ICEF- M.P-WRD Project on Participatory restoration and management of irrigation systems by Water User’s Associations in M.P

Documentation of ASA, BAIF and VIKALP’s work under the project

Study commissioned by
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<tr>
<td>ASA</td>
<td>Action for Social Advancement</td>
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<tr>
<td>BAIF</td>
<td>Bhartiya Agro Industries Foundation</td>
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<tr>
<td>CAD</td>
<td>Command Area Development</td>
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<td>DC</td>
<td>Distributory Committee</td>
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<td>DoA</td>
<td>Department of Agriculture</td>
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<td>DoWR</td>
<td>Department of Water resources</td>
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<tr>
<td>FO</td>
<td>Farmers Organisations</td>
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<td>GoMP</td>
<td>Government Office Madhya Pradesh</td>
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<td>ICEF</td>
<td>India Canada Environment Facility</td>
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<tr>
<td>IWRM</td>
<td>Integrated Water Resources Management</td>
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<td>KVKs</td>
<td>Krishi Vigyan Kendra</td>
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<tr>
<td>NGO</td>
<td>Non Governmental Organisations</td>
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<td>NS</td>
<td>Nirman Samiti</td>
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<td>PC</td>
<td>Project Committee</td>
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<tr>
<td>PRI</td>
<td>Panchayati Raj Institution</td>
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<td>PVSP</td>
<td>Participatory Varietal Selection Process</td>
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<td>PWT</td>
<td>Participant Walk Through</td>
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<td>SHG</td>
<td>Self Help Group</td>
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<td>STP</td>
<td>Satak Tank Project</td>
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<tr>
<td>TC</td>
<td>Territorial Committee</td>
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<tr>
<td>WALMIs</td>
<td>Water and Land Management Institute</td>
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<td>WRD</td>
<td>Water Resource Department</td>
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<td>WUA</td>
<td>Water User Association</td>
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Section I

Chapter 1: Background and Introduction

1.1 Introduction
Participatory Irrigation Management (PIM) refers to the involvement of irrigation users in all aspects of irrigation management, and at all levels. In this document, we share the experiences of a recently completed four-year project on participatory restoration and management of irrigation systems by Water User Associations (WUAs). The project was implemented by a consortium of NGOs in Madhya Pradesh, with financial support from India Canada Environment Facility (ICEF). The overall policy context of this initiative lies in the fact that Madhya Pradesh is one of the few states in India that has legislation on involving water users and community based organizations in irrigation in the form of the PIM Act (Sahabhaghi Sinchai Prabandhan mei Krikshko Ki Bagidari Adhiniyam), enacted in 1999. According to this act, management of more than 1.2 million hectares of irrigated land had to be transferred to around 1600 WUAs.

This document is structured in three major sections. Section 1, which sets the context of the project, outlines the project background in terms of a background of the PIM concept, its experience in India and internationally, and the existing challenges. The second section, which forms the core of the report, presents the four case studies that document the PIM experiences of the partner NGOs under the ICEF project. Section 3 is a synthesis of the experience in the four projects. It examines the experiment in light of the hypotheses the project set out with and draws important lessons from the initiative in terms of emerging institutional frameworks.

1.2 Background: Why PIM
It is irrigation that makes it possible to produce around 40 per cent of the world's food from 17 per cent of the global cropped area. Worldwide, around 2,400 million people depend on irrigated agriculture for food and livelihood. Traditionally, a high proportion of the irrigation system, especially surface irrigation, has been state owned. Over the years however, a number of problems have been identified with irrigation management, some of the key ones being:

- Poor condition/maintenance of government 'owned' irrigation systems, caused by a variety of factors including lack of incentive and accountability on the part of the monopoly government agency to assure quality supply; no link between irrigation quality provided, revenues generated, and staff incentives; a lack of coordination among departments dealing with agriculture and those dealing with irrigation.
- Inadequate allocation for O&M (operation and maintenance), caused by prevailing water pricing policies and high subsidies on irrigation water, which do not even cover the capital costs in most cases.
- Poor service and inequitable distribution of water, which affects the farmers’ ability to pay, since inadequate irrigation (combined with inefficient water use technologies) results in low yields and incomes.
- Inadequate water availability at the lowest (and furthest) outlets.
- Institutional constraints such as the highly centralized structure and a top down approach of the irrigation departments which is unable to establish any linkages with the farmers, and respond to their needs.
- Inefficiency and wastage in water use leading to environmental problems in the long run, which have an adverse impact on yields and incomes.

The central challenge facing irrigated agriculture today and in the foreseeable future is how to produce more food and farmer income with less water. With an increase of 90 million people per year, it is expected that by the year 2025 world population will reach eight billion people. Between now and then, approximately 80 per cent of the additional food supply needed to serve the growing requirement will have to be produced on land served by irrigation. With
growing competition for water FAO (FAO, 2000)1 estimates that only 12% more water can be made available for these food requirements. This can only be achieved by more productive and intensive agriculture and more productive and efficient water use.

1.3 IMT and PIM
Irrigation Management Transfer can be defined as the transfer of responsibility and authority for irrigation system management from government agencies to water users associations, or other private sector entities. The words turnover, handing over, devolution and privatization are often used synonymously with transfer. IMT may include transfer of decision-making authority (or governance). It may include transfer of ownership of scheme infrastructure (which is normally considered privatization). It may include of water rights from government to water users associations. Or it may only include turning over to water users partial management responsibilities, such as water delivery, canal maintenance and paying for irrigation services, while final approval of O&M plans and budgets are subject to government approval (Vermillion 1995)².

Transferring irrigation management to user groups can play an important role in achieving the following:

- IMT aims to transform supply-driven government administration into responsive, demand-oriented management by water users.
- IMT can reduce the requirements for government staff and resources in the irrigation sector. It can even provide private sector jobs for government staff taking early retirement.
- If effective, IMT may improve irrigation system maintenance and reduce the need for loan-financed rehabilitation projects.
- Through more responsive water service and the “social capital” of water users associations, IMT may help farmers diversify into higher value crops and develop agri-business enterprises.
- Through greater water user control over management and resources, better incentives and accountability and new subsidies designed to stimulate local investment-IMT has the potential to significantly increase the amount of funds available for O&M.
- Through a new partnership with government, IMT can include incentives toward preventive maintenance. It can provide new group opportunities for more integrated water management, agricultural development and marketing strategies.
- IMT can promote empowerment of farmers through development of strong water users associations which may federate up to level of an entire irrigation scheme.

An organized PIM can be traced back to the Earth Summit in 1992, which recommended that water should be treated as an economic good, that water management should be decentralized, and that farmers and other stakeholders should play an important role in the management of natural resources including water. Over the years, international agencies such as the FAO (Food and Agricultural Organization) have also recognized the importance of PIM. FAO had estimated (in 1993) that about 20-30 million hectares of irrigated lands is severely affected by salinity. An additional 60-80 million hectares are affected to some extent by both water-logging and salinity. To tackle these problems, users’ active role is essential. It is accepted that decentralization and devolution of water resources management will increase water user participation in decision-making and investment and this in turn, will improve management incentives, accountability, agricultural and economic productivity and cost recovery.

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The World Bank (1996) defines Participatory Irrigation Management (PIM) as “the involvement of irrigation users in all aspects and all levels of irrigation management.”

“Involvement” is flexible, ranging from light involvement like information sharing, consultation, and joined assessment of problems to real involvement like shared decision-making, collaboration, and full say by the water users.

“Users” refer to water users. The World Bank employs the word userism to express the essence of PIM, because it is management of the users, by the users and for the users. The concept of PIM is then also related to the concept of Water Users Associations (WUAs).

“All aspects” include the initial planning and design of new irrigation projects or improvements, as well as the construction, supervision, and financing, decision rules, operation, maintenance, monitoring and evaluation of the system.

“All levels” include tertiary, secondary, main system level as well as project and sector level

Some of the experienced benefits of PIM include:

- improvements in the equity of distribution of irrigation water,
- greater participation of farmers in management decisions,
- greater water use efficiency—because of improved cropping and management decisions,
- greater participation of farmers in operation and maintenance of the irrigation system,
- better productivity per water unit,
- communication networks that draws on traditional management systems. Through allowing devolution of decision making about irrigation management to the local level, farmers can mitigate disputes and design management solutions to water variation over time.

The extent and nature of participation in PIM lends itself to different interpretations. One meaning of "PIM" may be that the irrigation users have total control and responsibility over the operations and maintenance of part or all of the irrigation system. Another meaning of PIM may be that a farmer council plays an advisory role, with real power remaining in the hands of the irrigation agency.

1.4 International Experiences with IMT

IMT has grown into a world-wide phenomenon with important implications for the sustainability and productivity of irrigated agriculture. Over the last three decades, a large number of countries around the world have adopted programs to transfer, at least partially, management of irrigation systems from government agencies to water users associations or other private sector entities. During the early years, PIM was initiated largely as a response to donor requirements and with a focus on rehabilitation. As quoted in Raju (2007), Vermillion (2004) describes early reforms in the irrigation sector as modest with a primary focus on rehabilitation. The formation of small water user associations was often supplemental at the community levels. Many of these WUAs were often created to satisfy donor requirement and did not have an appropriate legal framework or sufficient power to take actions. Public irrigation agencies did not see the WUAs as a threat as long as WUAs cleaned canals, collected fees, and were subordinate to the Irrigation agencies. Such weak attempts combined with lack of a political will often led to the collapse of the WUAs soon after the donor project was over as seen in the case of India, Pakistan, Nepal, and China.

Major PIM programmes were initiated as components of irrigation rehabilitation loans in Albania, Armenia, Azerbaijan, Kazakhstan, Kyrgyzstan, Romania, Tajikistan, and Uzbekistan, and other Asian countries. China is piloting self-financed irrigation and drainage districts, where the head works of the irrigation system are looked after by a company on corporate lines which sells water in bulk to water user’s associations on a charge. Irrigation management companies in Vietnam are gradually converting to irrigation cooperatives and water user’s associations. A participatory irrigation management and development secretariat is under contemplation by the government of Cambodia as well. Thailand is piloting a number
of experiments with farmers’ committees and federations. Pakistan federates water users’ associations in area water boards.

