

**Functioning of Water Users Associations or Pani Panchayat in Orissa:
Principle, Procedure, Performance and Prospects**

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Abstract

The current paper dealt with an evaluation of water management through community participation and emergence of Pani Panchayat in a case study of *Vir Bajrang Bali* Pani Panchayat under Lift Irrigation Project of the Hirakud Command Area (HCA), Orissa state in Eastern India. Broad objectives of this paper is to examine the functioning and otherwise of Water User Association (WUA) or Pani Panchayat promoted by the State and the local traditional irrigation institutions in the HCA, Orissa and to evaluate their functioning & characteristics in the context of local water management. The precise objectives are; (1) to analytically review the Orissa Farmers Management of Irrigation Systems Act and study the functioning of the Pani Panchayat, (2) to examine about the peoples participation and their liveliness, (3) the apparatus of water management and control, and its impact of such management on productivity among the members and (4) to recommend policy interventions to make the formal institutions more successful. The paper concludes that the Pani Panchayat as regulatory institutions in charge of water distribution on equitable basis, their performance has been reasonably weak and unsuccessful. Even though Pani Panchayat has been initiated and endorsed in the State for more than a couple of years, the acceptance of the model have been lethargic and scattered. As Pani Panchayat is a new concept needing enough experimentation and experience before finalization of its content and constituent in greater detail, the irrigation agency is not in a position to spell out the different component of the programme in concrete terms, the farmers should be informed accordingly. Otherwise frequent changes in the provisions will give a confusing picture to the farmers and they will lose confidence in the irrigation authority. A detailed action plan should be prepared in consultation with the water users through Participatory Rural Appraisal method. A feasibility study should be under taken by examining the caste class conflict, groupism, political differences and history of confrontation and conflict if any. It is necessary to apply bottom-up approach instead of top-down for sustainability. There must also be mechanisms to ensure that the benefits of the project are equally distributed to all concerned stakeholders.

Key Words: Common Property Resource, Farmer Managed Irrigation System, Orissa Pani Panchayat, Participatory Irrigation Management, Water Management, Water User Association

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Section-1

Introduction

Participatory Irrigation Management (PIM) has been conceived as the thrust area in the effective irrigation management by involving and associating the farmers in planning, operation and maintenance of the irrigation system. Setting up organization has acknowledged significant attention in PIM Programs. The number of organisations registered or in the process of formation has been used as the scale of success of PIM. But institutional aspects of farmer participation in irrigation receive less attention in the current PIM policies. Similar to many other countries, many states in India are looking for, to involve farmers in operation and maintenance at higher levels through a variety of PIM and Irrigation Management Transfers (IMT) Programs (Gulati et al. 2005).

The National Water Policy 1987 emphasized the participation of farmers in different aspects of the management of the irrigation system, principally in water distribution and collection of water rates. The Vaidyanathan Committee on Pricing of Irrigation Water (Planning Commission 1992) suggested farmer's participation in the management of irrigation systems. A separate Working Group on PIM was set up by The Planning Commission to re-examine and recommend the strategies for the Ninth Five Year Plan, where the legal, financial, and institutional factors were recognized as the vital to the successful implementation of PIM programs. According to the Mid-Term Appraisal of Ninth Five Year Plan, the progress achieved so far in PIM, designed to improve water-use-efficiency, is rather low. The irrigated area transferred to WUA in India is only about 7 percent as against 45 percent in Indonesia, 66 percent in Philippines, and 22 percent in Thailand (Government of India, Planning Commission 2000). Latterly, the voluntary sector and Non- Governmental Organization (NGOs) have made their presence felt in the area of Common Property Resources (CPRs) focussing on the participatory forms of development (see in this context Chopra et al. 1990; Katar Singh 1991a, 1991b and 1994; Sengupta 1991; Singh and Ballabh 1996).

It was probably Henry Hart in 1961, who first pointed out the desirability of irrigation associations in canal irrigation systems too. The Maharashtra State Irrigation Commission recommended the same in 1962. The Second Irrigation Commission, 1972, went to the extent of citing some cases from all over India believed to be irrigation Panchayats, and attached

'high importance' to the formation of such societies [India (1972, Part I), pp.373-74]. It also recommended states to undertake legislation for this purpose. The Command Area Development Programme, launched within the Sixth Five Year Plan, 1980-81, adopted the formation of irrigation associations as one of the strategies for the improvement of the canal systems. Chambers (1988) has shown that the reported cases of 'considerable achievement' of irrigation associations were instances of nominal success in exactly three projects: the Mohini Cooperative in Gujarat, the Pani Panchayats (Mula Project) in Maharashtra and the Pipe Committee of Pochampad in Andhra Pradesh. Ten years of failed attempts and exaggerated claims of success have already convinced a great many experts that programmes in this area are not worth pursuing. Three serious deficiencies as pointed out by Sengupta (1991) were:

1. Most of the attempts intrinsically assumed that users' cooperation does not exist in India.
2. Not only were the efforts clumsy, but also their weaknesses were never reviewed, and nothing was ever learnt from a case of failure.
3. In absence of any effective coordinating agency between the different departments and the states the dissemination of information pertaining to these projects was left totally to the informal methods. ¹

Although PP has been introduced and promoted in the State of Orissa for more than a couple of years, the acceptance of the concept has been lethargic and scattered. A full census is not available and we don't know the size & nature of the PP and whether they are indeed functioning or not. There are no reliable figures and also lack of data available regarding number of WUAs in existence. In this new institution (Pani Panchayat), informal societies and others serve political purposes; retain caste power replacing indigenous practices. Therefore an endeavor has been taken to find out how far the new institutions will sustainable in the long run. Though there is much talk about people's participation in canal irrigation system, it shows that there is only transfer of a little more rights and responsibility to farmers at tertiary level. The rights to prepare all the basic designs have remained State Departmental prerogatives as ever (Sengupta, 2002).

¹ Cited in Sengupta, Nirmal (1991): pp.79-80

This paper is organized in the following manner. Section one discussed many important issues and experiences of performance of Farmer Managed Irrigation System (FMIS), Water User Association (WUAs) and Participatory Irrigation Management (PIM) studies in different States on different issues. Section two analytically reviews the Orissa Farmers Management of Irrigation Systems Act and study the functioning of the Pani Panchayat. On the whole it discusses the brief note on status of Pani Panchayat (here after called PP) in Orissa, primary motivations for introducing PP in the State, emergence of the PP Act, and characterisation of farmers' organisation, diverse strategy & assignment of PP, state-wide initiation of PP, salient features of Biju Krushak Vikask Yojana (BKVY). Section three briefly examines the socio economic characteristics of the studied PP members, their distribution of ownership of land patterns, cropping pattern, cropping intensity, production of output and crop income. Finally section four deals with different aspects of PP such as the maintenance of water rights, land rights in PP, farmers' assessment of PP, and reasons for explanation of the non-utilisation of the estimated area of PPs. Appendix contain the profiles of the selected PP.

