

# Participatory Irrigation management (PIM) “A problematic implementation” in Indi Branch Canal (IBC) in Upper Krishna Project in Karnataka



M.Sc. Thesis by Basavaraj Biradar

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# **Participatory Irrigation management (PIM) “A problematic implementation” in Indi Branch Canal (IBC) in Upper Krishna Project in Karnataka**

The thesis submitted for the partial fulfillment of the requirements regarding the joint academic degree namely International Master of Science in Rural Development from Ghent University (Belgium), Humboldt University (Germany), Agrocampus Ovest (France), Slovak University of Agriculture (Slovakia) and University of Pisa (Italy) in association with Wageningen University (The Netherlands)

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## Abstract

Since 2003 Participatory Irrigation Management (PIM) Policy is in operation in Karnataka, after decadal of acceptance PIM reflected much difficulty in translating policy into practice. This study attempted to deconstruct the intervention process of PIM implementation in Indi Branch Canal (IBC) Command Area of Upper Krishna Project (UKP). It uses actor prospective, theory of collective action, institutional bricolage and agency structure concepts to reveal the how participation was [re]interpreted and understood by the different actors involved in it. Review of conceptual notion of participation was carried out to align [or contrasts] finding of study. Participation was perceived as bottom up approach, reversal of power and learning by doing as opposite to conventional top down nature of development. The findings shows that process of PIM implementation in IBC lead into another bureaucratic exercise where participation was [re]interpreted in terms of fulfilling the administrative guidelines to form and register the Water Users' Cooperative Societies (WUCS) under Karnataka Co-operative Societies Act, 1959. In currently operational PIM in IBC 'participation' is decided top-down, and farmers are merely provided of their responsibilities and the rules that determine their participation. Theoretically, PIM assumes a shared vision, commitment to, and equal capacity among agencies as well as individuals [in these organizations] involved in implementing PIM projects: but at administrative level participation was measured by the quantity of WUCS formed rather than functional quality. In most of the cases Irrigation Agency is implementing PIM just to fulfill the binding/agreements. There is no indication, of any training, capacity building among actors tasked with implementing 'participatory management'. WUCS has to be formed on the basis of democracy and peoples' participation but in most of the cases is not happened. PIM assumes a latent homogeneity within irrigation communities. This instrumental notion of being able to order people into collective institutions is not informed by the dynamics of differences that exist among farmers. People came forward with intension to take opportunities of the financial support that Government was assisting for initial establishment and rehabilitation. In this way, PIM ignores, or rather enables, the vested interests of certain individuals in capturing and controlling the irrigation infrastructure and it's functioning. Finally, design of PIM in two case study areas rarely considered the wider structural constraints in which PIM interventions took place. Currently operational warabandi system in IBC is unrealistic and to cop up this, certain farmers took technology into their own hand by fixing lift pumps and opening new outlets. These societal innovations are seen as 'illegal' or 'unauthorised'. Similarly, little note is taken of the misfit of hydraulic and administrative boundaries as well as the possibility and existence of conjunctive water management.

This study adds to some of the conceptual flaws in PIM policy as identified by IWMI (2009) report. In reality big irrigation projects like UKP are diverse and complex – varying in topography, cross-cut by administrative boundaries and social, political and economic fractures. For PIM policy to work, it requires enormous levels of cooperation and coordination in the management of the resource [water]; the technology (network of canals); and user behavior (adhering to rules of cooperation). If the notion of participation in PIM was not superficial, and would have allowed for genuine – bottom-up, participant-led restructuring – then there was a possibility that some structural barriers to cooperation and coordination might have been realized. But, this is not now how participation is written into PIM policy [at least in IBC], and especially how it is understood by a diverse mix of heterogeneous actors engaged in 'operationalizing' [authorities] and 'undertaking' [water users] PIM. A top-down imposition of a PIM approach that is weighed down with a rhetoric around participation – results unsurprisingly in a reinstating of a similar bureaucracy around why and how WUAs are formed, as well as unsustainable, and inequitable management of water among water users. These realities are mirrored in the way PIM is understood, applied and implemented in the IBC.

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## **Acronyms**

**Command Area Development Authority (CADA)**  
**Distributary Number 24 (DY No 24/DY 24)**  
**Food and Agriculture Organization (FAO)**  
**International Water Management Institute (IWMI)**  
**Indi Branch Canal (IBC)**  
**Irrigation Management Transfer (IMT)**  
**Indian Rupee Symbol (₹)**  
**Krishna Bhagya Jala Nigama Limited (KBJNL)**  
**Participatory Irrigation Management (PIM)**  
**Upper Krishna Project (UKP)**  
**Water Users Cooperative Societies (WUCS)**  
**Water Users Associations (WUAs)**  
**₹ 100, 000 = ₹ 1 lakh**

# Chapter 1

## Introduction

### Introduction

Mosse (2004; 640) writes, ‘what if developments practice is not driven by policy? What if the things that make for good policy are quite different from those that make it implementable? What if the practices of the development are in fact concealed, rather than produced by policy? What if, instead of policy producing the practice, practices produce policy, in the sense that actors in development devote their energies to maintaining coherent representation regardless of events?’

In relation to Participatory Irrigation Management (PIM) a recent report by FAO (2007) concluded that worldwide experience with PIM shows a mix of successes and failures. The report recommended a more rigorous political will to implement PIM. Participatory Irrigation Management (PIM) was seen as an instrument to solve problems associated with the irrigation sector and PIM started in the late 1980s with following objectives (FAO, 2007):

- Reduce the recurrent government expenditure on O&M by replacing financially self reliant water service provider.
- Reverse the increasing rate of deterioration of irrigation infrastructure.
- Provide transparency in management and accountability of the service from provider to water user.

Since, 1980s implementation of PIM globally from Mexico to Nepal has been largely identified as having worked, i.e. having resolved the problems of the irrigation sector. Many success stories were written about PIM projects, and there were not just recommendations to replicate PIM, irrigation financing was tied to PIM conditionality. Major financing institutions, like World Bank (WB), Asian Development Bank (ADB), as well as some major donors laid down a prerequisite condition to implement PIM, as a means to financing irrigation projects. This was believed to achieve a ‘reform of the irrigation sector’, essentially the hand-over of infrastructure and services from irrigation agencies to farmer user groups, known by various names [in different places], such as Water User Associations, Water User Cooperatives, or Cooperative Societies [WUAs, WUCs, WUCSs]. During the 1990s the word ‘participation’, as well as the approach were the buzzwords in the irrigation sector. It is therefore interesting, that this much praised reforms in irrigation management were recently declared as a mixed outcome of success and failure [see above] or even entirely as a failure. After thirty years of engagement in PIM processes, researchers and scholars at the International Water Management Institute (IWMI) termed PIM as the ‘paradox’ of the irrigation sector. In a seminal report by IWMI (2009; 37) it is claimed that, ‘[in our 108 case studies from Asia], successful cases of IMT are much lesser in number than failed cases’. Further, the report asks, ‘Can failed cases be attributed to poor implementation which perhaps could be fixed through better investments in training and capacity building, or is the problem even more fundamental - at the level of the conceptual design of PIM?’ Analyzing the transition of departmentally managed irrigation systems into PIM practices, the report concludes that ‘while most researchers are of the view that PIM is a conceptually sound policy and the problem lies in the implementation of policy, [but from] our studies and [our] readings of the history of PIM policy, we claim that PIM is a conceptually weak formulation and it is not so much of an implementation failure as it is a failure of conceptual idea behind it’ (ibid; 37).

This thesis evaluates the implementation of PIM in the IBC in the UPK, to assess if IWMI’s evaluation of a resounding failure of the PIM holds good. It is important to point that the implementation of PIM in the IBC provides a unique example, of a case study location, which was not nurtured by any external [to the state authorities, local NGOs and local water user committees] development actor/s promoting PIM, which is seen to be the case in supposedly well performing PIM projects. Second, in assessing PIM if there lays problem with its implementation, or in the approach itself being conceptually flawed, I use primary research as the basis of providing empirical evidence. This as I understand was not the case in the evaluation of PIM in the IWMI report [see Singh et. al. forthcoming].

## **1.1 Background to Participatory Irrigation Management (PIM)**

In late 1980s, it was perceived that too much emphasis was given on technological aspects in the irrigation sector and this had resulted in a bureaucratic burdening of irrigation management, which served among other things, a distancing of projects and services from societal needs. A persisting poor operation and management of irrigation infrastructure was presumed to be the outcome of such distancing, and this was found to compare negatively with better management of traditional ‘farmer managed irrigation services’ [FMIS]. It is thus popularly projected that reforms in the irrigation sector were driven by the need to hand-over infrastructure and services to the farmers. An increased involvement of farmers in irrigation management was called Participatory Irrigation Management (PIM). It was assumed that a participatory mode of managing irrigation would resolve numerous problems, physical, economical or financial under-performance of the irrigation sector.

However, many researchers argue, that these notions of improving farmer participation, mask the central, overriding design of the PIM, which was driven by the water as an economic good narrative. Neo-liberal structural adjustment designs and concepts of decentralization influenced the handing over of irrigation infrastructure and services to farmers. This concept of decentralized management of resources found a good fit with a participatory framework.

Despite an awkward marriage of economic efficiency and equity in the PIM approach, for a period of over two decades few questions were raised on the conceptual flaws of the policy. Donors, implementing actors, NGOs, researchers were mostly [not all though] largely convinced of the success of PIM, and the trend was to replicate PIM widely. PIM advocates assumed two issues: i) First, the implementing agencies would readily give up their autonomy and control of the system and services to water user associations. ii) Second, farmers’ would readily form a collective whole, and agree to and be bound by principles of cooperation in managing water (FAO, 2007; IWMI, 2009).

There were some critiques of the PIM approach, as well as the collective action theory, which formed the theoretical background to the PIM approach. The IWMI (2009; 41) report writes that, ‘...paradoxical role of irrigation agency in Irrigation Management Transfer (IMT) [PIM]. The irrigation agency is viewed both as government agent, incapable of managing the irrigation system, and as reform agent, responsible for the formulation and implementation of IMT [PIM]. As incapable government agent, the agency’s role is to be replaced by WUAs. Yet, as reform agent, the agency is responsible for the implementation of IMT [PIM] policy. Paradoxically, IMT [PIM] is to be implemented not only by the very agency whose power and authority will be reduced by the policy, but by the very agency which was perceived as incapable of managing the irrigation system in the first place. It is generally believed that high-performance farmer organizations can be formed and developed by an unreformed, inefficient, and corrupt irrigation agency.’

Hunt (1989) in his study on the irrigation community questioned the assumption of PIM by studying distinct organisational characteristics of WUAs as compared with FMIS (Hunt, 1989; in IWMI, 2009; 39). He writes there is difference in autonomy of WUA which are managed by farmer themselves in FMIS and government managed systems. David Mosse (2003; 288) studied PIM implementation in tank irrigation systems in Tamil Nadu in South India, and concluded that PIM didn’t solve the persisting irrigation problems. Instead it intensified competition over resources, as well as disputes over social position and authority. Singh, (2011; xiii) writes, ‘WUAs were never designed for change. I observed that perhaps the biggest flaw in irrigation management transfer was the rationalising of collective action and irrigation institution’.

## **1.2 What ails implementation of PIM in Karnataka?**

This study explored the processes of translating PIM policy in Distributary number 24 (DY 24) of Indi Branch Canal (IBC) in the Upper Krishna Project (UKP) in Karnataka. It aims to explore the inordinate delay in implementing the policy in two case study areas namely Ingalagi and Alur no1 WUCS’ of DY 24 canal of IBC, and tries to identify why this is so. Findings show that, in the process of PIM policy implementation, so called bottom up approach of ‘participation’ was ‘reinterpreted’ and ‘narrowly understood’ by key actors involved in PIM implementation in the IBC.

Chapter 2 outlines the theoretical framework and research methodology adopted in this study. Chapter 3 focuses on the conceptual meaning of participation, as a dominant discourse during the 1980s; how participation was related to, and determined by empowerment. In this chapter, I outline how the concept of participation was de-politicized in PIM policy, to a formalized WUA membership – tasked with collecting user fees and maintaining ‘what was allotted of the irrigation system’ to it, through a top-down process by irrigation authorities and agencies. Chapter 4 analyzes PIM interventions that took place in the two case study areas of DY 24, namely Ingalagi and Alur no1 WUCS’. This chapter shows how the concept of bottom-up, transformatory approach of PIM was reversed to a top-down imposition, by irrigation authorities who defined – who participates, where and how. This chapter shows how participation is understood and interpreted by the irrigation agencies functioning in the IBC. Chapter 5 outlines what happening in relation to irrigation management on the ground, post-PIM interventions in the two case study areas. This chapter shows that farmers have little faith and belief in such an imposed form of ‘participation’ and while the elite among them, capture the few benefits provided through PIM, the majority of the farmers in the two case studies have taken the system into their own hands, restructuring what they identify is a justice deficit in the supply of water. The hydraulic and administrative boundaries will not match in case study areas and other structural constraints like concept of ‘localization’ were not considered in formalizing PIM. Here, I also discuss how the landscape of providing irrigation is severely flawed – and why this, more than anything else, prevents farmers from coming together and cooperating in the sharing of water.

### **1.3 Participatory Irrigation Management in Karnataka**

The National Water Policy of India formulated in 1987 and revised in 2002, advocated for participatory forms of water management (GOI, 1987, 2002). The approach to Participatory Irrigation Management (PIM) was accepted first by the Government of India (GOI). The GOI Act 1935, enables the state to legislate water related subjects and hence water law is a largely state based legal issue (Veettil, 2011). In addition, as per the Entry 17 in the State List<sup>1</sup> under the 7<sup>th</sup> schedule of Indian Constitution of 1952, States are vested with rights over water resources within their boarder. But the central government has the power to regulate and develop inter-state rivers and river valleys as per Entry 56 of the Union List<sup>2</sup> of Constitution (Veettil, 2011; 29). These distinctions between state and national governments, explain why, it was almost a decade later, first practical steps in implementing PIM had been undertaken in the Tungabhadra canal irrigation system in 1997, in Karnataka (Mollinga, 2003). It was only in 2003, comprehensive reforms were introduced by amending the Irrigation Act of 1965 and model by-laws were issued for formation of Water User Cooperative Societies (WUCS) and their duties and responsibilities defined in Karnataka (Ganapathy et al., 2009).

Field studies by Ganapathy et. al., (2009) conducted during 2007-08 showed, progress in implementing the PIM had been both slow and uneven in the UKP and in general in Karnataka. Contrary to Karnataka, in neighbouring Andhra Pradesh, there was a quick approach to irrigation reform in 1996-97, as soon as the policy was advocated by the Central Government. Here, strong political support had resulted in enacting State-wide PIM legislation and application (Merrey, 2007). However, here too, all was not well with implementing PIM. It is written in IWMI (2009) report, ‘...in Andhra Pradesh, thousands of WUAs were created on paper and then paper evidence of these WUAs sold to the international community as indicating success in implementing reforms’. My findings show that the process of implementing was both slow and still only produced ‘paper WUCS’ in Karnataka.

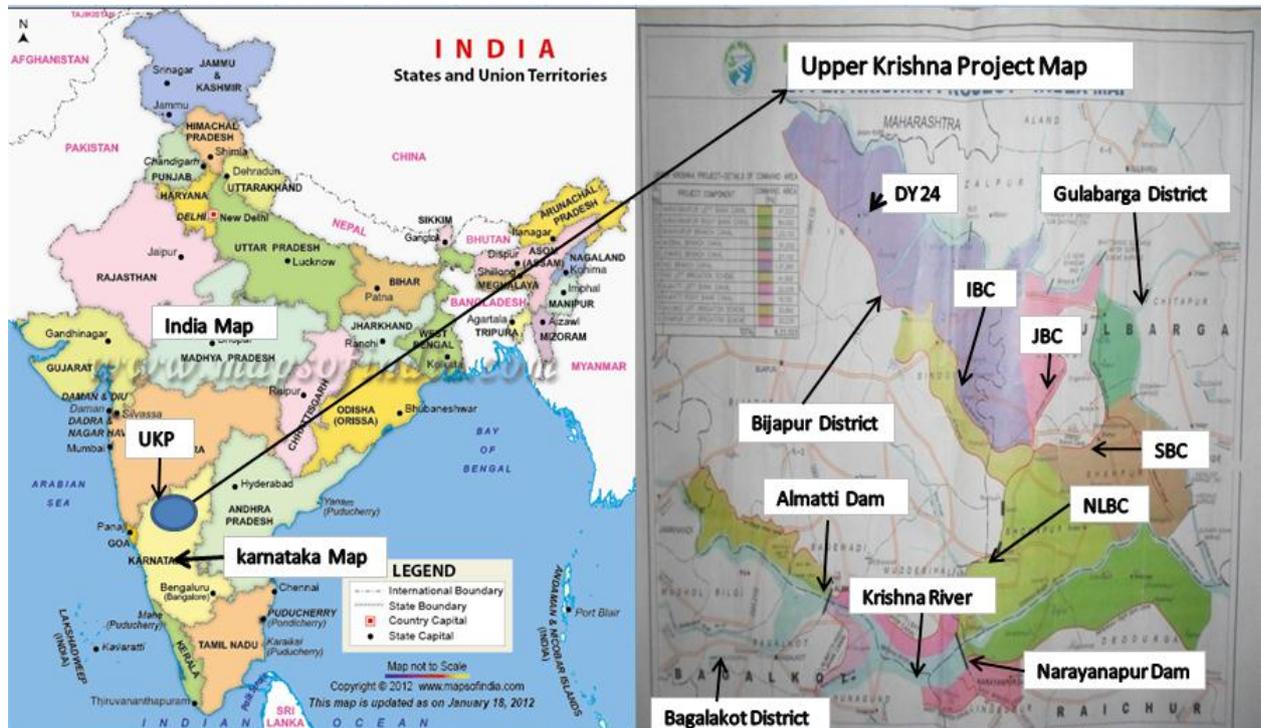
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<sup>1</sup>Entry 17 under List II of Seventh Schedule (*State List*) provides that “Water, that is to say, water supplies, irrigation and canals, drainage and embankments, water storage and water power subject to the provision of Entry 56 of List I” (Article 246 of the Indian Constitution)

<sup>2</sup>Entry 56 of List I of Seventh Schedule (*Union List*) provides that “Regulation and development of inter-State rivers and river valleys to the extent to which such regulation and development under the control of the Union is declared by Parliament by law to be expedient in the public interest” (Article 246 of the Indian Constitution)

## 1.4 Background to study area

The Upper Krishna Project (UKP) lies in the northern part of Karnataka and draws water from the Krishna River. This Upper Krishna Project consists of two dams, namely Alamatti dam and Narayanapur dam. The Alamatti dam comes under Bagalakot district and the Narayanapur dam comes under Gulbarga district of Karnataka. The two major canals of the Narayanapur dam are Narayanapur Left Bank Canal (NLBC) and Narayanapur Right Bank Canal (NRBC). NLBC takes off from the left flank of Narayanapur Dam and provides irrigation to Bijapur and Gulbarga districts. NLBC bifurcates into three major branch canals namely Indi branch canal (IBC) and Jewaragi branch canal (JBC) and Shapur Branch Canal (SBC).

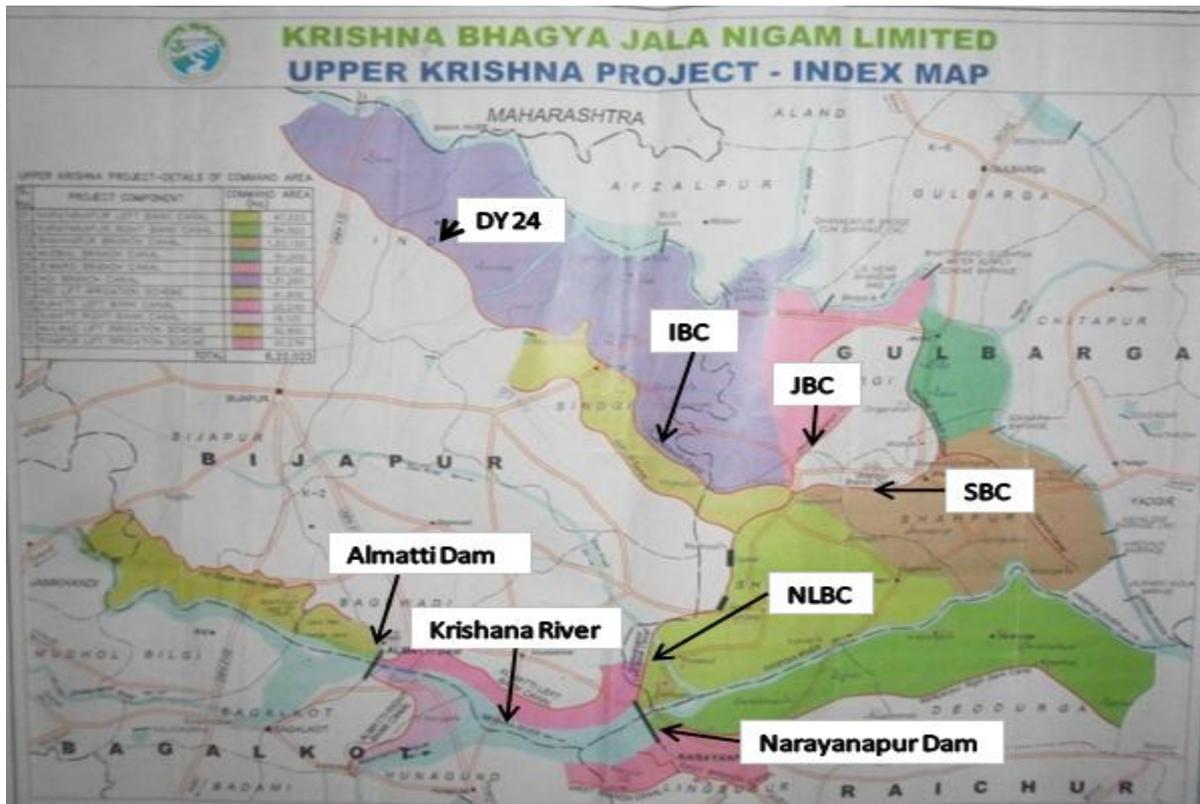


Map 1: India map with Karnataka and Upper Krishna Project map

The IBC has a notified command area of 134000 hectare (ha) and falls under the Circle office of the Krishna Bhagya Jala Nigama Limited (KBJNL) located in Rampur. There are four division offices of KBJNL namely Kembavi division office, Rampur division office, Almel division office and Zalaki division offices responsible for managing and distributing water in IBC.

KBJNL is the state Government irrigation agency which responsible for Operation and Maintenance (O&M) of canals in Upper Krishna Project. Related a central government supported department known as Command Area Development Authorities (CADA) is responsible for facilitating irrigation practices between KBJNL and farming community. KBJNL is involved in day to-day O&M activities of irrigation.

This study is conducted in Ingalagi and Alur WUCS', both of which come under Distributory Canal number 24 (DY 24) command area of IBC. Operation and maintenance (O&M) of this DY 24 canal is carried by Almel sub-division office of the KBJNL. DY 24 canal off take from the IBC at 128 km of its starting point; therefore this area is characterized by increased scarcity of water, social, economic, and ethnic diversity and a perceived institutional deficit in water distribution and management. Irrigation Agencies both CADA and KBJNL in IBC are promoting at the grass root level to form the Water Users Cooperative Societies (WUCS).



Map 2: Narayanpur dam with Narayanpur Left Bank Canal (NLBC) and Indi Branch Canal (IBC)

PIM implementation in this region started since from 2002, during construction phase of IBC itself, and it seemed that the urge with which farmers are coming together to form WUCS is very low or absent. Moreover, there were no documented studies yet in this region to know about the process of PIM implementation and formation of Water Users Cooperative Societies (WUCS). Therefore this region was chosen for this study. The contradictions of policy and practices and turtle speed of PIM implementation in IBC made it an interesting case study in the IBC of the Upper Krishna Project.