One of the key issues in the sustainability of WUAs is their ability to raise funds. Based on the international experience, some of the potential ways to raise funds to ensure the sustainability of the operation and maintenance tasks to be performed by WUAs include the following:

- Member subscription according to holding size.
- Flat rates or metering as in China (many Chinese provinces have been experimenting with pre-paid cards for agricultural electricity supply).
- Long-term loans.
- Fees on violations and environmental pollution.
- Government should remain as an observer to the process.
- Financial agreements related to water transfers should be clearly drawn.
- Common platform to resolve payment issues and sorting ground level problems.
- Sharing costs and benefits with establishing systems

1.5 PIM in India

WUAs, earlier known as Farmers Organizations (FOs) with limited objectives, were started in India during the 1970s under the Command Area Development programme. Owing to its top-down approach however, most of these could not function for long, and gradually disappeared. The centrally sponsored Command Area Development (CAD) Programme was started in 1974 with the objective of bridging the gap between irrigation potential created and utilized. In 1985, the CAD programme requested each Command Area Development Authority (CADA) to take up aspects of PIM in at least one small part of the command area as an experiment. In 1987, the CAD programme issued a series of guidelines to involve farmers including how to create WUAs, and ways to transfer various irrigation management functions. In the 1980s and 1990s, several NGOs and Water and Land Management Training Institutes (WALMI) had initiated pilot WUAs in several states like Maharashtra (e.g. Ozar), Gujarat (Mohini), Andhra Pradesh (SRSP), Tamil Nadu (LBP), Bihar (Paliganj), Rajasthan (Chambal). The initial success of the Mohini Water Cooperative Society established in 1978 in Gujarat, in particular, raised expectations in all quarters. The leadership role in this respect was assumed by the CAD wing of the Ministry of Water Resources, Government of India. Some NGOs and external donors also took keen interest in formation of WUAs in certain parts of the country.

A model act on PIM was circulated by the Ministry of Water Resources, Government of India, in 1998 to facilitate action by the state governments. Starting from the Sixth Five Year Plan, all five-year plans have provided strategic support to promote PIM. The restructured command area development programme of the 10th Five Year Plan (2002-07), now called Command Area Development and Water Management (CADWM), has made PIM as a pre-condition for availing of central assistance from the Ministry of Water Resources.

By the nineties, the states of Andhra Pradesh, Madhya Pradesh, Karnataka and Orissa had enacted legislation necessitating WUAs as a statutory requirement to get access to irrigation water. In 1997, the Andhra Pradesh government passed a separate law (APFMIS Act, 1997) to promote WUAs. This led to formation of 10842 WUAs at lower level and above them 172 distributary committees. The enormous efforts made by the elected leaders and the staff at all levels of WRD created a new wave of PIM in India. The Madhya Pradesh government followed the trend by passing a similar act and transferring canals to WUAs and distributary committees. Madhya Pradesh has formed 1470 WUAs (includes 846 from minor projects) to cover 1495,000 ha. The government of Maharashtra in its resolution (dated July 23, 2001) indicated that henceforth no permission would be given to individual farmers to take water. Only registered societies are eligible for water entitlements. The government of Maharashtra has circulated a draft version of its legislation to govern WUAs. In 1997, the Gujarat government had fixed a target of 1.5 million ha (50% of the total irrigated area) to be transferred to WUAs by 2003. Current figures indicate that some 150,000 ha has been transferred to 900 WUAs so far. According to the Ministry of Water Resources, at the national level nearly 5.8 million ha is covered by WUAs; i.e. nearly 17 per cent of the canal command area in India. Out of this, WUA area in Andhra Pradesh and Madhya Pradesh constitutes 15 per cent and the rest (2 per cent) is covered by other states.
More recently, the Eleventh Five Year Plan is planning to further promote and strengthen PIM and the Working Group on Water, constituted by the Planning Commission, has clearly stressed the need for this. The Working Group focused on: a) reviewing the present status of farmers’ participation programme including the existing legal, organizational and institutional arrangements for PIM, the physical and financial achievements, suggest strategy and action plan for XI the Plan; and b) suggesting ways of sustaining PIM with special reference to involving NGOs and SHGs.

In most states, the commonly found organizational structure in PIM is a formal 3-tier structure, which provides for creation of farmer’ organizations at three different levels:

- Water Users’ Association (WUA), which will have a delineated command area on a hydraulic basis, which shall be administratively viable. Generally, a WUA would cover a group of outlets or a minor.
- Distributary Committee (DC), which will comprise of 5 or more WUAs. All the presidents of WUAs will comprise the general body of the distributary committee.
- Project Committee (PC), as an apex committee of an irrigation system and presidents of the Distributary committees in the project area shall constitute the general body of this committee.

The associations at different levels are mainly expected to be involved in:

- repair and maintenance of irrigation system in their area of operation;
- distribution of irrigation water to the beneficiary farmers;
- assisting the irrigation department in the preparation of water demand and collection of water charges;
- resolving disputes among the members and WUA and
- monitoring the flow of water in the irrigation system.

Multi lateral donor agencies have also been involved in PIM at various levels. The World Bank has been promoting PIM through most of its water sector projects. In early 1990s, the Water Resources Consolidation Project (WRCP) carried out in Haryana, Orissa, and Tamil Nadu had a major component to promote farmers’ organization and turnover across these three states. Later WRCP was extended to other states as well. USAID through 11 WALMIs facilitated action research projects for WUA formation and functioning. In recent years the Asian Development Bank has been promoting PIM in Chattisgarh and Orissa through its water sector projects. The Ford Foundation has been an active player in supporting research studies and pilot sites on PIM in several states. The Agha Khan Foundation has also supported PIM studies in a few states.

Some of the recent positive initiatives under PIM experience in India are as follows:

**Water Auditing in Maharashtra:** Starting from 2003-04, water auditing has been adopted in Maharashtra as a systematic and scientific estimation of water accounts of the irrigation projects. Water auditing is checking actual sector-wise water use against planned water use efficiency in irrigation, and losses. As far as the irrigation sector is concerned, water audit gives comparison of planned water use efficiency (ha/Mcum) versus actual water use efficiency. This provides information about loss of water in the system, and is the first step to initiate action to minimize the losses to improve water use efficiency. Broadly water auditing involves checking a number of parameters including actual water use against the planning; whether water use for irrigation in every season is as per planning and checking water use efficiency (ha/Mcum); checking whether the prescribed procedure for irrigation management is followed or not; and whether records as per requirements are maintained or not.

**Agronomic Measures in Katepurna Project in Eastern Maharashtra:** The project is located on the Katepurna river in the Vidarbh region of Maharashtra. The project adopted an integrated approach of irrigation and agricultural department at field and administrative level which helped in water saving. Specific elements include the following:
i) Applying water at critical growth stages of crops
With the support of agricultural department farmers were educated in the application of right amount of water at right time, which reduced the number of rotations and ultimately minimized over application of irrigation water, which is further found useful to maintain the proper drainage of the land under command.

ii) Crop diversification
Katepurna command constitutes around 39% of cotton crop but farmers were reluctant to practice irrigation for cotton. With integrated efforts of Agricultural University, Agriculture and Irrigation department promoted farmers to take pre monsoon cotton. It has given 1.5 to 2 times higher yield than traditional cotton growing and now there is trend set for pre monsoon cotton growing among farmers. The demonstration and guidance is delivered to farmers through NGO and departmental meeting, which resulted for better response for pre monsoon cotton.

iii) Soil testing facilities
The Akola irrigation division has a soil testing laboratory subdivision, which provided soil-testing facility for farmers to know soil properties so as to plan the cropping system and water management practices scientifically.

ICEF Project in Madhya Pradesh: ICEF (India Canada Environment Facility) played a pivotal role in promoting NGOs involvement in facilitating the formation and functioning of WUAs in various projects of the state. The recently completed ICEF project (2002-2007) titled “Participatory Restoration and Management of Irrigation System by Water Users in Madhya Pradesh” is spread over seven projects (Birsagar, Gora, Koncha, Chhapi, Satak, Samrat Ashok Sagar, and Segwal), incurring a total expenditure of Rs 153 million, with contributions from ICEF (Rs 114 million), WRD (Rs 9.6 million) and community contribution (Rs 19.6 million). The main activities in this project include creating awareness about PIM, training of WUA members, organizing exposure visits to WUAs, gender mainstreaming, and chak development. A total of 26 WUAs have been organized under this project by four NGOs – SRIJAN (9 WUAs), ASA (10), Vikalp (2), and BAIF (3). Across the state, this project covered one major, two medium and four minor (tank) projects. These 26 WUAs cover a total of 18,697 families.
Chapter 2: Documentation of the ICEF PIM project

2.1 Background: PIM in Madhya Pradesh
Madhya Pradesh (MP) has a total irrigation potential of 23 lakh hectares, which has been created through nearly 1500 major, medium and minor surface irrigation schemes\(^3\), as part of government initiatives. In reality, only around 30-35% of that potential is being used, as per official data. The major reasons for underutilization are:

- inadequate or deferred maintenance of the irrigation infrastructure mainly the canal system, and
- lack of ownership of irrigators in irrigation management and maintenance of irrigation structures.

With this in view, the Government of MP introduced the concept of Participatory Irrigation Management (PIM), when it enacted the MP- PIM Act in 1999. PIM is an effort to promote a partnership-based relationship between the government or the provider of irrigation water, and the farmer or the receiver of water. It was expected that such an approach will bring about greater involvement of farmers in canal irrigation management, which in turn will help ensure reliable and equitable distribution of water supply up to the tail end, while at the same time improving recovery of water charges, required for maintenance and upkeep of the system.

Since 1999, over 1400 three-tier farmers’ organizations have been constituted throughout the state, at tertiary, secondary and primary-level canal systems. The management of the canal systems including their operation and maintenance below the outlet of minor and sub-minor level, has been transferred to the elected Farmers’ organizations (FO). PIM is now being practiced in over 15.05 lakh hectares through farmers’ organisations, including Water Users Associations (WUA) at the primary level, the Distributory Committee (DCs) at the distributory level and the Project Committee (PCs) at the Project level.

2.2 Documentation of the ICEF project
This section presents four case studies that were carried out to document the ICEF PIM experience, implemented between 2003-2007. The ICEF PIM project identified, tested and demonstrated key participatory processes, development strategies and capacity building needs of both farmers’ organizations and WRD personnel, with the overall objective “to demonstrate, on a pilot basis, community based restoration and management of irrigation systems in minor, medium and major irrigation systems at six sites in Madhya Pradesh”. The purpose of the ICEF project is to demonstrate on pilot basis, community based restoration and management of irrigation systems in the selected minor, medium and major irrigation systems.

The project initially covered six irrigation schemes with a command area of 48,000 ha. These schemes are: Veersagar (in Tikamgarh district) and Gora (in Chhatarpur district) tanks – minor irrigation projects; Koncha (in Rajgarh district) and Chhapi (in Ashoknagar district) and Satak Tank (in Khargone district) – medium irrigation projects; and Samrat Ashok Sagar Dam (in Vidisha and Raisen districts). A seventh scheme, the Segwal Tank Project in Badwani district, with a command area of 1200 ha, was added in 2005-06.