Section-2

Pani Panchayat in Orissa: Initiatives and Challenges

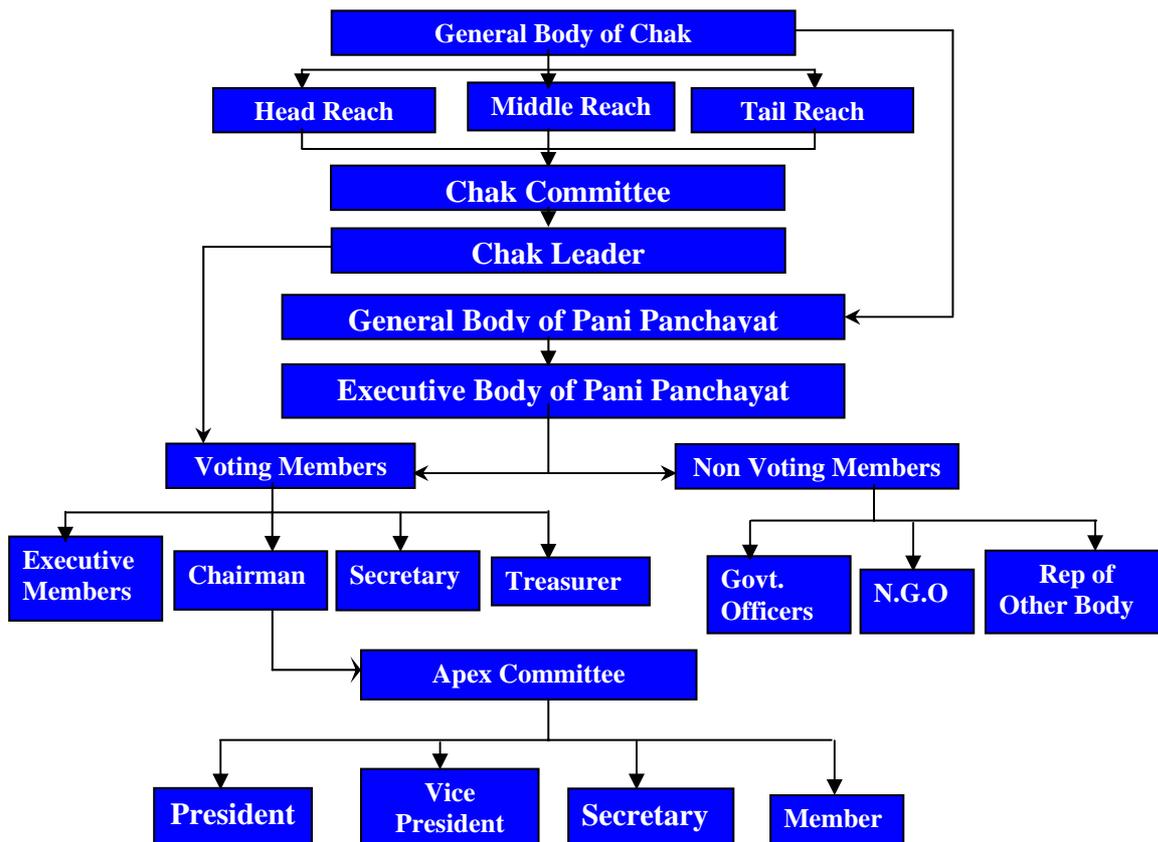
Government of India adopted National Water Policy in 1987. The same was reviewed and updated in 2002. Based on the policy; Guidelines were issued to all the States of PIM, attaching utmost importance to the farmers' involvement in various aspects of management of irrigation system, particularly in water distribution and collection of water rate. Government of Orissa adopted a similar policy of PIM in State Water Policy of 1994 which emphasizes on transfer of irrigation management to farmers. From being a mere provider of water it has move into a paradigm of sustainable water resources management with a focus on people participation.

Ever since the late 1990s, the Orissa Government has been demonstrating a massive interest in farmers' participation in water management. This, however, appears to be wisdom which has been received from the World Bank. The necessity for farmer participation arose from the Government's assurance to the World Bank funded Orissa Water Resources Consolidation Project (OWRCP). As a component of this project, the Farmers Organisation and Turnover (FOT) programme has been given much significance. FOT actions largely include some

methodical procedures through which tertiary segments or downstream parts of the canal system such as minors and sub-minors are handed over to beneficiary farmers for its operation and maintenance by forming PPs or WUAs. The main purpose of FOT programme is to entrust some responsibility to farmers through formation of PPs or WUAs which include the collection of water rates, distribution of canal water among water users, operation and maintenance of canal at lower level such as minor, sub-minor, distributary. In this programme, PPs are created on a three tier systems with two informal associations and one formal association on hydraulic boundaries ranging from 300 hectare to 600 ha. of command area. At the lowest level, Chak Committee is formed taking three farmers, each one from head; middle and tail reach of the ayacut of an outlet. A representative called as chak leader of each of these chak committees is a member of executive of PP. The President, Vice-President, Secretary and Treasurer of the PP or WUA are elected out of the executive body of concerned PP. It may be revealed that, all the water users are members of general body of the PP. At the project level, a federation of all WUA is established a formal but non-binding advisory role in mail system operation and maintenance known as Apex Committee. The executive members of the Apex Committee are elected out of the Presidents of all WUAs within the command area jurisdiction of the irrigation project. The basic organisational structure of the Pani Panchayat is presented in Figure 1.

Thus, Orissa has taken up the PIM, covering all the irrigation projects in the state. The Orissa Farmers Management of Irrigation Systems Act, 2002, called *The Orissa Pani Panchayat Act, 2002*, is facilitating tool for the farmer participation. The first step made in this process of reformation was to hand over a part of the network of the canal system/irrigation for its Operation and Maintenance (O&M) to the farmers or the beneficiaries through 'Pani Panchayat' or WUAs. The farmers have been demonstrated about the utility and benefits of PPs. Farmers are suggested with measures for taking up of minimum maintenance work by themselves for ensuring free flow of water up to the tail reaches. They were also helped to organize water distribution in their jurisdiction, resolve disputes, if any, and adopt their own crop planning etc. The PPs were registered as legal bodies to provide the required identity.

Fig.1 Organisational Structure of the Pani Panchayat in Orissa



2.1 Emergence of the Act

The Orissa Farmers Management Irrigation Act provides for the establishment of farmers organizations in all the irrigation systems, for their operation and maintenance. The act has 43 sections divided into 7 chapters. Each chapter provides specific provision for a specific objective/activity. No-9371-Legis.-The following Act of the Orissa Legislative Assembly having been assented to by the Governor on the 25th June 2002 is published for general information. “Orissa Act 10 of 2002 *The Orissa Pani Panchayat Act, 2002 an Act to provide for farmers’ participation in the management of irrigation systems and for matters connected therewith or incidental thereto*”.² Whereas in the State of Orissa, which is essentially an agricultural State depending on an efficient and equitable supply and distribution of water, which is a National Wealth, ensuring optimum utilization of water by farmers for improvement of agricultural production is the utmost need.

² See in this context The Orissa Gazette (2002): The Orissa Pani Panchayat Act, 2002 No.1053, July 8, Cuttack.

2.2 Characterization

This Act may be called the Orissa Pani Panchayat Act, 2002. It extends to the whole of the State of Orissa. 'Farmers Organisation' means and includes:

1. PP at the primary level consisting of all water users, as constituted within a specified hydraulic boundary of a major, medium, minor (flow and lift both surface and groundwater) and creek irrigation projects funded by the Government as constituted under section 3,
2. Distributary Committee at the secondary level, as constituted under section 5,
3. Project Committee at the project level, as constituted under section 7;
4. Every PP shall consist of all the water users who are land holders in the area of a PP;
 - a) Explanation I. - A land holder may nominate any adult member of his/her family to be the member of the Pani Panchayat;
 - b) Explanation II. - A minor landholder shall be represented by his /her legal guardian.
5. Government may, by notification nominate at least one officer each from Department of Water Resources, Department of Agriculture and Department of Revenue to be the members of the Pani Panchayat without having the right to vote.

2.3 State-wide Initiation of PP Programme as on Mid-2005

The Government of Orissa with a view to provide equitable, timely and assured irrigation has introduced the concept of PPs scheme through farmer's awareness Programmes in the irrigated commands throughout the State. The concepts was finally lead to transfer of tertiary irrigation networks (Minor/ Sub-minors) to registered 'Pani Panchayats'. The responsibility of operation and maintenance (O & M) of the reservoir/diversion weir (as the case may be) Dam, Spillways, sluices, primary and secondary distribution networks etc, rests with the Department of Water Resources (DOWR), where as the responsibility of 'O & M' of the tertiary systems i.e. (Below minor/sub-minor) will be with PPs. The geographical extent of the programme covers the entire State comprising of about 18.25 lakh hectares of Major, Medium & Minor irrigation command areas in all the 30 districts of Orissa.

