *Pani Panchayat*, as they are not legal landowners. Interestingly, there are five more women who have legal rights over land but are not members of *Pani Panchayat*. Instead of them, their husbands are nominated to the *Pani Panchayat*. Thus, even if women are the owners, the membership is not automatically conferred to them, unlike in the case of men.

Apart from the policy, the process of implementation of *Pani Panchayat* has also created a certain environment which is not conducive for women to take up the membership. Some women respondents complained that the irrigation department officials and the NGO working in the study villages initiated the process of *Pani Panchayat* formation by contacting the farmers whom they already knew. They were, in turn, told to mobilise other farmers known to them. Interestingly, all the farmers contacted by irrigation officials and NGO were men, who, in turn, influenced their other male counterparts to be part of *Pani Panchayat*. Thus, it is obvious why women landowners were not enrolled as members of the *Pani Panchayat*. It shows that the biased attitude of the implementing agency of *Pani Panchayat* has not given proportionate place to all class, caste and gender.

It is relevant to note that till the end of 2005, 194 (82.55%) out of 235 farmers have taken the membership. The rests whoever have not taken the membership are tribal and Scheduled Caste farmers. However, it does not mean that the farmers who have not been enrolled in the *Pani Panchayat* are not in favour of *Pani Panchayat*. They are not involved in the process by the

higher authorities. They are being excluded because of their ignorance, illiteracy, poverty and lower status in community.

It is observed that significant proportion (19.57%) of the members were not even aware about their membership in *Pani Panchayat*, as their membership was paid by the President of *Pani Panchayat* on the advise of irrigation officials and the NGO who were responsible for his becoming the President. Among them, a substantial number of farmers belong to tribal communities and Scheduled Caste. Lack of awareness regarding the *Pani Panchayat* was more prominent among the marginal farmers with less than one acre of land and also among tenants, than the other categories of farmers (Table.2).

Table 2: Respondents who are not aware of their Membership in Pani Panchayat

Community of the Respondent	Size of Land Holding of the Respondent				Total
	Marginal	Small	Medium	Large	
ST	25	9	....	.....	34
SC	4	.....	.....	....	4
Total	29	9	....	.....	38

Election or nomination

In contrast to the Act, the data from the field informs that many of the tribal (30%) and Schedule Caste farmers (60%) are not at all aware of the election in *Pani Panchayat*. Even among those who have heard about the election in *Pani Panchayat*, majority of them (80%) are not aware of the procedure of election and significantly most of them are tribal farmers (Table.3).

Table. 3: Respondents according to the awareness about the election in Pani Panchayat

Aware about election of <i>Pani Panchayat</i>	Community of the Respondent	Size of Landholding of Respondent				Total
		Marginal	Small	Medium	Large	
Yes	ST	43	38	22	12	115
	SC	3	....	.....	....	3

	OBC	...	.....	1	3	4
	GC	1		6	12	19
	Total	47	38	29	27	141
No	ST	44	5	.....	.....	49
	SC	3	1	....	.....	4
	Total	47	6	.....	.....	53
Grand Total		94	44	29	27	194

Though the lower social and economic groups (Scheduled Tribes) have good representation in the *Pani Panchayat* executive, the upper caste village elite, big farmers and active party workers have taken the Presidentship of most of the committees. Though 85% of the members of this *Pani Panchayat* are tribals, the President of this *Pani Panchayat* belongs to OBC community. Even in this distributary, out of 21 *Pani Panchayats* in 16 *Pani Panchayats* the Brahmin and OBC members are holding the presidential posts. A majority of these *Pani Panchayat* leaders have political affiliation and have held some political offices, such as Sarpanch, ZP members, etc. Some of the *Pani Panchayat* leaders reported that this gives them an opportunity to ‘serve farmers’ and they find *Pani Panchayat* as a new institution through which they could strengthen their political career. Majority of the leaders of the *Pani Panchayat* belong to the ruling Biju Janata Dal (BJD), followed by Congress, Bharatiya Janata Party (BJP) and Communist Party of India (Marxist). The analysis of present situation makes it clear that *Pani Panchayats* stand as a parallel institution to the Statutory Panchayat. It is also clear from the caste and class background of the leaders of the *Pani Panchayats* that the dominant caste persons who used to represent the Statutory Panchayats have now shifted from Statutory Panchayat to *Pani Panchayats* after the seats in the Statutory Panchayats were reserved for STs. Thus, it is clear that the hold of dominant caste and hierarchies still rule the society, be it in *Pani Panchayats* or Statutory Panchayats. The *Pani Panchayat* in the study area has become the Panchayat of contractors and landlords. The discussion with villagers reveals that only politically active landlords and contractors were consulted before the formation of the Committee. They state that by distributing money, mobile phones, dresses, chicken and wine, the NGOs and irrigation officials formed the Committee overnight.