The project has a total outlay of Rs 176.6 million over 4.5 years. An important and unique element of the project design is an upfront contribution (in cash) by the farmers amounting to 30% of the cost of physical works. This contribution was reduced to 20% and then to 10% following a mid-term evaluation in 2005-06. The 10% farmers’ contribution would take place with retrospective effect.

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\(^3\) Minor scheme – upto 2000 ha. of irrigation command, Medium- 2001-10000 ha. of irrigation command & Major scheme are > 10,000 ha. irrigation command
The ICEF-PIM project is a unique project which has been conceived and designed in a participatory way. A unique feature of the ICEF project was the involvement of four local NGOs, to support the Water Resource Department (WRD) in project implementation and strengthening the institutional base (of WUAs and WRD) needed for success of PIM at each of the selected irrigation schemes. NGOs are collaborating with the WRD in community mobilization including community contribution and building capacities of WUA and farmers.

The case studies present an analysis of the actual implementation processes including the implementing agency’s approach/strategies to build rapport with the people and facilitate community contribution. As the WUAs play a pivotal role in PIM, its roles, responsibilities and efficacies are examined along with its relationship with WRD and institutional arrangement. Physical work being undertaken by WUA has been detailed out. Finally the project impact and issues related to sustainability have also been explored. Essentially, the key focus of the case studies has been to document the key learning of the project for future implication on PIM.
Chapter 3

Case study: Satak Tank, Khargone district

This project was a collaborative effort of the Madhya Pradesh WRD, Satak Water Users Association and Action for Social Advancement (ASA), an NGO. Starting with a project profile and a brief socio-economic profile of the Satak Tank command area, the case study looks at how the project was implemented on the ground. It lists out the unique strategies adopted by ASA as entry point activities to establish its credibility; the hand-holding process of strengthening the WUA to its current status where it is considered as an unique model in the state in terms of the capability of the people to improve and manage irrigation infrastructure, and monitor its usage; the efficacy of the WUA in fulfilling its roles and responsibilities; role of women; efforts made to establish a transparent community contribution collection process; physical works performed and the WUA's achievement in undertaking physical works to bring the canal structure to its minimum operating level; and the water distribution mechanisms. It also explores the impacts of the project, sustainability of the WUA in the post-ICEF period; and finally lists the lessons learnt from this implementation programme.

3.1 Project Profile

The Satak Tank Project (STP), a minor irrigation scheme, in Bamandi village, Khargone district is one of the seven irrigation schemes being targeted by the joint ICEF-WRD project. Satak tank is located on the Satak River, a tributary of the Narmada. Construction of the tank began during the first five-year plan in 1955 and was completed in 1966. The length of the tank is 1573 m, height is 19.58 m., and the water carrying capacity of the tank is 18.38 mcum. The tank is designed to irrigate a command area of 1800 ha (615 ha for Kharif and 1185 ha for Rabi crops) although the area under actual irrigation is 1400 ha. The distributary network is 52.5 km long consisting of the Main Canal (11.4 km long), the Right Main Distributary (RMD) canal (14.4 km long) and 10 other minor canals. This total network of canals is completely earthen in structure. The initial 2 cusec carrying capacity of the canal had reduced to only 1 cusec by 2000, due to breakdown of the structures and seepage of water. Therefore, the tail-end villages would only receive water for 1 irrigation as against the 4 irrigation required for the rabi wheat crop.

ASA’s is a 10 year old development organization in the field of rural development working in different remote rural pockets of MP, Gujarat, Jharkhand and Bihar. ASA’s core strength is participatory action at the community level, and has been working on livelihood promotion through participatory natural resource management including water shed development, micro finance, local institutional development and PIM.
### Table 1: Features of the Satak Tank ICEF-WRD Project

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<th>Features</th>
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<td>No. of WUAs</td>
<td>1</td>
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<tr>
<td>Irrigable Command Area</td>
<td>1800 ha</td>
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<tr>
<td>Area under actual irrigation</td>
<td>1400 ha (approx.)</td>
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<tr>
<td>No. of Villages</td>
<td>17 (5 in Head reach, 5 in Middle reach, 7 in Tail reach)</td>
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<tr>
<td>Total Land area in Command Villages</td>
<td>7580.373 ha</td>
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<tr>
<td>Total number of Water Users’ Households</td>
<td>1745 HH</td>
</tr>
<tr>
<td>Area under ASA’s operation for project facilitation</td>
<td>1800 ha</td>
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<td>Proposed budget for physical restoration through WUAs</td>
<td>RS 128 Lakh (for entire project)</td>
</tr>
<tr>
<td>Farmers Contribution (30% of project cost reduced to 10% w.e.f. April 2006)</td>
<td>Rs 12.8 lakh</td>
</tr>
</tbody>
</table>

In 2000, following the PIM Act, the government handed over the maintenance of the canal to farmers. A Water Users Association (WUA) was formed and they received a grant of Rs 40/ha from the WRD. This was however inadequate to maintain the entire length of 53 km of canal network, and in 2001-02, WRD-WUA decided to charge an additional amount of Rs 50 per ha from the farmers for cleaning of the canals. Since the WUA is not allowed to levy taxes on its own, this contribution was called *jan sahyogi rashi* (peoples’ contribution). The farmers received much more water following cleanup of the canal structures and the farmers felt that the money contributed by them was rightfully used. However, the distribution network continued to be in a dilapidated state, and the lack of even minimum repairs resulted in severe water losses. As a result, the tail-end villages hardly received any irrigation water, and the irrigated area had drastically reduced over the last several years. It was in this background that the ICEF project was introduced and envisaged to bring the canal back to its minimum operational level as per the design by making money available for reconstruction and rehabilitation.

With an irrigated command area of less than 2000 ha, STP has only one WUA which was formed in 2000. There are no Distributary Committees or Project Committees. The WUA has ten (10) Territorial Constituencies (TC) each covering an irrigated area of 200 ha and represented by an elected representative. The Managing Committee consists of 12 members including the 10 TCs, a President and a woman member nominated from the command villages.

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5 The government issued a total of Rs 50 per ha for canal maintenance, out of which Rs 10 per ha went to the WRD for main tank maintenance and the remaining Rs 40 per ha was given to the WUA for canal structure maintenance. Since 2005-06, this amount was increased to Rs 100 per ha. From which Rs 20 per ha went to the WRD and Rs 80 per ha to the WUA for their respective functions.
Table 2: Profile of the STP Command Area villages

<table>
<thead>
<tr>
<th>Village</th>
<th>Position in the canal region</th>
<th>Total Area (ha)</th>
<th>Area under STP Command (ha)</th>
<th>Population</th>
<th>No. of Water User HHs by Village</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bamandi</td>
<td>Head</td>
<td>535.166</td>
<td>89.992</td>
<td>251</td>
<td>99</td>
</tr>
<tr>
<td>Saleempura</td>
<td></td>
<td>232.295</td>
<td>181.072</td>
<td>213</td>
<td>75</td>
</tr>
<tr>
<td>Phagakhedi</td>
<td></td>
<td>371.123</td>
<td>43.218</td>
<td>138</td>
<td>39</td>
</tr>
<tr>
<td>Roopkheda</td>
<td></td>
<td>390.650</td>
<td>170.947</td>
<td>175</td>
<td>140</td>
</tr>
<tr>
<td>Kachipura</td>
<td></td>
<td>74.940</td>
<td>35.761</td>
<td>99</td>
<td>30</td>
</tr>
<tr>
<td>Regwan</td>
<td>Middle</td>
<td>639.383</td>
<td>281.389</td>
<td>428</td>
<td>362</td>
</tr>
<tr>
<td>Sonkhedi</td>
<td></td>
<td>284.762</td>
<td>39.785</td>
<td>144</td>
<td>63</td>
</tr>
<tr>
<td>Satkoor</td>
<td></td>
<td>171.772</td>
<td>88.063</td>
<td>256</td>
<td>78</td>
</tr>
<tr>
<td>Katkoor</td>
<td></td>
<td>281.604</td>
<td>51.711</td>
<td>615</td>
<td>72</td>
</tr>
<tr>
<td>Ekaldhariya</td>
<td></td>
<td>305.750</td>
<td>119.848</td>
<td>1216</td>
<td>85</td>
</tr>
<tr>
<td>Aheer Dhamnod</td>
<td>Tail</td>
<td>549.987</td>
<td>44.268</td>
<td>1493</td>
<td>31</td>
</tr>
<tr>
<td>Balkhad</td>
<td></td>
<td>883.058</td>
<td>235.398</td>
<td>1804</td>
<td>214</td>
</tr>
<tr>
<td>Balsamud</td>
<td></td>
<td>888.756</td>
<td>219.506</td>
<td>7584</td>
<td>215</td>
</tr>
<tr>
<td>Mejampur</td>
<td></td>
<td>243.588</td>
<td>55.189</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>Balgaon</td>
<td></td>
<td>701.587</td>
<td>57.560</td>
<td>1329</td>
<td>38</td>
</tr>
<tr>
<td>Akbarpura</td>
<td></td>
<td>485.322</td>
<td>Nil</td>
<td>294</td>
<td>Nil</td>
</tr>
<tr>
<td>Pathora</td>
<td></td>
<td>520.63</td>
<td>86.658</td>
<td>1683</td>
<td>171</td>
</tr>
</tbody>
</table>


Out of these 17 villages, Mejampur and Akbarpura villages are uninhabited (because of the damage caused by floods) although the land there is cultivated.

Agriculture is the primary source of income in the region. Most of the water users are small and marginal farmers with an average land holding size of 1-2 ha. The soil type is medium black suitable for cotton, and the principal crops grown are soyabean, cotton, chilli, wheat, jowar and some maize. The primary sources of irrigation are private wells and the STP canal. Farmers spend a considerable amount of money on chemical fertilizers, although it is supplemented by farm yard manure. Most farmers use family labour for farming activities but there is a big market for agricultural wage labour in the STP command area. This has particularly increased with the shift in the crop types from jowar-groundnut-cotton to wheat-cotton-chilli, all labour intensive crops. There is a big demand for women labourers for picking cotton and chilli. As per the field study migration from the village within the tail-end villages is very low, while some marginal farmers do resort to going out for earning daily wages. Cattle (bulls, cows & buffalo) are maintained by most households only for tilling soil and milk production for self consumption.