The PIM has become the cover stone of the Department. Starting from a few pilot projects, it has now been extended as a policy to the entire water resources sector encompassing major, medium, minor (flow) and lift irrigation projects. 7333 PP have been constituted in the State by 2001-2002. The realized irrigation potential of 75,000 hectors has been handed over to PP

for operation and maintenance of the system. Up to October 2002, 434 no. of PP have been registered having ayacut area of 3, 32,000 hectare in major and medium irrigation projects under Orissa Water Resources Consolidation Projects (OWRCP). Under minor irrigation (flow) 329 no. of PP have been registered covering an area of 76,000 hectare up to October 2002. Totally 5,619 PPs have been formed, and out of that 2,847 handed over to farmers till republic day of 2003. 12688 PPs have been constituted in the State by Mid-2005, covering an area of 9.95 lakh ha. Irrigation management has been transferred to 10764 PPs covering 7.11 lakh ha, out of total command area of 18.25 lakh ha. Four Pilot projects in the first phase namely, Ghodahada project, Rushikulya Distributary No. 11 of Ganjam District and Aunli and Derjang Projects of Angul District were identified for this work during 1996 and related activities of PPs started simultaneously in the projects.

2.4 Diverse Strategy & Assignment of Pani Panchayat

Diverse Strategy of PP has certain consequence in relation to the source of water.³ This discrepancy must be considered as a qualitative change from the condition of agriculture, which is entirely rain fed. One is obviously related to the cropping intensity throughout the year in relation to the assurance and availability of water. However, in minimum there is at least a certainty of irrigation during Kharif (rainy season-June to November). Sometimes it is rainfall, sometimes it is a wrong technical design, sometimes the command is not homogenous and it is scattered and consequently there are losses in transit etc. There are number of human factors, which also compromise the possibilities of achieving the level of irrigation that was originally or traditionally intended and designed.

2.5 Sources of Funding and External Resource Mobilisation for Pani Panchayat

The farmers' organisation will get access to a funding granted by the State and Central Government for the development of the area of operation, resources raised from financing agency, income from the assets of the organisation, fees collected by the organisation and donation received from any other sources. The funds thus mobilised shall be deposited in a Nationalised Bank or a Co-operative Bank or the District Co-operative Central Bank or the Orissa State Co-operative Central Bank in the names of such office bearers as may be prescribed. The Executive Committee of the Farmers Organisation shall maintain a sinking

³ There are three types/schemes of PP. That is Lift irrigation, Minor irrigation (flow including tank) and canal irrigation.

fund with a view to facilitating repayment towards borrowed funding. Resource mobilisation from outside the system includes cash and kind resources mobilised from the central or local Government, or labour contributions from other command areas in emergencies. The PP systems look for outside resources for augmenting, assuring and minimizing the labour requirements for maintenance, and for increasing the volume of water flow in the canal. The farmers' organisation may levy and collect fees as may be prescribed by the Government and/or decided by the organisation from time to time. In case of Lift Irrigation Points, the farmers' organisation shall fix a water rate which may cover the cost of the energy charges and maintenance charges of the Project. In case a water user does not utilise any water in any particular season, the farmers' organisation shall be competent to fix such minimum charges as may be decided by the General Body of the Farmers organisation. No water tax will be collected by the Orissa Lift Irrigation Corporation from the members of the Farmers Organisation.

2.6 Government's Control over Pani Panchayat

In order to supervise the functions of the officer including the Collectors, the Government can appoint a Commissioner and give him the required powers for carrying out the functions specified by the Government. The Government also has powers to give directions to competent authorities/ farmers associations to take such actions as may be specified by it. The Government shall appoint officers from the Department of Water Resources as special officers or as competent authorities for implementing the decisions taken by the Executive Committees and they have powers of direction or instruction for carrying out the works entrusted to them within the purview of the Act. Every Farmers Organisation shall extend such cooperation or assistance, as may be required by the competent authority, and follow such directions or instructions as may be required by the competent authority, from time to time, for carrying out the purposes of PP Act.

2.7 Provision for Offences & Penalties and Recovery of Arrears

Those who violate the provisions of PP Act, 'shall, on conviction, be punished with imprisonment for a term which may extend to one month or with fine which may extend to two hundred rupees, or with both'. Further, section-30 of chapter 7 of the PP Act provides for recovery of money due to a Farmers Organisation as arrears of Land Revenue.

2.8 Disputes Settlement

The Executive Committees of PPs/distributary/project/Apex Committee are the authorities for the settlement of disputes arising among members of such an organization and the concerned committee shall be decided by the managing committees of immediate higher level organisations. The concerned members if aggrieved by the decisions of such committees shall be final. All the appeals under this act shall be disposed off within fifteen days. It is necessary to underline the powers of the Apex Committee or the Government. Section-26 of PP Act says 'any such dispute or differences arising between a member and the managing committees shall be determined by the Apex Committee, whose decision shall be final'.

2.9 Biju Krushak Vikask Yojana (BKVY)

The subsidiary of PIM is Biju Krushak Vikask Yojana (BKVY) which is unique model in the minor irrigation sector (flow as well as lift) of ensuring users participation right from the inception of project. The salient features of BKVY is that there is an open invitation to farmer to form themselves into registered PP to derive the benefit of irrigation assistance from the Government and farmers contribute 20 per cent of the capital cost in the shape of cash or kind (in backward regions such as Kalahandi, Bolangir and Koraput district so called KBK and tribal sub plan areas the contribution of farmers is kept at 10 per cent). The State provides the rest of the capital cost as one time assistance and also executes the project on behalf of the PP. After completion of the project it is handed over to the PP for operation and maintenance. The Government does not intend to collect any water tax from the farmers and the projects are to be maintained by the PP themselves. For this scheme an amount of Rs. 367.69 crores has been proposed in the tenth plan out of which Rs.117.69 crores has been earmarked for the KBK district. Negotiated looks amounting to Rs. 250.00 crores from NABARD are also proposed for funding of this scheme during tenth plan.

2.10 An Assessment of Orissa Pani Panchayat Act 2002

2.10.1 Supportive Sides

The Act no doubt endowed with the legal framework for a better participation by farmers in water management for the first time in the history of irrigation legislation in Orissa. The Act enables farmers' participation, not only at a lower level but also in a restricted manner at the main system level. The farmers' collective action is enabled through the formation of PPs, the office bearers for which have got to be elected through a democratic process. The Act also

provides for the autonomous management of the irrigation system by the Farmers Organisations in their respective areas for both the maintenance of the system and for the distribution of water supply. The annual grants allocated by the Government for various purposes, such as for operation and maintenance can now be better utilized by PP. Also the PPs have legal powers to levy and collect additional water charges, which would enhance their financial positions. Hence this provision would go a long way in improving the cost recovery. With regard to the settlement of disputes, since the decisions taken by the concerned committees or their higher level committees are final, the Courts are forbidden to entertain any further appeal. A major breakthrough as regards the management of Farmers Organisations is that the members of the association are vested with powers to recall the committee members. This provision would contribute for the accountability of the elected leaders and restrain them from mismanagement. Further, the Government as has been generally seen in many other organisations like co-operatives and Panchayats can not wind up the executive committees of PPs.

2.10.2 Harmful Sides

It is significant to take a critical view of the provisions of the PP Act and as such a view may help to correct the inadequacies in the Act. Due to some compelling socio-economic, technological and institutional factors, many traditional irrigation institutions (TII) are in the process of decaying or already defunct in many villages of the State and country, TIIs are still functioning to a reasonable degree (For further discussions on the factors, which led to the disintegration of TII, see Janakarajan, 1993). In such village societies,

- Is it essential to superimpose a new institution (e.g. PP), through legislation, on the existing ones?
- Is it actually empowered to alter the norms and institutionalised practices, which have evolved over a long period of time?
- How the State can impose a non-functioning or a mal-functioning irrigation system to the people through an Act?
- Even if the State imposes it through law, to what extent will people will accept it, and what kind of a collective action can we expect from them?