### 1.5. Problem statement

**Participatory Irrigation Management (PIM) policy and practice as analysed in UKP seems to be a delayed and much resisted process, both by departmental actors as well as local farmers' communities and PIM-objectives are rarely realized in the command area of the Indi branch canal.**

### 1.6 Research Objectives

- a) To analyze the conceptual implementation of PIM with respect to what is stated in the policy.
- b) To study how the irrigation agency interprets and implements PIM – and how these actors understand participation.
- c) To study how farmers perceive and experience PIM in the command area of DY 24 canal of the IBC.

Chapter 2 explains theoretical framework used for this study. This theoretical framework consists of two theories and two concepts to analyse process of PIM implementation and its outcome in the IBC. Further relevant research questions are framed to translate or apply theoretical framework to study irrigation practices in the IBC.

## Chapter 2

### Theory and methodology

#### Introduction

This chapter describes the theories and concepts used to study Participatory Irrigation Management (PIM) implementation in Indi Branch Canal (IBC). In this thesis, I analyse how PIM policy has been implemented in the IBC by the hierarchy of actors responsible for this task, and I also analyze how farmers or water users are participating [or not] in this process. For these assessments, I have chosen the following theoretical concepts: i) Theory of actor perspective and interface analysis, ii) Theory of collective action iii) Concept of institutional bricolage and Agency structure concept. The choice of using four theoretical frameworks stems from the fact that I borrow on different elements of these four frameworks to develop a framework that seems most relevant to my analysis.

Through the theory of actor perspective, I analyse how participation is understood, PIM policy negotiated and applied by different stakeholders: implementing or facilitating actors as well as water users in the IBC PIM project. This theory gives an insight into how PIM policy translates to practice among actors engaged in this project. I use the theory of collective action to assess how PIM guidelines relating to 'participation' translate on the ground in the project location, Distributory Canal No 24 (DY 24) of the IBC project. I observe two facts, that several factors disable 'community participation' among a heterogeneous group of farmers, and that, institutional interventions to implement PIM rarely address and resolve these contextual realities. Here, I found it useful to use the concepts of institutional bricolage and agency structure to analyse structural constraints which, as I note were overlooked by the collective action theory.

#### 2.1 Theoretical Premises

##### 2.1.1 Theory of actor perspective and interface analysis

The implication of actor oriented interface analysis is used for understanding conflicting interests and social differences in development intervention processes. Interface commonly occurs at the point where different and often conflicting social arenas intersect. The term 'interface' tends to convey the image of some kind of a two-sided articulation or face to face confrontation, or what is known as social interface situations (Long, 1999;1). In relation to my thesis, this theory is useful in explaining the interface between 'policy', 'implementation' and 'outcome' domains of development interventions. Long (2001) explains that there is often a gross over-simplification of a much more complicated set of processes which involves the reinterpretation or transformation of policy during the implementation process itself, such that there is no straight line from policy to outcomes. The theory therefore allows understanding, how, in this case, PIM policies are re-interpreted and transformed as they are implemented, and how they come to mean quite different things to different interest groups or to different individuals/ actors (Long, 2001; 31). The theory helps in studying the multiple realities of development projects i.e., 'different meanings and interpretations of means and ends attributed by the different actors, as well as the struggles that arise out of differential perceptions and expectations. Planned intervention is a transformational process that is constantly re-shaped by specific conditions it encounters or itself creates' (Long, 1999). In this way interface analysis helps to expose the fact that planned interventions are 'not simply the execution of an specific plan of action with expected outcomes', rather what happens is a 'socially constructed and negotiated process' of actions. It is important then to focus upon 'the interactions among the various participants which shape and transform interventions' (Long, 2001; 30). Interface analysis grapples with 'multiple realities' made up of potentially conflicting social and normative interests, and diverse and contested bodies of knowledge. Intervention processes are embedded in, and generate, social processes that imply aspects of power, authority and legitimation; which likely reflect the difference and conflicting interest between social groups than the they lead to the establishment of common perceptions and shared values (Long, 1999). Hence, it follows that in most cases, it is difficult, if not impossible, to induce people and organizations towards more 'participatory' and equitable

modes of integration and coordination, through linear, time-bound development interventions. This is the paradox, as Long (ibid) says of neo-populist development discourses and participatory methods aimed at empowering local people.

### **2.1.2 Theory of Collective Action**

The PIM policy is grounded in the theory of collective action relating to community management of common pool resources. Common pool resources (CPRs) was identified by Ostrom (1994) as being either natural or human made facilities characterised by two features:

- 1) The resources are subtractive in nature: use of every unit by beneficiary will reduce the total stock of resource
- 2) It is costly to exclude potential beneficiaries if institutions are not defined properly in relation to how to use resources.

These two characters lead to what is called the 'tragedy of the commons' (Hardin, 1968). In the opinion of institutional economists, the 'tragedy of commons' can be averted through institutions that can shape cooperative, collective human action. The application of this approach to community participation in common pool resource management is as follows: rational self-seeking individuals will try to maximise their benefits from use of common pool resources (Ostrom and Gardner, 1993). Given the two characteristics namely non-excludability and subtractive nature, CPRs will be overexploited in the absence of institutions or rules that regulate the use of the common pool resource. Community success in managing the resources depends upon its ability to build institutions that internalize the externalities and the consequences of individual actions (Narain, 2004). As institutional economists argue, if exclusion is not accomplished by the design of appropriate institutional arrangements, free-riding related to the provision of the common-pool resource can be expected.

There are studies which tell how institutions can be designed to manage CPRs. Ostrom (1994) defines design principle as a concept, which is used either consciously or unconsciously by those constituting and reconstituting a continuing association of individuals about a general organising principle. These principles are summarised by Ostrom's work (1993) but similar approaches and overlapping principles have also been developed by others (Agrawal, 2001). These institutional design principles are as follows (Cleaver and Franks, 2005):

- i. There should be clearly defined boundaries of jurisdiction over the resource.
- ii. A clear defined user group or community should manage the resource.
- iii. Locally appropriate rules must be devised.
- iv. There should be clear identification of rights to resources and rules about them.
- v. Those involved in resource use take part in decision making about the resources.
- vi. Decision making should take place in public, in arenas to which all resource users have access.
- vii. Accountable monitoring and effective authority structures are required.
- viii. Graduated sanctions should be devised for non-compliance with collective rules. Such sanctions must be applied consistently, rapidly and impersonally.
- ix. Conflict resolution mechanisms should be clear, accessible and rapid.
- x. The 'nesting' of local institutions with other levels of decision-making and governance allows multi-layered management of resources in large and complex systems.

In relation to PIM, the formation of the WUAs requires bringing together the above principles. Apart from these design principles Ostrom (1992) identifies three levels of rule making with respect to formation of an organisation. These include i) operational rules that serve as a guide to day-to-day activities, ii) collective choice rules that regulate decision-making and conflict resolution processes, and iii) constitutional rules that regulate membership and define users' right. The emphasis of rules is used to explain crafting of effective irrigation institutions and further it is argued that it is important to involve farmers in crafting their own operational and collective choice rule (Narain, 2004).

There are several critiques on how the institutional approach to crafting and creating an institutional framework for collective action. First, it is argued that these broad design principles fail to account for the variability and dynamism of contexts in which the principles must be applied (Cleaver and Franks, 2005; 3). Further, in such an institutional approach,

there is a very partial understanding of the differing motivations of different actors for collective action and participation (Rocheleau, 2001). Finally, there is a simplistic assumption made about the links between rules and decision making structures within institutions and the outcomes produced in terms of more effective resource management (Cleaver and Franks, 2005).

Steins (2001) writes, 'Design principles are almost totally concerned with factors internal to the institutions being crafted and therefore cannot account for external influences on collective action'. It is therefore possible for these principles to be applied only in abstract and de-contextualised ways, which will fail to take account of the messy complexity of different contexts, the interrelating of global and local factors and the impact of social and economic changes over time (Mehta et. al., 2000). The fallacy to equate institutional viability with fixed and formal structures (Rocheleau, 2001), and to present a static view of evolution in which there is no such a thing as an ideal institution and design principles is indication of a lack of reflexivity (Cleaver and Franks, 2005).

In PIM, Water User Associations (WUAs) or Water User Cooperative Societies (WUCS) are institutionalized on the basis of collective action design principles. Taking into account the above critique on the institutional design in collective action interventions, I show in the two case study areas namely Ingalagi and Alur village of DY 24 of IBC, that the fact that wider structural constraints were not considered in forming the WUCS in these two locations, has resulted in these institutions poorly resilient to ground realities. In the IBC, hydraulic boundaries, cooperative society by-laws relating to water use, and user groups by membership of WUCS, were the guiding principles in defining these institutions.

Yet, these two case study areas of DY 24 of IBC provided a challenging case for application of institutional design principles, as the locations are characterised by a scarcity of water; social, economic, and ethnic diversity; and a deficit in water distribution and management institutions. My research shows the dynamic complexity of social relations among farmers and distribution of canal water in DY 24 of IBC, which fail to be explained by the Collective Action theory. And additionally, they show how institutional interventions based on the collective action theory have failed to provide a viable solution to management of water in DY 24 of IBC.

An important conclusion can be drawn from the above analysis – that, there are a number of factors that encourage or impede management of common property resources. The set of factors (design principles) as, can be seen, turns out to be quite large and thus is a potential barrier to formulation of an over-arching theory of the common property resources (IWMI, 2009; 22).

## **2.2 Concepts**

### **2.2.1 Institutional Bricolage (Post institutionalism)**

The contextual realities that I observed in the research locations were explained by the institutional bricolage concept which was developed in response, largely to critique of the collective action theory and institutional design. The institutional bricolage concept challenges the notion that generic institutional design principles can be easily applied, especially by outsiders unfamiliar with the complexity of the local context. In contrast, institutional bricolage is defined as the process which includes '...patching together (...) institutional arrangements from the cultural resources available to people in response to changing conditions based on the logic of dynamic adaptation' (Chase-Smith et. al., 2001). Cleaver and Franks (2005: 4) say, institutional formation is re-conceptualised as a socially embedded, often opaque process rather than a deliberate, predictable managerial activity.

The difficulty in designing institutions, and the importance of multiple, contingent (independent) users, fuzzy and shifting boundaries and culturally diverse users, in other words, a bricolage, has been well argued (Bruns, 2009). Advocate for the institutional bricolage concept, warn against oversimplifying and idealizing how rules are made and put into practice (ibid). In the case of PIM, the attempt to structure irrigation governance along hydraulic lines overlooks or underestimates the numerous diversities that exist along an

irrigation canal. I borrow on this conceptual design for reviewing why and how collective participation in the DY 24 of IBC command area, has largely failed to happen.

### **2.2.2 Agency structure concepts**

Agency and structure is a concept in which an individual agent (agency) is said to be capable of moulding his/her actions depending on the constraints which are placed by social arena/structure. Subject to structural constraints, individual adopt various strategies in relation to resource management and reciprocity; gender, age, kinship relations and wealth are key factors in shaping such strategies (Cleaver 2000; 362). The individual actor is credited with the capacity to process social experience and devise ways of coping with life (Long, 1992; 22). Common to Long, Giddens and Douglas' ideas is the fact that individual action is both enabled and constrained by social structure. Both Douglas and Giddens emphasize the recursive relationship between structure and action and argue on the need to see institutions in terms of their constituent located practices (Cleaver 2000; 365). In Giddens' words 'the action of all of us are influenced by the very structural characteristics of the societies in which we are brought up and live, at the same time, we recreate (and also to some extent alter) those structural characteristics in our actions' (Giddens, 1989; 18).

Popular discourses on participation continue to be strongly influenced by older theories and concepts that suggest that institutions help to formalize mutual expectations of cooperative behaviour, allow the exercise of sanctions for non-cooperation and thereby reduce the costs of individual transactions. But such institutional models of participation have been criticized on numerous grounds (Cleaver, 2001; 40). Some of the artificial dichotomies and critical paradoxes in current thinking about participation and development can be accommodated by analyzing the recursive relationship between structure and agency (Cleaver, 2001; 38). In formulating or crafting institutions, social structure is perceived variously – either as an opportunity or as a constraint, but with little analysis of the specific context. Because, the linkages drawn between the individual, the structures and the institutions of the social world they inhabit are [often] ill- modeled, popular participatory approaches and institutional design principles can be criticized for their inadequacy to overcome exclusion, subordination or vulnerability (Cleaver, 2001; 38). Key aspects of this agency and structure concept, contributes well in understanding and explaining structural constraints in the research locations, which are difficult to explain theoretically, otherwise.

## **2.3 Research questions**

**What makes it difficult to implement the PIM policy in IBC?** Is it the poor implementation approach or is it because of conceptual flaws in PIM policy per se? Is policy flawed because of inadequate consideration regarding participation and the diverse interests of implementing agencies and farmers?

### **Sub-research questions**

- 1) How is participation projected and promoted in PIM policies? Does this interpretation differ from conceptual notions of participation?
- 2) Why is there a delay in implementing PIM in the IBC of the UKP?
- 3) How is participation in relation to PIM understood and implemented by the key stakeholders in the IBC?
- 4) What is happening with irrigation practices on the ground in relation to PIM implementation and what is the experience of diverse group of farmers in the two research locations in the IBC?

## **2.4 Research design and methodology**

### **2.4.1 Research design**

This research was conducted in IBC of Upper Krishna Project (UKP), a Government managed and owned irrigation system. This system is currently more or less completely managed by irrigation agency and involves the allocation of water from the Narayanapur dam, located in

Gulabarga district to Bijapur district. All levels of the irrigation system, such as main, branch, and distributary canals are managed by the irrigation agency known as Krishna Bhagya Jala Nigama Limited (KBJNL). It is only the lower levels of canals, such as lateral, Field Irrigation Channel (FICs) that are gradually being transferred from the irrigation agency to WUCS, through Participatory Irrigation Management (PIM) design principles.

Before I went to the field, I was focusing on how to analyse farmers' engagement in the PIM with help of theory of collective action and institutional bricolage concepts. But in the field I realised that to study farmers participation in irrigation management, I need to study not only how and why farmers engage or don't but also how other actors involved in implementing PIM perceive participation. To cover these issues, I decided to include the theory of actor perspective and interface analysis, and agency structure concepts. This helped me in studying how irrigation agency and other facilitators are engaged in promoting and implementing PIM in DY 24 of IBC. This whole research design framework [of actor perspective and interface analysis, theory of collective action and concepts of bricolage and agency structure] helped me to place my observations into a theoretical framework, which explains how PIM policy is implemented and negotiated by different actors.

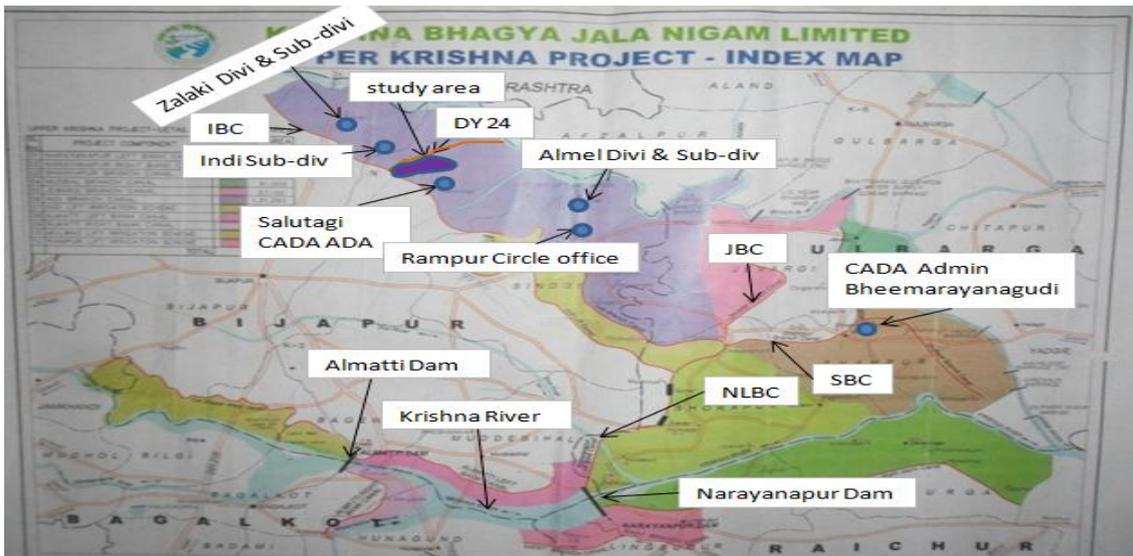
#### **2.4.2 Research Methods**

This research is qualitative in nature and was carried out through interview and case study methods of research design. The interview and case study methods are used with the application of i) semi-structured interview and ii) un-structured (open ended) interviews iii) observations methods.

The target group of this research were the four groups of actors involved in implementing PIM: farmers from two case study area of DY 24 of IBC; staff of Krishna Bhagya Jala Nigam Limited (KBJNL) irrigation department, staff of Command Area Development Authority (CADA) department, and staff of Bhagirat NGO who [CADA as well as NGO] were considered as a facilitator in PIM implementation in DY 24 of IBC. The time allotted to conduct the field study was three months, starting from 16<sup>th</sup> of February to 17<sup>th</sup> of May 2012. This time was divided into three stages. First stage of the research included visits to the irrigation department and related offices to understand the organisational structures and to understand roles and responsibilities of various department involved in PIM implementation. The second stage involved transect walks along Distributary number 24 canal (DY 24) to understand the two case study areas and talk with related persons of WUCS. In the third stage of the research, in-depth investigation of PIM was carried out in both case study areas and visits were made to KBJNL and CADA departments, and to the office of the NGO, Bhagirat.

#### **2.4.3 Bringing Methods into Practice**

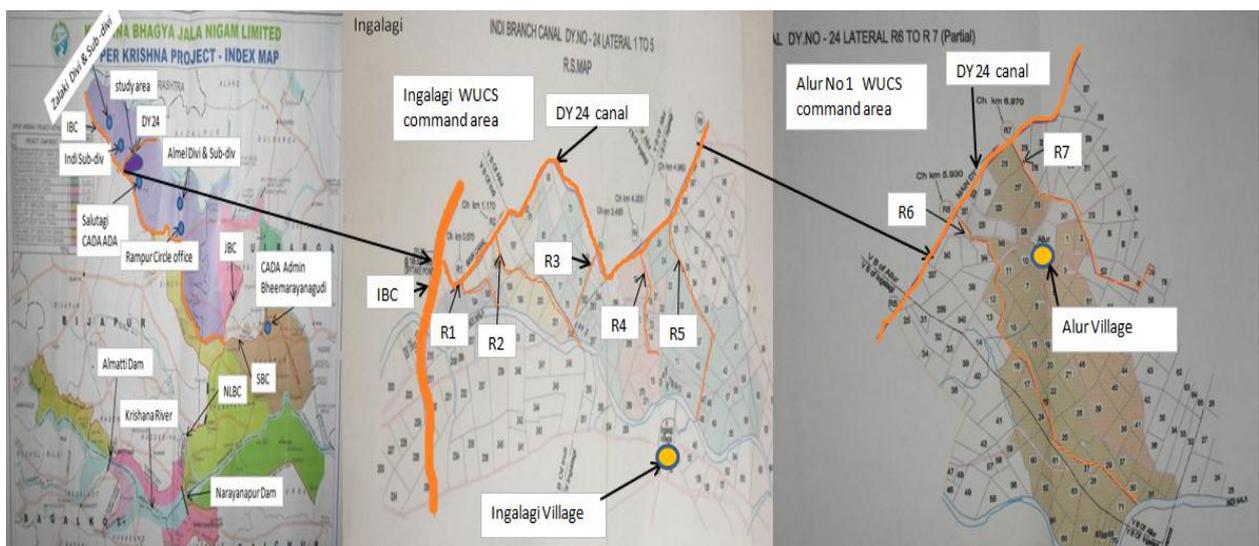
Stage 1 Visit to KBJNL sub-division offices: First I visited Sub-division office of Indi and Zalaki division office of KBJNL to know if there any WUCS are formed and are functioning. I came to know from these two offices that not a single WUCS is functioning in practice, yet PIM implementation is under progress. Staff from these two departments suggested visiting CADA offices to know more information about PIM implementation and to study functioning WUCS. I visited CADA office in Salutagi and staff told since 2002, implementation of PIM is under process and there 162 WUCS are registered with CADA Cooperative wing. Out of these 162 WUCs, none have taken on O&M responsibilities and are also not distributing water. Ten WUCS were registered in 2007 in DY 24 canal of IBC. Out of these ten, two WUCS namely, Ingalagi and Alur no 1 WUCS have taken some initiatives in cleaning the canals. I was told, that if I wanted to study PIM in IBC then these two WUCS were the most suitable. I tried to contact presidents and secretaries of all ten WUCS but except Ingalagi and Alur no 1, none showed interest to meet and talk about WUCS matters. Later I decided to study these two WUCS which are so called functional WUCS. I know that I was making bias in studying so called functional WUCS, but this bias too, helps shows how the PIM is not really functional in the IBC.



Map 3: Map Upper Krishna Project with KBJNL Division (Div) and Sub-division (Sub-div) offices and CADA offices located at different places

Stage 2 Transact walks and visits two case study areas:

Initially I decided to meet president and secretaries of both WUCS in Ingalagi and Alur village. I came to know that all ten WUCS which were registered in 2007, were facilitated in DY 24 canal by a private NGO called Bhagirat. I carried out mapping of distributor and lateral canal with assistance of secretaries and presidents of both WUCS. I came to know lateral number 1 to 5 were assigned to Ingalagi WUCS and lateral number 6 and 7 were assigned to Alur no 1 WUCS. These were divided on the basis of hydraulic properties and irrigable command areas. Meanwhile I had interview with both secretaries and presidents in different days. Secretaries and presidents explained all procedures what they did from 2007 to till 2012 but meanwhile I had open interview with few farmers. I came to know that the WUCS are registered, but among the farmers, there was little awareness about WUCS. I came to know from both WUCS secretaries and presidents that they had agreement to carry O&M activities and water distribution in 2008 but still these activities were not carried out because of delay in handover infrastructure by KBJNL department. A detailed investigation about these issues was done in the third stage of research period.



Map 4: Map of the IBC and DY 24 canal along with map of Ingalagi and Alur no 1 WUCS' (Note: In the map R represents for lateral canal for example R1 is lateral canal no 1)

### Stage 3 Interviews, face to face encounters, observations and focused group interviews:

In third stage of research I had open interviews and conversion with farmers. Dates of interview and conversions were not planned; whenever I met farmers in field I had interview and conversion with them. Topics which I discussed were about WUCS formation and its awareness among farming community and canal cleaning activities and other sources of water as supplement to canal water. Meanwhile I had several visits on my bike along the length of DY 24 canal and also to main gate of DY 24 canal which starts from IBC. I noticed lot of lift pumps were fixed on both distributor and later canals and also new outlets were opened, which essentially converted non-command area into command areas. I had three focus group interviews with farmers to discuss issues relating to fixing lift pumps, opening new outlets and the broken gates of DY 24 canal. Meanwhile I made a visit to the Almel Sub-division office of KBJNL and also to the CADA administrator's office which is located in Bheemarayangudi. I did not meet any staff members in both department – except for administrative staff, there was no one in the office. During this period I visited the Bhagirat NGO office which is located in Dharwad city. I stayed one week in Dharwad to have interview and conversion with staff of Bhagirat NGO about formation and registration of ten WUCS in DY 24 of IBC. After coming from Dharwad I visited second time to Almel Sub-division office. I had interview with three engineers of subdivision office about topic 'how they perceive PIM in DY 24 and also about the delays in handover of infrastructure to WUCS'. In between, I was also in the two case study areas to have more interviews with farmers. I observed that all the farmers in the two locations were completely dependent on groundwater, as canal water was closed. This gave me chance to understand field realities of conjunctive water management practices. In the field I came to know that CADA department has to conduct elections of WUCS during at the end of April and in beginning of May 2012. I had another two visits to CADA agricultural office in Salutagi to have conversion with staff about the WUCS elections in 2012. During this time I had second visit to CADA administrator office, in second also visit it didn't happen to meet the higher authorities in CADA Cooperative wing, but I had interview with other technical staff and other lower assisting staff. Meanwhile I had one visit to Rampur circle office and also CADA WUCS Union which also located in Rampur to have conversion with case workers and with other engineers about delay in paper movements and also to collect their opinion about PIM. In this matter I went to Bangalore to have an interview with CADA administrator who was transferred from CADA administration to Sakal Mission in Bangalore and also with General Managing Director (GMD) of KBJNL. I had interview with GMD of KBJNL but didn't succeed with CADA administrator. I was there for two days and visited CADA administrator office during office hours; he was not interested to give any interview for me. These were last week of my field study time and I didn't have any further time to visit other offices.