ASA (Action for Social Advancement), an NGO working in Madhya Pradesh and Gujarat, was engaged by the WRD to manage the Satak Tank Project. The role of ASA in this project is to build capacity of the farmers' organizations for smooth operation and maintenance, community mobilization for higher involvement in irrigation management including payment of 30% farmers' contribution, facilitating canal restoration works, providing agricultural support services to enhance water use efficiency and build capacity and resources within the WRD for implementation of PIM.
### Salient features of the Satak Project

- ICEF has made a total project outlay of Rs 128 lakh for physical works related to Satak Tank Project restoration.
- As of 30 June 2006, the WUA successfully collected farmers’ contribution to the tune of Rs 13.10 lakh (10% of physical works expenditure) as against the required contribution of Rs 12.8 lakh.
- The WUA has successfully completed physical works worth Rs 111 lakh during the project time period.
- 36 community volunteers were trained as Jal Praharis. Today they are capable of mobilizing the community besides planning for and monitoring physical work, water distribution and agricultural support programmes.
- 73% women (spouses of landowners who are members of the WUA) exercised their voting rights in the 2006 WUA elections, after being given those rights through an amendment in the PIM act.
- When the WUA needed soil to repair the canals in 2005-06, 25 ha of government land, on both sides of the canal was freed from encroachment.
- A transparent contribution collection process was introduced. These include *anshdaan anubandh* (tripartite agreement) which specifies the land area to be irrigated and the amount of contribution to be paid; 'ICEF Contribution Bill' to indicate the amount payable and the due date; and a ‘Contribution Receipt’ signed by the farmer and the WUA President and countersigned by witnesses once payment was made.
- The number of landless households in the command area has increased over the last decade particularly since the cropping pattern changed in favour of cotton and chilli, both labour intensive crops.

### 3.2 Implementation Strategy

#### 3.2.1 Entry point activities: ASA’s role – the need to establish its credibility and rapport with the community

The ICEF project aims to set up WUAs as strong democratic peoples’ institutions based on genuine participation, decision making, planning and implementation of repair works. But along with this, it also hoped to get a 30% contribution upfront and in cash from the farmers towards the cost of physical works. This was an uphill task for a government department like the WRD known for its top-down approach to irrigation management. Therefore, as per project requirement, during the second project meeting, ASA was introduced whose role was to mobilize people’s interest in the project, and most importantly to collect the 30% community contribution. However, the communities questioned ASA’s authority, credibility and role in the project. They felt that the existing WRD officials (Sub-Engineer, Ameen and chowkidaars) could handle this responsibility as well. ASA began the process of credibility building by

- Setting up a strong team of professionals, including a seasoned field level NGO worker, an agricultural engineer and a social worker to be based at Bamandi. What really helped was that the Team Leader was also a farmer from the command area (belonged to Roopkhera village).
- ASA contacted the village leaders and the WUA Managing Committee (MC) members. The WUA took on the responsibility of collecting the community contribution with ASA’s support. Although the Ameen was involved initially, WRD staff preferred ASA take the initiative with the WUA.
- Intensive night meetings for a period of one and a half months were conducted to contact the farmers.
- 36 youth from the command villages were selected and trained as Jal Praharis to assist with community mobilization, awareness generation, community contribution collection
and assisting the WUA and WRD with the planning, implementation and monitoring of physical works and water distribution.

- Finally a visit of the PIM Directorate and ICEF Director was organized to discuss the project with the communities and clarify the roles of ASA, WUA and WRD.

### 3.2.2 Awareness creation
ASA started introduction of the project in the villages through a Project Introduction Leaflet stating project details like the partners and their respective roles and responsibilities; the planned activities and the processes; the timeline etc.

#### Innovative means introduced by ASA for awareness creation
- Village wise Quiz Competitions on various aspects of PIM.
- Kalki-turra, a local folk media was used for project awareness.
- Wall paintings were used to highlight basic information about the project.
- Jal Jagaran Abhiyans or 6 day Water Awareness Campaigns were conducted.
- ASA conducted Baseline surveys using GeoPRA tools in each of the 17 villages in the command area to collect baseline information and to identify people's needs.
- ASA promoted agriculture support services to improve agricultural productivity and water-use efficiency including:
  - Soil testing demonstration
  - Participatory Varietal Selection Process (PVSP) trials in wheat and chickpea (Rabi 03-04) and soyabean and rice (Kharif 2004)
  - Demonstration of on-farm water management and Volumetric water supply
  - Demonstration on organic farming to show impact of chemical fertilizers on soil, water, health of crop and people

- A Sinchai Pustika was introduced for all farmers, which provided information on the PIM Act, the WUA's roles and responsibilities, the farmer's rights and responsibilities, water cess rates for different crops, etc. It also had provision for the farmer to maintain a record of the land area owned by him, how much is cultivated in each cropping season, how much is irrigated, crops grown, etc. This book was sold for Rs 10 to each farmer, out of which Rs 3 was paid to the Jal Prahari for filling up the book for the farmer, and Rs 7 went to the WUA.

### 3.2.3 Community contribution collection
Since the project required community contribution to be upfront and in cash before any physical activities could be initiated, awareness generation efforts went hand-in-hand with contribution collection. At 30% the amount of contribution to be made by a farmer worked out to Rs 880 per acre (or Rs 2111 per ha.). The WUA decided to allow farmers the option to pay the amount in four installments of Rs 220 per acre.

An anshdaan anubandh form or an instrument of agreement was developed to formalize the relationship between the WUA and water users, specifying the respective roles and responsibilities of the partners. It specified the land area to be irrigated, the amount of contribution payable, and the number of installments in which it would be paid. ASA also designed an ICEF Contribution Bill to indicate the amount payable and the due date; and a Contribution Receipt signed by the farmer and the WUA President and countersigned by witnesses once payment was made. After each round of community contribution collection, the amount collected is deposited in the bank. Four copies of the details of the deposited amount are prepared for the Executive Engineer, the local WRD office, the WUA office and ASA. All these systems have helped to make the financial transactions transparent for the community and instill faith in the WUA.

In the first village, Salimpura, the WUA was successful in collecting Rs 18,000 in the first round of visits. During the first year almost Rs 5 lakh contribution was collected but physical restoration work worth only Rs 1.2 lakh was completed. The delays were attributed to the unusually long process of obtaining technical sanctions. The momentum of contribution
collection (Rs 6 lakh in the second year) could be maintained only because by the end of the second year substantial activities had been initiated. In order to encourage payment of the contribution, ASA gave letters of appreciation to villagers who initiated payment; printed a list of farmers who had paid up and posted it at the *gram chaupal*, which exerted social pressure on those who had not paid up so far. ASA also formed an 8-member village committee to assist the *JalPraharis* and WUA management committee in contribution collection.

In Salimpura, one of the richer villages situated at the canal head, the farmers refused to pay contribution. Being in the head region they received adequate water even in the dilapidated state of the canal and their wells and tubewells were adequately recharged. They wanted the poor farmers from the tail-end to contribute first. After the initial collections were completed, ASA presented an analysis to the farmers of Salimpura which showed 50-60% of the poor farmers, 20-30% of medium farmers and only 10% of the rich farmers had paid their contributions. This analysis convinced the farmers of Salimpura to do their bit for the project.

Table 3: Year-wise break-up of contribution collection in STP command area

<table>
<thead>
<tr>
<th>Year</th>
<th>Community Contribution collected (in lakhs)</th>
<th>Community Contribution Target</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>@ 10%</td>
<td>@ 30%</td>
</tr>
<tr>
<td>2003-04</td>
<td>Rs 4.86</td>
<td>rs 12.8 lakh</td>
</tr>
<tr>
<td>2004-05</td>
<td>Rs 6.18</td>
<td>Rs 38.4 lakh</td>
</tr>
<tr>
<td>2005-06</td>
<td>Rs 1.09 lakh</td>
<td></td>
</tr>
<tr>
<td>Till June 2006</td>
<td>Rs 1.97 lakh</td>
<td></td>
</tr>
<tr>
<td>Total as of June 2006</td>
<td>Rs 14.10 lakh</td>
<td>Rs 711 per ha</td>
</tr>
<tr>
<td>Per ha community contribution</td>
<td></td>
<td>Rs 2111 per ha</td>
</tr>
</tbody>
</table>

Source: Internal communication from ASA

In 2005-06, community cash contribution for physical restoration was brought down to 2% of the estimated cost of the physical work. With the exception of STP, in most other ICEF Project sites, 30% contribution collection was becoming a difficult task for the WUAs and NGO partners, which led to delays in the physical works being undertaken at all the project sites. Many of the marginal and small farmers expressed inability to make contribution in cash but were willing to do the same in the form of voluntary labour at project sites. The need to bring down the farmers' contribution was also emphasized by the external mid-term project\(^6\), which further suggested that, the farmers should be allowed to pay either in cash or in kind. Accordingly, in 2006-07, the community contribution amount was reduced further to 10%, which for STP worked out to Rs 12.8 lakh or Rs 288 per acre (or Rs 711 per ha).

3.2.4 Water User Association (WUA)
The Satak Tank WUA was first formed in 2000. As mentioned earlier, in the pre-ICEF days the WUA along with the Sub-engineer tried their best to maintain the canal in as good a shape as possible with the small government funding and when that fell short, collected a ‘*jan bhagidari rashi*’ from the farmer-members. ASA worked with the first management committee to strengthen their leadership qualities, enhance their understanding about their roles, responsibilities and rights under the PIM Act, and in providing technical training to undertake physical works related to canal maintenance and rehabilitation.

In 2004, the WUA formed four sub-committees of 12 members each: Agriculture; Social Justice; Works; and Women’s sub-committees. Of these, the Works sub-committee has been the most proactive working along with the/managing committee in participating in survey plans, preparing cost estimates and tender contracts, and in supervising the physical activities. The legal sub-committee has helped resolve several cases of water disputes which arose during the irrigation season. ASA engaged the agricultural sub-committee to participate in its demonstration efforts for improving agricultural productivity and water use efficiency.

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The women’s sub-committee has not been active. At Satak, these sub-committees have helped to broaden base participation of WUA members in the working of the WUA.

Re-election of the WUA was held in 2006. Despite the fact that the existing WUA management committee was working very well, the leadership decided to allow new leadership to emerge and take on the responsibilities. The MC of the new WUA includes two members from the tail-end villages, including the President; six from the middle reach villages; and the remaining four from the head-end villages. Members of the previous management committee assumed new roles in the various sub-committees and continued to play an active role in the management of the STP WUA. The WUA election process (both in 2000 and 2006) was highly politicized with the political parties taking sides and expending on campaigning. However, once the elections were over, party affiliations did not affect the committee members from sitting down amicably to perform the functions of the WUA.

3.2.5 Efficacy of the WUA- kanada (Canadian) project ke baad se nahar hamara lagta hein, sarkar ka nahin7

The WUA has been very systematic in its operations. It maintains records in a number of books – command area register; revenue and expenditure register; stock register; cash book; sinchai pustika distribution register; a walk-through register; and an agreement register. There is also a register for documenting the agenda and decisions taken at all meetings. While meetings were organized by the WUA even in the pre-ICEF years, they have become more regular since 2003. The WUA conducts several general assembly meetings in a year depending on the need. Information about the meeting to be held is communicated in advance to the management committee by circulating the agenda while for general assembly meetings the members are informed through notices pasted at crucial places within the villages, through word of mouth, and sometimes through announcements on the mike. A look at the meeting register indicates the wide range of topics discussed – selection of participants for training programmes and exposure visits; formation of sub-committees; participation of women and men in meetings; farmer volunteers to help with project activities; set up of WUA office; eligibility criteria for voting rights of women and men farmers in WUA elections; crop productivity; water availability, etc. However, a recurrent issue at meetings has been community contribution and the status of physical works.