As per the Orissa PP Act 2002 'every Pani Panchayat shall consist of all the water users in such PPs area as member [Chapter-II, Section 3 (4) (i)]. The way farmers are defined in the Act is somewhat narrow. If one concludes from the above section that a PP includes only those cultivators who own or cultivate land, then the Act is affecting a great injustice to a village society, in which water has been considered as the property of all sections of the community. In the process, the Act excludes the landless population from becoming members of a PP. The Government would to constitute an Apex Committee, which will have an overall control over PPs. But the constituent members of this Committee have not been spell out. The ambiguity lies, in particular, whether the members of Apex Committee are primarily from PP or from the Department of Water Resources or from any other section. This is important because, most of the final decisions are taken by the Apex Committee, and if this Committee is dominated by the WRO, then the strength and autonomy of PPs will get diluted. On the other hand, if the members of the Apex Committee are nominated from political parties, there is every possibility for the misutilisation of this provision in favouring the ruling parties.

Section 21 (1) of the PP Act provides for the appointment of personnel from the Department of Water Resources of the Government of Orissa, as competent authorities for implementing the decisions of the Farmers Organisation but their role is not specified. It is in fact, vague in defining the powers of the 'competent authorities' and requires the Farmers Organisation to give effect to such orders. The Government may issues such orders and directions of a general character as they may consider necessary in respect of any matter relating to the powers and duties of the competent authority or the Farmers Organisation shall give effect to such orders and directions. Such undefined powers given to the Department of Water Resources personnel may result in the misuse of power. In which case, the whole purpose of empowering water users will be defeated. Further, such powers given to the Department of Water Resources personnel may weaken or dilute the autonomy given to Farmers Organisations. In the final analysis, the PPs may be reduced to the status of a mere takers or directions given by the Department of Water Resources.

Section-26 of PP Act says 'any such dispute or differences arising between a member and the managing committees shall be determined by the Apex Committee, whose decision shall be final'. It is to be noted that, even in the case of a settlement of disputes among water users, the final decision in the hands of the Department of Water Resources. But currently, the matters concerning water disputes are resolved through local institutional mechanisms.

Again, the main idea of the 73rd amendment to the Panchayati Raj Act is to strengthen the democratically elected Government which represents all sections of the village population. But the formation of PPs weakens this very elementary objective.

Despite the fact that the State water Policy statement mentions farmers participation in irrigation management, their rights over water are not clearly defined. The extent of users participation is limited to the operation and maintenance at local levels only. The involvement of the community in the system level designs and construction are neglected. As the water policy is an important document, which spells out the development strategy of a state, such neglect is a serious flaw and deserves a thorough revision.

The State resorts to turning over irrigation systems to people, which are beset by problems such as an absolute deviation from the original operational rules, a gross disparity between the availability of water supply and the demand for it, low recovery rates, the availability of very little resources for operation and maintenance, corruption at all levels, fragmented community action and so on. For a long time, the State played a major role in deciding the rules and regulations of water management. There were no provisions for user's participation. Though there have been some attempts made in recent times towards promoting user participation, these legislations are not comprehensive. Moreover, there is no scope for involving farmers in the plan and design of the system right from the project formulation stage. Even the existing rules and regulations of irrigation systems, which are managerial in nature, suffer from a number of problems (For further discussions, see Raju 1994). The more crucial issue of relationship between water and water users was never a part of the State's agenda.

The current paper deals with an evaluation of water management through community participation and emergence of PP in a case study of *Vir Bajrang Bali* Pani Panchayat under Lift Irrigation Point (LIP) of the Hiraikud Command Area (HCA)⁴.

⁴ We are aware that, it is incredibly near the beginning to assess and evaluate the formal PP in Hiraikud Command Area, Orissa, as the process of implementation is just falling on the line.

Section-3

Functioning of Water Users Associations/Pani Panchayat in Hirakud Command Area (HCA)

In this section we are trying to examine the functioning of the *Vir Bajrang Bali* Pani Panchayat by observing the socio economic analysis of PP members, their distribution of ownership of land patterns, cropping pattern, cropping intensity, production of output and crop income.

3.1 Towards a Method, Study Area

In order to examine the functioning and impact of transfer of irrigation management to the water users, a detail survey of 70 households (HH) has been done in a case study of *Vir Bajrang Bali* Pani Panchayat under Lift Irrigation Point (LIP) of the Hirakud Command area, Orissa. The Primary data has been collected from *Bandhapali* village of *Kardola* Panchayat in *Dhankauda* Block comes under Sambalpur district. The *Bandhapali* village is 32 KM away from the district headquarter Sambalpur. The nearest railway station is at Hirakud 24 KM far from the village. *Bandhapali* is a revenue village of *Kardola* Panchayat consists of one ward.

Both quantitative and qualitative information are obtained in order to observe the efficacy of different types of institutional arrangements. Qualitative information is obtained by way of Participatory Rural Appraisal (PRA) use such as focus group discussions, key person interviews like senior citizens, officials in the irrigation department. Discussion were also done with the office bearers of the concerned PP, in addition to those expelled from the PP i.e. woman and landless people. Two structured questionnaires; one related to WUAs and another related to households, were prepared to collect quantitative information. These interviews unscheduled, and carried out in variety of locations like in a school house or Panchayat building, on a temple veranda, under a tree, or in private homes. Before and after scenarios were exploited to evaluate the impact as there is no option for with and without scenario, as all the farmers getting irrigation water are covered under Pani Panchayat. The field work was conducted during the month of January- February 2005.

The PP is named as *Vir Bajrang Bali* PP and registered under the Society Registration Act, 1860. The *Vir Bajrang Bali* PP refers to the organized effort of groups of farmers of *Bandhapali* village to formulate and implement community irrigation projects based on

certain mutually agreed upon principles for water sharing. During surveyed time we have found that there are no women members in the organisation. Minute Book, Cash Book, Receipt Book showing the names of members have been mentioned. There are 30 number of members enrolled by depositing membership fee (Rs. 10/-) during our survey as observed from membership register and receipt book. We have discussed with the members about the schemes and they have decided to concentrate/undertake all round development of the villages under PP and protect the resources and rights of the members. Since PP deals with water which is CPRs, they present an interesting instance of Participatory development of CPRs. Though participatory, they are different from co-operatives. This difference manifests itself in their organizations structure and functioning.

3.2 Socio economic characteristics of Pani Panchayat Members

This section explains the socio-economic characteristics of the selected PP members that include classification of house hold, family size, working members, level of education, housing condition, provision of electricity, characteristics of ownership of holdings, cropping pattern, cropping intensity etc

Table-1: Classification of Households by Caste and Size of Holdings among different size groups of Pani Panchayat members

Size class of Land holdings (in Acres)	SC	ST	OC	TOTAL
0.00-0.00	05	-	02	07 (10.0)
0.01-2.50	13	04	07	24 (34.3)
2.51-5.00	06	03	11	20 (28.6)
5.01-10.00	-	-	10	10 (14.3)
10.01 & above	-	01	08	09 (12.9)
Overall	24 (34.30)	8 (11.40)	38 (54.30)	70 (100.0)

Source: Field Survey (2004-05)

Note: i) Figures in the parentheses indicate the percentages of the respective categories.

ii) Blank entries in the Table denote nil.

iii) SC- Scheduled castes, ST-Scheduled tribes, OC-Other castes (which includes OBC-other backward castes, FC-Forward castes)

Table- 2: Demographic and Socio-economic Characteristics among different size groups of Pani Panchayat members

Size class of Land holdings (in Acres)	No of HHs	Average family size (per HH)	Average male member (per HH)	Average female member (per HH)	Working member male (in %)	Working member female (in %)	Illiteracy of the head of the HH	Quality of house (in %)			
								Thatched	Kuchha	Pucca	Electrified
1	2	3	4	5	6	7	8	9	10	11	12
0.00-0.00	07	5.20	2.60	2.60	66	34	55	100	-	-	-
0.01-2.50	24	5.85	3.27	2.58	89	11	58	54	46	-	100
2.51-5.00	20	5.39	2.50	2.89	95	05	20	55	25	20	100
5.01-10.00	10	4.50	2.50	2.00	100	-	-	-	30	70	100
10.01 & above	09	4.20	2.15	2.05	-	-	-	-	20	80	100
Overall	70	5.24	2.77	2.47	87	13	35	49	33	18	92

Source: Field Survey (2004-05)

Note: Blank entries in the Table denote nil.