During the discussion with the government officials and farmers, it was observed that the indifferent attitude and manipulative machinations of government officials and *Pani Panchayat* office bearers discouraged the tribal and marginal farmers to participate in the process of election

to *Pani Panchayat*. This indifferent attitude of irrigation officials towards marginal farmers and the vested interests of politically influential persons have ruined the spirit of participation in PIM.

Meetings

The records of various *Pani Panchayat* meetings shows that though this programme was implemented in this region especially for the development of tribal and marginal communities, their participation is very less. Even none of the Scheduled Caste farmers have ever attended the meetings. On the other hand the farmers who are attending the meetings are mostly from higher castes and large farmers (89%) (Table.4). All the farmers who are unaware of the meetings belong to the tribal communities.

Table.4: Respondents Attending Meeting by Community and Landholding

Attending meeting regarding to water sharing	Caste/Community of the respondent	Size of landholding				Total
		Marginal	Small	Medium	Large	
Yes	ST	18	10	12	11	51
	SC	00	00	00	00	00
	OBC	00	00	00	03	03
	GC	01	00	03	10	14
	Total	19	10	15	24	68 (35.05%)
No	ST	69	33	10	01	113
	SC	06	01	00	00	07
	OBC	00	00	01		01
	GC	00	00	03	02	05
	Total	71	32	14	03	126 (64.95%)
Total		94	44	29	27	194

The beneficiaries who have attended the meeting so far are mostly belong to head reach (60.29%) and farmers who are growing double crops (83%). The tail reach farmers (mostly marginal and lower class) , who really need water, rarely attended the meetings. Though significant proportion of farmers (48%) in the study area come under the tail reach and badly need water, only a small proportion of them (19.56%) attend the *Pani Panchayat* meetings. It

was also observed that the farmers who are mostly going for double crops (83%) are attending the meetings (Table.5).

Table.5: Respondents attending Meeting by Location of Land and Cropping Pattern

Cropping Pattern	Land Position of the Respondent			Total
	Head reach	Middle reach	Tail reach	
Single	5	-	7	12
Double	36	9	11	56
Total	41	9	18	68

Even though most of the educated and youth have attended the meetings, their participation in the meetings was not that much significant as most of them were participating for the sake of attendance. Even though very few of the beneficiaries participated in different meetings, to know about *Pani Panchayat*, only one third of them asked something relating to the *Pani Panchayat*. Others were simply listening to what the officials were stating in the meeting. Those who have raised their voice in the meetings belong to the non-tribal communities and none from the tribal farmers. More interestingly, some of the small and marginal farmers who used to be critical about the irrigation officials and office bearers of *Pani Panchayat* during their interaction with the researcher used to remain silent in the meetings as they do not dare to raise them before the President and Secretary of the *Pani Panchayat*. Even if some marginal farmers want to say something they do not get any opportunity for free expression. The higher caste landlord farmers holding the post of president and secretary used to take all the decisions autocratically and fake the signatures of the members.

It was observed that women's participation in comparison to men is very less in the *Pani Panchayat* meetings. Out of 11 women members in the association, only 3 (27%) have attended the meetings, and that to only once (Table.6). Those women who attended the meetings are somewhat educated and are holding some position in the Self Help Groups (SHGs). The women beneficiaries have stated that lack of time and social restrictions are the major causes for their absence in the meetings. At the time of interview, some of the women questioned whether these meetings served any purpose as it offered no opportunities for them to express their needs and

concerns. If they attend, they rarely speak, and, if they speak, their opinions carry little weight. They come to the meetings only to sign in the registers for the purpose of record. Men do not listen to them. It was observed that men are reluctant to share not just domestic tasks and childcare but also cattle care. Besides, women have to work in the family farm as well as go for wage labour to supplement family income. These work burdens restrain women from attending lengthy meetings.