Two WUA offices have been set up within the Satak command area which has helped establish their official status and provided a structured space for conducting meetings and maintaining their books and records. ASA contributed funds from its internal sources since WRD did not have any fund allocation for this.

Although the local Gram Panchayats (11 in the WUA command area) do not play a very proactive role in the functioning of the WUA, the WUA does try to maintain a cordial relationship with them. The agenda of the general body meetings are sent to them, and their help is sought in cases of conflict resolution, as required.

A major achievement of the WUA was freeing up about 20 ha of government land on both sides of the canal from encroachment by farmers in 2005-06. The soil from this land was needed for repairing the earthen canals and bringing them back to minimum operating levels. In order to ensure that re-capture of the land does not take place, the WUA has plans to plant ratan jot (Jatropha) on the land which is used to produce bio-fuel and in a few years time could be a source of income for the WUA.

7 Since the Canadian (ICEF) project has been introduced, the canal appears to be ours and not belonging to the government.
Achievements of Satak WUA

- The WUA successfully helped collect community contribution and supervised physical works worth Rs 111 lakh ensuring quality work and timely completion.

- The contract for rehabilitation of the first 1.5 km of the main canal worth Rs 4.9 lakh was contracted out to the WUA itself and they accomplished that task effectively.

- The WUA has taken the necessary steps to ensure that grazing animals do not breach the canals for drinking water.

- It appointed water guards during irrigation season and monitored their activities; and stopped the wastage of water by penalizing the offenders.

- The WUA has prepared and presented the annual accounts and water budgets as part of the Social Audit exercise at the annual general body meetings.

The STP is the most visited irrigation project in the state taking up significant amounts of time of the WUA MC, sub-committees and WRD officials. Recognizing the value of their time and the effort put in, ASA suggested charging a nominal fee from visiting groups, institutions and professionals. As of March 2006, the WUA had collected Rs 4500 which had been deposited into the WUA official bank account. In 2006-07, the WUA set up a PIM Facilitation Centre with the objective of sharing the experiences and learning of managing a micro users’ association with other water users associations and other visitors in return for a fee.

3.2.6 Womens’ participation

As provided under the M.P. PIM Act, the Satak WUA has had a woman member (nominated) since 2000 who attends WUA meetings when required, however has not played an active role in decision making. Shrimati Sukmabai from Roopkheda was nominated in the new Satak WUA. As put forth by the other management committee members, “jaise sarkar SC/ST ko aage barhane ke liye protsahan karte hein, waise mahilayon ko bhi aage barhana hein. Isliye mahila sadasya hein, magar koi khaas kaam nahin hein.”

ASA has been striving towards giving membership and voting rights to women heads of water users’ households in WUAs. This amendment was made and notified by the GoMP in the state’s PIM Act in 2005. The ASA field team at Bamandi put in considerable effort in generating awareness amongst the women about this right, the importance of exercising their franchise right and their role in irrigation management, and mobilizing them to participate during elections. An unprecedented 73% of spouses of landowners caste their votes in the last WUA elections.

The ICEF Project has two women volunteers from Pathora and Bara Roopkhera villages, who assist ASA staff in mobilizing women for meetings. They have been provided basic training about participatory irrigation management. ASA tried to use their own organizational experience in using the SHGs as a means of womens’ empowerment from other parts of M.P., and promoted three Self Help Groups (1 in Regwa and 2 in Bara Roopkhera villages) in the command area. The women volunteers now help run them, but in the absence of concerted guidance from ASA and the WRD, the effort did not do very well.

The study team visited the Jai Vaishno Samuha, a SHG in Regwa village. The President of the Samuha, Shrimati Bhagwati was extremely vocal. She was fully aware of what was going on under the ICEF project and has attended some of the meetings. However, she claims that the men do not like to take their wives to WUA meetings. Neither do they share information about meetings with them. She suggested that a separate men’s Self Help Group should be formed, which will facilitate exchange of information between the two groups.

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8 As the government tries to promote the scheduled caste and scheduled tribes, we too try to encourage women to come forward. ……As such, there is not much role for them in irrigation management.
The nominated woman member in the WUA-MC and the women’s sub-committee has not made any special efforts to mobilize women for greater participation in the decision-making processes of the WUA. Most of the villages in the Satak command area have patriarchal societies and are very conservative, although the newer generation of daughters and daughter-in-laws are relatively more educated. The momentum of women’s participation could not be sustained for a lack of concrete ideas on their role in irrigation management. The SHGs have largely restricted themselves to saving small amounts and giving it out as loans for personal needs. There is need to utilize the existing platforms for greater participation of women in the WUA’s functions. There is a need to address their practical needs such as constructing concrete structures on top of the canals to allow the women to wash clothes, drinking water structures for the cattle. Unfortunately, these and other needs have neither been communicated by the women nor have they been a priority for the WUA.

3.2.7 Physical works

In the four years of the ICEF Project, the entire stretch of the Satak distributary network - 11 km of the Main Canal, 14 km of the Right Main Distributary and the 10 minor canals – have been repaired to bring it to their minimum operating level. Distribution outlets have been repaired or constructed to prevent uncontrolled flow of water and bridges have been constructed as pathways for people to cross the canal.

With the beginning of the project in July 2003, the WRD with two staff members from ASA and a few representatives of the Satak WUA conducted a Participatory Walk Through (PWT)\(^9\) to jointly assess the repair works that need to be undertaken. However, since this exercise was conducted right at the beginning of the project not many people were aware of it and hence participation was limited.

The Technical survey of the area was completed by May 2004, following which a cost estimate was prepared (worked out to Rs 2 crore) and the information published for public comments. Since the cost of fixing all identified repair works (to bring the canal to its design capacity) was much higher than the sanctioned funds (Rs 128 lakhs) for repair and maintenance, the WUA prioritized the activities and identified those which would bring the canal back to its minimum operating level and benefit the largest number of people as well as reduce wastage of water. Re-sectioning of the main canal and the right main distributory canal was started first by the WUA to increase the flow of water in the minor canals. In addition, work was taken up to repair 90% of the old and damaged canal structures and in setting up outlets for irrigation. As of August 2006, repair works worth Rs 49.92 lakh have been completed.

An illustrative Works Manual, prepared with the involvement of all partners (WUA, WRD & ASA), had qualified that works worth less than Rs 5 lakhs could be done by the WUA itself without going through the tender process. This clause helped to subvert the WRD works process of obtaining technical sanctions\(^10\), which was a very time consuming process, before any physical activities could be initiated. As mentioned earlier, the WUA took on itself the first phase of physical works implemented at Satak. Although the WUA had to face up to the WRD to take on this task and obtain the backing of the community, during implementation it soon realized that in order to ensure good quality work, the contract should be issued to registered organizations that have the necessary infrastructure and experience to perform the required work. The last phase of physical works, which had to be completed before the ICEF project

\(^9\) The PWT is a participatory tool for planning physical activities which allows all stakeholders in a project to participate in the process and thereby helps to establish transparency in the process. As the name suggests, participants walk through the length of the canal network, identify the spots that need work, discuss what kind of repairs & maintenance is required and this is documented to be used later on in a proper survey.

\(^10\) Technical sanction of a contract has to be taken from the Executive Engineer. While the Chief Engineer has to approve the entire work plan of the WUA, the Executive Engineer after approving a specific contract opens the tender for bidding. This is an open public process where the tender is announced in all major local newspapers and 45 days given for the bids to be placed. In case suitable bids are not received, the entire process has to be repeated. It took more than a year before the first phase of work could be started since it was a new project and the processes had not been clearly laid down.
ended, was again executed by the WUA (to avoid the inordinate delays in the tender process), however it got the work done by a registered organization.

All physical works are performed under the supervision of the WUA members, the works sub-committee, and the WRD and ASA staff. Photographs of the pre and post work scenario help monitor the process, and members are kept informed about the physical work performed and the costs incurred. ASA has also helped develop an agreement between WRD and WUA, which is signed at the time of implementation of physical works. While the WRD prepares the work contract, obtains technical sanction, and opens the process of bidding for contracts, the final approval for a contract has to be given by the WUA management committee. This is where the Works Sub-Committee plays a very important role. They are the ones who work with the local WRD officials in preparing the work contract. They have played a very important role along with the MC in monitoring the costs of the physical works. At Satak four work phases were undertaken through the tender process. During the first of these tender bids, the WUA negotiated to get the bid amount reduced from 13% higher than the CSR to 7%; in the third bid, the WUA negotiated the bid to 32% below the CSR.

3.2.8 Water distribution and management system

Water for irrigation in the canal is available from September to March. In the month of May, if water is still available in the dam, then it is released for the cotton crop. In a drought year, the quantum of water available in the tank is assessed so as to leave adequate water for drinking, before releasing water for the cotton crop.

The WRD and the STP WUA continue to maintain the system of water distribution and management that was started by the WRD. The WRD staff with the WUA management committee makes an assessment of the water available in the tank before the irrigation season and calculates how many rotations of water can be given to all the farmers, the priority being to reach water to the tail-end villages. Another issue that has to be factored in is the wishes of the farmer to maintain water in the tank for at least 2 irrigations for next year’s rabi crop as a contingency plan for drought the following year. This is then communicated to farmer-members of the WUA through a general body meeting. However, because of the lack of water regulating structures (e.g. water outlets, gates, etc.) in the physical system and the absence of volumetric system of water supply, the WUA has not been able to prepared detailed schedule of water availability for the individual farmers. This is something that needs to be worked upon in the future.
The 2004 and 2005 years were drought years and there was not enough water in the tank. In 2006 the STP command area experienced a good monsoon season, and the WUA wanted the tail end villages to receive water first. However, this did not seem feasible because the physical repair works in the tail-end villages (Balkhad, Balsamand and Pathora) could not be completed on time. The physical repairs had to be started from the head to maintain the gradient of the canal. Therefore, water was first released in the Main Canal and then a week later in the right main distributory section. Normally the head reach villages receive water during the day while the tail ender villages get it at night. This was a major issue of grouse for the farmers at the meeting conducted by the study team in Balkhad village, tail-end of the main canal. However, as per the Sub-Engineer this cycle is rotated and this was mentioned by some of the farmers also at the meeting.