Table- 3 Characteristics of Ownership of land holding among different size groups of Pani Panchayat members

Size class of Land holdings (in Acres)	No of HHs	% of HH	Total area of ownership holding (in acre)	Average amount of land owned per HH (in acre)	Total area of operational holdings (in acre)	Average area operated land per HH (in acre)	Total PP area owned (in acre)	Average PP land to owned land	Total Non PP area owned	Average non PP land to owned land	Total PP land to operated land	Average PP land to operated land	Total Non- PP area operated	Average Non- PP land to operated land
00.00	07	10.0	0.00	0.00	8.00	1.14	0.00	0.00	0.00	0.00	5.25	0.75	2.94	0.42
0.01-2.50	24	34.3	33.36	1.39	125.97	5.24	21.56	.89	10.75	0.44	40.56	1.69	27.36	1.14
2.51-5.00	20	28.6	77.2	3.86	68.91	3.44	46.10	2.30	31.23	1.56	62.4	3.12	57.8	2.89
5.01-10.00	10	14.3	74.00	7.40	84.3	8.43	24.92	2.49	49.04	4.90	37.5	3.75	24.5	2.45
10.01 & above	09	12.9	134.01	14.89	51.24	5.69	31.08	3.45	102.89	11.43	47.25	5.25	41.85	4.65
Overall	70	100.0	318.5	4.55	338.42	4.83	123.66	1.77	193.91	2.77	180.6	2.58	154.45	2.20

Source: Field Survey (2004-05)

Note: Black entries in the Table denote nil.

Table-1 indicates that, 10 per cent belonged to landless, 34 per cent belonged to marginal farmers, and 29 per cent belonged to small farmers. Thus the small and marginal farmers together formed around 63 per cent of the farmers. The medium farmers constituted 14 per cent of the farm households. By contrast the large farm households constituted 13 per cent of farm households. Thus, majority of the PP members belong to the marginal and small farmers. In the village, there are some groups of 2-3 farmers operating their personal lift. Apparently, they belong to the well-to-do segments of land holding hierarchy. On the contrary, small and marginal farmers can not afford to invest in private lift schemes, as they are short of surplus capital. SC and ST population together constituted 46 per cent of the total house holds and rest 54 per cent belongs to other castes population. Thus there is biased towards upper classes in terms of membership.

Table-2 indicates that the average size of family among the member was 5.24. It is as low as 4.20 in cases of large farmers and as high as 5.85 in cases of marginal farmers. Thus the family size decreases with the rise in the status of household. The average number of male member in the family was 2.77 and that of female member 2.47 among the member of PP. There are some variations among different size class of PP member. Level of education of the head of the house holds has been classified into illiterate and literate. The level of literacy among the head of the household has been given in col. 8 of the Table- 2. It is seen that 35 per cent of the head respondent were illiterate among the PP members in aggregate. The composition of workers in a household is important as far as the socio economic condition of a household is concerned. Table- 2 shows that, out of the total number of workers 87 per cent are male. It is observed that percentage of male member increases with increase in class size. In the landless group 62.34 per cent are male working members, whereas in the case of marginal farmers is 89 per cent and small farmers is 95 per cent. On the other hand in the case of medium group farmers all the working members are male, there is no female participation. Thus it is observed that as the class size increases, the working member of female percentage decreases. 33.66 per cent of the working female member contributes in the landless group, whereas it is 11 per cent and 5 per cent in the case of marginal and small group. By contrast, it becomes nil in the case of medium and large farmer group.

The quality of houses of PP members is provided in col. 9-11 in Table-2. The residential arrangements of households are influenced by their ability to generate surplus. Utilization of that surplus contributes for the better quality of house. Generally a person will likely to

construct better quality of house, if they have surpluses. There will be surplus, if that person concern has more production and less family member. It is observed that the better quality of house facilities will be taken by those members who have more land under Pani Panchayat. Table- 2 shows that majority that is 49 per cent of the households ate thatched, which are less quality. All the members of the landless group possess this type of house. Hardly 18per cent are pucca houses and 33 per cent are kuchha house. It is observed that the medium farmer group contains 70 per cent pucca house and 30per cent kuchha houses, whereas the small farmer group contains 55 per cent thatched, 20 per cent pucca and 25 per cent kuchha. Thus we see that, with the increase in size of holding the quality of the house increases. There is no provision of electricity in the house belonging to landless group. Rest all the members of the PP though marginal, small and medium have provisions of electricity. By hook or crook their houses are electrified.

3.3 Distribution of Ownership of Land Patterns among different categories of Households

The pattern of ownership of land holding among member of PP is provided in the Table- 3. The average area owned per households was 4.55 for the overall PP members. As mentioned earlier, the landless labourers have no land of their own. The average size of land owned for marginal farmer was 1.39, and that of small farmer was 3.86. On the other hand, for the medium farmer it was 7.40 and for large farmer it was 14.89. The analyses of distribution of ownership of land revealed that there is high inequality of land among different group. It is seen that landless farmers have increased their operated area by leased in land and the medium farmer who could not cultivate their land themselves have given leased out. Thus given the inequality in the land ownership, it is expected that many land-poor households would try to lease in land to expand their size of plot. In such a case the distribution of operated area would be different from that of owned area. The distribution of operated area among different group of households including that of landless tenants is given in the Table- 3, column 6 and 7. It is seen that there is slight variation in the distribution of operated area in comparison with that of owned area. Landless households cultivate about 1.14 per cent of the operated area.

Irrigation facilities are important for crop production and it assures yield of crops. The average size of PP land to operated land is 2.58 whereas to own land is 1.77. This is because many farmers have leased in land under PP. The marginal farmer has 1.69 whereas the small

farmers have 3.12 lands under PP. The landless farmers have also leased in land under PP and are 0.75 whereas the medium farmer has 3.75 and the large farmer has 5.25. Likewise the average Non-Pani Panchayat land has shown in the Table- 3 column 14 and 15.

Table- 4: Cropping Pattern & Cropping intensity by different size groups under Pani Panchayat

Size class of Land holdings (in Acres)	No. of HH	Average Gross Cropped area under PP (in acres)	Of the total Gross Cropped of Kharif, per centage of area devoted to Paddy	Of the total Gross Cropped of Rabi, per centage of area devoted to Paddy	Cropping Intensity (CI) [☞]
1	2	3	4	5	6
0.00-0.00	07	1.05	100	100	200
0.01-2.50	24	3.11	100	100	200
2.51-5.00	20	5.56	100	100	200
5.01-10.00	10	6.66	100	100	200
10.01 & above	09	7.86	100	100	200
Overall	70	4.82	100	100	200

Source: Field Survey (2004-05)

☞ Cropping intensity = [Gross Cropped Area (GCA)/Net Sown Area (NSA)] * 100

3.4 Cropping Pattern, Cropping Intensity and Production of Output among the Farm households

In this section we analyse the cropping pattern adopted by different categories of households among the PP members. It also discusses the cropping intensity of cultivated land among these households in their operated area. A discussion on cropping pattern and cropping intensity is important because it has bearing on demand for PP by the cultivators. For instance, there is certain crop like HYV paddy, which requires more fertiliser in comparison with other crops. Similarly cultivation of vegetables also requires high dose of chemical fertiliser. To show the average gross cropped area and cropping intensity of the PP member

two Tables (4&5) were given. These Tables are provided because those members have land both under PP and also under Non-Pani Panchayat. A peculiar situation is noticed from the Table-4 that, under PP the overall cropping intensity among the member is 200. The cropping intensity for all types of farmers is equal. In this type of land, only one crop is produced that is paddy. Here farmers grow paddy in both the Kharif and Rabi seasons, since through the formation of PP water is provided throughout the year.