## Chapter 3

### Revisiting ‘Participation’

#### Introduction

In this chapter, I analyse the term, ‘participation’, its theoretical origin, as well as its application in mainstream development policy and practice. It is important to do this, because this thesis attempts to explore why implementing the Participatory Irrigation Management (PIM) policy is so problematic in the case of the Indi Branch canal (IBC) in the Upper Krishna Project (UKP) in Karnataka in India. It is also important to understand the term, ‘participation’ because, a report by the International Water Management Institute (IWMI) in 2009 which evaluated in 108 case study locations – concluded that the PIM approach has not only failed, but that it has failed because of conceptual flaws in the approach to participatory irrigation.

In this chapter, I assess how the term, ‘participation’ emerged as a concept in development discourse, and how it translated to development policy and practice in general, and then in relation to the approach to Participatory Irrigation Management (PIM). This deeper understanding of ‘participation’ is necessary to assess how conceptual notions of participation borrowed and written into irrigation sector reforms in the 1990s, are now considered to be conceptual failures. My analysis shows that the notion of participation conceived as a bottom-up alternative to conventional development practices was a deeply political concept. Participation as theorized, called for a reversal of power, or as Chambers argued, ‘Putting the last first’. However, this idea was grossly reduced in its translation to mainstream development policy and practice, and therefore in participatory approaches to irrigation management.

#### 3.1 Development Approaches

In the early 1980s, there was a dominant shift that development needs to focus on people, their realities and capabilities, and not to re-order these in relation to other priorities (Chambers, 1997; 11). Korten (1980) argued that development as a top-down blue print approach needed to make way for a bottom-up learning processes (Chambers, 1997; 189). In this bottom-up, diversity-based learning approach or process, ‘people’ and their complex realities were considered central to the development agenda. In comparison, an earlier prevalent, top-down focus included blueprint measures and models which did not fit well complex ground realities.

Cernea (1991; xii) in his book, “Putting People First”, states that the bottom-up approach to development ‘stood against the earlier technocratic framework of development, that it critiqued explicitly or implicitly the neglect of social or cultural dimensions, the rigidity of blue print thinking in project design, the focus on commodities rather than on the social actor, the disregard for farmers’ knowledge, and the indifference toward peoples’ grassroots institutions and organizations. This is not to say that people were or are totally out of sight in conventional approaches but many such approaches are overwhelmingly dominated by a priority given to technical factors or economic models that stripped [these interventions of] the flesh and blood of real life’ (ibid; 7). In an attempt to address the limitations of technocratic approach to development, bottom-up, people-centered development programmes were explained as not illogical, but as a ‘scientifically grounded request to policy makers, planners, and technical experts to explicitly recognize the centrality of what was [indeed] the primary factor in development processes’ (ibid; 7).

##### 3.1.1 Participation – integral to development

The word ‘participation’ was central to a bottom-up development approach, and became a very popular term in development discourse in the 1980s. However, it was argued that peoples’ participation in development was a complex concept, which defied a simple definition, or certainly blue-print designs that had been the hallmark of the earlier top-down approach. In debates on the meaning of people’s participation, there has been much discussion as to whether participation is a *means* [instrumental] used to achieve development- or an *end*

[empowerment] in itself. For instance Burkey (1993; 57, 58) writes, ‘participation is an essentially “learning by doing” exercise’. And Oakley (1995; 3) writes, ‘...peoples’ participation as a political process, in which previously excluded classes or groups seek to become involved, have a voice in and generally gain access to the benefits of economic and social development’. These reflections on participation raised questions both on the process, means and outcomes of the approach, and distinguish an empowerment view from an instrumental view. As I will discuss below, many of these complexities do not seem to have been adequately considered in the planning and design of popular development, including PIM approaches.

### **3.1.2 Empowerment as a component of participation**

The World Conference on Agrarian Reform and Rural Development (WCARRD) in 1979, provided a broad framework of participation which has influenced the activities and thinking of many development agencies.

*‘Participation by the people in the institutions and systems which govern their lives is a basic human right and also essential for realignment of political power in favour of disadvantaged groups and for social and economic development’* (Oakley, 1995; 3).

In this perspective, communities were viewed as heterogeneous entities, with differences between communities, and within communities by age, gender, social group and poverty and wealth, which were not only almost universal, but also universally significant. Chambers (1997) argues that it is essential to find those who were excluded, and to bring them into a participatory process, or help them to generate their own means to participation. Guijt (ND) called for a more diplomatic, catalytic approach, through interventions, which would be in the interest of a majority, processes which would bring people together (Chambers, 1997). ‘In participatory processes the challenge is to sequence and balance a coming together around common interests, and recognize and support diversity, complexity and multiple realities to empower those who are weaker and excluded’ (Chambers, 1997; 187).

### **A Dilution of the empowering concept of participation in development policy**

By the 1990s, participation had become a dominant subject in development literature. ‘People’s participation had strengthened into a well-established principle of development which received support widely, from Governments, International Development Agencies and Non Government Organizations (NGOs) and was adopted for implementation across sectors and countries’ (Oakley, 1995; 1). ‘Participation is “in” - you can’t be an approved member of the development jet set these days [in 1990s] without dropping a reference to participation into your speeches, scholarly papers and conversations on development theory and policy’ (Burkey, 1993; 56). This and other terms such as accountability, ownership, stakeholder and transparency were celebrated in development discourse.

However, as Oakley (1995; 1) writes, there were increasingly, ‘varying schools of thought’ on the interpretation of the term, participation. Participation had, as discussed above, primarily been conceived or theorized as a means to challenge top-down development; as a means to putting ‘power’ in people’s hands so that they could better question and also change the structural disparities latent in a development project (ibid). Oakley (1995; 1) argued that ‘people are poor [lack in interest/neglect/ignorance] because they are excluded and have little influence upon the forces which affect their livelihoods and participation is part of process whereby such people seek to have influence and to gain access to resources’.

However, popular development policy and practice perceived ‘participation’ as an element to include in development agenda, which would contribute to, and help achieve other over-riding agendas. This meant that ‘participation’ would allow people to contribute to development projects. Hence, while the terms, empowerment, accountability, ownership, stakeholder and transparency were popularly written into development policy, they had lost the political edge of their meaning.

In theory, participation was not considered as an ‘instrument’ to mobilize labour force, rather a means to enabling empowerment and liberation (Burkey, 1993; 58). The ultimate goal of this ‘political’ view of participation is not to make policies and projects work better for the

poor (although this is considered highly desirable) but to facilitate political change in favour of the dispossessed (Blackburn, et. al., 1998; 2).

While the idea and approach to a bottom-up, alternative form of development was widely embraced by diverse development institutions, the design of popular participatory approaches designs tended to simplify contextual realities, did not properly understand power relationships, and often further marginalized the disempowered (Guijt and Shah, 1999). Cernea (1991; 6) explains that this happened because development interventions are subjected to human interventions and mediations such as: ‘political will or the lack of it; social bargaining for some at the cost to others, administrative cultures and their willingness or not to innovate, and diverse circumstantial distortions’. This narrow scope of participation varied significantly to what was conceived as participation as a bottom-up approach (Oakley, 1995). Policy documents and project proposals advocated for ‘community participation’ and went no further. There are two issues to consider here. First the heterogeneity and diversity within communities was not well understood. As Chambers, (1997; 183) writes, ‘And often because those whom outsiders meet and interact with are most likely to be middle-aged or youths, male, from dominant groups, and economically better-off - their criteria, preferences and priorities are taken as those of the whole community’. The many obvious differences, dominance/dependence relationships within and outside of the community, which needed to be understood and addressed were not paid attention to (Chambers, 1997).

Second, the empowering approach to participation was rarely replicated in the development agenda. What happened went against the very notion of an empowering participation. ‘Participation in development became a mere mobilization of [people’s voluntary] labour or the coming together to hear about pre-determined plans’ at the community level only (Burkey, 1993; 57). Burkey (ibid) had argued that for ‘Participation to be more than a policy statement – [there would need to] be a genuine commitment to encourage participation in all aspects and at all levels of development work’. Instead, participation became a ‘populist pitfall’ and the means to ‘manipulate the masses’ (Freire in Burkey, 1993; 57).

In the above discussion part, I made an attempt to show how empowerment is integral to the concept of participation, and while no one disagrees with this, it is evident that adequate thought has not been given to these issues in development policy and practice. In this context, I will analyze how participation is understood, applied and evaluated in relation to PIM.

### **3.2 A depoliticized participation in Participatory Irrigation Management (PIM)?**

In this section I analyze how this conceptual notion of ‘participation’ is interpreted and applied in Participatory Irrigation Management (PIM). Based on my analysis I argue that participation is grossly diluted in the translation to irrigation policy, reduced essentially to the payment of water fees. In this section, I focus on two recent evaluations of Irrigation Management Transfer (IMT) (FAO 2007 and IWMI/FAO 2009) to analyze ‘participation’ in PIM. I focus on these reports because of two reasons:

- i) These reports are comprehensive – in that they include an assessment of 108 international case studies, the outcomes of which were widely discussed by irrigation professionals through virtual dialogue and interaction.
- ii) These reports not only review PIM as currently operational in diverse settings, they also provide an overview of policy, institutional and practice level experiences relating to PIM.

In respect to development practice, Uphoff (1991; 477) writes, ‘there are many possible kinds of participation, and who participates and how may be more crucial to project success than any purely quantitative expressions of participation’. There is often little consensus on what is considered “participation,” which makes it difficult to assess and agree on approaches and mechanisms to enabling participation, as well as the means to evaluating participation. Consequently, what is commonly planned and practiced is what Uphoff (1990; 477-78) identifies might well be called “pseudo-participation”.

In assessing ‘participation’ in PIM, it is useful to discuss two issues: i) How concept of ‘participation’ was used to achieve goals of irrigation sector reforms ii) How political concept of participation in irrigation sector was de-politicized.

### **3.2.1 How concept of ‘participation’ was used to achieve reforms of irrigation sector**

During the late 1980s, there were assessments of physically, economically, and financially underperforming irrigation schemes and a top-down centralized bureaucratic management of irrigation systems prevalent then, was seen to be extremely problematic on several fronts. In this regard, the notion of “user participation” in PIM was identified as a ‘reform of [national] irrigation sector’ (IWMI 2009:2) enabling irrigation authorities to respond farmers’ demand. PIM policies were designed globally in the late 1980s to achieve complete or partial transfer of responsibilities for irrigation system management from government to user farmers.

In relation to reforms in the irrigation sector – towards PIM, Mollinga and Bolding (2004) identify that several factors have impacted shifts in policy. These can be summarized as ‘three driving forces – development and learning within the sector, external and internal pressures, and domestic fiscal, economic and political concerns’ (ibid). However, Mollinga and Suhardiman (2012) write that the notion of “water as an economic good narrative”, and broader neo-liberal structural adjustment designs structurally influenced the transfer of irrigation responsibilities from public irrigation agencies to farmers. Fiscal restructuring on advice or rather demand from major donors such as the World Bank and Asian Development Bank (ADB) resulted in the endorsement and application of neo-liberal principles in many sectors [including irrigation] and in many countries during the 1990s.

Neo-liberal economic approaches favor the market as the best mechanism to allocate resources efficiently and argue for a withdrawal of state (deregulation, decentralization, a facilitating role, combating rent-seeking etc). The database of IMT [difference between IMT and PIM explained later in below] profiles in the FAO (2007; 12) report provides insight on key factors that motivated the adoption of IMT in locations around the world. By far (in 24 cases) the most important motivation for adopting IMT programmes was the shortage of government funds for irrigation O&M; and other two factors were i) poor O&M of irrigation systems (first or second most important reasons in 22 cases); and ii) the inadequate collection of water fees (first or second most important reasons in 15 cases). Further, with respect to adoption of IMT, it was identified that this was influenced by a broader pattern of liberalization and privatization in the economic policies of the respective national or state government/s. For example, the ready adoption of IMT in Mexico and Andhra Pradesh in India was a direct outcome of “liberalization-favoring” governments (FAO 2007; 13). An important reason for governments to establish Water User Associations (WUAs) was to reduce costs and increase collection of water fees. In 31 out of 43 cases across different regions, it was reported that post IMT or PIM, farmers have contributed towards financing the repairs and rehabilitation works either in the form of cash or by providing labour or materials (FAO 2007; 27). Further, market-oriented neo-liberal ‘participatory’ models are overwhelmingly concerned with deregulation and decentralization - where users are treated as ‘clients’ rather than as participants. For example Shah (1996) draws attention to the abysmal performance of irrigation co-operatives in Gujarat and Maharashtra (India), ascribing it to the fact they serve the agenda of the government rather than of the farmers themselves.

Here, I explain why differentiating the two terms, PIM and IMT matters – especially in relation to assessing the landscape for participation. Although both the FAO (2007) as well as the FAO and IWMI (2009) report were produced by a common pool of researchers, there is a difference in the defining of the term PIM, in the two reports. The IWMI-FAO (2009; 2) report considers PIM as a ‘reform process’ while the earlier FAO (2007) report defines PIM as a ‘behavioral change in relation to managing irrigation’. Further the FAO (ibid) report outlines different degrees of participatory irrigation models ranging from PIM to full IMT, based on the issue of ownership of irrigation asset/s as well as the transfer of management functions to user farmers. The FAO (2007: 4) report outlines that the ‘IMT concept intends to replace the role of the government; whereas PIM seeks to gradually strengthen the relationship between water users and government by “adding” farmer participation to government management. The “co-management” model of PIM is assumed to finally transition to full IMT, where, a final transfer takes from the government agency to the recipient organization takes place. Many scholars consider PIM to be a subset of IMT (Poddar et. al. 2011) and they view PIM as the process to achieving IMT (IWMI and FAO 2009; 2). This instrumental view of neo-liberal approach assumes a direct structural relationship

between water fees [farmers' participation through financial means] and availability of these fees for system operation and maintenance. However, in many countries [for example India], research findings report an unclear relationship between the two, in other words, it is not clear if more funding will necessarily improve irrigation performance (Gulati et al., 2005; 20). This explains how a complex notion of empowerment and participation could be simply translated to participation as defined by fee collection and maintenance of the irrigation infrastructure. In below section I discuss how concept of 'participation' was/is political concept and in process of policy to practice how it was de-politicized.

### **3.2.2 Is participation in irrigation sector is a political concept? Was this de-politicized in PIM?**

Participation in irrigation would ideologically conform to a political process, where various interest groups struggle in order to see their ideas and interests included into the organizational and technical design of the system (Boelens 1998b; in Lecture notes, Boelens Design as an organizational process, 2011). Advocacy for such a notion of participation identifies that, control over water and system management needs the political engagement of the very groups who are excluded from the resources and services. Basically, for participation to be empowering, it must come 'from within', through processes of self-mobilization and creation of autonomy. Increasing local capacity for negotiation and claim-making power are important objectives of participation in irrigation (Lecture notes, Boelens Design as an organizational process, 2011).

When we consider the above issues relating to participation and empowerment in PIM, then, Esman and Uphoff (1984) write of the three objectives from the process of forming Water User Associations (WUAs): i) efficiency ii) equity and iii) empowerment. The authors argue that there is a certain contradiction between these three objectives. In policy documents, both efficiency and equity are emphasized. For example, all three terms are widely mentioned in the design and outcome of Irrigation Management Transfer (IMT) interventions. The FAO (2007; 11) report outlines the five main expectations from IMT interventions:

- I. It will reduce burden of costs, staff requirement and technical or management problems faced by governments.
- II. It will lead to improvements in the agricultural productivity and economic profitability of the irrigation systems.
- III. It will motivate farmers to pay more for their irrigation system because they will be empowered to take over the authority to define what their irrigation services will be, who will provide them, and how and at what costs these will be provided.
- IV. Governance by the farmers' organisations will improve the accountability of irrigation system management to farmers, and this will produce more efficient and equitable water delivery, canal maintenance and settlement of disputes.
- V. Collective organisation for irrigation management will probably produce collective action and in turn larger collective action will promote development of more responsive support services and will create pressures to ensure more reliable provision of water to the system.

However, as we will discuss below, what happens during the process of forming, as well as in the operation of WUAs can be rarely considered as empowering, if we go by the above reflections on empowerment.

The above mentioned expectations from IMT interventions in the FAO report assume that, water users will be able to hold accountable for irrigation authorities, and as well equitably share the water among them. In this regard, Uphoff's (1990) review of farmers' participation in irrigation schemes in Asia highlighted two main issues: (i) the crucial importance of scheme management and (ii) community heterogeneity and the differentiation in terms of participation (Oakley, 1995; 21). In response to the first issue, Siriwardena's (1989) study of the Mahweli irrigation scheme in Sri Lanka pointed to the potential conflict between the professionals' view of farmer's participation –controlled, predetermined and limited –and the farmers' own view of what their participation might entail. The crucial issue was the nature of the interactions between the 'separate worlds' of the irrigation engineer and the farmer in determining the quality of farmers' participation (Oakley, 1995; 22). As Blackburn et. al., (1998; 106) write, 'Participation has little meaning unless those in positions of power, allow

“others” especially those formerly disempowered to ‘take part’, to set agendas, take decisions, manage and control resources. To allow the “others in” would mean that more than participate in a certain development agenda, these “others” would define their own agenda of development’. Or as Chambers (1997; xvii) wrote, in a preface to his book, ‘Putting the last first, that it was ‘only a stage in a journey in which there is far still to go’.

PIM policy and practice highlight issues of accountability and empowerment, however, as (Mollinga, 2003) identifies, processes of policy formulation and implementation are contested like water distribution, and involve strategic political behaviour to create and utilise spaces for change. Grindle (1977) identifies, ‘the politics of the policy-making’, the political nature of policy formulation and implementation processes, policy as contested by different interest groups trying to shape it in particular ways’ somewhat reduce or de-politicize PIM policy (Mollinga and Bolding, 2004; 6). It is written in IWMI (2009; 40) report, ‘ In reality, management transfer has been characterized by power struggles between the irrigation agency as the existing power holder and the WUAs as the designated future decision makers in irrigation system management’.

Depending on the force different groups are able to generate policy and practice changes in different directions (Mollinga, 2003). ‘Policy implementation involves a series of actions and interactions in which different actors attempt to mould the implementation to fit their own perspectives and interests’ (Mollinga and Bolding, 2004; 305). In Mexico, Philippines and Indonesia, the irrigation bureaucracies are the main remoulding actors (Mollinga and Bolding, 2004). IWMI (2009) report claims, after thirty years of struggles with IMT, still it remained a single, yet disjointed policy because of two paradoxes in IMT. The first paradox is in relation to the role of irrigation agencies in IMT implementation, and second how the idea of management transfer was justified as part of the neo-liberal development perspective (IWMI 2009; 42).

In this process of analysis, I will show how participation in PIM was de-politicized. And I will try to identify potential reasons for such a de-politicization with the help of paradoxes mentioned by IWMI (2009).

### **3.2.2.1 Analysis of participation in FAO (2007) and FAO/IWMI (2009) reports**

IWMI (2009) report considers the Toyogawa Irrigation project as one of the most successful in Japan and they share the authors (Kono et. al., 2005) views for success. The main reason for success is the participation of the farmers at all levels of decision making and an unique Functional Role Sharing (FRS) model where each organization involved in irrigation water management play their well cut out role without duplication or confusion. Therefore, IWMI report (2009) considers key to success was participation, and a clear demarcation of roles and responsibilities, at all levels (IWMI; 35). The Toyogawa Irrigation project obeys what Uphoff calls participation by *who* means farmers and *how* means participating at all levels of decision making with unique role. In this case, decision making by farmers happens not only at the lowest level, it also influences decisions at all levels, and thus is exemplary of stakeholder participation.

In most other cases, the scope and space for participation is defined top-down. For example, the FAO (2007) report draws the lines and rules for participation, ‘...*creating a WUA normally involves adopting a constitution (or charter of authority or articles of association) and by-laws. This is often followed by the preparation and adoption of a transfer agreement. These constitute the essential rights, responsibilities, authority and rules that guide WUAs, the government and third parties*’ (FAO 2007; 25). The outline below (Annex 3 of the FAO 2007 report) includes contents of WUA by-laws and IMT agreements.

## Box 1 Contents of basic documents for WUAs and IMT

### Annex 3

# Contents of basic documents for WUAs and IMT

#### CONTENTS OF A WUA CONSTITUTION (OR ARTICLES OF ASSOCIATION)

1. Basis of authority for the WUA
2. WUA mission statement
3. Basic roles and structure of the WUA
4. Legal status and basis of authority
5. Area of jurisdiction
6. Criteria for membership (including for non-agricultural water users)
7. Basic rights, powers and obligations of the WUA and its members
8. Structure of leadership
9. Method for amending constitution

#### COMMON CONTENTS OF WUA BY-LAWS

1. Procedure for admitting and expelling members
2. Leadership positions and functions
3. Procedure for selecting and removing leaders
4. Tenure of leaders in office
5. Description of water delivery and maintenance objectives and rules
6. Rules and sanctions about irrigation service payments
7. Decision-making procedure for policy and tactical decisions
8. Procedure for entering into contracts
9. Protocol for forming federations and having external relations
10. Procedure for amending by-laws

#### COMMON CONTENTS OF IMT AGREEMENTS

1. Inventory of infrastructure and equipment transferred to the WUA
2. Service area and membership of the WUA
3. Role and jurisdiction of the WUA
4. Basic rights, authority and obligations of the WUA
5. Terms and conditions for transfer to occur or be revoked
6. Protocol for interaction between the WUA and government or other third parties
7. Rights, authority and obligations of the government towards the WUA
8. Procedure for dispute resolution
9. Purpose and procedure for irrigation management service agreements and audit

Source: IMT report FAO (2007)

As discussed above, there are differing perspectives on what constitutes participation and consequently, there is not much consensus on how to evaluate participation in irrigation sector. It is written in IWMI (2009) report that, participation is considered more important than other impact indicators in evaluating success or failure of IMT initiative, there are few indicators that are used to assess participation in relation to IMT. As we note below, all of these relate only to WUA functioning, there is little assessment of farmers influencing decisions beyond the level of the Water Users Associations (WUAs), as was seen above in the Toyogawa case study. It is mentioned in IWMI (ibid; 31) report that, commonly used indicators to assess participation include: i) attendance in meeting, ii) number of female participants in such meetings, iii) whether or not the chairperson (or the main executive leader) of the WUA is elected by popular votes or not.

The 2009 IWMI report uses 10 indicators (7 outcome and 3 impact) to determine success or failure of the 108 case studies analyzed. If I compare these indicators to the above discussed conceptual notions of empowering participation, then I can identify the following indicators, as assessing participation:

### **Outcome indicators**

1. Equitable distribution of water
2. Popular awareness and participation in WUA activities
3. Reduction in frequency of disputes and

### **Impact indicator**

4. Livelihoods and household parameters (income, wage, employment, poverty reduction, reduction in forced migration).

However, the report does not provide a disaggregated overview of these indicators; for example, it is not known if the disadvantaged in these case study locations have fared better than those in positions of power.