The ICEF project saw no changes in the way the WRD field personnel – the Ameens and chowkidaars – handled water distribution and monitored its usage. Prior to the release of water, the Ameens\textsuperscript{11} use their records of previous years to collect all water tax dues from the farmers. In Satak, 100 percent water charges have been collected by the irrigation department. In Satak during the irrigation season, in addition to the large number of chowkidaars recruited locally, the Jal Praharis recruited and trained by ASA work on behalf of the WUA to monitor water usage, bring grievances and anomalies to the notice of the management committee. If farmers are caught lifting water directly from the canal, they are charged a penalty to the tune of 1.5 times the water tariff, such cases however are rare. During the irrigation season, the Sub Engineer, Ameen and chowkidaars in the STP command area meet daily at a fixed time at a fixed point in the central command area called ‘Regwa phatak on RMD section.’ Issues related to water distribution, like disputes or breakages in canal, are discussed and resolved, and if required, the WUA members, particularly the conflict-resolution sub committee, is brought in. Most of the conflicts which take place during the irrigation season are related to distribution of water between farm lands and between villages.

### 3.2.9 Relationship with the WRD

The success of STP could be attributed to the exceptional working relationship between WRD and the WUA and ASA. Mr. Shukla, the Sub Engineer and other staff of the WRD unlike the stereotypical picture of WRD staff are extremely participative in decision making; primarily interested in ensuring farmers receive irrigation water in time and in adequate quantity. Shuklaji is also actively supporting the idea of complete irrigation management transfer to the Satak WUA and is engaged in the plans to form a chilies producer company in the area. Even in pre-ICEF project days, the WRD and WUA together decided to levy additional fees from the

\textsuperscript{11} The chowkidaar maintains a book of records based on which water charges are levied. This book contains information like name of farmer, khasra number of land irrigated, area of irrigated land, crops to be grown, and how much water he needs. His duty is to monitor water usage during the irrigation season and make records accordingly. In the next irrigation season, the Ameen uses the information recorded in this book to assess the water charges due from a farmer. A farmer who has taken more water than what he had initially contracted for is required to pay double the water charges. Once these dues have been cleared, a new irrigation agreement is signed between the farmer and the WRD indicating how much land will be irrigated, what crops will be grown, the water rates applicable, and accordingly the Ameen allocates a range of dates when water would reach the farmer’s land.
farmers to clean up the canals when government resources were inadequate. The fact that the same set of WRD staff have remained at Bamandi, for the last 15 years, is the biggest factor for the success of STP restoration. But this could also be looked at as a disadvantage because of the deeply ingrained relationship between the WRD and the WUA.

3.3 Capacity Building

The PIM Act created WUAs through statutory provisions. However, as envisaged by the ICEF Project, ASA played a crucial role in strengthening this institution in Satak so that it is capable of fulfilling the roles and responsibilities assigned to it - to ensure equitable distribution of water and to ensure social equity. Unfortunately, this critical role of the NGO did not initially receive the support of the WRD, who undervalued ASA’s expertise in the field of organization development, participatory technology development, capacity building, documentation, monitoring and evaluation to name a few. To begin with, the NGOs were not allocated any financial resources for training during the first three years of project life. Despite that, ASA rationalized the available resources and developed a complete training module for the capacity building needs of all stakeholders. It was only in the last year (2006-07) that funds were allocated specifically for capacity building.

In the first phase of the project, ASA’s emphasis was on communicating project details to the WUA members and creating awareness about the role of the WUA and the rights of the members. At the same time, it tried to sensitize the WRD to a participatory process of doing irrigation management. ASA organized meetings, trainings and workshops on:

- Motivation and awareness building on PIM Act, WUAs and ICEF project
- Institution management and leadership skills
- WRD sensitization
- Agricultural support activities like Participatory Varietal Selection for improving seed quality and variety; soil testing campaigns

In the second phase of the project, the focus of ASA’s capacity building initiative was on building the institutional capacity of WUA and WRD. It carried out several training programmes on:

- Water distribution, water use monitoring and water efficiency
- Gender sensitization and mainstreaming through campaigns for women’s voting rights
- Conflict resolution skills for the WUA members (in association with the Indian Institute of Forest Management, Bhopal)

Exposure visits for WUA management committee members, sub committee members, farmer-members, Jal Praharis, WRD personnel, women SHG members, was a very useful tool for experience sharing and cross learning. Some examples of exposure visits organised are India Sagar Irrigation Project, the Naugram Mela organised by the Zilla Panchayat Khargone District, the ICEF BAIF Project sites (Koncha in Rajgarh district and Chhapi in Ashoknagar district), Palmera and Auroville in Pondicherry, etc. ASA also designed and developed an 18 minute training film, in Hindi, on how to do Participatory Walk Through (PWT) for planning physical works.

The STP is today the most visited irrigation project in the state. The WUA committee members, sub-committee members and other key farmers as well as the WRD officials spend a considerable amount of time and effort meeting with the visitors. ASA, therefore, floated the idea of charging a nominal fee from the visiting groups, institutions and individual professionals in lieu of the valuable time and experience shared with them. In 2005-06 the WUA collected Rs 4500 which was deposited into the official bank account. During the year 2006-07 Satak WUA started a PIM Facilitation Service Center, which focuses on dissemination of learning emerging from Satak through organizing/inviting the exposure visit to their areas.

Despite all these efforts, capacity building on an on-going basis is needed. This is especially true for strengthening the ability of the sub-committee members to function as required and
make the WUA a more inclusive decision-making body. The WUA MC, Sub-committee members, and the WRD local staff need more long term capacity building support on technical, financial, managerial and monitoring (including financial and water audits) functions to make the WUA capable of being in-charge of complete irrigation transfer.

3.4 Impact Assessment
The PIM activities under the ICEF project at Satak have been successful in many ways. Some of the key impacts are as follows:

**Strong people controlled WUA**

- Spouses of landowners who are members of the WUA were extended voting rights in WUA elections through an amendment in the PIM act – this is a beginning in deepening the involvement of women in farming decision making processes. Around 73% women exercised their voting rights during the 2006 WUA elections.
- When the WUA needed soil to repair the canals, it was able to free 25 ha of government land on both sides of the canal, from encroachment.
- Capacity building programs have helped the WUA to gain the confidence to verify tender bids before approval of final contracts. In several cases, costs have been negotiated down, to below that specified in the CSR.

**What the men at Regwa village had to say about the WUA**

Canal restoration has been done for the first time and this has helped ensure that there is no wastage of water. This has helped water reach villages like Balkhad at the tail. Even within the head region of the canal, some of the minor canals like Regwa Minor II would never get water, while Regwa Minor I would get water in May also. But this changed during the Rabi crop 2006-07. Earlier incidences of disputes related to water distribution were much higher because water would overflow from the canal causing wastages, and so everybody would not receive adequate water. Today the WUA helps in getting water distributed equitably. The farmers give written requests, on anything related to canal irrigation, directly to the WUA members instead of to the WRD sub-engineer. Consequently, the availability of WRD staff which was an issue earlier has become inconsequential today. Issues get resolved by the WUA itself.

- The process of Social Audit instituted by ASA as part of the general WUA meetings has made the WUA more accountable to people and the project more transparent.
- The WUA Managing Committee and the Works Sub-Committee members participate in and supervise physical works. They have also helped in the contribution collection drive. But a larger number of the member-farmers need to be more involved in the processes.
- Today information about repairs needed in certain sections of the canal or cases of conflict resolution related to water distribution are taken to WUA managing committee members rather than to the WRD. Not only are the committee members more responsive, the farmer saves time, money and the effort needed to meet the WRD Sub Engineer.

**Polycentric decision making**

- Six sub-committees were formed under the WUA (2006). Each committee has a specialized role, which has broadened the base of participation to a much larger number of people than just the 12 members of the MC.

**Participatory planning and implementation of repair works.**

- The PWT helped to identify the work required to bring the canal back to minimum operation level and made the process transparent.
- Repair works have been undertaken jointly by the WUA and the WRD. The WRD staff at the Satak Tank Project has been particularly attuned to participatory processes and have established an excellent working relationship with WUA and ASA.
- To handle the problem related to the delays in the process of technical sanction for physical work by the WRD, the WUA skillfully utilized the provision for delegation of
sanction of contracts to the WUA under the PIM act. The WUA themselves issued several physical works contracts for amounts up to Rs 5 lakhs using competitive bidding, and thus reduced long delays in the process.

- Today the entire 10 km stretch of the main canal and a 12 km stretch of the Right Main Distributary have been repaired. The earthwork in all minor canals has also been fixed. Distribution outlets (gates with shutters) have been created and repaired to prevent uncontrolled irrigation.

**Peoples’ contribution to the extent of 10% of the cost of all physical works**

- In the STP command area, farmers have made a 20% contribution of the cost of physical works. This is in excess of the contribution agreed to by ICEF, which was reduced from 30% to 10%.
- Several processes have been set up to make the contribution collection transparent. The ‘ICEF Contribution Bill’ to indicate the amount payable and the due date; and a ‘Contribution Receipt’ signed by the farmer and WUA President and countersigned by witnesses once payment was made.
- Since people have paid towards restoration of the canal, there is a sense of ownership and they feel more accountable to ensuring its maintenance.

**Full recovery of water charges**

- The WRD has been successful in systematically collecting water charges. ASA has prepared a format for an *anshdaan anubandh* (tripartite agreement) between the WRD-WUA-farmer which legitimizes the contribution collection and clearly states the area to be irrigated with canal water, the cropping pattern, and the expected dates for water availability. All past dues are cleared before a new agreement is signed.
- ASA has also prepared a *sinchai pustika* which clearly specifies the water rates for different crops and seasons to be charged by the WRD. It even specifies the old and the new rates. This makes the entire system of water taxes transparent.

**Increased water availability so that adequate water reaches the tail end on a timely basis**

- Completion of the first phase of repair work (a 3 km stretch of the Main Canal repaired in 2004-05), doubled water availability in the canal. This indicates the poor state of the canal structure and the potential impact it can have on bringing the structure to the minimum operating level.
- Balkhar, the tail end village on the main canal, received irrigation water on time for the first time in several years during 2006-07 rabi season. During the field visit for this study, in Feb 07, farmers had already received two irrigation waters and were anticipating two more waters.
- A minor canal off the RMD, near Satkur village (called ‘Kargil’ by local farmers as people there would stand near the canals with arms and all WRD staff would be stationed there to prevent water being taken forcefully) received water in 2 days during Rabi 2006-07. Earlier they received water 10-15 days after everyone else and that too for only 2 irrigation waters.
- By the end of the ICEF project, the farmers within the command area will receive water in the right quantities and at the right time.