Table- 5 shows that though the PP members have land outside the PP, their overall cropping intensity is 222.77. Out of the total gross cropped area, 91.12 per cent of it is devoted to paddy followed by pulses (3.59 per cent), Oilseeds (2.26 per cent), vegetables (1.97 per cent) during Kharif seasons. On the other hand during Rabi season the same percentage that is 91.12 per cent devoted to paddy followed by pulses 3.60 per cent, oilseeds 2.31 per cent, and vegetable 1.97 per cent. So there is a multiple cropping done here.

Paddy is the major crop in both the Kharif and Rabi season. There is small crop diversification. Thus in both the Table 4&5, it is observed that paddy is the dominating crop. When both the Tables are compared, it is seen that the cropping intensity of area under PP scheme is lower than the Non-Pani Panchayat land. It may be due to the reasons for mismanagement or some other reasons like quality of land location. It appears that despite irrigation facilities available, the cropping intensity is generally low among all categories of household.

3.5 Crop Income per Household

This part carries a discussion on the average crop income earned by different categories of farm households. It also described the composition of income coming from different varieties of crop produced by the farmers. The expenditure incurred by different categories of farmers in order to produce this crop has not been deducted from the gross income. In view of this the income discussed here is rough indicator of the living condition of the farmers. A discussion on the income derived from the farm activity is important because it will indicate whether a farmer has sufficient amount of income to be able to live in a condition better than the previous condition that is before the formation of PP.

The average annual income is derived from both Kharif and Rabi crops. In irrigated area, farmers have cultivated crops both in Kharif and Rabi season. It is important to note that,

income derived per acre of paddy cultivation during the Rabi season is higher in comparison with per acre of income earned in the Kharif season. This is due to the fact that the risk and uncertainty associated with crop production in Kharif season is relatively higher and hence total output produce is lower.

Table- 6 shows both the average amount of crop income earned by members under PP and than by same member under Non- Pani Panchayat. It can be seen from the Table that the average amount of income earned by members having land under PP was Rs. 44,888.57. It was as low as Rs.12, 510 in case of landless farmers who have leased in land and as high as Rs.93, 450 in case of large farmers. In case of marginal farmers it was Rs. 22,620, Rs. 48,990 for small farmers and in case of medium farmer it was Rs.69, 090. So the annual income increases with the increase in farm size. It is noteworthy that, monthly income for average members was about Rs. 3740.72. Land under PP produces only paddy. So paddy constitutes the total income.

Whereas the same members having land under Non- Pani Panchayat area, the average income came from that land is Rs. 18,712.09. Here also the average crop income is increasing with increase in farm size. The monthly income for average member was Rs. 1559.34. The Table- 6 also depicted the composition of income coming from different crops. The composition of income from various categories of households revealed that about 90.18 per cent of the crop incomes have come from paddy cultivation, followed by pulses (3.58per cent). Contribution of vegetables is about 3.32 per cent followed by oilseeds (2.10 per cent) and others 0.82 per cent.

It appears that the members of PP household have derived more than half of paddy cultivation in both Kharif and Rabi season. The analyses of pattern of income generated from crop production revealed that, the average per household income derived from crop by different categories of households having land in the Non-Pani Panchayat is very low. From this we infer that the marginal and small farmers having land under Non-Pani Panchayat should try to bring their rest of land under PP scheme. By doing this they will increase their average per household income.

Table- 5: Cropping Pattern & Cropping intensity by different size groups under Non- Pani Panchayat

Size class of Land holdings (in Acres)	No of HH	Average Gross Cropped area under Non-PP(in acres)	Of the total Gross Cropped of Kharif, per cent of area Devoted to						Of the total Gross Cropped of Rabi, per cent of area devoted to						CI
			Paddy (in per cent)	Pulses (in per cent)	Vegetables (in per cent)	Oil seeds (in per cent)	Others (in per cent)	Total	Paddy (in per cent)	Pulses (in per cent)	Vegetables (in per cent)	Oilseeds (in per cent)	Others (in per cent)	Total	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
0.00-0.00	07	0.15	3.47	-	-	-	-	3.47	3.47	-	-	-	-	3.47	201
0.01-2.50	24	1.45	15.52	1.57	1.00	1.26	-	19.35	15.52	1.37	0.87	1.18	-	18.94	210
2.51-5.00	20	2.53	18.69	-	-	1.00	-	19.69	18.69	-	-	-	-	18.69	247.44
5.01-10.00	10	3.45	21.26	2.02	0.97	-	-	24.25	21.26	2.23	-	1.13	1.00	25.62	236.55
10.01 & above	09	5.36	32.18	-	-	-	1.06	33.25	32.18	-	1.10	-	-	33.28	205.55
Overall	70	2.41 (168.5)	91.12 (153.52)	3.59 (6.06)	1.97 (3.32)	2.26 (3.81)	1.06 (1.79)	100 (168.5)	91.12 (153.52)	3.60 (6.06)	1.97 (3.32)	2.31 (3.90)	1.00 (1.68)	100 (168.5)	222.66

Source: Field Survey (2004-05)

Note: i) Figures in the parentheses indicate the absolute figures in acres.

ii) Blank entries in the Table denote nil.

Table- 6: Average amount of crop income earned by different size group of members under Pani Panchayat and Non Pani Panchayat Land

Size class of Land holdings (in Acres)	No. of HH	Average crop income per HH under PP land (in Rs.)	Paddy Contribution (in per cent)	Average crop income per HH under Non PP land (in Rs.)	Paddy Contribution (in per cent)	Pulses Contribution (in per cent)	Oilseeds Contribution (in per cent)	Vegetables Contribution (in per cent)	Others
1	2	3	4	5	6	7	8	9	10
0.00-0.00	07	12510	1.08	1820.08	1.20	-	-	-	-
0.01-2.50	24	22620	15.20	9810.59	10.25	1.43	0.56	1.14	-
2.51-5.00	20	48990	25.18	14711.81	18.89	-	1.54	2.18	-
5.01-10.00	10	69090	33.50	35440.6	24.66	2.15	-	-	0.82
10.01 & above	09	93450	25.24	45890	35.18	-	-	-	-
Overall	70	44888.57	100per cent	18712.09	90.18	3.58	2.10	3.32	0.82

Source: Field Survey (2004-05)

Note: Blank entries in the Table denote nil.

Section-4

Water Rights, Land Rights and Pani Panchayat

This section concentrated on the maintenance of water rights, land rights in PP, farmers' assessment of PP, and reasons for explanation of the non-utilisation of the estimated area of PPs.

The beneficiaries of PPs are only those who have lands [see section 4 (i) Pani Panchayat Act 2002]. That means it based on ownership of land/rights in land. It technically demonstrated that the poor/the landless could not be given an access to water, which is a common property resource. It is unbelievable to expect a landless labourer to invest in PP in the hope of future benefit that someone might grant him sharecropping rights. For the landless, still 25 per cent of the project cost is too high to be invested in a PP. This demonstrates the impracticability of the provision to grant water rights to the landless. But rainfall belongs to the entire village community and all must have equal access to this water. The rights in land are rigid and inflexible and there is a basis inequity in the means of production and social structure. Earlier all the poor had given equal access to water, which in fact can alone sustain our traditional water bodies. Thus, water was possible to share in relation to the needs of subsistence and it could counter the inequality based on the rights on land. This is how the water as a common property resource, developed as a community asset to protect the interests of the entire community. Traditionally, access to water was to free to every body and not in relation to the rights in the lands. After PPs came into picture, the members who have rights on land, have only rights on water, is likely to give rise to a '*Panidar*' (water lords) class. Hence, natural rights for irrigation water become insecure and ineffective.

Orissa Chief Minister told "we want to hand over control to the community, to the farmers themselves". But not quite the way things are working out on the ground. In the real world, community control water is now a cover for private control. P. Sainath (during his visit to Aunli project, 2002) adds the concept of 'Panchayat' is meant to be democratic one. But there is no farmer in it at all. People don't participate in the scheme.