In relation to the process of selection of the chairperson of the WUA, IWMI (2009) reports a gap in the data sets relating to the 108 PIM/IMT case studies analyzed. There is often no consensus on how WUA chair members are to be elected, and this can happen either through a contested election or through a consensual [uncontested] nomination. Out of their 108 case studies assessed in the IWMI (2009) report, WUA chairpersons (or any key decision maker within WUA) were elected in 44 cases, in another 26 cases they were selected on some criteria or the other, and there is no information for the rest. The above report however, concludes that WUAs with elected chairpersons are more likely to succeed than WUAs without an elected representative (IWMI, 2009; 31).

Some like Uphoff (2000) are of the opinion that selection of a respected leader as the WUA chairman, rather than election (which according to him brings forward factionalism and petty rivalries) is better for wider acceptance of WUA (IWMI 2009; 31). It is interesting to note, that in relation to a PIM project [not one of the case studies of the IWMI report] in the state of Andhra Pradesh in India, the Government offered a financial incentive of Rs 15,000 for not conducting an open election for the WUA, but rather to nominate WUA members by consensus. The intention behind the provision of a financial incentive for uncontested nomination may have been reduction of the organizational burden of holding statewide elections, and to avoid conflicts in local communities (Mollinga et. al., 2004; 248). These examples show how the process of participation [or not] is determined and shaped top-down, in the fact that guidelines to WUA formation are confusingly tweaked.

The FAO (2007; 39) report considers among other indicators, increased water fee and increased collection of water fee as reflecting user participation. It is written, that in 75 percent of the cases studied, the rate of fee collection had increased despite increase in water fees in some cases. As an example, the IMT country profile of Mali shows that while water fees rose by 50 percent over 3 years, the efficiency of fee collection also increased in the same period. 'This result can be traced to increased user participation and to the improved quality of the service delivered' (ibid; 39). Similarly, in Andhra Pradesh, India water charges were raised threefold and fee collection rates also increased. This was again attributed to the support of farmers, as well as to the fact that 90 percent of funds collected were allowed by policy, to be kept and used by the WUAs and federations of WUAs (ibid; 39). In relation to the Andhra Pradesh case, Mollinga et. al. (2004; 250) had reflected, in contrast to what was observed in the FAO report (2007), farmers suspect there is leakage of funds [Government fund] to both irrigation department staff and presidents/contractors, and there is no reason to contribute.

Forthcoming participation as written in irrigation policies, conveniently assumes that transferring costs to the farmers will result in an increased ownership and decision-making authority, and this subsequently results in improved operation and maintenance (O&M) of irrigation systems. However, from the analysis above, it is evident that such simplistic linking of objectives and outcomes are not feasible.

### **3.2.3 Potential reasons for a de-politicized participation in PIM**

IWMI (2009) report concluded that PIM processes as such had failed because of two paradoxes. The first paradox is in relation to the role of irrigation agencies in IMT implementation, and second how the idea of management transfer was justified as part of the neo-liberal development perspective (IWMI 2009; 42). As IWMI identifies and connects these paradoxes to the role of irrigation agency and justification for neo-liberal development.

Earlier I discussed how participation was made an instrument for irrigation sector reforms and to serve objective of neo-liberalism [see above section 3.1]. Here, in below section, I discuss role of irrigation agency and Institutional economics favour towards neo-liberalism in PIM implementation.

### **3.2.3.1 Role of irrigation Agency in PIM implementation**

Of the many problems encountered during implementation of PIM/IMT, resistance to reform from irrigation bureaucracy is a prominent one. In the FAO (2007) report, 31 out of 43 cases were noted to show such a case of resistance to the IMT by the implementing irrigation agency resulting in slowing down the process, making it modest in scope, or even stopping it. This was identified to be common in a majority of countries in Asia, Latin America, Africa and Eastern Europe (ibid; 26).

In Mexico and Philippines water user organizations were in place but effectively no control was delegated to them. In Indonesia, institutional reforms only concentrated on physical rehabilitation, with few changes to remodeling led of irrigation agencies and departments (Mollinga, 2004; 305-306). With respect to Indonesia Suhardiman's (2008) writes, '...in extreme cases, the irrigation agency directed the WUA organizational development according to a bureaucratic path like WUA staff focused on routine administrative work such as proper registration and renewal of membership, water fee collection' (Suardiman, 2008). The FAO (2007) report considers the extent of authority devolved to users is lowest in general [in 31 out of 43 cases]. It is further written that financing of the rehabilitation and modernization remains in most cases is in the hand of governments or remains unclearly assigned to local WUAs.

Mollinga and Bolding (2004; 306) reports that in Andhra Pradesh, India and Philippines capture of resources and systems by local elites and politicians is common, and this redefines the objectives and changes the outcomes of IMT interventions. For example, in Andhra Pradesh elites occupy the board positions in new water user organizations (WUO) and control their functioning. These official WUO members then become the contractors for physical rehabilitation works that are part of the reform package, which are achieved by building new relationships with the irrigation department (Mollinga and Bolding, 2004).

As in conceptual notion of participation was defined bottom up approach, reversing top-down nature of development and moreover reversal of power were core elements of participation. Such a reversal of power was not happened instead what was noticed much resistance to PIM. In below section I discuss even in theory of collective action or community participation promoted this limited notion of participation in name of institutions, good governance.

### **3.2.3.2 Institutional Economics favour towards neo-liberalism in PIM implementation**

In using the game-theoretical approach to explain collective action, Ostrom (1994) uses a 'hybrid [state + market] model' to demonstrate the economic conditions under which farmer user groups can optimally use and manage water resources. Farmer managed irrigation is one of her important cases. The approach of institutional economics considers economic incentives in combination with institutions [transparency] will bring effective management of resources. Individual preferences in their choice-making behavior, and the transaction cost of co-operation/joint decision making and management are two central concepts of this approach. The economic incentive was based on rational individuals will try to maximize their gains from the use of common pool resources and institutions will bring the transparency. 'Despite of Ostrom's explicit denial of design principles can be used as blueprint, her design principles are frequently reiterated and elaborated in the literature (Ostrom, 2000) and we see them directly translated into policy documents as guidance for action' (Cleaver, 2005; 3). So partly the shift in institutional perspective took the approach to its logical conclusions so that user of water has to pay for the service. Ironically in this shift, the power dimensions are left aside without addressing much in the name of presence of factors [conditions]. A different scholar place different emphasis on necessary factors which support PIM/IMT and creation of WUAs, a common distinction is made between them is internal and external factors (Rap, E., 2011; 12-13). In IWMI (2009; 22) notes, '...there are large number of factors that encourages or impedes the successful management of common

property resources (...) and (...) the set of factors, as can be seen, turns out to be quite large and thus is a potential barrier to formulation of an over-arching theory of the common property resources'. Economic theory on the role of financial incentive and theory of design principles have their own limitations. A conceptual critiques is limited concept of human agency (of individual utility maximization or optimization) and the absence of a concept of social power in the frameworks (Mollinga and Bolding, 2004; 307)

In institutional economics local peoples' participation was equated to what is perceived as good governance: it supported the neo-liberal agendas of government withdrawal in the name of crafting of the institutions and economic incentives to the individuals. Word 'participation' had been replaced by 'collective action' and notion of empowerment [in participation] was masked.

## **Conclusion**

I want to conclude by saying that the conceptual notion of participation which was aimed to empowerment was grossly diluted from policy to practice in PIM. Ironically the very design of 'participation' in PIM was introduced top-down in the name of essential rights, responsibilities, authority and rules that guide WUAs and farmers were told to participate. The way the participation was defined in terms of attendance in meeting, number of female participants and whether or not the chairman was elected indicates the notion of empowerment was highly de-politicized and it was masked in user fee concept. The neo-liberal perspectives and institutional economic approach took logical conclusions by saying user's of water has to pay for the service. Ironically in this shift, the power dimensions are left aside without addressing much in the name of presence of factors/conditions. The role of irrigation agencies in PIM implementation considered just a barrier but it moulded PIM into its benefit. In this context, in coming next sub-sequent chapter 4, I will try to show with empirical evidence what IWMI (2009; 41) report claims, 'paradoxical role of irrigation agency in PIM implementation'. I focus how concept of participation was promoted from 'top-down' and how it was understood and [re]interpreted [in terms of membership, membership fees, proper registration, agreement and handover] in Indi Branch Canal Command area of Upper Krishna Project.

## Chapter 4

### Understanding Participation and its [re]interpretation in IBC

#### Introduction

In this chapter, I analyze how key stakeholders implementing PIM in the Indi Branch Canal, ‘understand’ and ‘[re]interpret’ ‘participation’. First, to distinguish between the terms ‘understanding’ and ‘[re]interpretation’, for me, ‘understanding’ participation refers to what different actors think about participation and what participation means to them. On the other hand, a [re]interpretation of participation refers to the transformation of the concept of participation as outlined in policy during the implementation process. The latter relates to actor perspective theory, which outlines how and why policy is often ‘re-interpreted’ during the process of implementation.

In analyzing institutions, I focus on two key actors namely i) the Krishna Bhagya Jala Nigama Limited (KBJNL), represented by the staff responsible for Operation and Maintenance (O&M); and ii) the Command Area Development Authority (CADA) staff responsible for facilitating irrigation activities between farmers and irrigation department [KBJNL]. In Chapter 3.2, I argued that empowerment is grossly diluted in the translation to irrigation policy, reduced essentially to O&M activities and payment of water fees. Before I outline my research experience, I reflect here on what Long (2001; 36) argues: that, ‘various so-called “participatory” research methods [works] aimed at learning about farmer practice and knowledge (...) remains in hands [that are engineered by] of “expert” ’. Consequently, the parameters of participation are as defined by the outsider experts and often these are far removed from what might be actual experience relating to participation.

#### 4.1 Understanding participation from two key actors

I asked one of the staff in Subdivision office of KBJNL: How many WUCS’ are functioning in IBC? He replied; *there are no WUCS which are functioning, if you go from here [from Indi sub-division office no 2] to Narayanpur dam you will not find a single functional WUCS. Here you have to understand one thing that the Department only has paper-WUCS, on paper, yes we have them, but do they really function – no. No operation and maintenance work has been initiated by these WUCS’. If you want to quantify achievements by these WUCS – there is nothing, as these bodies really do not function<sup>3</sup>*. His statement sums up how far removed this practice of participation on paper has become from the conceptual meaning of participation.

##### 4.1.1 Understanding participation in IBC - the KBJNL staff point of view

I was curious to know how participation is perceived by the staff of KBJNL and what they consider as participation. This is because, these are the actors who are involved in day-to-day irrigation management. They interact with the farmers, are responsible for hand-over to WUCS, and also to take on water distribution and O&M activities, beyond the domain of the WUCS.

I asked one of Engineer in offices of KBJNL on his opinion about WUCS and about participation in general. In his opinion, it was good to have WUCS because of the following points:

- If farmers participate, water will be effectively controlled and reach all the farmers
- If WUCS collect the water fees, there will be resources locally to address O&M and administration tasks, and
- If farmers take on O&M responsibilities, they get access to a one time maintenance fund of ₹ 5 lakh [₹ Indian Rupee symbol] and other additional benefits, including costs towards constructing storage houses [ware houses].

This, as he explained was all that he knew about this process, and this was what was happening under PIM. However, he was not aware of how WUCS were to be formed – and most interesting, he stated, ‘It is wrong assumption that if there are WUCS then only water

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<sup>3</sup> Interview with Anonymous in offices of KBJNL March 2012

reaches to farmers' field. There is no relation between fair water distribution among the farmers and formation of WUCS. Since last 15 years in the IBC command area, water is managed by the KBJNL department. Yet there are no active WUCS formed and who can take complete responsibility of O&M and distribution of water among the farmers<sup>4</sup>.

Through extensive interviews with staff in the KBJNL, I summarize that although most staff have been engaged or involved in the formation of WUCS, they are less aware of the design principles, or even, the term, PIM. Once the WUCS are registered, and they get the one-time maintenance fees, the department expects the WUCS to: i) undertake water distribution and management; ii) collect and manage water use fees; iii) take responsibility of O&M activities. Using these three categories of activities, I want to show how participation is understood by the staff of KBJNL.

#### i) WUCS 'should' participate in water distribution and management

At present, there is no scarcity of water in IBC but there are problems with the way water is managed and distributed among the farming community<sup>5</sup>. Lack of regulatory staff accentuates problems like lifting of water by unauthorised lift pumps<sup>6</sup>. Forming of WUCS is beneficial to farmers, this is because, if they take the O&M activities and water distribution then they can manage water according to their needs. Moreover, one WUCS will negotiate with other in water distribution at higher levels of canals. So this avoids conflict among farming community for water<sup>7</sup>.

#### ii) Collection of water fees from member farmers

At the moment, water tax/fees are collected by the department. And the water fee collected is a dismal less than 5 per cent of the estimated collection amount<sup>8</sup>. The Government's assumption that water fees can be collected, and irrigation investments recovered, seems to be turning difficult to achieve. For example, for one distributory canal, a fee collection estimate could be around ₹ 50,000,000 yet, hardly ₹ 5000 [₹ Indian Rupee symbol] is actually collected. This also happens because what is planned as the command area is far less than the actual area irrigated<sup>9</sup>. Further, while the irrigation department does not have any power to exert pressure on farmers to pay water fees, staff in the lower hierarchies of these departments are sometimes under pressure to achieve collection amounts. It is precisely this 'difficult task of collecting user fees' that staff in the implementing agencies want to handover to the WUCS<sup>10</sup>. If farmers form WUCS, and are officially registered, it will be the responsibility of the WUCS to collect water fees, and this will relieve the departmental staff of this challenging responsibility<sup>11</sup>.

#### iii) Expectation to take responsibility of O&M activities

According to the departmental staff, the purpose of forming WUCS is to collect water fees and carry O&M activities. Given the financial constraints on the irrigation department, maintenance funds are allocated only for urgent tasks, and this too at the distributory canal levels<sup>12</sup>. Since there is hardly any budget for addressing problems at the lateral levels, the idea of WUCS taking on responsibility at these levels is welcomed by the department. In this context, WUCS need to pay 60 per cent of the collected fees to the KBJNL department, while the rest of 40 per cent can be kept and used locally for carrying O&M and other administrative activities of society<sup>13</sup>. It has been made clear that, there will be little or no support from Government to carry O&M after handover. The Government will provide support for those investments only, where it is not possible to bear huge costs by WUCS.

The above discussed issues summarises what KBJNL staff understand as participation. The KBJNL staff also felt that it was the responsibility of CADA to create awareness about PIM among the farmers, including the WUCS. In that context, it was identified that informing

<sup>4</sup> Interview with Engineer in the offices of KBJNL, April 2012

<sup>5</sup> Interview with Anonymous in offices of KBJNL March 2012

<sup>6</sup> Interview with Engineer in offices of KBJNL March 2012

<sup>7</sup> Interview with Anonymous in offices of KBJNL March 2012

<sup>8</sup> Interview with Junior Engineer in offices of KBJNL March 2012

<sup>9</sup> Interview with Anonymous in offices of KBJNL March 2012

<sup>10</sup> Interview with Anonymous in offices of KBJNL March 2012

<sup>11</sup> Interview with Anonymous in offices of KBJNL March 2012

<sup>12</sup> Interview with Junior Engineer in offices of KBJNL March 2012

<sup>13</sup> Interview with Engineer in offices of KBJNL April 2012

farmers engaged in distributing the water through lower level departmental (KBJNL) staff was a task that they contributed to<sup>14</sup>. It was also pointed out that it was CADA's duty to conduct meetings with farmers and to encourage the farmers to take over the O&M responsibilities by entering into formal agreements with KBJNL. KBJNL staff feels that they are responsible for managing the water above the field irrigation channel (FIC) levels<sup>15</sup> and that it is the responsibility of CADA to enable the WUCS to take on the responsibility of fee collection and O&M at the lateral and field irrigation channel levels. Most of the KBJNL staff told me that they did not have information on how WUCS were registered, and that if I needed detailed information then I have to visit the CADA office Bheemarayanagudi<sup>16</sup>.

However, the KBJNL staffs were quite aware that most WUCS are registered only on paper and not in practice<sup>17</sup>. When I asked one of the staff what were the reasons for why WUCS were not functioning, he mentioned two reasons: i) There is little pressure on the irrigation department to form WUCS' and to hand over the systems to these committee; ii) WUCS will not work if they are isolated, all WUCS in IBC have to come together and federate for functioning appropriately<sup>18</sup>. Another staff member at KBJNL felt that it would take an additional 8 to 10 years, and plenty of work by both KBJNL and CADA departments, in order to operationalize the WUCS as effective working units<sup>19</sup>.

The contents of a sample agreement letter (see below) between WUCS Ingalagi and KBJNL department in 2008 shows 11 agreements made between both parties. However, the agreements entirely serve the department's needs rather than those of the farmers<sup>20</sup>:

- i) Objective of Agreement: With an intension to utilize available water to achieve higher productivity in crop production, it is aimed to handover the irrigation system to WUCS to carry O&M activities, water distribution and water fees collection in its judicial command area
- ii) Water rights: It is agreed that for both Kharif and Rabi season water will be supplied to WUCS on volumetric bases by the irrigation department
- iii) Water rate: It has been accepted by WUCS to fix water rates which are prescribed by the Government and it will be implemented if any changes will come in future. Present water rate is Rs 12 per 1000 cubic meter of water
- iv) Termination of water supply: Under the purview of WUCS command area if any farmer fails to pay water fees on time, then WUCS has all the rights to terminate water supply to those farmers.
- v) Water fee collection: WUCS has to submit water fees collected before last date given by department and there is 2% reduction in fees, if WUCS submits before the proposed due date
- vi) O&M activities of canals: WUCS has to carry O&M activities of all the canals which come under its purview and there is no separate fund will be given by department/Government to carry these activities.
- vii) Seepage water: It is not allowed to irrigate the fields by using seepage water
- viii) Reporting for evaluation: After 15 days of every season WUCS has to report information for evaluation
- ix) Supervision of KBJNL and CADA staff: KBJNL and CADA staff can enquire the field area at any time during season and if they found something wrong they have all powers to terminate the water supply
- x) Dispute resolution: If there is any dispute between WUCS and KBJNL staff then decision of higher authorities from KBJNL will be final
- xi) Time period: This agreement is valid for two years if further WUCS want to continue it needs to renewed.

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<sup>14</sup> Interview with Junior Engineer in offices of KBJNL March 2012

<sup>15</sup> Interview with Junior Engineer in offices of KBJNL April 2012

<sup>16</sup> Interview with Junior Engineer in offices of KBJNL March 2012

<sup>17</sup> Interview with Junior Engineer in offices of KBJNL March 2012

<sup>18</sup> Interview with Anonymous in offices of KBJNL March 2012

<sup>19</sup> Interview with Engineer in offices of KBJNL May 2012

<sup>20</sup> Agreement letter between Ingalagi WUCS and Division No 8 KBJNL Zalaki

#### 4.1.2 Understanding participation in IBC - the CADA staff point of view

CADA Bheemaranagudi has three distinct wings namely the agriculture wing also known as the Land Development Office (LDO-Agri), the engineering wing also known as the LDO-FIC, and the cooperative wing, (LDO-Co). All three wings are responsible for creating awareness among the farming community on issues related to best utilization of water and other related resources in agriculture. The Co-operative wing is presently responsible for forming and registering WUCS in the UKP.

As with the KBJNL, I was interested to know how CADA staffs understand ‘participation’. First, I was told that there is an acute shortage of staff in the Cooperative wing and this affects carrying out all the activities related to WUCS formation and capacity building. It was mentioned that there is only one Cooperative Inspector in place of the desired 15 (Cooperative Inspectors) in order to cover six districts and 13 taluk areas of the UKP, which translates roughly to managing thousands of WUCS<sup>21</sup>. The limited staff is involved in creating awareness through village meetings, campaigns and through pamphlets. They also conduct training for farmers to build their capacity in water management and administrative activities of WUCS. These trainings are conducted in the Water And Land Management Institute (WALMI) in Dharwad, and the Regional Institute of Cooperative Management (RICS) in Bangalore<sup>22</sup>, which are both long distance away from many of the villages where WUCS are located.

I interviewed one staff member, who was identified as instrumental in creating awareness and in conducting trainings. I asked him how CADA staff perceives participation in general, and the WUCS as well. He replied, ‘participation means WUCS are formed at lateral canal levels’. In his opinion, these WUCS’ have to raise the demand for water among users, and to purchase water on a volumetric basis from the KBJNL department. ‘WUCS are like a business units where they will buy some commodities from the wholesaler and in turn they will sell to retail customers’.

According to him, before the PIM process, these activities were carried by the KBJNL department and now the Government has decided to handover this task to the WUCS. In turn, farmers have to become members of the WUCS and purchase the water from the WUCS. The WUCS have four fundamental activities to be carried out: i) To purchase water from KBJNL, ii) To distribute or rather sell water among the member farmers, iii) To collect the water fees from member farmers and, iv) Pay respective share amounts to the KBJNL department. He identified that there are problems in forming WUCS. He mentioned that farmers are not well educated and they do not understand WUCS functions and activities that need to be carried out according to guidelines. They are engaged in other activities for their livelihood, so agriculture is not always a priority. Another thing is that Government is not strict about water fee collection that is why farmers are not interested in participation and paying irrigation fees<sup>23</sup>.

I also visited the CADA office of the Assistant Director of Agriculture (ADA), which comes under the LDO Agriculture unit. Here I met with the agriculture assistant officer. The function of this office is to provide information to the farmers regarding agriculture, in order to increase production. This includes providing information about low-water consuming plants such as maize, wheat, Bengal gram, and sunflower; in conducting farm trials, farm demonstrations; and in training farmers on how to effectively use the water to increase crop yields. Nearly 200 villages are allocated to this office. The officer mentioned that the biggest problem was that farmers did not follow the guidelines provided by the Agriculture Department, University Scientists and CADA offices. Farm tours were conducted to show good farms, but farmers did not follow these good practices<sup>24</sup>.

At the end I got the perception that, both KBJNL staff as well as CADA staff in the LDA-Cooperative wing, and other CADA offices do not really understand the notion of bottom-up participation. These offices and their programmes are still handing down ‘information and

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<sup>21</sup> Interview with Anonymous CADA Bheemaranagudi May 2012

<sup>22</sup> Interview with Anonymous CADA Bheemaranagudi May 2012

<sup>23</sup> Interview with Anonymous in CADA office May 2012

<sup>24</sup> Interview with Anonymous in CADA office March 2012

knowledge, along with guidelines’, and the farmers, including the WUCS are blamed for not being receptive to the knowledge and services.

The blame is passed on to the WUCS and to the farmers, even though there is a severe shortage of staff as well as a shortage of appropriate participatory skills in these offices. With respect to both KBJNL and CADA staff, there is a strong link with what Merrey et. al., (2007) wrote; ‘training, then blaming the farmers while ignoring the real problem. Water User Associations are expected to take on the responsibility for rehabilitation, maintenance and water distribution, even though by [constraints and problems] are ignored in the irrigation systems [as a whole]. The fact that farmers are actually coping with conditions, such as unreliable water services, are not acknowledged (ibid). For example, the WUCS in DY 24 have an agreement with KBJNL, that their water needs will be supplied by the KBJNL on a volumetric basis. In reality, none of WUCS received water on a volumetric basis from the KBJNL department. KBJNL staff on the other hand feel that it is difficult to provide water on volumetric basis, as they are not in position to control farmers who will break gates and canals. Regardless, the blame is passed on to the farmers<sup>25</sup>. The secretary of the WUCS says, ‘the canals are not in a good condition. The contracts to construct the canals were not monitored well, and the construction is poor at all places. Now all canals are broken and we will not get the water properly, neither can we regulate the distribution well, due to the technical flaws in the canals. If water goes to farmers’ field properly then only they will pay the water fees. For example, half of farmers in our WUCS command area will not get water<sup>26</sup>. The president and secretary of both WUCS’ from Ingalagi and Alur attended training at Regional Institute of Cooperative Management (RICS) in Bangalore, twice. One of secretary’s said, ‘if a person attends once, that should be enough but we [were asked to] attend twice. They teach us the same things: how to distribute water and how to collect water fees. The second time we attended because, we were told that there was poor attendance and we needed to fill in the gap<sup>27</sup>. Thus, the training and blaming of farmers by KBJNL and CADA staff continues in the IBC, and conveniently masks all other problems in the main domain of these water agencies. From this, I conclude that the irrigation department in IBC wants to handover the difficult burden of O&M activities and water distribution, quickly and shabbily to the WUCS. Despite the non-participatory nature of this hand over, farmers are coming forward to take responsibility and playing by the rules of the game, as laid down by these agencies.