**Increased crop production and farm incomes**

- With the exception of year 2006-07, the last three years of project time were drought years for the STP command area. Therefore, exact impact assessment of improved water availability could not be gauged.
- Canal irrigation is preferred primarily for wheat crop as the water is considered much cooler as compared to well water which is used for growing vegetables, cotton or chilli.
- In Balkhar village farmers are expecting to receive 4 irrigation waters this year (2006-07) which would increase wheat productivity by 20-30%.
• 2 irrigation for wheat would produce 3 quintals per acre. Today the farmers are getting 10-12 quintals per acre following 4 irrigation waters.
• The number of landless households in the command area has increased over the last decade particularly since the cropping pattern changed in favour of cotton and chilli, both labour intensive crops.
• The landless households in the head and middle reach of the canal specially, have benefited from an assured source of wage labour within the village for most of the year, although their wage rates continue to be abysmally low.
• It is also expected that with the completion of the project (probably in yr 2007-08) an increase in irrigated cropped area may occur and the loss of irrigation water through seepages and leakages would also reduce drastically.

3.5 Project Sustainability
The Satak WUA Management Committee has demonstrated the strength of the institution on several occasions. They have exhibited ownership over the project process and the outcomes. The capacity building trainings imparted by ASA, including leadership and skill development trainings, and the exposure visits have helped the committee members to handle its roles and responsibilities. However, the sub-committee members, particularly the women and other general members have a long way to go before they can do without any hand-holding.

The social audits conducted once every six months, the various agreements designed and implemented by ASA for contribution collection, irrigation water payment and for physical works, have all helped to make the financial processes transparent and the various stakeholders accountable to the farmer-members.

While the participatory process of undertaking physical works has been understood by all stakeholders and can be successfully followed by the WUA, it is not clear whether equitable distribution of water to tail-enders and to small and marginal farmers will be sustained in the long run. While equity concerns do arise, more importantly the physical state of the current canal structure raise doubts on the canal’s ability to work at full discharge capacity on a regular basis. This is possible when the canal is brought to its design capacity which will need another Rs 1 cr of physical restoration. The fact that the farmers have contributed for the system on previous occasions raise hope that they may be willing to do so again in the future. But that will not be adequate and external funds will be needed. The sustainability of the WUA would finally depend on the WUA’s ability to charge, collect and retain water charges, fix water rates, use volumetric devices for water measurement and distribution, set up efficient monitoring systems, establish backward and forward linkages to agricultural activities (like setting up a Chilli Producers’ Company) and use the irrigation assets (like tank) for other income generation activities. A small attempt towards financial sustainability was the setting up of the PIM Facilitation Service Center.

3.6 Lessons Learnt
The STP WUA today is the most effective and a unique model for PIM intervention in the state. Both the WUA members and the local WRD staff have internalized the participatory process adopted under the ICEF project and this is reflected in the sense of ownership over the project process and the resultant outcomes.

**Strengths**
• The efforts made to make the entire process of contribution collection and estimation of the physical works transparent helped in instilling faith in the farmers.
• The physical restoration work completed has made the farmers feel that they own the canal and therefore, it is up to them to maintain it.
• The building of a farmers institution like the WUA which has successfully monitored the physical works performed, controlled costs, ensured equitable distribution of water, particularly to the tail-enders, and democratically managed its functions and decision making processes.
• Strategic planning by ASA for community mobilization helped to generate the interest of farmer-members in the project and to sustain it also.
The GO-NGO collaboration took care of the technical and social issues in a project simultaneously. Handholding support by both partners was provided to the WUA which has contributed to the growth of the Satak WUA as a sustainable institution.

Project team’s commitment to the process and a multi-disciplinary team, and their ability in managing socio-politico relationship between GO-NGO and higher up WRD/NGO officials.

**Constraints/Challenges**

- Continuing the momentum generated by the WUA in terms of peoples’ contribution in pace with the quantum of physical works performed is a challenge. Experiences at Satak have indicated that people are willing to contribute to an activity as long as they see results of their contribution in terms of benefits derived by them.
- How to integrate gender issues in irrigation management beyond giving them just voting rights; how to ensure their participation in meetings, role in decision making processes, and recognition of their priorities in irrigation management.
- Ensure technical sustainability of the WUA by introducing water conservation programmes and volumetric water pricing, which in turn will require further improvement of the physical infrastructure of the canal like canal lining, installation of water control gates and water measurement devices.
- To take the Satak WUA to its next level of financial sustainability, like fixing water rates, charging-collecting-retaining water charges, organising the WUA as a Producers’ Company and/or enhancing revenues by getting fishing rights in the Satak Tank. Since chilli is an important cash crop of the region, the WUA hopes to capitalize on its established cropping pattern and markets by setting up a Chilli Producers Company.
- Although the GO-NGO collaboration this project has been a success, no further efforts are on-going in terms of involvement of NGOs in other irrigation water management projects within the state of Madhya Pradesh.
- Sustaining the sensitization of WRD officials to participatory irrigation management.
Chapter 4

Case study: Chhapi Tank, Rajgarh

This case study aims to document the experiences of a pilot project at Chhapi tank in Rajgarh district of Madhya Pradesh, which brought the MP-WRD, WUA and an NGO, BAIF (Bhartiya Agro Industries Foundation) to come together in operationalizing PIM. The NGO was engaged essentially to facilitate this process of community involvement and foster a sense of ownership among the farmers towards irrigation management. BAIF has its corporate office in Pune and a regional office in Bhopal. The NGO with its multi-disciplinary team has a rich experience in animal husbandry and agriculture. It has a site office in Rajgarh, with experienced staff.

4.1 Project Profile

The Chhapi irrigation tank, a medium irrigation scheme in Rajgarh district, is about 35 years old. According to an old farmer in Batawada village, there were no problems and water was adequate up to tail end for first 15 years of the tank construction. However, poor maintenance of canal structures has resulted in enormous loss of water. Further, over the years, agricultural activities have intensified, and water requirement has increased, resulting in acute water shortages. People have had to change cropping patterns as per the water availability: there has been a sharp shift in cropping pattern, away from irrigated crops like wheat during early canal construction period to less water intensive crops like coriander, mustard, gram during Rabi in recent years.

Lift irrigation is rampant in the area with more than 50 diesel pumps installed around the tank. The erstwhile ruling party (Congress) had apparently provided free electricity and other subsidies to the farmers resulting in widespread illegal lifting of water by the farmers, mainly from non command areas. These un-authorized pumps contribute to inadequate water discharge from the tank.

Table 4: Key features of the Chhapi project

<table>
<thead>
<tr>
<th>Feature</th>
<th>Chhapi Tank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Command area</td>
<td>2024 ha</td>
</tr>
<tr>
<td>WUA</td>
<td>1</td>
</tr>
<tr>
<td>Number of Villages</td>
<td>12 (3 in head, 4 in middle and 5 villages in tail end)</td>
</tr>
<tr>
<td>Total number of Water users</td>
<td>1605</td>
</tr>
<tr>
<td>Length of canal</td>
<td>15.96 km</td>
</tr>
<tr>
<td>Proposed budget for physical restoration through WUA</td>
<td>1.46 lakh</td>
</tr>
<tr>
<td>Farmers’ contribution (@10%)</td>
<td>6 lacks</td>
</tr>
<tr>
<td>Major crops</td>
<td>Wheat, gram, coriander and Soya bean</td>
</tr>
</tbody>
</table>
Table 5: Profile of the operational area

<table>
<thead>
<tr>
<th>Name of the village</th>
<th>No. of beneficiaries</th>
<th>Village area (ha)</th>
<th>Cultivable area (ha)</th>
<th>Command area (ha)</th>
<th>Net irrigation area (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Zirapur</td>
<td>381</td>
<td>1579.361</td>
<td>1163.636</td>
<td>449.00</td>
<td>392.02</td>
</tr>
<tr>
<td>2 Batavada</td>
<td>135</td>
<td>571.451</td>
<td>533.619</td>
<td>203.00</td>
<td>139.21</td>
</tr>
<tr>
<td>3 Bhandavad</td>
<td>276</td>
<td>1003.914</td>
<td>938.502</td>
<td>468.00</td>
<td>306.19</td>
</tr>
<tr>
<td>4 Laxmanpura</td>
<td>148</td>
<td>485.365</td>
<td>418.255</td>
<td>200.00</td>
<td>62.90</td>
</tr>
<tr>
<td>5 Naiheda</td>
<td>200</td>
<td>462.325</td>
<td>416.543</td>
<td>210.00</td>
<td>178.10</td>
</tr>
<tr>
<td>6 Tapriyahedi</td>
<td>10</td>
<td>444.201</td>
<td>397.065</td>
<td>04.00</td>
<td>42.04</td>
</tr>
<tr>
<td>7 Malikhed</td>
<td>130</td>
<td>390.131</td>
<td>358.637</td>
<td>183.00</td>
<td>56.38</td>
</tr>
<tr>
<td>8 Mainakhedi</td>
<td>145</td>
<td>493.009</td>
<td>452.201</td>
<td>125.00</td>
<td>37.79</td>
</tr>
<tr>
<td>9 Aroliya</td>
<td>60</td>
<td>171.935</td>
<td>148.677</td>
<td>56.00</td>
<td>23.93</td>
</tr>
<tr>
<td>10 Chamarkheda</td>
<td>50</td>
<td>159.492</td>
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<td>56.00</td>
<td>59.99</td>
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<td>11 Kharpa</td>
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<td>963.355</td>
<td>62.00</td>
<td>37.16</td>
</tr>
<tr>
<td>12 Barmenkhedi</td>
<td>17</td>
<td>436.496</td>
<td>299.799</td>
<td>08.00</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>1605</td>
<td>7257.415</td>
<td>6232.257</td>
<td>2024.00</td>
<td>1335.71</td>
</tr>
</tbody>
</table>

4.2 Implementation Strategy

4.2.1 Developing rapport with the community

Upfront cash contribution by irrigators for the canal restoration work is one of the unique features of the ICEF project. It was planned that the community would contribute 30% of the cost of restoration works. Ensuring community contribution of 30% required extensive public consultation and this was acknowledged as only a start of a difficult process that was to follow. The initial phase for BAIF was quite challenging for various reasons. First of all, the newly composed team while being aware of the broad guidelines was not quite clear about the implementation road map. It was not easy to work as an implementing partner along with WRD and WUA where NGO’s roles and responsibilities were not clearly defined, therefore, NGO positioning at times was quite challenging. Finally and most importantly, it took an enormous amount of time and energy for BAIF to establish its credibility with the community.

4.2.2 Community contribution collection

Although the officials had perceived BAIF as a collecting agency (30% community contribution), they consciously refrained from discussing money matters in the beginning. The staff conducted detailed PRA exercise in the 12 villages as entry point activities to understand their needs and priorities. Due to successive drought, people were more interested in food security rather than canal restoration works. So, for the initial six months, BAIF focused on livestock development particularly in the command area, linking the community with the food security program of the Government at the block level. Additionally, they distributed improved variety of seeds, organized farmer’s camp and exposure visits.