Table.6: Gender-wise attendance at the Meetings

Community of the Respondent	Gender of the Respondent		Total
	Male	Female	
ST	49	2	51
OBC	3	-	3
GC	13	1	14
Total	65	3	68

Timing and location of meeting also imposes a higher cost on women than on men. It was observed that most of the time, General Body Meetings are held at night to suit the convenience of the male members. The meetings were mainly held in Parupanga village, which is a little away from Singpur and Jaripanga villages. Hence, women find it difficult to attend these meetings. For women, it is unsuitable to go out of home after evening and even if they want to go they cannot go alone but have to take the help of the male members of their family. Hence, they question the need for both the husband and wife going to the meeting. Added to this there are no communication facilities and they have to walk down or take the help of men folk, who go by bicycles, to reach there. Similarly, formal trainings are held away from the village or Block office and they require an overnight stay. This imposes a higher opportunity cost on women than men. They also point out that if they go for any training programme, they have to go either with their husbands or with their sons by bus and the officials will not pay the travel expenses of their husbands or children.

The prevailing social norms in the study area restrict participation of women in the public domain. It is generally believed that in the spaces where men congregate in the village are spaces

that women of good character are expected to avoid. Due to fear of loss of reputation of family, most women avoid attending *Pani Panchayat* meetings, unless they are explicitly invited. Men often view women's involvement in *Pani Panchayat* as serving no useful purpose and thereby they downplay their potential contribution. Women hesitate to attend meetings due to aggressive male behaviour. In most of the meetings men consume liquor and start abusing each other. This kind of behaviour of men discourages women from attending the meetings.

Apart from all these factors the cognitive approach of a woman keeps her away from the irrigation meeting. During field work it was prevailed by some of the women that women are like mother earth and rain water falls from sky. Fertility used to be held while the rain falls on the earth. As rains stands for mail women have nothing to do with irrigation water.

Canal Maintenance and Water Allocation

Since the inception of human society it is observed that dominant clan, caste or class have taken the fruits of development. However, it is true that when the question of service comes it is the marginal communities who used to take care it. The same thing held here too. It was observed that the tail reach farmers (44.26%) who are deprived from water allocations mostly are more involved in canal repairing than the head reach farmers (22%) (Table.7). It was also observed that the farmers who participated in the canal repairing are mostly marginal and small farmers and most of them are tribals (89%).

Table.7: Respondents attending the canal maintenance work

Background of the Respondent	Land Position			Total
	Head reach	Middle reach	Tail reach	
ST	12	15	27	54
OBC	1	1		2
GC	4	1		5
Total	17	17	27	61

In the absence of proper plan the water distribution has become an activity of push and pull. If there is political pressure for water from other *Pani Panchayats*, the water will be released to them. It was also observed that as the surrounding *Pani Panchayats* (*Maa Mangala*, *Maa Baishnabidevi*) are dominated by non-tribal farmers and politically active leaders from the ruling party, they usually draw more water from the main canal by using political pressure.

Cropping pattern

The *Pani Panchayat* Act prescribes that the *Pani Panchayat* should prepare a programme for cropping suitable for the local soil and agro-climatic condition with due regard to crop diversification. It should pass on the information regarding the cropping pattern and water availability during *Rabi* and *Kharif* seasons to all the farmers. The farmers in an out let should co-operate each other in doing same crops.

It was observed in the field that the *Pani Panchayat* in the study area is not yet involved in preparing any cropping pattern. Still this work is taken care of by the irrigation officials. Even except the President, the other members of the Executive Committee are not aware about it.

The evidences from the field show that most of the farmers (70%) do not know about the cropping patterns due to absence of information. Those who are aware of the cropping pattern (18.4%) mostly (58%) belong to General Castes and that to they are not worried about the other farmers (Table. 8).