#### **4.2 How ‘participation’ is [re]interpreted while implementing PIM in IBC**

Long (2009; 31) reports, ‘Separation of “policy”, “implementation” and “outcomes” is a gross over simplification of a much more complicated set of processes which involves the reinterpretation or transformation of policy during implementation process itself’. As processes of planned intervention interface with the worlds of the individuals and groups, these so called external factors become internalized and come to mean quite different things to different interest groups or to the different individual actors, whether they be implementers or clients (Long, 2001). It is in this context, that I discuss the implementation of PIM policy in DY 24 canal of IBC by focusing on what Long (2001; 31) argues, is a reinterpretation of policy during its implementation.

Conceptually a participatory approach is identified as a bottom-up approach learning by doing process which changes and reverses roles, behaviors, and relationships between participants engaged in implementing participation. A participatory approach demands that outsiders do not dominate and lecture; that they facilitate, sit down, listen and learn. Outsiders do not impose their reality; they encourage and enable local people to express their own (Chambers, 1997; 103). It is indicative from the analyses above that such a participatory approach did not happen in the IBC, or that actors involved in implementing PIM in the IBC, have a very different understanding of participation. I will discuss below how this bottom up approach was reversed in IBC and how the ‘outsider’ implementers made ‘participation’ another top-

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<sup>25</sup> Interview with Junior Engineer of KBJNL April 2012

<sup>26</sup> Interview with Secretary WUCS Alur No 1 March 2012

<sup>27</sup> Interview with Secretary WUCS Alur No 1 March 2012

down bureaucratically managed exercise. To do this, I use the Chambers (1997; 15) work on 'errors in development'. Chambers categorizes two types' of developmental errors, first, embraced errors which lead to learning and correction of mistakes. Second, is what he calls, embedded errors which sustains mistakes and myths. In analyzing how WUCS are formed by the irrigation agency, which is fulfilling certain obscure criteria in implementing PIM in UKP, I find what Chambers (1997) describes as embedded errors and myths.

#### **4.2.1 Inducing Participation**

Many PIM programs, for example in the Philippines, Sri Lanka, Nepal had attempted two major strategies to implement and facilitate participation. One was by deploying government staff (preferably irrigation agency and related department staff), and second was by involving NGOs involvement in organizing the farmers (Gulati et. al., 2005). In India different states have relied on different strategies and in some cases, there is the incidence of different (or even overlapping) strategies within a state (Gulati et. al., 2005). Karnataka state has relied primarily on the CADA staff for organizing farmers, but also involves NGOs. In 2007, PIM was implemented in Distributory canal number 24 canal (DY 24) of the IBC through a combination of CADA, KBJNL staff as well as Bhagirat NGO personnel. The key task was to organize the farmers into a formal [through registration] Water Users' Cooperative Society (WUCS).

Popular participatory discourse has relied on institutionalism as a means to form and to bring water users into functional organizational form. Institutions are means through which human behavior is mediated; therefore institutional inclusion has become an integral strand of participatory approaches. Formal institutional arrangements are assumed to be more likely to be robust and enduring than informal ones (Cleaver, 2001; 40). In Karnataka, comprehensive reforms were introduced in 2003 by amending the Irrigation Act 1965, and the PIM approach has been in operation after model by-laws were issued for formation of Water User Societies or Water User Associations (WUS/WUAs) and for specifying the duties and responsibilities of these associations (Ganapathy et. al., 2009). The revised Act, provided for the formation of a three tier federated structures (WUA, distributor and project level federations). In the IBC, as in the rest of the state, the Karnataka Cooperative Act 1959 enabled the formalization of the WUCS institutions.

In the section below, I will outline how WUCS were formed and formalized in DY 24 of IBC. And then, I will discuss how during the process of PIM implementation the concept of participation was reinterpreted.

#### **4.2.2 Formalization of WUCS in the IBC**

To formalize any organization [or WUCS] certain procedures and criteria need to be followed. I will explain briefly the procedure involved in forming a WUCS in IBC in general in UKP<sup>28</sup>. Before registration of a WUCS, a 300 to 500 ha irrigated command area is chosen and farmers belonging to this area are called to a formal meeting, called Grama Sabha<sup>29</sup>. Among those farmers attending the Grama Sabha, a Chief Promoter will be chosen [see below for who makes this decision] and permission is provided to the Chief Promoter to collect membership fees for from the respective farmers. A WUCS membership should include than 60 per cent of the cultivators in that irrigated area (and in terms of irrigated command area 50 per cent). The share amount has to be deposited in the District Credit Cooperative (DCC) Bank and all member farmers have to pay ₹ 500 [₹ Indian Rupee symbol] as registration fee to the CADA cooperative wing. All of these processes need to happen in order to formally register a WUCS. Later member farmers are provided the PIM by-laws, and then, as discussed above, an agreement needs to be signed between the WUCS and the KBJNL regarding O&M responsibilities, water distribution and water fee collection<sup>30</sup>.

The CADA office involved the NGO, Bhagirat to assist in these formalities and to organise farmers into a WUCS. The Bhagirat NGO had a contract to register 12 WUCS in DY 24 of

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<sup>28</sup> Conversion with Anonymous in CADA office May 2012

<sup>29</sup> Grama Sabha is a informal meeting which different from Grama Panchayat which is a administrative body elected by people in the village

<sup>30</sup> Interview with staff of Bhagirat NGO, who involved in the registration of WUCS in DY 24 of IBC

IBC and it charged (CADA) ₹ 55,000 for the registration of each WUCS<sup>31</sup>. It was explained that the main reason to involve the Bhagirat NGO was the lack of supporting staff and skills in CADA office. In DY 24, Bhagirat NGO was able to register only 10 WUCS – as pointed out, because of poor infrastructure of the canal system in this area<sup>32</sup>. In this study I am mainly focusing on two WUCS namely Alur No 1 and Ingalagi WUCS.

The farmers from Ingalagi and Alur villages said that they did not have any idea about farmers' participation in irrigation management before Bhagirat NGO came to their villages<sup>33</sup>. In 2007 Bhagirat NGO came from Dharwad, bringing information from CADA and KBJNL offices<sup>34</sup>. Grama sabhas were conducted in the respective villages to bring awareness among the farming community with help of village leaders. They brought the people together, attained minimum membership of shareholders, as was prescribed for registration of the WUCS. A Chief Promoter was identified for both WUCS and tasked to collect ₹ 106 as a share fees for every member<sup>35</sup>. The share amount was deposited in District Credit Cooperative (DCC) bank in the name of Chief Promoter. After paying registration fees of ₹ 500 to the Land Development Office (LDO) Cooperative wing of CADA, both Ingalagi and Alur No1 WUCS were registered<sup>36</sup>. These two WUCS were registered on 13<sup>th</sup> and 18<sup>th</sup> July 2007 under Karnataka Cooperative Act 1959<sup>37</sup>. Subsequently Grama Sabhas were conducted to discuss the by-laws and to form the WUCS on 30<sup>th</sup> of July and 4<sup>th</sup> of August 2007, in Ingalagi and Alur villages, respectively<sup>38</sup>. It was written in the Grama Sabha letters that, all the by-laws starting from number one to 35 were read in the meeting and accordingly all agreed for these by-laws. Bhagirat NGO provided all the documents which were needed to have the agreement with KBJNL. Accordingly Ingalagi WUCS signed the agreement on 25<sup>th</sup> January 2008 with KBJNL office of the Executive Engineer IBC O&M Division No-8 Zalaki. The agreement was to carry O&M activities, water distribution and water fee collection in assigned command area of DY 24. Alur No1 WUCS had all the documents including agreement bond but it did not sign a contract letter. However, despite having been registered in 2007 and agreement in 2008 both WUCS explain that they have not yet [in 2012] started performing their responsibilities. I will explain in chapter 5, what happened with these WUCS' and why its members have not yet started functioning.

To analyse how participation is [re]interpreted in IBC, I will structure my analyses into four sub-headings, namely i) Farmers' participation in Grama Sabha meeting ii) Farmers' participation in WUCS Registration iii) Farmers' participation and Agreement between KBJNL and WUCS iv) Flow of information about number of WUCS formed as against targeted in IBC.

#### **4.2.3 Participation and its [re]interpretation in IBC**

##### **i) Farmers' participation in Grama sabha meeting**

When I visited the LDO Cooperative wing CADA Bheemaranagudi, I found an interesting letter which was displayed on the burro. The letter had information about WUCS formation, especially relating to (a) Awareness about the Grama Sabha, and (b) the Places chosen to conduct Grama Sabha. I will take these 2 issues, 'place' and 'information' and add an additional third point (c) What was discussed and agreed in Grama Sabha – to assess how participation unfolded in the 2 WUCS. I asked the following questions to a group of farmers in both the locations, and I summarize the responses:

##### **(a) Awareness about the Grama Sabha**

Do you know how WUCS formed in your command area?

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<sup>31</sup> Interview with staff of Bhagirat NGO, who involved in the registration of WUCS in DY 24 of IBC

<sup>32</sup> Interview with staff of Bhagirat NGO, who involved in the registration of WUCS in DY 24 of IBC

<sup>33</sup> Conversation with President of WUCS Ingalagi

<sup>34</sup> Interview with secretary of WUCS Alur no 1

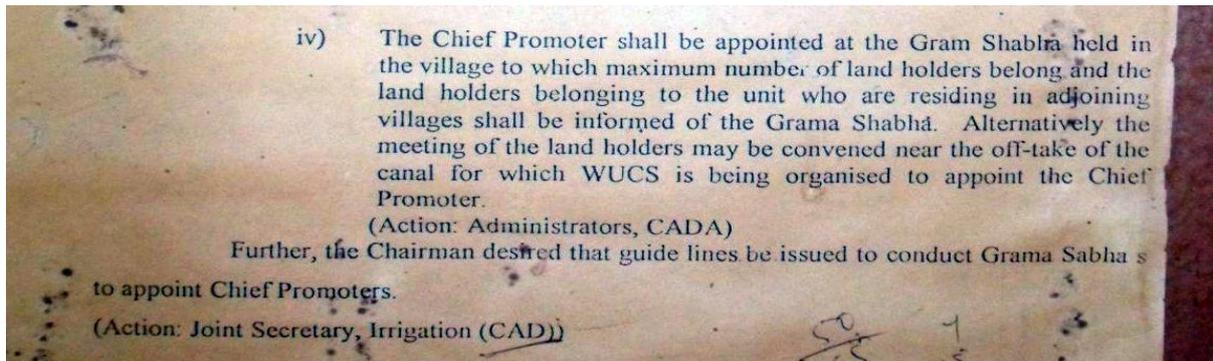
<sup>35</sup> Interview with staff of Bhagirat NGO, who involved in the registration of WUCS in DY 24 of IBC

<sup>36</sup> Interview with staff of Bhagirat NGO, who involved in the registration of WUCS in DY 24 of IBC

<sup>37</sup> Letters indicating registration of Ingalagi and Alur No 1 WUCS.

<sup>38</sup> Letters indicating the first Grama Sabha held in Ingalagi and Alur villages

*'We heard that some people formed WUCS but we don't know much about how they formed it here. Here no one knows much about it. Two people say that one is president and another is secretary, but they did not do anything for this canal'<sup>39</sup>.*



Document 1: Letter Displayed on burro of LDO Cooperative wing CADA Bheemaranagudi

(b) What was discussed and agreed in Grama sabha

Did anyone asked you to become member of WUCS?

*'Kallappa and Mallappa (names changed) did not ask any one, they themselves tell people that they are President and Secretary. They did not ask us, they were the only two people involved in making papers and other things. Mallappa says he paid ₹ 40000 to do this, it is he only knows how much he spent, no one knows. They did not ask money to form WUCS and to become the member of the WUCS to anyone'<sup>40</sup>.*

*'We know that there is WUCS in our village but we are not known much about it. People who are elites in the village are involved in those things and we are poor people, we don't know much about it. More over personally, I did not shown much interest about it'<sup>41</sup>.*

(c) Place to conduct Grama Sabha

Last five year back Bhagirat NGO came to your village and it conducted the Grama Sabha to form WUCS. Do you know anything about it?

*'I don't know anything about it. Might be they came to our village and might be some people may be attended Grama Sabha but I don't know anything about it because we stay in our farm. No one came to farmers' field and at least at the canal level to inform the farmers'<sup>42</sup>.*

Did you know the formation of WUCS in Ingalagi village?

*'We are not from the Ingalagi village; we know little bit but not much. No one asked us while forming the WUCS; we didn't know much how it was formed. We are belonging to Mavinahalli village but we don't know what happened in Ingalagi village. We also not went to them to solve our problem. Even department people also not told anything about WUCS. In the beginning of this year, we were not getting the water then we nearly twenty farmers from this lateral canal no 3, contributed money and we cleaned ourselves. We were needy of water so we cleaned it'<sup>43</sup>.*

In both case study areas I noticed there was not much awareness among the farmers about Grama Sabha that was conducted by Bhagirat NGO and village leaders in 2007, even though the very purpose of the Grama Sabha was to create awareness among the farmers, so that they can participate and form WUCS. Unintentionally or intentionally most of farmers were biased and left out of Grama Sabha without involving and informing them to participate. The matters discussed in the Grama Sabha were not known by most of the farmers and this indicates it was just an attempt to fulfill one of the guideline of WUCS formation rather than really

<sup>39</sup> Group focused interview with Mr Alam Mulla, Sadananda Harijan and their friend Alur No1 WUCS command area

<sup>40</sup> Conversion with middle farmer Subhas Nandaragi in Alur WUCS and names are changed from the original

<sup>41</sup> Group focused interview with Mr Ningappa Banasode, Husuman Mulla and cattle grazing farmers: Ingalagi WUCS command area

<sup>42</sup> Conversion with Mr Padmanna Kirannagi about the formation of WUCS Alur No 1

<sup>43</sup> Conversion with Mr Kallappa Mannur from Mavinahalli village

facilitate peoples' participation. In the next section, I will show how the notion of Grama Sabha was just restricted to the fulfillment of paper works and guidelines.

## ii) Registration of WUCS and Farmers Participation

An application letter needs to be addressed to Assistant Registrar Cooperative Societies (ARCS) at the LDO Cooperative wing of CADA in order to take permission to conduct the Grama Sabha and to collect the membership fees. The Bhagirat NGO did take permission to collect share fees. When I asked a staff member of Bhagirat NGO, if they faced any constraints in registering 10 WUCS, he replied:

*'First problem is financial constraint people are not ready to contribute share fees [membership fees] initially. The president and secretary put a lot of effort in collecting the money from the farmers, and if there still was a shortage of money, they bore this from their own pocket. Actually we had time limit in collecting share fees and to deposit this money in bank and to register societies. It is not that people don't have the awareness about rules and norms; when it comes to pay from their pocket they will tell you that, they don't know rules and when it comes to taking benefit of any program then it becomes their right'<sup>44</sup>.*

The Secretary of Alur No 1 WUCS has a different answer, *'...actually the share fee has to be collected from the every member but we paid total amount of about 105 members from our pocket. The president promised me he will give back his part but five years later, I have not received anything'*.

Ingalagi WUCS secretary said: *'we paid share fees initially from our pocket but later we recovered from the farmers'*.

I talked with many farmers in the field and I did not come across a single farmer saying that I have contributed the share fees. I asked most of the farmers and none of them aware that they are the members of WUCS. It was the same situation in both study areas. I will write this issue in the word of secretary of Alur No1 WUCS, *'...the Bhagirat NGO brought the list of the farmers name on the basis of survey number and area. Then they asked farmers to come forward to become the president and members. They struggled for one month and farmers did not show much interest and none wanted to contribute the share fees.'*

One of farmer I asked; how did they have the sign of all farmers on paper in Grama Sabha?

He said, *'That is all black market'*.

How this is black market?

*'It is true that if person like me have to do the sign legally by myself but if they did our signs by themselves then what you say for this? If we all people come to know these things then one day we will ask them, how our signs came on paper without our notice. I never signed on any paper regarding WUCS. If they came to me then I would have asked them, for what reason I have to sign on these papers, that's why they did not came to me, I think'<sup>45</sup>.*

I will go to next issue; how president, secretary and board members were chosen in both WUCS. In the Grama Sabha letters of both WUCS, it is written that, the President and Secretary names were indicated by third person and those names were agreed unanimously. Total number of people attending the Grama Sabha were put at 27 in case of Alur No1 WUCS and 38 in case of Ingalagi WUCS. Those people counter signed on the Grama Sabha letters. I will show that the posts of president and secretary were not accepted by all the members. Those posts were already fixed for those persons who were going to pay the total amount of share holders' fees. The secretary of Alur No 1, says, *'...what happened with our WUCS, initially one person wanted to become the secretary, at the end he decided not to contribute money for share fees. Then we went to village leader [Sharanappa Mali] to ask what to do further. Then village leader, president and other friends [Bihmappa Bali and Somanna Bilagi] forced me to become the secretary and to pay share amount [Rs 13000] from my pocket'<sup>46</sup>.*

<sup>44</sup> Interview with staff of Bhagirat NGO, who involved in the registration of WUCS in DY 24 of IBC

<sup>45</sup> Conversion with Mr Padmanna Kirannagi about the formation of WUCS Alur No 1

<sup>46</sup> Secretary WUCS Alur No 1, names in the bracket are changed and are not original

To the contrary, it is written formally, ‘...that these issues were deeply discussed in Grama Sabha meetings and names of board members were agreed unanimously to run WUCS for period of five years from 2007 to 2012.’

Finally, I will discuss agreement on the by-laws in the Grama Sabha meeting. In the by-law booklet total there are 35 laws mentioned. It is written in the Grama Sabha letters, ‘...all the by-laws starting from number one to 35 were read in the meeting and accordingly all farmers agreed for those by-laws’. In the words of secretary of Alur No 1 WUCS, ‘...those by-laws were given by NGO as guidelines for the WUCS. It has everything, it says how to use the water, what rights are and how much users fees we have to collect and what proportion WUCS can keep and how much WUCS have to pay to the Government etc but I did not studied detail’.

In the end I want to conclude here that, Bhagirat NGO and its staff could not succeed in convincing the farmers about the importance of participation. At the same time people who had a vested interest made it an opportunity to capture the functioning of WUCS by paying membership fees. Bhagirat NGO also had its own interest in negotiating this issue with elites. First interest is that it has to fulfil the contract agreements it had with CADA to register 10 WUCS in IBC. If Bhagirat NGO fails in doing so, it will not going to get the money which it had agreed for registration. Second, there was limited time [three months] to do all the registration activities, but even these rushed activities took around seven months<sup>47</sup>. Staying in the field and convincing the farmers requires both time and money. NGO staff were staying in nearby hotels in Indi town, and had to travel to different villages.<sup>48</sup> It was a costly affair because of hired vehicles and accommodation in hotels. The NGO staff struggled for one month, and at the end it negotiated with the elites who came forward to pay share fees.

### iii) Farmers’ Participation and Agreement between KBJNL and WUCS

An agreement between WUCS and irrigation department indicates the technical aspects of irrigation infrastructure and beneficiary information. In this section, I will focus on few documents that specify how such agreements were made between registered WUCS and irrigation department KBJNL. The documents which indicates technical aspect of irrigation infrastructure and beneficiaries are i) Documents that shows information about command area that is delineated to WUCS ii) Tree plan of irrigation infrastructure statistics and its map iii)

**ಕೃಷ್ಣಾ ಭಾಗ್ಯ ಜಲ ನಿಗಮ ನಿಯಮಿತ**  
ನೀರು ಬಳಕೆದಾರರ ಸಹಕಾರಿ ಸಂಘಗಳ ರಚನೆಗೆ ಬೇಕಾದ ಕ್ಷೇತ್ರದ ಡೆಲಿನ್ಯೇಷನ್ ಮಾಹಿತಿ

**ವಿಭಾಗದ ಹೆಸರು :**  
ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರ ಕಛೇರಿ  
ಕೃ. ಭಾ. ಜ. ನಿ. ನಿಯಮಿತ ನಿ.ಮ.ಪೋ. ಇಂಡಿ ಶಾಖಾ ಕಾಲುವೆ  
ವಿಭಾಗ ನಂ 8, ರಭುಳಕಿ ತಾ : ಇಂಡಿ  
ಜಿಲ್ಲೆ : ಬಿಜಾಪೂರ

**ಉಪವಿಭಾಗ :**  
ಸಹಾಯಕ ಕಾರ್ಯನಿರ್ವಾಹಕ ಅಭಿಯಂತರರು  
ಕೃ. ಭಾ.ಜ. ನಿ. ನಿಯಮಿತ ಇಂಡಿ ಶಾಖಾ ಕಾಲುವೆ  
ನಿ. ಮ. ಪೋ. ಉಪವಿಭಾಗ ನಂ.2, ಇಂಡಿ ರೈಲು ನಿಲ್ದಾಣ  
ಇಂಡಿ, ತಾ : ಇಂಡಿ, ಜಿ : ಬಿಜಾಪೂರ

ಕ್ರ.ಸಂ	ಸಂಘದ ಕೇಂದ್ರ ಸ್ಥಾನದ ಹೆಸರು	ವಿತರಣಾ ಕಾಲುವೆ	ನಿಯಂತ್ರಣ ಬಿಂದು	ಅಚ್ಚುಕಟ್ಟು ಪ್ರದೇಶ (ಹೆಕ್ಟರ್)	ಸಂಘದ ಕಾರ್ಯ ವ್ಯಾಪ್ತಿಯ ಗ್ರಾಮಗಳು	ಕ್ಷೇತ್ರ (ಹೆಕ್ಟರ್)	ತರಾ
1	ಆಳೂರ	100. 24	ಆಳೂರ	449.11	ಆಳೂರ (ನಿ.ಮ.ಪೋ. ಕೆ.ಆರ್.ನಗರ)	390.51	
			R6-to-R7Point		ಇಂಗಳಗಿ (ನಿ.ಮ.ಪೋ. ಕೆ.ಆರ್.ನಗರ)	58.60	

Document 2: Paper which shows the total command area that is delineated to WUCS Alur No 1

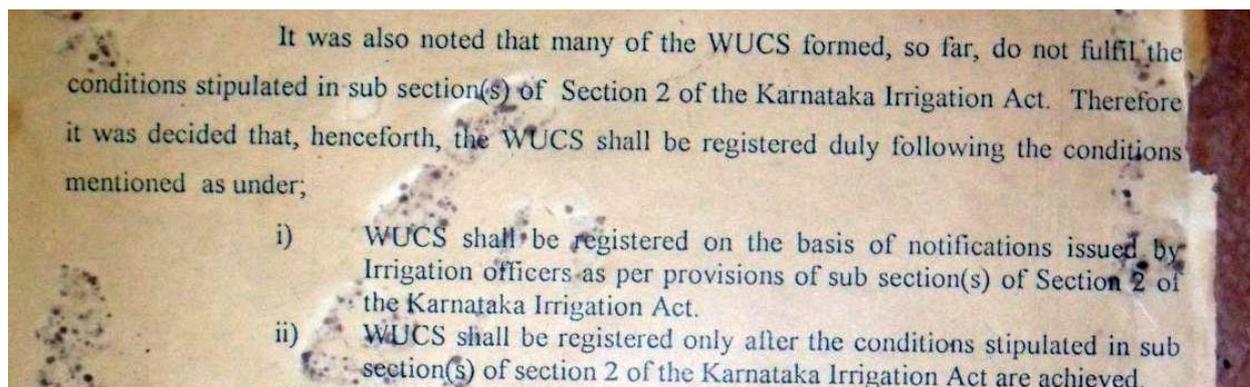
List of beneficiaries name, survey number and area to be irrigated. These three documents are interlinked one another and content [information] of the one documents will supports the

<sup>47</sup> Interview with staff of Bhagirat NGO, who involved in the registration of WUCS in DY 24 of IBC

<sup>48</sup> Secretary WUCS Alur No 1

other. These documents give the information about the total command area that is delineated, number of outlets through which water is diverted and number of beneficiaries that are exist in the command area.