Some big farmers have captured the whole thing. This PP idea has failed totally in all visited area and so too in all of Orissa. It doesn't make sense socially, institutionally, culturally, economically and politically. Water is becoming private property. If we look at the principles of PP from the point of view of water as a common property resource, then we should keep in mind that water rights are given to every one including landless, women and every one has equal right to share this common natural resource (For further detailed discussion refer P.Sainath, 2002).

4.1 Maintenance of water rights in Pani Panchayat

The PP committee are not concerned with the maintenance of water rights for the members of the command area or with the protection of the rights against intrusions from outside the system. There are some water shares for the landlord. There is no any relation between the size of the individuals land holding and the number of water shares that he holds. Land and water are separate entities. There is not such a situation as one can sell one's share of water or buy water from a shareholder.

4.2 Impact on other Sources of Water

Substantial area in Orissa is irrigated by sources other than canals, tanks and lift points. Rivers (by manual lift), dug wells, springs, and other traditional water harvesting structures are quite common in tribal/mountainous tracts, dry-land areas of Western Orissa and in all those areas where canal irrigation has not reached. With the setting up of the Water Service Agencies (WSAs-an euphemism for Private companies trading in water) it is feared that slowly the entire water resources of the State, zone after zone, would be usurped by these WSAs through creative interpretations of the agreements signed for the purpose. Framers then would be heavily charged for drawing water from the canals, as according to the government's Water Policy PPs would be accountable to the WSAs and the Government would be only playing a mediatory role without any interference in pricing of services as is the case presently with the power sector reforms. Further people would have to pay service charges for drawing/using water from their own wells/ponds/other water bodies as the WSAs would claim ownership of the entire water resource under their geographical jurisdiction as happened in Bolivia and Argentina.

4.3 Farmers' assessment of Pani Panchayat

Water supply is not fully guaranteed. Disputes are due to insufficient water. Old and unlined canals exaggerate this trouble further. Necessary on-farm development works were not carried out in the village and improved methods of irrigation were not taught. PP also desires support with other inputs. Currently, non-availability of agricultural inputs on time, limit farmers returns. Production losses are claimed to be a contributory factor to defaults in payment

Only 42 per cent of the farmers surveyed knew the name of the PP President, hardly any one knew the names of managing committee members (See Table-7). The awareness about the formation of formal PP in the village was less (30 per cent) [Fig.2]. Many farmers had no idea about the PP Programme. Most of them had very little information about the activities of the PP. 78 per cent of the farmers responded that there was no change in area irrigated after PP formation (fig.3). With regard to the woman participation in the PP activities, 82 per cent responded negatively (fig.4). The claim for better control device like installation of sluices, repairs of shutters is replicated in the responses of the farmers surveyed during the field work on the changes in the water availability after formations of PP. 75 per cent of the sample farmers recommended the installation of shutters to improve regulation and many i.e. 66 per cent also wish for disciplinary action against violators. Technical structures like shutters had been installed at these points during the initial stages for controlling the flow into these inlets. The flow could be reduced or totally cut off depending on the water available and the requirements of equal distribution within the command areas. This was done through instituting a system of rotation of water supply. Institution functioning of the rotation system however requires complementary technical function of the control structures, unauthorized withdrawals of water by upstream farmers using engines for pumping water, further accentuate the unequal distribution, which is to some extent inbuilt in the delivery systems due to increased losses route. This has resulted in continuation of the head tail discrimination in access to irrigation water from public sources due to systemic and technical features as well as the violations of rules of water distribution. 86 per cent of the farmers surveyed responded that, there was no change in per acre yield rice due to PP

(fig.5). Majority of the farmers (72 per cent) responded that, maintenance after the formation of PP was also remained same (fig.6). Again with regard to the availability of water, majority of the farmers (65 per cent) responded that there is inadequacy of water (fig.7).

The members had many other problem regarding the administration such as Government is sanctioning Rs. 5000/- to the PP members as electric bill, but the newly formed PP were sanctioned Rs. 10,000/- as electric bill. Secondly they are paying to the Rs.100/- as water charge and they are also paying Rs. 500/- as water charge to the PP. They also perceive that in the name of PP rich and power full may forcibly collect water taxes from helpless villagers.

4.4 Explanation for the non-utilisation of the estimated Area of PPs

In almost many cases, the initial formalities have been concluded. There is no follow-up action due to lack of motivation and leadership amongst the members. In some situations the irrigation water does not reach up to the far off fields either because the intermediary non-members do not allow the watercourse or the lands is at a higher elevation. In few cases, it is observed that some of the technical decisions were wrong and hence even though there is relatively an easier availability of water, the water lifting mechanical devices have a limited capacity and to that extent the intensity of farming over the two/three seasons in a year cannot be achieved. In the absence of right to decide on dead storage, the occupational groups, may not have incentive to participate, leads to inefficient and unutilisation of PPs.

Table-7: Farmers Responses in the Pani Panchayat field study areas

Sl No.	Question Asked	Options	Response as per cent
1	Election/Selection of PP members	Fair Unfair	35 65
2	Maintenance after PP was formed	Same Worse Distinct improvement	72 --- 28
3	Changes in Area irrigated after PP formation	Yes No	22 78
4	Change in Per acre yield rice due to PP	Yes No	14 86
5	Have you been paying water dues as per	Revised rates Old rates Not paying	28 34 38
6	Suggestions for controlling water distribution	Installation of Shutters Disciplinary action Miscellaneous*	75 66 ---
7	Whether woman should involve in PP activities	Yes No	18 82
8	Your preference is for	PP Irrigation Dept. Personnel Traditional Irri. Institution Indifferent	45 18 23 14
9	Do you know the name of your PP president	Yes No	42 58
10	How many General Body (GB) meetings have been held in your PP	Two- Four More than four None Do not know	18 8 34 40
11	Were you informed about the GB meetings and did you attend	Informed & attended Informed but did not attended Not informed	8 22 70
12	Are you aware of formal PP functioning in the village	Yes No	30 70
13	Water availability	Adequate Inadequate	35 65

Source: Field Survey (2004-05)

* Controls necessitate not only for letting the water in but also for preventing the flow.

Note: Blank entries in the Table denote nil.