Table 8: Awareness regarding recommended crop

Caste of the Respondent	Awareness regarding recommended crop		Total
	Yes	No	
ST	23 (18.4%)	141	164
SC	.....	7	7
OBC	1	3	4
GC	11 (58%)	8	19
Total	35	159 (70%)	194

Even though very few farmers are aware of the cropping pattern, none of the farmers are implementing the recommended crops in their field. The reasons for not adopting the recommended crops, according to most of the farmers (63%), is that the recommended crops are not suitable for them, while few (12%) opine that the recommended crops are not available in time.

Account Maintenance and Resource Generation

Even though it is mentioned in the *Pani Panchayat* Act that the Executive Committee will maintain the account properly, raise the fund from different sources and assist the revenue department in collecting the water rates in time, it is not observed in the study area. Till now the *Pani Panchayat* studied is not in a position to raise the resources. None of the *Pani Panchayat* office bearers help the revenue officers in collecting the irrigation taxes. It was observed that around 50% of the farmers do not pay their irrigation taxes in time. The reasons mentioned by the farmers for the non payment of taxes in time are due to lack of money and unavailability of water in time. Even though it is mentioned in the Act that the budget will be discussed in the GBM nothing is observed. Due to lack of accountability most of the farmers have lost their interest to participate in various activities.

Conflict Resolution

The ideal behind the Act that let the farmers resolve their disputes by themselves is yet to be realised. Besides faulty implementation, the lack of adjustment of the new institution with the traditional one has made the process of conflict resolution more complex. The breakdown of traditional management system, sudden withdrawal of irrigation agency, and the evolution of multiple leaders create a confusing situation for the farmers regarding whom they should approach in times a conflict. The reasons for conflicts have become more diverse. The fighting for leadership, money, profit making attitude and the inherent conflict in policy has increased the tension in study area.

Conclusion

The foregoing discussion brings out clearly the issues involved in people's participation in *Pani Panchayat*. The Water Users' Association, which is not based on the local culture and needs of

the local tribal communities, obviously cannot evoke their participation in the *Pani Panchayat*. The study reveals that the *Pani Panchayat*, which was implemented in this area for providing timely, assured and equitable irrigation, has not yet achieved the desired results.

By confining the rights of membership only to the recorded land owners and their nominees the policy itself has ignored a larger section of people in the society who do not possess land based on legal rights, and the landless and women. The customary right of male members over fathers' property has deprived women from land ownership, which ultimately deprived them from the membership of *Pani Panchayat*. The term recorded landowners in policy has created problem for the persons who distributed land among themselves orally without making any legal records. Even though the policy has given the membership rights to the tenants, they are not able to avail, because the landlords are changing their tenants frequently in fear of losing their lands. It was found from the analysis that even though *Pani Panchayat* is introduced in the last three and half years some of the farmers whose names are listed in the *Pani Panchayat* records are not aware of their membership. Most of the tribal and marginal farmers, some of the lower level irrigation officials and NGO personnel are not aware of the objectives and rules of *Pani Panchayat*. It was found that most of those attending the meetings are those who are educated, head reach and farmers doing the double crops. The participation of illiterate, old and tail reach farmers is very rare.

Despite the fact that *Pani Panchayats* are promoted as non-political institutions, 'elite capture' and political involvement dominate their functioning. And the present trend appears to be towards further politicization of these institutions. It is also clear from the caste and class background of the leaders of the *Pani Panchayats* that the dominant caste or class persons who used to represent the Statutory Panchayats have switched over to *Pani Panchayats* after the reservation of seats for STs in the Statutory Panchayats.

It was observed that the involvement of farmers in canal repairing works has to some extent increased due to *Pani Panchayat*. The tail and middle reach farmers are more involved in these works. Thus, some of the farmers who have land in the same outlet are working together in cleaning the canals.

It was observed that many technical and physical and socio-economic and cultural factors have a significant role in influencing the farmers' participation in the *Pani Panchayat* activities. Moreover, some of the factors like social norms, domestic burden and social perceptions discount women's abilities and restrict women's participation in *Pani Panchayat*. Thus, there is a need to take cognizance of these factors in revamping the working of *Pani Panchayats* and to make them really people-oriented system.

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