The issue that I want to bring here is not about the command area that is delineated but actual true command area that is irrigated, and actual number of beneficiaries it can benefit. I will bring another segment of paper which was displayed on the burro of CADA office. It is written, the delineated command area should be notified by irrigation officer as per the section 2 of Karnataka Irrigation Act before WUCS formation. To make this issue more clear, I will write here what is written in Karnataka irrigation Act 1965 of section 2, “*area of operation*” means an area comprising a contiguous block of land within an irrigation works as may be notified by the Irrigation Officer from time to time”.



Document 3: Segment of paper, displayed on CADA burro

In other words, the area of operation or command area will change from time to time and it should be notified by the irrigation officer while forming the WUCS. For example the area that is delineated to the Alur No1 WUCS is 449.11 hectare. This area includes full command area coming under lateral number 6 (R6) and partial command area coming under lateral number 7 (R7) canals. In reality the water that flows through the R6 irrigates only half of its length. In terms of command area it is approximately half of the command area that is mentioned in the paper<sup>49</sup>. This is because of two reasons. i) the structures [it includes cement lining, outlets and gates] of the R6 canal are not in good condition and there is lot of silt accumulated ii) the water that flows through this canal is not enough to meet the demand of all the farmers' crops that are grown<sup>50</sup>. Whatever the outlet numbers and irrigated area mentioned is irrelevant to R6 canal and to its command area.

What I want to conclude here is that, the officially assigned command area is much more than what it really can irrigate in practice and the beneficiaries it can cover. The true assessment of this area was not carried out by Engineers by visiting field conditions and having the discussion with farmers who were the really beneficiaries and participants<sup>51</sup>. If it was not a just a paper formality, then the WUCS might have questioned the information and not accepted the area delineated by the engineers. This did happen in two cases of DY 24 where Bhagirat NGO did not form two WUCS because of infrastructure problems. More over these papers are done by the Bhagirat NGO on the basis of information that had been gathered from the irrigation department and revenue department<sup>52</sup>. Neither Bhagirat NGO nor the engineers visited field conditions and assessed the true command area that is irrigated by the R6.

#### iv) Flow of information about number of WUCS formed as against targeted in IBC

I want to show what Chambers (1997; 86) writes about internal bureaucratic reporting, ‘there are interactions between them [these]: time-bound target-setting, imposed top-down,

<sup>49</sup> President of WUCS Alur no 1

<sup>50</sup> Mr Alum a Farmer in Alur no1 WUCS command area

<sup>51</sup> President of WUCS Alur no 1

<sup>52</sup> Interview with staff of Bhagirat NGO, who involved in the registration of WUCS in DY 24 of IBC



For example Serial no 2 of first column has the DY 24 canal and the target WUCS in this canal is 12. Target achieved for registration is noted as 12 but as mentioned above the Bhagirat NGO had registered only 10 out of 12 [target] WUCS for which it had a contract with CADA<sup>54</sup>. The two WUCS which are not registered are also entered into the column which counts the registered WUCS. Further it is mentioned in the document above that O&M activities have been handed over to four WUCS. In DY 24 canal, it is true that four WUCS have an agreement but none of them are functioning or operational. The reason for this, as mentioned is because the canals are not in good condition and the irrigation department has yet to grant the one time maintenance fund ₹ 5 lakh<sup>55</sup>. Four years later, the sub-division office forwarded an evaluation copy of the Ingaligi WUCS to the circle office Rampur. It is not yet known how much time it will take in granting the fund. In the words of the Engineer, '...it is not possible for me to talk about the time limit. I can talk only about my office work, how I can speak about higher official work, which is beyond the control of my authority. Whatever comes under my purview I will take the immediate action. For example I sent the documents [estimation copy] of Ingaligi WUCS for Managing Director (MD) office on 4-07-2011, but still I did not receive any feedback about the approval. Yes it is true that WUCS of Ingaligi had the agreement in 2007-08 with subdivision office of another division of KBJNL but meanwhile the maintenance of DY 24 canal had been transferred to this subdivision office. Therefore it is becoming delay in providing one time maintenance fund'<sup>56</sup>.

I visited the circle office, to ask why there is delay in moving papers across offices in KBJNL department. I talked with a case worker who is responsible for moving these papers:

Sir I needed information regarding WUCS formation especially on IBC?

He replied, '*See Mr. I am busy in some other works and more over regarding WUCS formation, it is the least important issue in our zone (Circle office). Nobody is interested in that and we don't know what is happening with it*'<sup>57</sup>,

When I was talking with one of staff in CADA office he said, 'staff and case workers in KBJNL department are only interested, if they get money to forward those documents'<sup>58</sup>. Secretaries and Presidents of both Ingaligi and Alur no 1 WUCS, told: 'staff in irrigation department treat us like contractors. Everytime for every paper they ask money'<sup>59</sup>. We are not contractors and we don't have money to give them for every small work. Therefore we also losing interest in getting one time maintenance fund but still we are struggling<sup>60</sup>.

Why are irrigation agencies only interested in fulfilling targets and numbers? To answer this question, I will bring another part of a document, which gives information on what happens at the higher administrative levels of irrigation department in UKP.

Ten years after the decision was made to formalize WUCS, the targets are yet to be achieved, and where met, they are just paper agreements.

This letter shows that the formation and formalization of the WUCS by the irrigation agencies is not with the intention to enable participation. For the irrigation agency, formation of WUCS has become a tiresome binding activity, instructed and imposed by the State and the Central Governments. Without as much as a few visits to any of these locations, higher officers ask for information from lower level staff in division and sub-division offices. These field officers, themselves have not been to these locations – all WUCS work was contracted out to an external agency. What happens is a bureaucratic passing around of documents and letters, and a rhetorical filling in of targets and achievements. As Chambers (1997; 65) said, 'senior

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<sup>54</sup> Interview with Mr Jagadish Kulakarni staff of Bhagirat NGO, who involved in the registration of WUCS in DY 24 of IBC

<sup>55</sup> President and Secretary of WUCS Alur No 1, Ingaligi and Hirebevanur

<sup>56</sup> Interview with Engineer in offices of KBJNL April 2012.

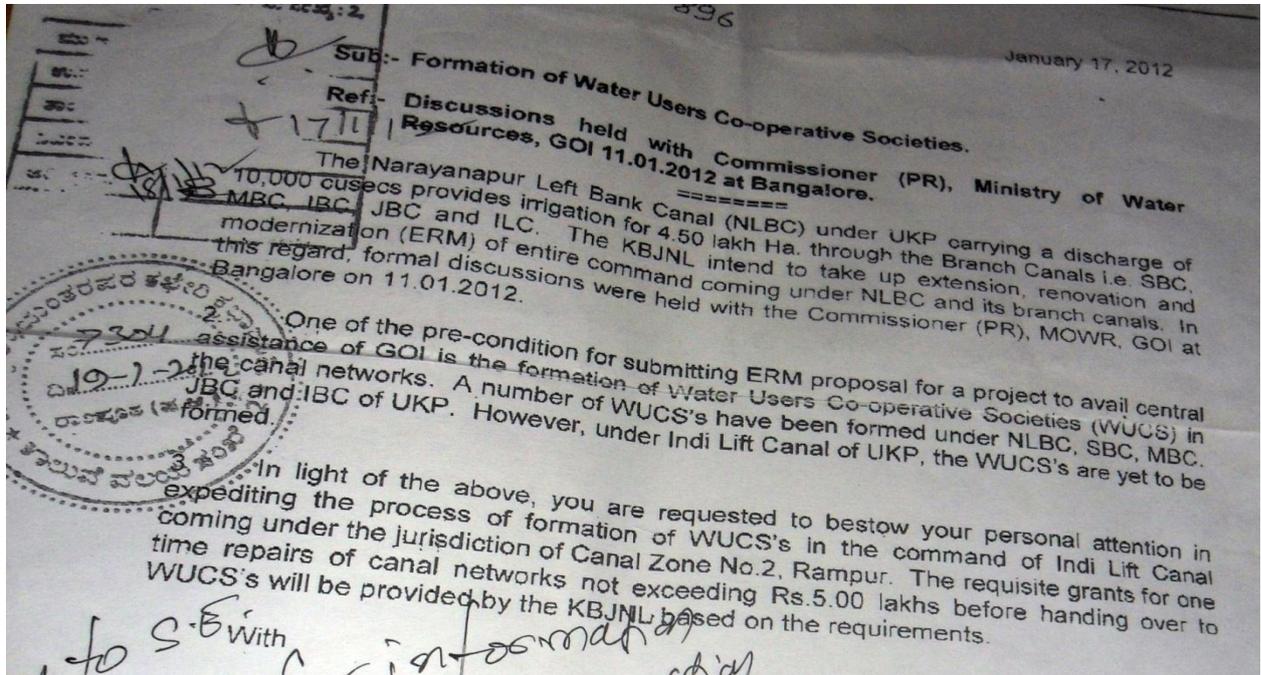
<sup>57</sup> Interview with Case worker in offices of KBJNL May 2012

<sup>58</sup> Interview with Case worker CADA office May 2012

<sup>59</sup> Interview with Secretaries and Presidents of WUCS, Alur no 1 and Ingaligi April 2012

<sup>60</sup> Interview with President WUCS Ingaligi April 2012

officers sit in the centre and concentrate power in their hands; they control their subordinates through written orders, budgets, and authorities. Rules and procedures are reversed. Procedures tend to be additive: new ones are superimposed upon old, while the old are preserved. Rules and lists tend to be forever, reproduced more or less faithfully, unless there is strong reason to change them; and when there is reason to change, adding and patching are preferred to abolition or restructuring’.



Document 6: Letter from Ministry of Water Resources Government of Karnataka

## Conclusion

All progress relating to the WUCS in the IBC is available, but only on paper. On paper, more than 150 WUCS have been formed, in practice, only a few are functional, yet, as we discussed above, the two best examples can hardly be called functional, leave alone participatory. The whole PIM process seems to be no one's interest and no one's agenda in the IBC. As participation is vaguely imposed from above, the top-down nature of the irrigation bureaucracy persists and sustains, and even pervades the WUCS'. The errors and myths of doing development top-down persist enduringly.

## Chapter 5

### Understanding ground experiences relating to participation in the Distributory canal No 24 of IBC

#### Introduction

In chapter 4, I discussed how the concept of participation is understood and reinterpreted by key implementing agencies, namely Krishna Bhagaya Jala Nigama Limited (KBJNL) and Command Area Development Authority (CADA) in Distributory number 24 (DY 24) of the Indi Branch Canal (IBC). In this chapter, I will analyze locally experienced constraints of farmers in the 'model' of PIM being implemented in this location. My findings show that cohesive community participation does not exist; I observed instead anarchy in the management and use of the irrigation water because of so many factors which I will explain in the sections below. Among most important ones are difference/overlap between administrative and hydraulic boundaries in which studied canals will pass through. Command vs non-command areas in irrigation systems which will add noise to the concept of hydraulic boundaries on which community participation was expected in PIM. Within hydraulic boundary there lies permeability, hence collective participation is difficult, if not impossible to achieve.

Much importance has been given in institutional economics to predict or to mould individual behavior or actions through the formation of institutions. 'Concepts of individual action underplaying participatory approaches swing widely between 'rational choice' and 'social being' models' (Cleaver, 2001; 39). 'The former attributes individual behavior to calculative self-interest, the latter to culture and social norms' (Cleaver, 2001; 38) which binds/constraints individual to behave according to its institutions. In participatory irrigation, it is perceived that formally defined institutions are better, and the process of evolving robust formal institutions from informal ones will overcome problems of mismanagement in irrigation (IWMI, 2009). The process of formalization of informal institutions or crafting of new institutions [in places perceived as institutionally deficit] is often considered as evolutionary. However, such opinions have been criticized for their simplicity and blindness to historical and social contexts in which informal institutions operate and function (Cleaver, 2001; 42).

In this chapter, I will first outline the myth of community participation, as I saw it in DY 24. Second, I will analyze the anarchy in water management in DY 24 canal of IBC, and try to analyze why this happens, instead of collective participation, which was the goal of the PIM interventions. I use the institutional bricolage and agency and structure perspectives in analyzing my findings.



Picture 1: DY 24 canal with broken structure and water flowing

### **5.1 Myth of the ‘community’ in DY 24 of IBC**

Nelson and Wright (1995) observe ‘Community is a concept often used by state and other organizations, rather than the people themselves, and it carries connotations of consensus and “needs” determined within parameters set by outsiders’ (Mohan, 2001; 160). In popular participatory approaches, there are assumptions made of the ‘community as a “natural” social entity... which can [therefore easily] be represented and channeled in simple organizational forms; [however] such assumptions are unsatisfactory for a number of reasons’ (Clever, 2001; 44). Cleaver (ibid; 46) writes, *‘Development practitioners excel in perpetuating the myth that communities are capable of anything, that all that is required is sufficient mobilization (through institutions) and the latent capacities of the communities will be unleashed in the interests of development. Even where a community appears well motivated, dynamic and well organized, severe limitations are presented by an inadequacy of material resources, by very real structural constraints that impede the functioning of community-based institutions’*. I use Cleaver’s analyses to understand and explain how the process of organizing farmers in WUCS’ on the basis of a formal membership and registration has not yielded in community participation in DY 24 of IBC, and in general in the UKP.

Instead of community participation, what I observed is conflicts and contest over canal water and a coping strategy devised by farmers’ to overcome these conflicts by the use of groundwater. What I want to explain here is that resorting to groundwater use, is driven less by a scarcity of surface water, and more by the nature of contests and conflicts, or rather anarchy in relation to surface water use. Groundwater thus becomes a stabilizing factor in overcoming the constant struggles over canal water. I therefore begin my analysis of the lack of collective participation, by highlighting the practice of conjunctive water use in the two study areas.

#### **5.1.1 Conjunctive water management use in the two case study areas**

My fieldwork coincided with the closing time for water distribution through the irrigation canals, and this provided a perfect backdrop to see how the reality of conjunctive water use, does not inform PIM interventions. PIM interventions and guidelines pay little attention to other sources, and uses of water, which as I observed impact the hydraulic boundaries, as well as institutional structures of the WUCS. The many groundwater bores dotting the canalised landscape of the DY 24, made me question why farmers invested in bore wells, especially given the costs to using groundwater, and the fact that surface irrigation, if well managed, seems abundant for the irrigation needs in the area.

The farmers explained that canal water is released at the start of the monsoon period, in July and closed by the end of March. In summer, from April to end of June, there is no water in the canals. However, as they explained, even during the supply period, there is widespread unpredictability on water supplied through the canals. ‘Sometimes we do not receive the canal water for more than 15 days and in these days we supplement irrigation through groundwater wells. We have the bore well water otherwise our crops would all die’.<sup>61</sup>

Most farmers claimed that canal water is uncertain, and it was too risky to depend completely on canal water. I come across a farmer who had leased three acres of land to cultivate groundnut [peanut], and because he did not have a groundwater bore, his crops were drying. ‘If I owned the land, I would have drilled a bore well for groundwater’. Here after closing of canal water, farmers face water problem, no one from neighbouring farmers will provide one or two water to irrigate the crops from their wells. Even if I want to pay money then still, my neighbours will not give water.<sup>62</sup>

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<sup>61</sup> Open interview with Mr Basavaraj and Prabhu about groundwater and its conjunctive use March 2012

<sup>62</sup> Open interview with Mr Vittal Biradar about crop failure due to canal water closer in DY 24 of IBC March 2012



Picture 2: Drying Groundnut crop because of canal water closer in DY 24

In the Ingalagi WUCS command area, I asked one farmer how important canal water was for irrigating crops. He replied, canal water is important for us. Most of the open-wells and bore wells are recharged from canal water which goes through seepage, streams and ponds. I use the water from wells when canal water is not available. For example, when the head end farmers are irrigating it is difficult to get the water towards tail end, and even it is more difficult to negotiate with them if there is not sufficient water flowing in the canal. Head end farmers will allow the water to flow towards tail end only after completion of irrigation to their field. In such a case, I irrigate the water from open-well. We are tail end farmers we have to irrigate whenever they allow us or we have to have our own source as bore well or open well. I have an open-well and whenever I do not get water from the canal then I use ground water. It is not possible to depend completely on canal water; if we especially tail end farmers do then we will lose crops without water.<sup>63</sup>

I met another farmer in same command area, who told how he struggled with canal water during transplanting of his onion crop. He says, to transplant onions plants from nursery to main field I hired twenty labors and each labourer costs ₹ 200 per day. On the day of transplanting we were trying to get canal water for transplanting. Head end farmers turned away most of water, when we requested, they allowed little bit. Once again they turned most of water to their field when we come back from the head end regions. My son decided to stand at head point to look flow of water into our canal then head end farmers dominated him. It created a situation of conflict but I don't want to have conflicts with them. On that day head end farmers did not allowed much water and didn't cooperate with us. I had open well water but it was not enough to carry transplanting activity by engaging twenty labors. Most of labourers sat in the field without doing much transplanting work. This is nature of cooperation we have here among our farming community and because of this canal water becomes too uncertain<sup>64</sup>.

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<sup>63</sup> Open interview with Mr Vittal Kumbar about canal water and groundwater substitution in Ingalagi WUCS area march 2012

<sup>64</sup> Open interview with Mr Ramachandra Kumbar in Ingalagi WUCS command area March 2012



Picture 3: Onion crop under water stressed condition Ingalagi WUCS command area

I saw many open wells and bore wells operating as alternative sources of water for irrigation and domestic use, in both study areas. Many farmers told they installed bore wells to overcome uncertainty and avoid conflict over canal water. I had a focus group interview in Alur no 1 WUCS command area with three farmers and present their opinions here: ‘The purpose of putting the bore well is to avoid conflict with other farmers for canal water. If canal water comes without conflict to our field then we will irrigate otherwise we use bore well water. The bore well water is under our control and there is no need to negotiate with other farmers. It is true that our bore wells and open wells get recharged from the canal water. For us, if the canal water recharges our bore wells and open wells - that is enough. It is too costly effort in terms of time and resources to bring all farmers to cooperate in managing and maintaining the canals. Hence most of farmers try to depend on bore well water instead coming forward to maintain canals<sup>65</sup>.



Picture 4: Canal water and groundwater in conjunctive use in Alur no 1 WUCS command area

I met two farmers who were installing new bore wells during my field study period in Alur no 1 WUCS command area. One farmer said, ‘We all have problems of water for irrigation and also for domestic purposes. It is not possible to fight every time to get canal water with neighbouring farmers. Government made canal water facility for all farmers and it is not mine

<sup>65</sup> Open interview with Mr Basavaraj and Prabhu about groundwater and its conjunctive use March 2012

individual. Everyone is interested in getting canal water but water in the canal itself is not enough to share among all farmers because all want to grow high water demanding crops such as onion, sugarcane, banana etc. Head end farmers, they easily get canal water and they allow others to use it, only after their completion. Everyone talks about cooperation but none will cooperate. Whenever canal water comes to my field, I will divert so much that, I want to irrigate my entire field within short period of time without allowing much water to flow in canal. People have fought with stones for access to the canal water. To avoid these conflicts more or less everyone is installing bore wells. I installed two new bore wells but did not succeed in getting water and still in another 8 to 10 days I want to install another one. I had two old working bore wells [200 feet] on which I am growing crops but still it is not possible completely depend on groundwater, especially during summer. We need bore well water for domestic and cattle purposes. Groundwater will acts as substitute for canal water; still we need canal water to recharge the groundwater.<sup>66</sup>

I met one farmer in Alur no 1 WUCS command area. His field lies in the middle of lateral 6 no. canal and he installed 10 bore wells within three acres of land. I asked him why he have installed so many bore wells. 'I was frustrated with requesting people to allow the canal water. Head end farmers do not allow canal water to irrigate my fields. To avoid conflict with head end farmers and struggle over canal water, I installed 10 bore wells of 200 feet depth within a span of four years. Last 10<sup>th</sup> bore well had 2 inch water and rest of other 9 bore wells failed. I borrowed Rs 2 lakh on interest to drill bore wells, but in end nothing happened.



Picture 5: A farmer showing failed bore wells in Alur no 1 WUCS command area

In one case, water flowing into the field irrigated canals (FIC) had been affected by canal closure, and with drawl of water through new outlets nearby. This conflict was reported to the secretary of WUCS, who said, that he was not interested in solving such problems. I interviewed the farmer benefiting from this canal closure, and in his words: *'How many times do we need to have conflicts and how many times should we negotiate? Whose task is it, to solve these problems? Who surveys the irrigated landscape, and fixes boundaries, and who changes the positions of the irrigation chambers? None of the farmers cooperate. It is the 10<sup>th</sup> year since the canals were constructed and neither the irrigation department nor the WUCS are interested in solving these conflicts'*.

<sup>66</sup> Open interview with Mr Alam Mulla about groundwater and its conjunctive use in Alur No 1 WUCS area March 2012



Picture 6: Broken FICs and new outlets in Alur no 1 WUCS command area

In Alur No 1 WUCS command area, I noticed half of the command area was not getting canal water. Every farmer in the tail end had bore wells in their fields. Few farmers from tail end told, they had no expectation of getting canal water to their fields. They say, initially after three to four years of canal formation, we struggled a lot in getting canal water. It is about 2 km walk to the head end of the canal, if we walk there to negotiate, by the time we come back, the head end farmers have again closed and diverted the water to their fields. For this purpose we tail end farmers, install bore wells. Once, we cleaned the canals by contributing money from our pocket but even after that we did not receive canal water. From that year onwards we are not participating in canal cleaning activities.<sup>67</sup>

As Cleaver (2001; 52) writes, non-participation and non-compliance may be either a ‘rational’ strategy, or an unconscious practice embedded in routine, social norms and the acceptance of the status quo. People will not participate partly because they saw that in so doing they would be bound by rules that did not favour them.



Picture 7: Half of command area in lateral No 6 not receiving canal water in Alur No 1 WUCS command area

In the next section, I will show participation in water management is not only defined by hydraulic boundaries but also by administrative boundaries of respective villages. To

<sup>67</sup> Interview with Mr Ajjunagi and his brothers and Mr Badiger (KEB staff) in WUCS Alur no 1 command area March 2012

understand how participation is perceived and experiences among the farming community, it is necessary to categorize farmers into two groups. A few farmers claim that they are participating in PIM while, a majority are reluctant to participate, or not aware of the PIM interventions. I term the first group as elite farmers, for whom, the PIM interventions promise special ‘benefits’, and other second group as common farmers.

### **5.1.2 Farmers Participation in water management in two case study areas**

Before I go for analysis here I want to make it clear that three village administrations namely Ingalagi, Alur and Mavinahalli comes under Ingalagi Grama Panachayat administration and from each village elected members are responsible for running Ingalagi Grama Panchayat. Further this Ingalagi Grama Panachayat administration is demarcated by Indi town administration. The two WUCS namely Alur no 1 WUCS and Ingalagi WUCS were formed on basis of hydraulic boundary of irrigable command area of DY 24 canal rather than administrative boundaries.