Fig.2

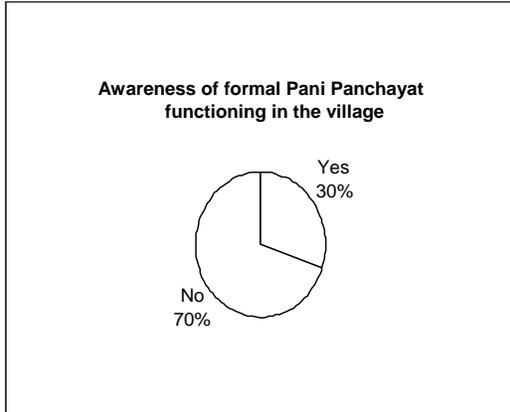


Fig.3

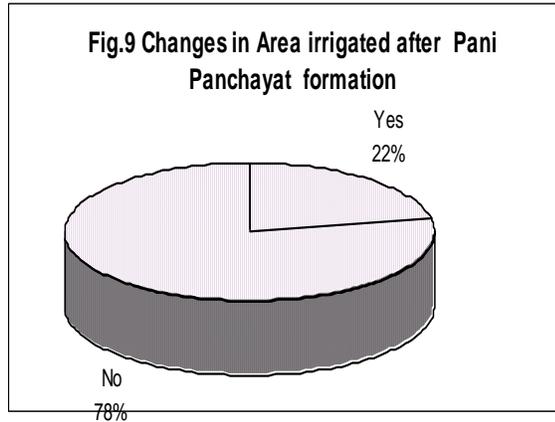


Fig.4

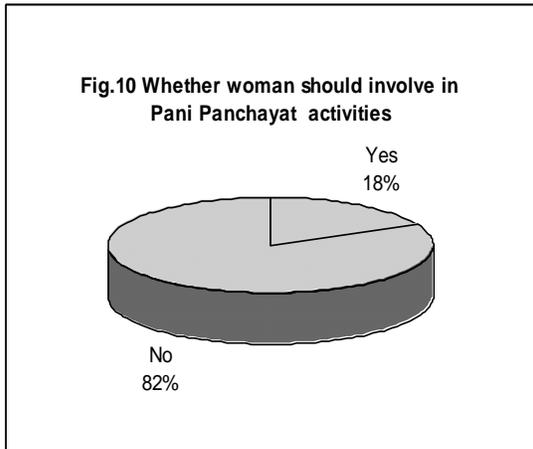


Fig.5

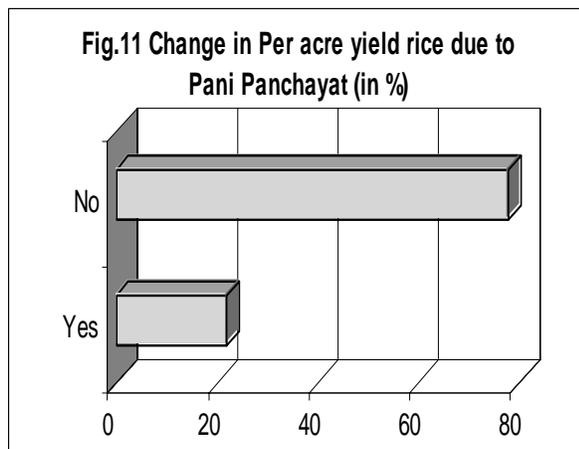


Fig.6

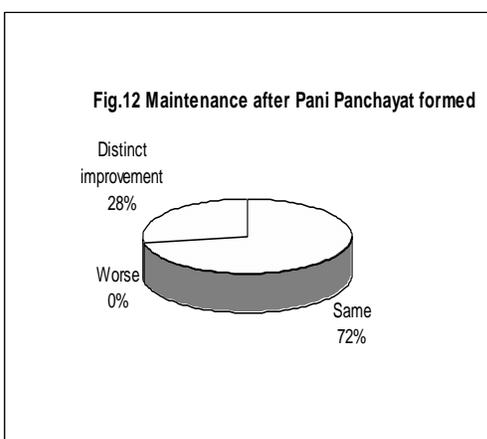
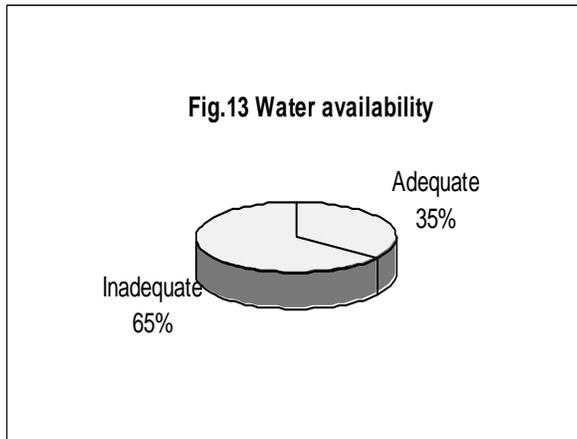


Fig.7



Concluding Observations

An analysis of land holding pattern reveals that majority (63 per cent) of the PP members belongs to the marginal and small farmers. The proportion of medium farmers and large farm households constituted 14 per cent and 13 per cent of the farm households respectively. The category and caste-wise distribution of households reveals that there is biased towards upper classes in terms of membership. An unusual situation is observed that, under PP the overall cropping intensity among the member is 200 per cent. The cropping intensity for all types of farmers is equal. Paddy is the only one major crop, which is produced in both the Kharif and Rabi seasons, since through the formation of PP water is provided throughout the year. Despite the fact that the PP members have land outside the PP, their overall cropping intensity is 222.77 per cent. While comparing cropping intensity between PP area and Non-Pani Panchayat area, it is observed that the cropping intensity of area under PP scheme is lower (i.e. 200per cent) than the Non-Pani Panchayat land (i.e. 222.77per cent).

The awareness about the formation of formal PP in the village was less (30 per cent). Many farmers had no idea about the PP Programme. 62 per cent of the small farmers are not satisfied with the functioning of PP Committee. The State should act as a facilitator not controller. PP do not imply that the state would completely withdraw from irrigation, but would continue to provide critical services, particularly water supply at main delivery points, providing information, training and accounting are required to support PP. The poor/landless should have the right and access to water and this right should be linked with his right to employment. After PPs came into picture, the members who have rights on land, have only rights on water, is likely to give rise to a '*Panidar*' (water lords) class. Hence, natural rights for irrigation water become insecure and unsuccessful.

From the forgoing discussion we can conclude that the PP as regulatory institutions in charge of water distribution on equitable basis, their performance has been reasonably weak and unsuccessful. This endures unfavorably on their capacity to generate resources through collection of water cess. Researchers have drawn up a strategy for policy makers

to ensure IMT programs become more pro-poor stressing the need to clearly define the rights of farmers, raise awareness of these rights, reform the election process, and monitor participation in water user authorities.⁵ Despite the fact that the irrigation agency in Orissa has taken policy decision to encourage farmer's participation and attempts are underway to motivate farmers to form WUAs, the farmer's response in this regard is not up to the level of satisfaction (Swain; 2000: 128).

It is also argued by Swain (2000) that farmers will be coming forward to form WUAs and ready to take up the additional responsibility if they are convinced that benefits due to participatory management will exceed their cost of participation. As most of our farmers are not educated and lack vision to comprehend to the future benefits due to participation, special care should be taken while motivating the farmers. They have to convince that the benefit due to participation will be substantial, tangible, quick yielding and sustainable. Though water is the most crucial input required for plant growth, the productivity impact of irrigation depends on use of other yield enhancing complementary inputs like HYV seeds, fertilizer, manure and modern agronomic practices. Therefore other agricultural inputs should be made available to the farmers in time and as per requirement through WUAs. The farmers having difference political affiliations may have conflict in interest and different of opinion. Learning by doing approach should be followed to determine the model and modalities of forming WUA⁶.

Even though PP has been initiated and endorsed in the State for more than a couple of years, the acceptance of the model have been lethargic and scattered. There is no promptly accessible data to evaluate this performance. As a whole PP is an unexecutable and unacceptable. PP is not in the interest of the people. There are so many constraints like selfishness, illiteracy, no interest due to big landowners, which hinder for the improvement of PP. Therefore the Government should review its decision of making the availability of irrigation water conditions to the formation of PP. Many registration

⁵ For detail discussions, see The Water Policy Briefing Series (www.iwmi.org/waterpolicybriefing).

⁶ For further detail discussion in this context see (Swain; 2000)

actions of PP are complex and long, raising the costs of participation for the farmers. Simpler procedures are needed that still provide the PP organisations with sufficient legal standing to deal with government agencies, contract with private firms, contractors, and control resources within the group.

A detailed action plan should be prepared in consultation with the water users through Participatory Rural Appraisal method. A feasibility study should be undertaken by examining the caste class conflict, groupism, political differences and history of confrontation and conflict if any. It is necessary to apply bottom-up approach instead of top-down for sustainability. There must also be mechanisms to ensure that the benefits of the project are equally distributed to all concerned stakeholders.

Appendix

Profiles of the Selected Pani Panchayat (PP)

Name of the PP: Vir Bajrang Bali Pani Panchayat (Lift- I & II)
Location: Village: Bandhapali Gram Panchayat: Kardola, Post office: Chiplima Block: Dhankauda District: Sambalpur, State- Orissa
Age of the system: Old registration 1996-97 as WUA, Newly formatted in 2001-02 as PP
Type of the system: Lift Irrigation (LI)
Total No of LI Points: Lift I and II
Name of the Source: Mahanadi River
Area in acre (ayacut): 123.66 Acre
Horse Power Used: 15 HP (Horse Power)
Office Bearers: Total No. of PP members: 63 No. of Committee members: Four
President Election: Nomination

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