In chapter 4, I discussed that most farmers in both study areas did not have much awareness about how WUCS are formed or what were the objectives of this process. I also reported how certain farmers ‘paid’ membership fees on behalf of all other farmers. It is important to reflect on why such ‘elite’ farmers took this initiative, and how they tell other farmers, that they have special permission from the Government to carry O&M activities and distribute the water through the WUCS.<sup>68</sup> The ‘common’ farmers believe that permission had been granted to the WUCS [headed by elite farmers] to apply for grants in order to carry out O&M activities<sup>69</sup>. Yet, despite these stories that are commonly told in public settings, many farmers mention that the maintenance grants will likely not be spent on O&M activities<sup>70</sup>. And in many locations, resources from other grants, such as the National Rural Employment Guarantee (Act) Programme (NREGA) was applied for, and used to clean canals<sup>71</sup>. However, in Ingalagi village NREGA fund was used for cleaning lateral no 4 and 5 canals which comes under Ingalagi village administration. But very little is known by farmers the source of fund and amount of money that was spent on cleaning these two canals. The money spent to clean both lateral canals was too less (₹ 125000<sup>72</sup>) than what it is granted (around ₹ 850000<sup>73</sup>) under NREGA. I wanted to discuss this matter with the elected members of the Ingalagi village [Grama Panachayat members]. I was given an appointment, but no one came to the meeting.

There are many complex issues which affect the functioning of the WUCS. For example, the hydraulic boundaries do not match with administrative boundaries. Lateral Canal no 1 and 2 falls under the Indi town administration and later canal 3 falls under Mavinahalli village administration, but at the same time technically these canals were placed under the purview of the Ingalagi WUCS. The canals and their command areas are small and local farmers are not aware of the roles and responsibilities of the Ingalagi WUCS<sup>74</sup>. The farmers of lateral no 3 have spent around ₹ 18000 to repair and de-silt the canals. ‘We called department staff and they agreed to fix the broken canal. But no one came from the department or from the WUCS to ask how we are fixing, or to solve this problem<sup>75</sup>. Lateral no 1 and 2 were not yet all cleaned, and this is a common problem encountered by canals where the hydraulic and administrative boundaries do not overlap.

The problems can arise between head, middle and tail end farmers. In Alur No 1 WUCS, the President, Secretary and other two farmers took an initiative to clean a lateral [number 6] and carried maintenance work amounting to ₹ 13000. A year later, farmers have yet to pay. A few middle [canal] farmers have paid, but head and tail end farmers are not willing to contribute. This is because head end farmers receive water without cleaning canals; therefore they are not

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<sup>68</sup> Interview with Shivananda Harijan a farmer in WUCS Alur no 1 command area March 2012

<sup>69</sup> Interview with Alum Mulla a farmer in WUCS Alur no 1 command area March 2012

<sup>70</sup> Interview with Ramana mannur a farmer in WUCS Ingalagi command area March 2012

<sup>71</sup> Interview with Secretary and President WUCS Ingalagi March 2012

<sup>72</sup> Interview with President WUCS Ingalagi March 2012

<sup>73</sup> Online NREGA website (<http://knowledge.nrega.net/>) State Karnataka, Bijapur Dist, Indi taluk, Panchayat Ingalagi

<sup>74</sup> Interview with Kallappa mannur a farmer in WUCS Ingalagi command area March 2012

<sup>75</sup> Interview with Ramana mannur a farmer in WUCS Ingalagi command area March 2012

interested to contribute. Tail end farmers never receive water, that's why they are also reluctant to contribute.<sup>76</sup>



Picture 8: Canals cleaned under NERGA in Ingalagi WUCS command area

I asked both for president and secretary why canals can't can be cleaned under NREGA as that of Ingalagi village. President says, social relation between us and Grama Panachayat Members is not as close as that of Ingalagi. But still, panchayat members told us, they kept certain amount of money for cleaning canals under NREGA for the year 2011<sup>77</sup>. If you compare our WUCS with WUCS of Ingalagi, President of Ingalagi WUCS is a rich person. Even he can bear all the expenses from his own pocket without asking to a single farmer. Later farmers/panchayat can contribute money and he can get back his money. In our case, we don't have such kind person, we are all poor farmers. It is true that we will survive only if we work on a daily base. If a person come for work in the morning then we have to pay his wage in the evening, we don't have money to bear all those expenses. We lost the interest, Government is also not helping us therefore we made our decision to keep quite. We accepted things as they are and whatever amount of water we are receiving. We think that even it is not possible to grow the crops from the canal water then still it is helping for drinking purpose of our cattle<sup>78</sup>.



Picture 9: Canals not cleaned under NERGA in Alur no 1 WUCS command area

Finally, most farmers are of the opinion that it is not possible to bear full costs of O&M without government support. This is what Cleaver (2001, ) rightly calls, '*...even where a*

<sup>76</sup> Interview with Secretary WUCS Alur No 1 March 2012

<sup>77</sup> Interview with Secretary and President WUCS Alur No 1 March 2012

<sup>78</sup> Interview with President WUCS Alur No 1 March 2012

*community appears well motivated, dynamic and well organized, severe limitations are presented by an inadequacy of material resources, by very real structural constraints that impede the functioning of community-based institutions*'. This is especially concerning, given the divide between villages, and between farmers themselves – depending on where their fields are located along the system (head, middle, tail) – which defines that even if labor or money is contributed to maintain canals, there is little assurance of equal or reliable water access.

### **5.1.2 Elite capturing WUCS in two study areas**

In the section above, I identified that elite farmers are those who saw some incentive to get engaged in the WUCS formalization and registration, often by paying membership fees on behalf of the entire command area. Also as discussed above, this 'capture' of the WUCS happened due to multiple reasons – a rushed process for mobilizing farmers; financial compulsions on the NGOs facilitating WUCS formation to rush the process; and above all, the lack of belief among farmers in general, in the process and intent of such an intervention. For example, I was told, 'If the NGO members had even made the effort to meet all the different farmers, along the length and breadth of the system [which they pointed out, I was doing in my research], maybe we would have considered this idea [idea of participation in WUCS]'.

It is important to discuss why the 'elite' farmers came forward to contribute membership fees, i.e. what did they see in the WUCS, what were their expectations? The staff of the Bhagirat NGO pointed out to a culture of concealing information across the different actors. 'In the training programs we need to provide full information about the WUCS and its objectives. However, CADA and KBJNL staff as well as the President and Secretary did not allow us to provide this information to the WUCS member farmers. The president and secretary did not want to mention election procedures. CADA staffs are not interested in mentioning the beneficial packages attached to WUCS. This indicates various types of vested interests in implementing PIM'.<sup>79</sup>

As with all development interventions, this process was seen as offering '*some kind of material or organizational input or 'package' from outside*' (Long 2001; 34). And as commonly happens, only a few elite were aware of the tangible material benefits, such as, i) initial financial support for WUCS establishment from CADA<sup>80</sup> and ii) one time maintenance fund for rehabilitation of canals, as well as other smaller benefits like funds for building ware houses etc. For example, the present President and Secretary of Ingalagi WUCS contributed ₹ 45900, as their share of contribution for establishment of the WUCS, and consequently, as part of CADA's contribution, the Secretary is receiving salary of ₹ 3251 per month<sup>81</sup>. Similarly, an initial one time maintenance fund of ₹ 5 lakh is provided by the KBJNL to all WUCS, after signing an agreement with the irrigation department for rehabilitation. These were the incentives that the elite farmers saw in forming and capturing the WUCS, and in withholding this information to other farmers.

### **5.1.3 Farmers' participation in WUCS elections in 2012**

Under the culture of concealing information, it is important to see how information is held back by all key actors, even amongst themselves. I discuss below the case that elections for the WUCS do not happen at the village level, yet on paper – these bodies are shown as having been elected. I met the person who was responsible for conducting the elections came to know that there is deficit of staff in LDO CADA Cooperative wing to conduct the elections, therefore they have assigned this job to an officer at CADA Agriculture wing.<sup>82</sup> One of staff at CADA office nominated for the task of conducting elections agreed that elections should happen in a democratic manner, by informing all member farmers but, in his

<sup>79</sup> Interview with Bhagirat NGO Dharwad April 2012

<sup>80</sup> CADA provides ₹ 900 per hectare as assistance as a matching grant to WUCS contribution of ₹ 100 per hectare<sup>80</sup>.

<sup>81</sup> Interview with Secretary WUCS Alur No 1 March 2012

<sup>82</sup> Interview with staff of CADA March 2012

opinion, *'there is poor awareness among the farmers about the WUCS. Those involved in forming the WUCS, have "invested" out of their pocket and they will disable conducting a free and fair election'*. The staff himself turns a blind eye, and assigns this responsibility to the very persons, who want to disable free and fair elections, i.e. the secretary of the WUCS<sup>83</sup>. The Secretary just needs to inform on paper that elections have been conducted<sup>84</sup>. Or in other cases there is a convenient loophole, if the WUCS has less than eight members, then elections do not need to be conducted.

However, according to the by-law 18 - nine members should be elected to the WUCS body, of which one member will be a government staff. Of the remaining eight members, five seats are reserved for general caste candidates, one seat for Scheduled Caste / Scheduled Tribe candidates, one seat for women and one seat for members belonging to the group, 'Other Backward Communities/Minority'.<sup>85</sup>

In conclusion, it seems to be in the interest of key stakeholders to not conduct fair and transparent elections. Elite farmers will be unable to "harvest" their out-of-pocket investments if there were fair elections, and a participatory and representative WUCS; CADA staff have little incentive to regulate that a democratic election took place, for them, it is easier to simply have a few farmers meeting the criteria of financial payments etc. And often unaware of the official rules and regulations, other farmers perceive it as another government scheme under which they are possibly beneficiaries, but certainly not participants.

## **5.2 Factors not considered in formalizing WUCS'**

Cleaver (2001; 38) argues that merely 'setting up formal organizations and specification of their membership criteria, does not necessarily overcome exclusion, subordination or vulnerability'. It does not address contextual factors that shape persisting unequal conditions and relations (ibid). With respect to this, in case of DY 24 canal, I will analyze and try to show which local vulnerabilities and inequalities remain untouched and outside the purview of formalized WUCS in DY 24 canal of IBC, and hence, show how far these formal WUCS' are from local ground realities. In the field, there is a hypothetical delineation of the command and non-command areas, and it is assumed that water will only be accessed by those in the 'formal command areas'. In practice, this does not happen.

### **5.2.1 Supply of water into DY 24 canal from IBC**

In my visits to the various offices of the IBC, I was told that in the IBC water is managed and distributed according to a warabandi system. In one of KBJNL office Engineer told, from circle office Rampur there is order to follow warabandi system in distributing water in IBC. In a warabandi system, farmers receive a fixed time-share of water proportional to their land holding (Mollinga, 2003; 62). For the system of timed shares to be feasible four conditions are required: clear land rights, stable water scarcity, channels to carry water to farmers' field and a constant flow of water through a shared outlet (Chambers 1997; 73).

Above mentioned Engineer says, the warabandi system is operated by distributing water in different canals in alternative weeks. However, according to him, 'Farmers open the gates whenever they want and if not, they break the gates open'. I have complained to the police several times, but the police do not take action. It is not possible for us to look for those things 24 hours and farmers do not take any responsibility. Everyone thinks that, it's a government property and if we break a gate today, then the Government will provide a new one tomorrow'.<sup>86</sup>

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<sup>83</sup> Interview with staff of CADA office March 2012

<sup>84</sup> Letter that indicates handover of authority to WUCS secretary from staff of CADA

<sup>85</sup> Caste reservation system by Government to allow and to take part in elections from different communities

<sup>86</sup> Interview with Engineer in offices of KBJNL April 2012



Picture 10: Supply of water into DY 24 canal from IBC

In policy, there is a written agreement to provide and share the water on volumetric basis<sup>87</sup>. But as the pictures below show, this does not happen in practice.



Picture 11: Broken gate of DY 24 canal on IBC

I talked with many farmers about why gates are broken, who breaks these, and why this is a common practice. I came to know that the struggle to break DY 24 canal gate exist at different village levels. The farmers do not deny that the gate is broken. In fact it is obvious that these are not small, incidental damages to the system. Farmers from village like Ingalagi, Alur and Agarkhed, Hirebevanur have opened the gates by putting stones, sand bags etc. Where the gate is very heavy, people have used heavy machinery to open or close the gates permanently. One farmer, confessed to using a welding machine to drill holes in the gate. And no one has arguments or conflicts related to this damage. It is also true that they are doing those things because they are not getting the water. It is not important who did those things but whoever did, they did to get the water. Here all are farmers and all need the water to irrigate and to save their crops. It is not a fun game where people can gather and wish to break those structures. It is all to survive and grow crops and people do all these things only when they will not get the water properly. If water flows properly and sufficiently then why people will do all those activities, basic problem is that, in this region people are not getting much water. Even most of the time water will not reach to tail end farmers, for example Agarakhed

<sup>87</sup> Interview with Engineer in offices of KBJNL April 2012

village farmers' hardly receive water and they are tail end farmers of DY 24 canal.<sup>88</sup> The Secretary of WUCS Alur no 1 says, it is not that such damages happen occasionally, they have always happened, since the time canals operated in this region [tail end of IBC]. In my analysis, first, the way irrigation staff define and apply warabandi does not operate [or impact] the fact that water does not reaches [or reach] individual farmer fields. Second, there is inadequate capacity to regulate and monitor water distribution at all levels of the canal system. For example, one of Engineer in Sub-division office complains that according to the Irrigation Act, there should be one work inspector for every 600 ha command area, but in his case, he is the only person managing a 12000 ha command area. 'This office it needs 20 work inspectors but I have only four section officers and no work inspectors. The site [DY 24] is located at 70 km away from this office and it is not possible for us to visit site every day. We have other additional responsibilities too'. Some of this could have been resolved through a participatory process if it was genuine. For water management, it needs 90 per cent farmers' cooperation and 10 per cent participation from departmental staff. He says further, farmers will not follow the cropping patterns; they opened new outlets and fixed lift pumps all along the length of DY 24 canal and in lateral canals<sup>89</sup>. To make better understanding of these mentioned problems, I will bring here another related strategy of the Government to regulate and distribute water called 'localization'.

### **5.2.2 Concept of localization in Irrigation**

In south Indian states like Karnataka, Andhra Pradesh and Tamil Nadu localization was introduced around independence to spread available water thinly over a large area and cover large number of farmers. Localization is a form of agricultural land use planning and regulation in which the government allows and disallows the cultivation of particular crops on particular piece of land (Mollinga, 2003; 63).

The main elements of localization in Karnataka are the following:

- i) Irrigation is allowed in part of the irrigable command of an irrigation system, and excluded in another part.
- ii) Limitation of the irrigation of a localised piece of land to one season (with some limited allowance of two-seasonal and perennial crops)
- iii) The prohibition or strong limitation of water-consumptive crops, particularly rice and sugarcane, in favour of light water requiring crops like sorghum, millet, cotton and oilseeds.

Irrigation Utilization Commission of Andhra Pradesh characterised localization as highly inequitable because it excludes part of the irrigable command area from irrigation, and thereby condemns part of the farms to rain-fed agriculture only (Mollinga, 2003; 71). This is because there are two problems in localization, first problem relates to inclusion and exclusion of a particular piece of land in irrigable command area [localization scheme] at village level. Piece of land which comes under irrigable command area was based on landscape which was exist before canal networks were lied, but criteria like 'economic condition', 'adequacy of existing resources' and 'capacity to develop lands' after canal constructions were left out of localization purview(Mollinga, 2003; 70). Second problem, if someone's land is localized for 'irrigated dry' crops will never be allowed to cultivate sugarcane, rice or garden crops, while a direct neighbour may be allowed to do so. Such arbitrary difference is unacceptable and there is no reason to follow localization pattern (Mollinga, 2003; 71).

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<sup>88</sup> Focus group interview with Goudappa Allagi, his two brothers and Vittal Biradar March 2012

<sup>89</sup>Interview with Engineer in offices of KBJNL, April 2012



Picture 12: Difference in crops left picture sugarcane and right picture wheat

When I was in field it was told that farmers are not following crops and cropping patterns that are prescribed by irrigation department. It creates problems in distributing water among farming community specially head vs tail end farmers. The crops prescribed by the department like sorghum, millet, cotton and oilseeds, and crops prohibited are sugarcane and rice. The farmers do not follow these rules. *'Yes that's true we should not grow these [sugarcane] crops. If we grow the crops suggested by the irrigation department like sorghum, onion, tomato then how shall farmers fill their belly? Is it possible in the present context to depend on these crops? They [department] do not do their job properly and they put the blame on farmers. All farmers in this region have the good intention to use water judiciously'*<sup>90</sup>.



Picture 13: Difference in crops left picture ground nut and right picture sugarcane

There is legal procedure to control cropping patterns under Karnataka Irrigation Act 1965. The Act says divergence of crops from localization pattern is an offence. Two types of offences are distinguished: i) violation of cropping pattern (VCP), that is cultivation of a different irrigated crop than localised, and ii) unauthorised irrigation (UI), that is, the cultivation of an irrigated crop in non-localised area. Penalties can be imposed for each of the two offences (Mollinga, 2003; 71). For UI these can range between ten and thirty times the

<sup>90</sup> Interview with President WUCS Alur No 1 March 2012

water rate of the crop grown and for VCP between five and ten times (see sections 28(5) and 32(4) of Karnataka Irrigation Act, 1965). In agreement between WUCS and KBJNL department it is mentioned, crops and cropping patterns are decided by WUCS members and irrigation department will not have any say in it<sup>91</sup>. It means that farmers under localised area can chose the crop whichever they wish and it is no more considered as VCP. Second offence of UI is not addressed in agreement, and more over as Mollinga (2003; 70-71) rises issue arbitrary difference is unacceptable and there is no reason to follow localization pattern. This is so serious issue in distribution of water and left untouched without addressing. This is because as Mollinga (2003; 70) points out criteria like 'economic condition', 'adequacy of existing resources' and 'capacity to develop lands' after canal constructions were not only left out of localization' but also while formalizing WUCS. I will explain here what he means those things under heading of social reconstruct of technology in DY 24 canal of IBC.

### **5.2.3 Social Reconstruct of technology in DY 24 of IBC**

I asked one engineer in CADA office in technical wing. What is your opinion about WUCS complaint in not providing water on volumetric basis as agreed in agreement letter by irrigation department? He replied, to provide water on volumetric basis we have to maintain certain head level of water in canals. In reality which is becoming difficult because, people try to convert non-command [not localized area] areas into irrigable command areas [localized area], which is an impossible task from engineering point of view but famers do it in two ways i) they will put the lift pumps all along lengths of canals to lift water directly ii) They will change the topography of land to make non-command to command area. Because of new technology people started levelling the lands and modify the old outlets and opened new outlets. In places where it is difficult to modify lands, farmers fixed lift pumps to bring more area under irrigation. Whatever we had initial topography of the lands have been completely changed now. It is not that something they did wrong they did correct but what initially it had planned is not meeting present context of developmental activities at farms level<sup>92</sup>. I will discuss below on those two issues i.e., fixing lift pump on canals and opening of new outlets in two case study areas.

#### **Is fixing of lift pumps on canals to draw water Unauthorized Irrigation?**

I counted lift pumps which are fixed both on all lateral [from 1 to 7] and on DY 24 canals, there were nearly 200 pumps were operating. I had conversation with secretary of Alur No 1 WUCS about this issue. He says, unauthorised lift pumps which are not eligible to take water from the canals will irrigate more than 1000 ha of land. We don't have any control over those pumps and we don't have that much power to remove pumps from our WUCS. Moreover, if we try to remove those pumps we will become guilty in eyes of those farmers who fixed pumps. It will create unnecessary conflict among ourselves, why we have to spoil our social relations. It is the responsibility of irrigation department to remove those pumps and provide water on volumetric basis as agreed in agreement letter<sup>93</sup>.

I had focus group interview with farmers in DY 24 who fixed lift pumps to lift water directly from canals. I asked them, it is not fair to fix lift pumps on DY 24 directly and farmers' who will irrigate on FICs/gravity flow will not object or irrigation staff will not ask you to remove pumps? They told, no farmer will object, it is survival strategies for all. How someone can object, rainfall is not enough and all have to share available water which is food for all. Here no one say anything for farmers who fix lift pumps. It is also like norm and everyone has to survive. Even downside [tail end] farmers' crops dry; they will not say anything. It is nearly 6 hours per day lift pumps will operate and rest of the time water flows in the canals smoothly. Real problem arises when there is very low amount of water flows in the canals and pumps will draw all water. If sufficient amount of water will not flow in lateral and distributor canals then all farmers will go together to lift main gate of DY 24 canal on IBC. Earlier it had the gate but in these processes of struggle the gate was broken. Regarding Irrigation department staff, they came few times and just informed us to remove lift pumps. We asked what we shall

<sup>91</sup> Agreement letter between WUCS Ingalagi and KBJNL department 2008

<sup>92</sup> Interview with Engineer technical wing CADA Bheemaranagudi May 2012

<sup>93</sup> Interview with Secretary WUCS Alur No 1 March 2012

do after removing lift pumps; we will not have water to irrigate our crops. Canal had gone through our fields and someone in down [tail end] he will get the water without losing any land then why we farmers who lost our lands in canal should not take the water by fixing lift pumps. What is the benefit of the canal which gone through our field, it is not only have to benefit for the down farmers, it should benefit equally for all farmers in this area.<sup>94</sup> Among one farmer told, we don't have permission neither to fix lift pumps on canals nor to take the electricity from grid. We also know that it is all illegal, what to do, farmers who have land at low level they are doing irrigated farming using canal water and how shall we only not use water from canals and do dry land farming [As Mollinga (2003) remarks such arbitrary difference is not acceptable]. Moreover everyone here fixed pumps and they are using water and it had became norm. We think there is no separate rule for individual person, what holds good for all people, it will holds good to individual persons like us. We use when there is water in the canal, if not then, we also keep quite like dry land farmers.<sup>95</sup> Fixing of lift pump is also not easy task and it's all about who have the capacity to bear those huge expenditure. It requires lot of money to invest and it is not the capacity of poor people<sup>96</sup>.



Picture 14: Lift pumps fixed on Dy 24 canal to lift water directly from canal

### **Opening of new outlets to irrigate non-command area**

Here I will talk only about those farmers who will not come under command area, but in general it can also be extended for those farmers who opened new outlets in command area also. I walked all along length of both lateral and distributary canals in two study areas. I saw most of the farmers will not use water through the FICs; they have broken lateral canals and inserted pipes in a point where they can get water easily. Many farmers dig the deep channels to divert the water and which will creates tail end farmer deficit of water. I saw few farmers also opened small pond to divert water from lateral canal to store and to use later whenever they required. I had conversation with one farmer in Ingalagi WUCS command area that he opened small pond and I will present here what he says. 'I don't have other alternative sources of water; I completely depend on canal water. I opened square pond because of two reasons, first, my field is located on higher side, it is not possible to divert the water from canal directly. Second thing is that I can store water when others will complete their irrigation.'<sup>97</sup>. Even I saw many farmers inserted pipes directly into canals, their lands are on lower side of canals and water moves easily to their fields. In the field, I saw many outlets which were initially laid by irrigation department have been changed.

<sup>94</sup> Interview with Ramana mannur and his two friends in WUCS Ingalagi command area March 2012

<sup>95</sup> Focus group interview with Goudappa Allagi, his two brothers and Vittal Biradar March 2012

<sup>96</sup> Conversation with Ningappa Banasode, Husaman mulla and his friends in Ingalagi WUCS command area March 2012

<sup>97</sup> Conversation with Mr Swami about pump and water in lateral canal No 5 in Ingalagi WUCS command area March 2012



Picture 15: New outlet and ponds in Ingalagi WUCS command area

### **Conclusion**

Localization which was introduced around Independence to spread available water thinly over a large area and cover large number of farmers remained same, Mollinga (2003; 75) rightly calls this a persisting unrealistic model of irrigation in Karnataka. Without considering how the local situation, aspirations and needs of farmers have changed, the irrigation staff promote a ‘vague’ warabandi system of water distribution that has been put into practice for the last ten years in IBC. Since the system of distributing water thinly across a large mass of farmers fields does not work, farmers have re-invented the system to make it work for them. These societal innovations are seen in the form of so called, ‘illegal’ new outlets and lift pumps along the canals. These deep rooted distribution-need factors are completely ignored in the PIM interventions, which rhetorically forms institutions and intervenes in ways that contradict local realities. In summary, no one – from the department to the farmers, believe in, or expect anything ‘innovative’ or positive from the PIM process being implemented in the case study areas I visited. It is indeed a strange irony that the process happens, much to the discomfort of all parties involved. At best, as I observe the PIM has only helped some elite farmers to gain some benefits from the process, and on that account, it is far removed from the conceptual notion of an ‘empowering participation’

## Chapter 6

### Discussion and Conclusion

This thesis aimed to answer questions relating to difficulties in implementing Participatory Irrigation Management (PIM) policy in the Indi Branch Canal (IBC). The questions as well as the analyses reflected both on field practices, on interpretations regarding PIM by two key institutional actors, and linked these analyses first, to the theory of PIM, and finally to the interpretation of ‘participation’ in PIM policy.

#### 6.1 Hypothesis

Above mentioned interlinked analyses were used to answer the primary research question, **‘What makes it difficult to implement the PIM policy in IBC’?** And I tried to analyse the following hypotheses, i.e. whether the difficulty arose because of:

- a) A poor implementation of the PIM policy, or
- b) PIM policy per se has conceptual flaws, primarily, because it fails to adequately take into account, the diverse interests of implementing agencies and farmers.

In the process of answering these questions, this thesis focused on three main topics. First, i) understanding the conceptual notion of participation, as it evolved as a developmental alternative [to earlier top-down approaches], and its consequential de-politicisation in PIM. As I will discuss below, the concept of ‘participation’ which was bottom up and aimed at transforming power [from one who have it to the one dispossess] was reduced and restricted to voluntary mobilization of labour and other resources.

Second, ii) the understanding and [re]interpretation of the term ‘participatory’ irrigation management by key actors involved in PIM implementation in the IBC. Here, the theory of actor perspective and interface analysis helped explain, how often there is a gross simplification of policies, in their transformation through complex implementation processes, so that, there is no straight line from policy to outcomes.

Finally, iii) the understanding irrigation practices, and experience of ‘participatory’ irrigation management of a diverse group of water user farmers in the two research locations [Ingalagi and Alur No. 1 Water User Cooperative Societies] along the Distributory canal No 24 of the Indi Branch Canal (IBC). My findings closely mirrored the critique of the collective action theory through the institutional bricolage, and agency and structure concepts. More simply, I found that the collective participation does not readily happen, and differing motives and interests of diverse actors often disable collective participation along project prescribed rules and regulations.

Working along the above main topics, I borrowed on the recent evaluation of participatory irrigation projects by two reports (FAO, 2007; and IWMI, 2009), in order to align or contrast my analysis with the evaluation of PIM policy and practice, as documented in these reports.

#### Research questions

The above outlined primary research question was structured into four sub questions:

- 5) How is participation projected and promoted in PIM policies? Does this interpretation differ from conceptual notions of participation?
- 6) Why is there a delay in implementing PIM in the IBC of the UKP?
- 7) How is participation in relation to PIM understood and implemented by the key stakeholders in the IBC?
- 8) What is happening with irrigation practices on the ground in relation to PIM implementation and what is the experience of diverse group of farmers in the two research locations in the IBC?

## 6.2 Answering Research questions

I discuss below analyses drawn from the previous chapters, in order to address the above questions, and also to conclude key findings from my analyses. In answering these questions I will aim as far as possible, to connect the analysis to the theoretical framework, that I outlined in chapter 2.

### **1. How is participation projected and promoted in PIM policies? Does this interpretation differ from conceptual notions of participation?**

In chapter 3, I showed that the concept of participatory irrigation management was not just driven by the agenda of doing irrigation bottom-up. A persisting narrative of the “irrigation problem” being ‘a serious maintenance crisis’ enabled the application of a ‘farmer pays and is responsible for system management’ as the core element of policy reforms (PIM) to managing irrigation in the 1990s (Huppert et. al., 2003). Participation implied handing-over of irrigation infrastructure to farmers, and enabling them to physically and financially manage irrigation services, and it was assumed that this mode of engaging farmers would meet both efficiency [farmers motivated to pay for irrigation services] and equity [farmers empowered to make decisions]. However, even this limited, efficiency-driven mode of participation, failed as my findings show, to take root in the ground.

It was another matter, that what was planned was far from the conceptual notion of participation. As Hildyard et. al., (2001; 60) points out, ‘the call for local people to have a decisive say in the matters that affect their lives have been contained through the directed use of “participatory” processes that are reworked to suit the ends of industry [irrigation sector] and other powerful groupings – notably that of increasing control over local people. Grass root organizations thus become the human ‘software’ through which investments can be made with least local opposition’ (Hildyard, et. al., 2001; 60). This reduction, and de-politicization of participation in PIM policy is well explained by Burkey’s (1993; 57) observation on what does not qualify as participation: ‘Participation, if it is to really release people’s own creative energies for development, must be much more than the mere mobilization of labour forces or the coming together to hear about pre-determined plans. Participation must be more than a policy statement – there must be a genuine commitment to encourage participation in all aspects and at all levels of development work’. Such commitment to encouraging participation was not observed among any of the actors, I encountered in my field work. In the two research locations, there was in fact a perverse interpretation of ‘participation’, and even this limited vision, existed only on paper.

Henkel and Stirrat, (2001; 182) write, ‘The question with regard to empowerment is not so much “how much” are people empowered but rather “for what” are they empowered. It seems evident that what people are “empowered to do” is to take part in the modern sector of “developing” societies. More generally, they are being empowered to be elements in the great project of “the modern”’. Most ironically the very design of ‘participation’ in PIM is imposed top-down. Farmers are told that they must ‘participate’, yet as my findings show, there is neither to commitment nor resources to even adequately inform all the user farmers that they must or should participate. What happens is a hushed and dubious mobilizing of certain farmers, who see this ‘invitation’ to participate as a means to access some tangible special benefits from the process.

These observations are far removed from the notion of empowerment. As Cleaver (2001; 38) writes, ‘[as] empowerment became a buzzword in development, an essential objective of projects, its radical, challenging and transformatory edge [was] lost’. In assessing PIM, a lot of research was conducted to establish the relation between poor performance of irrigation systems, rigid top-down irrigation bureaucracies and poor cost recovery (FAO, 2007). Such designs reflect how participation has been reduced to meet the ‘real’ outcomes of the reform in irrigation policy, such as cost recovery, active involvement of users in operation and maintenance (O&M) of irrigation systems, efficient hand-over etc.

## **2) Why is there a delay in implementing PIM in the IBC of the UKP?**

PIM was officially made operational in the state of Karnataka in 1997. By 2003, the earlier Irrigation Act of 1965 was revised to include the comprehensive PIM reforms, and model by-laws were issued for formation of WUCS (Ganapathy et. al., 2009). Ganapathy et. al., (2009) research show that even by 2007-08, there was poor progress in implementing PIM policy and where operational, the projects were not producing the desired outcomes. In chapter 3, I discussed that there was significant resistance from the irrigation bureaucracy in implementing PIM. The FAO report (2007) notes that in 31 out of 43 cases globally, irrigation agencies had either slowing down progress, reduced the scope for implementation, or in some cases, stopped the projects completely. Implementation of the PIM policy in the IBC also encountered bureaucratic resistance. In my analysis in chapter 4, I show the disinterest of the irrigation agency in promoting PIM in the case study locations. Despite being formally registered and having met all the criteria set by the department, none of the WUCS in DY 24 have received the promised one time maintenance fund. As I discussed, the LDO Cooperative officer at CADA submitted an application on 30-11-2007 to conduct a joint evaluation for awarding the one time maintenance fund on behalf of five WUCS. It took the sub-division office of KBJNL, four years [20-04-2011] to forward this application [for Ingaligi WUCS] to the circle office in Rampur. As these numerous forms and applications move from one level to another, or between CADA and KBJNL, farmers are required to follow up these moves, and in most cases, pay a bribe to get the papers moved. The case workers, officially assigned this task, treat the WUCS member farmers as contractors. That the farmers pursue this is only because the elite farmers pushing these papers, see the one time grant as a means for compensation and reward. CADA, the agency responsible for creating awareness about PIM does not perform this task, and this helps elite farmers capture the process. Added to the bureaucracy are 'real problems' like lack of adequate staff members in these offices – all of which signifies an enormous disinterest in the process and policy, itself. Observing the blatant disinterest among these key stakeholders, the intriguing question for me was – if no one is interested, and no one wants this policy, why is it happening anyway?

## **3) How is participation in relation to PIM understood and implemented by the key stakeholders in the IBC?**

In chapter 4, I discussed in detail, how participation is understood by both KBJNL and CADA staff, and how this understanding impacts the reinterpretation of PIM on the ground. I had presented the eleven mandatory agreements that need to be signed to by the WUCS, in order to formalize the WUCS and to be eligible for the grant. I had also shown how those agreements are biased towards KBJNL department. Wright and Nelson rightly note, 'facilitating measures [agreements /institutions /contracts] may be important in negotiations but they are not enough to grant marginal groups the bargaining power they require to overcome structural dominance enjoyed by more powerful groups' (Hildyard, et. al., 2001; 69). But in this case, not only is the agreement biased, the KBJNL expects the farmers to meet their share of agreements, especially in relation to collection of fees, and operation and maintenance, yet, the fundamental basis to these agreements, the supply of water on a volumetric basis to the command areas, assigned to each WUCS is never honoured by the KBJNL. The promised volume of water is never supplied, due to multiple reasons. Examples of farmers tampering the system are pointed out, but why this tampering happens is never quite considered. Even as several inconsistent attitudes and practices are observed on part of the department, it is the farmers who are called for training and capacity building. To correct farmers' behavior CADA staff trains farmers', they teach how to distribute and how to collect water fees. A constant blaming of farmers for all problems is the common trend, or as Merrey et. al., (2007) rightly say, 'blaming then training the farmers while ignoring the real problem'. There is little doubt that the implementing agencies see the Water User Cooperative Societies (WUCS) as the means to mobilize the farmers to take on responsibility for rehabilitation, maintenance and water distribution, but there is little insight not only on the limitations among the agencies, but equally on the flaws that prevail in the systems and services.

Hildyard, et. al., (2001; 69) writes, ‘Many participatory projects rest on the dubious assumption that simply identifying different “stakeholders” and getting them around the table will result in a consensus being reached that is “fair” to all. Such an assumption only holds, however, if all the actors involved are deemed to have equal bargaining power (which they do not)’. In the implementation of the PIM in the IBC, the power inequalities between stakeholders are further reiterated, and are most evident in the push and pressure on the farmers to accept a system that is designed to fail.

Tasks that are considered litigious are usually not performed by the CADA or the KBJNL, and handed over to NGOs, on the pretext of lack of time, staff, or lack of skills. The NGOs are simply performing a contractual obligation, and have no incentive as well as authority to ‘transform’ the process, or make the process participatory. In DY 24 canal of the IBC, the NGO, Bhagirat had a contract with the CADA department to form and register ten WUCS. The facilitator role of NGO didn’t go any further beyond ‘paper’ mobilization and registration. In DY 24 canal of the IBC, the NGO performs the basic minimum requirements, and enabling an empowering participation, is not something they will be assessed or rewarded for. For example, I had discussed earlier, how the officially assigned command area for [Alur no 1] each WUCS is much more than what is currently irrigated by the system. The NGO and/or the engineers are required according to the rules, to verify the ‘irrigated area’ as a means to signing the agreement with the WUCS. This task, performed well would demand a considerable investment of staff time and resources. Quite in comparison to the case of Bangladesh BRAC’s executive director, Fazle Hasan Abed, and how after thirty years in a leadership position, the ‘leader’ still makes a point of going to the field and walking with villagers and field staff’ (Hailey, 2001; 88), not a single officer I met in CADA or KBJNL had verified the disparity between the official command and actual irrigated areas. I was told that there is no staff or a lack of time – yet the fact that an agreement had been signed on the basis of flawed data was not any one’s concern.

Policy demands that the facilitating agency, in this case, the NGO, Bhagirat is required to call a meeting at a time and place convenient to all farmers, or to make independent meetings if required – in order to make everyone aware of the project design, process and outcomes. Kothari (2001; 151) writes, ‘Participatory practitioners are also not without power; they are able to regulate or at least delimit the ways in which people choose to represent their lives and in so doing shape the type of knowledge accumulated and influence extent to which participants can become empowered in the process’. In this case, it appears that the Bhagirat NGO did try to encourage meetings, but was constrained in doing so, by the terms and conditions of their contract, where the quantity of WUCS formed, and not the quality of mobilization – would determine payment; as well as by an attitude to withhold information – which was encouraged both by the agencies and the elite farmers. Bhagirat NGO had its own interest in negotiating this issue with elites. It has to fulfil the contract agreements it had with CADA to register 10 WUCS in IBC. At the same time people who had the vested interest made it an opportunity to capture the functioning of WUCS by paying membership fees. Robert Chamber himself identifies and elaborates pitfalls and bad practices of participatory technologies. For example he is concerned with rapid spread of participatory approaches and superficial understanding of the techniques, limited training, and the inappropriate style adopted by some facilitators (Chambers, 1997).

#### **4) What is happening with irrigation practices on the ground in relation to PIM implementation and what is the experience of diverse group of farmers in the two research locations in the IBC?**

In chapter 4, I discussed how a much de-politicized notion of participation was imposed top down in DY 24 of the IBC. Officially, the PIM implementation, which started in 2007, was undertaken in a rather incoherent manner by the CADA, KBJNL and the Bhagirat NGO in DY 24 canal of IBC. The rules, regulations and decision-making powers relating to ‘formalizing’ the WUCS rests with CADA and with KBJNL, and as I discussed earlier, it takes more than four years for documents to move from one office[r] to another, and at each

such transit process, WUCS office bearers are expected to 'pay and grease' the movement of papers.

Subsequently in chapter 5, I discussed how and why certain farmers in the community, see the incentive to engage in such a non-participatory process, thereby illustrating the myth of cooperation and transparency among farmers. Cooperation and transparency are the fundamental basis to a participatory management of irrigation. As Nelson and Wright (1995) write 'community is a concept often used by state and other organizations, rather than the people themselves. [The concept used such], carries connotations of consensus and "needs" determined within parameters set by outsiders' (Mohan, 2001; 160). What I observed in the research areas are unequal contests over canal water – which illustrates the myth of cooperation and consensus. Cleaver (2001; 42) writes, 'Management depends on number of gray areas [of structural elements] and ambiguity regarding rights of access, compliance with rules, on a continuous process of negotiation between all users'. In such a situation, farmers resort the ways and means to minimize conflicts – and this is seen in the growing reliance on groundwater to supplement irrigation needs. Many farmer claims, purpose of installing the bore wells is to conflict with other farmers for canal water. The bore well water is under control of farmers' and whenever need, they can irrigate and there is no need to negotiate with other farmers. PIM policy is ill equipped to deal with the reality of conjunctive water use. Little attention is given in PIM policy to other sources of water which in reality, make hydraulic boundaries and the institutions formalized to manage surface water – permeable to a lot of externalities. Cleaver (2001; 38) writes, ' An organizational model of participation ignores the fact that many interactions between people also take place outside formal organizations, that interactions of daily life may be more important in shaping cooperation than public negotiations'. There is inadequacy in models of individual agency and the links between these and social structures (Cleaver 2001). The argument presented by Cleaver (2001) is that 'understanding the motivations of individuals to participate, or not, are vague, and simplistic assumptions are [often] made about the rationality inherent in participating, and the responsibility of not doing so' (in Cook and Kothari, 2001; 9). In the Alur No1 WUCS, a farmer who installed new bore wells says, 'everyone talks about cooperation but none will cooperate'. Another farmer who experienced conflict about water distribution says, 'none of the farmers have the intention to cooperate with each other, so that everyone can irrigate at least one acre of land'. I have shown several examples of uncertainty experienced with canal water use, as the process relies on cooperative behavior of farmers, which is not a ground reality.

Cleaver (2001; 52) writes, 'non-participation and non-compliance may be both a 'rational' strategy and an unconscious practice embedded in routine, social norms and the acceptance of the status quo. People will not participate partly because they saw that in so doing they would be bound by rules that did not favour them'. Every farmer in the tail end in Alur WUCS has bore wells in their field. These tail end farmers have no expectations of getting canal water, and their contribution to 'communal' activities like, cleaning the canals has discontinued since long. On the other hand, head end farmers get unregulated access to water, even without investing in cleaning canals; therefore they are not interested to contribute money. Kothari (2001; 151) notes, 'Subversive participants can also choose to opt out of the participatory process completely, although they are often characterized as uncooperative or even as social deviants, in this sense, then, exclusion can be empowering and even necessary in order to challenge existing structures of domination and control but in doing so'.

As assumed in PIM policy, the 'community' as a collective agent, capable of planning and implementing collective initiatives, on a level that gives it moral authority is seen frequently to not be the case. Not only do differences among farmers disallow this collective participation, there are other factors – such as the mismatch between the hydraulic boundaries of what constitutes a WUCS command, and administrative boundaries under which these communities are laid out, and organized in general. This implies that the WUCS is a subset of many other pre-existing formal and informal organizations, hence what happens and where along the hydraulic boundary is determined significantly by other factors. This explains why, in some cases, funds other than from irrigation sources were available and used to clean canals. For example, lateral no 4 and 5 canals were cleaned with National Rural Employment

Guarantee Act (program) (NREGA) funds by the Ingalagi panchayat, and such external funding was unavailable for lateral canals, no 1, 2 and 3; which fall under a different administrative boundary. These canals [4,5 and 1,2 and 3] all come under the Ingalagi WUCS. I have shown in chapters 4 and 5, how elite farmers captured WUCS by contributing fees on behalf of all other member farmers. These farmers had ‘selectively’ acquired knowledge on the tangible, material benefits with PIM implementation, through the NGO, and they manipulated this knowledge to their interest. This explains the fixed monthly payments of the Secretary, and one time maintenance fund pocketed by those who contributed to the agreements. As I discussed above, neither these farmers, nor the NGO, nor the agencies are interested or motivated to enable transparency in community organization. This explains why, five years after the formation of WUCS, many farmers are unaware of even the very existence of WUCS, even though, their signatures are shown as ‘having consented’ on official documents, and how elections of WUCS in DY 24 happen without informing even the WUCS members. Hildyard, et. al., (2001; 70) write, ‘projects aimed at increasing public participation or ‘decentralizing power’ [often] end up excluding ‘target populations’ and strengthening elites and local power relationships that the planners may not even have known existed’.

In chapter 5, I have outlined factors that are overlooked in formulating contract agreements between the WUCS and KBJNL departments. ‘Localization’ or spreading thinly the available water thinly over a large area in order to cover larger number of farmers was introduced around independence. This is what Mollinga (2003; 75) calls the persistence of an unrealistic model of irrigation in Karnataka. The managerial solution to this unrealistic situation is the warabandi system of water distribution, which ideologically, would spread the available water thinly across a large mass of fields. Unfortunately, this does not happen, and what happens in its place is a massive local tempering of the system, as farmers at all levels – protest against the notion of thinly sharing the available water. This explains all the ‘damage and destruction’ to the infrastructure in DY 24 canal of the IBC. The department sees this as an anarchy and unruliness of farmers but farmers see this as the only way of addressing a flawed distribution and management of the available water. Farmers have innovated new strategies to re-plan and restructure the technology and these societal innovations enable access of water for currently under-served non-command areas as well as areas in the official command area. Yet, despite these obvious examples of things not working, the PIM policy requires the irrigation staff to continue promoting the warabandi system of water distribution in the IBC. Without addressing these deep rooted flaws in water allocation, distribution and management, the PIM expects the farmers to manage a section of the canals – and demands an impossible commitment from the WUCS to making participation work in a large non-participatory setting. Indeed participation is a good thing, but it is unlikely to happen through the current PIM design in DY 24 canal of the IBC.

### **Recommendation for further research**

I recommend three themes for further research. In this study I looked at how farmers devise their own strategies in converting non-command areas to irrigated zones, and to addressing inequities in the command areas. It was interesting to note, that most farmers – both those tampering with the system as well as others, do not consider these interventions illegal. Rather, they claim this to be locally achieved social justice. It would be interesting to study whether and how there is indeed social justice in the localized tampering of the irrigation infrastructure, in other words, do these interventions serve to address the need of ‘excluded, disadvantaged’ farmers?

Second, I think it would be of interest to study further on the misfit between hydraulic and other including administrative boundaries. This is an area of work that does not seem well explored.

Third, is to study how unfair distribution water in head region and tail region of IBC will generates and distribution economic benefits and costs over farming community. To construct the canals Government dig the lands and took much of productive lands of farmers in tail end of IBC. It is worth to study ill effects created by the UKP project in the areas where water will not reach. This can be done by comparative study between head end and tail end of IBC.

What is the social benefit/cost of this project if water will not go to farmers' field and what is bad impact on the farmers who lost their lands.

### **6.3 Summary and Conclusion**

In conclusion, participation initially conceived as a bottom-up, participant-driven approach meant to transform unequal power relations, and to empower those formerly excluded has been re-written completing in PIM policy and approach. In currently operational PIM projects, what makes for participation is decided top-down and farmers are merely provided of their responsibilities and the rules that determine their participation. PIM approaches rolled out from the top, only serve to reinforce and reinstate bureaucracy and inequity in water management. Theoretically, PIM assumes a shared vision, commitment to, and equal capacity among agencies as well as individuals [in these organizations] involved in implementing PIM projects: and yet there is no indication, of any training, capacity building among actors tasked with implementing 'participatory management'. All that happens is a blaming and then training of farmers.

Second, PIM assumes a latent homogeneity within irrigation communities. This instrumental notion of being able to order people into collective institutions is not informed by the dynamics of differences that exist among farmers. In this way, PIM ignores, or rather enables, the vested interests of certain individuals in capturing and controlling the irrigation infrastructure and its functioning.

Finally, the wider canvases in which these PIM interventions are expected to take root are rarely considered in the design of PIM projects. This explains why the currently operational warabandi system is unrealistic and why certain farmers take technology into their own hands by fixing lift pumps and opening new outlets. These societal innovations are seen as 'illegal' or 'unauthorised', yet they are an outcome of the wider canvas of irregularity. Similarly, little note is taken of the misfit of hydraulic and administrative boundaries, as well as the possibility and existence of conjunctive water management.

In summary, my thesis concludes that there is a slow implementation of the Participatory Irrigation Management (PIM) in the Indi Branch Canal in the Upper Krishna Project because of conceptual flaws in PIM policy as was also argued by IWMI (2009). The problems that arise in implementing the PIM are also because of these conceptual flaws. In essence, the waterscape of the irrigation commands is diverse and complex – varying in topography, cross-cut by administrative boundaries and social, political and economic fractures. For the PIM policy to work, it requires enormous levels of cooperation and coordination in the management of the resource [water]; the technology (network of canals); and user behavior (adhering to rules of cooperation). If the notion of participation in PIM was not superficial and would have allowed for genuine – bottom-up, participant-led restructuring – then there was a possibility that some of the above mentioned structural barriers to cooperation and coordination might have been realized. But, this is not how participation is written into PIM policy and especially how it is understood by a diverse mix of heterogeneous actors engaged in 'operationalizing' [authorities] and 'undertaking' [water users] PIM. A top-down imposition of a PIM approach that is weighed down with a rhetoric around participation – results unsurprisingly in a reinstating of a similar bureaucracy around why and how WUCS are formed, as well as unsustainable and inequitable management of water among water users. These realities are mirrored in the way PIM is understood, applied and implemented in the IBC.

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