Inadequate availability of water due to degraded condition of canal was one of the major issues for the farmers which acted as a deterrent in community contribution. As a next step, BAIF used PRA maps to work out the community contribution on the basis of the land area (Rs 800/ha with a 30% cost sharing towards the estimated rehabilitation cost). What attracted the farmers most was the transparency of the financial transactions which was creatively illustrated in the map for each individual beneficiary. Their sincerity and problem solving attitude also helped BAIF to establish credibility with the people.

When the community contribution process started in 2004, there were intensive discussions about canal condition its problems including repair and maintenance work for which the contribution was sought in the first place. Very early in the process, it was realized that 30% of community contribution was not realistic, and hence it was brought down to 10% in the third year of the project. Further, BAIF facilitated the process by suggesting the community contribution payment in easy installments.

As expected, the major hurdle was from the people living at the tail end of the canal as they had to survive without canal water for the last 20 years or so and were quite cynical about the
promises made by the project. So, BAIF got the officials of irrigation department (SDO, Executive Engineer, Sub-Engineer) involved in the process to lend legitimacy to the initiative. The project till date (March 2007) has managed to mobilize around Rs 6 lakh as community contribution.

Table 6: Year-wise community contribution collected till date:\(^{12}\):

<table>
<thead>
<tr>
<th>Year</th>
<th>Chhapi (Amounts in thousands Rs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-04</td>
<td>0.000</td>
</tr>
<tr>
<td>2004-05</td>
<td>133.500</td>
</tr>
<tr>
<td>2005-06</td>
<td>59.700</td>
</tr>
<tr>
<td>2006-07</td>
<td>1002.7</td>
</tr>
<tr>
<td>Total</td>
<td>1195.9</td>
</tr>
</tbody>
</table>

4.2.3 WUA: confidence building measures

The former president of the Chhapi WUA posed a major challenge for the project as he had political ambitions. He had tried to use the WUA platform to further his political career which had an adverse impact on the project. Fortunately, he lost the election. All these processes took a long time and affected the WUA team spirit adversely and the members lost interest in canal restoration work. Infact some of the farmers even lost confidence in the project and demanded that the money collected (Rs 1.5 lacks) to be returned.

To regain community’s confidence, BAIF formed *Nirman Samiti* (one of the six sub-committees under PIM Act) in 2005 to undertake physical work under its supervision. All funds were channelized through the samiti which slowly helped in instilling a sense of community control. This was the turning point for the project as it got a fresh lease of community re-acceptance. During this phase of uncertainty, BAIF did not give up, they continued with their livestock development program, also managed to mobilize Rs 2 lakh from community and initiated physical work worth Rs 7 lakhs.

The community contribution was sent directly to the account of the Executive Engineer given the distrust among the community members and also to avoid the potential threat of misappropriation of funds by the WUA President. This emerged as an effective alternative mechanism (promoted by BAIF) to overcome the complex situation. In return, the farmers got receipts of the money deposited with the signatures of SDO and Executive Engineer. Such a mechanism helped people in restoring faith back into the system. Credit goes to BAIF for having taken the onerous task of making the financial transactions as transparent as possible.

In 2006 (third year of the project), the Government had organized “Jalabhishek Abhiyaan” to promote the concept of water preservation especially during the draught phase. Issues related to promotion of organic farming, improved agricultural technique, crop insurance, irrigation management and most importantly redressal of the farmers’ grievances were also part of the meeting agenda. BAIF managed to motivate 700 farmers from the project villages to participate in this *Sammelan* (meeting). That brought people together, especially those who were disenchanted with the system, in reinforcing their resolve to enhance their participation in the management of public services and also to fight corruption at all levels.

4.2.4 Efficacy of WUA: hamara paani, hamara nahar:\(^{13}\)

Since the formation of the new WUA in 2006, the emphasis of BAIF support had been focused on organizing intensive meetings, consultations, training, workshops, dealing with the WUA president as the chief contact person of the WUA. This had served to strengthen the President’s understanding of leadership tasks and it was evident when one of the farmers in a tail end village of Lakshmanpura observed that, “…since Rajesh (the new President) has taken over, the system has improved…he delivers what he promises”.

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\(^{12}\) BAIF Annual Report – 2006-07

\(^{13}\) Our water, our canal.
During the field visit for this case study, the farmers expressed a sense of pride that the canal belonged to them. They realized that if WUA takes an active interest in the management and maintenance of the canal, the farmers would not only get adequate supply of water but also in the long run improve the agricultural productivity. Even the WUA members made statements such as “hamara nahar...hamara haq” (our canal, our right). As they were involved in decision making and supervision of physical works, they felt that the structure belonged to them. Clearly the participatory intervention processes in the ICEF project has fostered a sense of ownership among the farmers.

4.2.5 WUA meetings
Till date two general body meetings have been organized independently by WUA. Neither the monthly meetings nor the Aam Sabha (general assembly) have been held under the ICEF project. Although the WUA President and TC members could call for small group meetings, but in practice it was largely BAIF’s responsibility to organize such meetings. Evidently, these meetings were conducted to discuss the operational details – maintenance or physical work, contributions collection review, expenditures incurred, voluntary work needed to clean canal area, etc.

The reporting and documentation of WUA need to be further strengthened. At present, the WUAs are maintaining some records which include minutes of the meetings, physical works and payment of bills. BAIF is working on building the WUA’s capacities to maintain inventory of irrigation structures, book-keeping etc. the NGO is also trying to develop the skills of WUAs to maintain adequate documentations on social and institutional matter. WRD also needs to focus on promoting the WUA’s capacity on technical skills such as proper maintenance of books of accounts related to technical work.

4.2.6 Formation of sub-committees: only on paper?
The new WUA was formed in 2006. As per the PIM act, 6 sub-committees were formed - women’s committee, purchasing committee, agriculture production and marketing committee, conflict resolution and social audit committee. BAIF organized requisite training and exposure visits for the sub-committees. However, in practice it was found that except the Nirman Samiti (NS), the rest were only on paper. It should be acknowledged that given the limited time frame, it is too early to expect all the six sub-committees to perform effectively.

As PIM is a farming sensitive model, the primary determinant is adequate and timely supply of water for each irrigator. Within the ICEF project period, the focus has largely been on revitalization of canal structure in a participatory manner. So far, the Nirman Samiti is found to be functioning quite sincerely in carrying out the canal restoration work through private contractors.

However, it was also found that not all members were active. For instance, some of the sub-committee members met during the study were not even aware of the roles and responsibilities of their respective committees. As one of the TC members said, “I have been working for the last 10 years, yet know nothing about my/our rights”. Clearly more needs to be done to make the sub-committees understand their roles, rights and responsibilities and above all WUA must be willing to share its space and power with the these committees in the spirit of democracy.

4.2.7 Water distribution system
The Chhapi tank was reported to be filled with water when the project started in 2004. It went dry for the next two years and this year again there is water in the tank. Apparently in its full capacity the tank can irrigate 2000 ha for Kharif and 1800 ha for Rabi crops.

The TC members are responsible for water distribution. It was decided to release water first to the tail enders as they had been out of the canal irrigation loop for the past 20 years or so. Therefore it was the WUA’s decision to release two waters to the tail enders for cultivating gram, mustard and coriander. This was the first time that the water reached the tail end. When the study team visited a middle end village, the farmers said that “we get three waters now, while we were promised four….now all the water goes to the tail enders”.
On the surface there did not seem to be any apparent conflict with regard to water distribution as it is based on the principle of need and water requirement for agricultural work. According to WUA, it works around an equitable system of those who get water during the day do not get any at night.

However, according to the Sub-engineer (SE), the WUA is still lacking in its capacity to assume its responsibilities. The awareness level has to be raised further to deal with conflicts. The SE felt that most of the problems related to water distribution are “dumped” at the WRD office as the TC members are not interested in getting into the internal squabbles.

Further, on a closer look it was evident lack of internal cohesion is one of the weaknesses of the WUA. Most of the problems seem to be centering on the water distribution system – who is going to get water and how much. This is not surprising as the community dynamics tend to revolve around water distribution. As one of the TC members confessed, there is no need for the tail ender to get water as they were in any case not been getting water for so many years…! Likewise, there are problems of non-command areas being irrigated through lift. The President is reported to be nonchalant about it as he too has political ambition and therefore does not want to antagonize or alienate anyone.

It is evident that while the WUA is accountable for equitable water distribution, there are some serious issues which need to be addressed. These include, poor canal structure, illegal lifting of water by the non-command farmers, political affiliation.

4.2.8 Physical works: only 30% till date has been achieved
As per the ICEF-PIM Project norm, Participatory walk through (PWT) was organized by BAIF which included the WRD-SE, WUA President, TC members and some farmers to jointly identify and prioritize the work. Following the PWT, technical estimate was made with WRD and the funds were released directly to WUA account. However the pace of physical works has been extremely slow. While the emphasis has been on strengthening the structures, it was found during the field visit that canal was in a bad shape – sluice gate on the main canal, de-siltation, strengthening canal bunds, drainage work and so on were yet to be attended to. In some places, the canal awaits removal of encroachment and clearing of shrubs which could be accomplished by shramdaan (voluntary group labour).

Table 7: Data on Irrigation, community contribution and physical work, ICEF Project Chhapi:

<table>
<thead>
<tr>
<th>Year</th>
<th>Area covered in Kharif (ha)</th>
<th>Area covered in Rabi (ha)</th>
<th>Contribution Amount (Rs.)</th>
<th>Physical Work Amt (lac)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-04</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2004-05</td>
<td>104385</td>
<td>29100</td>
<td>133485</td>
<td>2.830</td>
</tr>
<tr>
<td>2005-06</td>
<td>1180</td>
<td>56514</td>
<td>59694</td>
<td>3.400</td>
</tr>
<tr>
<td>2006-07</td>
<td>89000</td>
<td>913720</td>
<td>1002720</td>
<td>29.770</td>
</tr>
<tr>
<td>Total</td>
<td>194565</td>
<td>1001334</td>
<td>1195899</td>
<td>36.000</td>
</tr>
</tbody>
</table>

4.2.9 Relationship with the Department
It is a well known fact that there are many ways that a constructive partnership between WRD and WUA can improve the canal system and equally well known is that this is a tenuous relationship even at the best of the times. Although both WUA and WRD seemed to be working in close coordination but the tension is evident especially when it comes to the question of ownership of the canal.

The WRD continues to control all major aspects of irrigation management. It executes and controls the maintenance, collects water tax paid by farmers, controls the volume of water discharge from tank, and so on. Clearly they are in no hurry to relinquish their power. The hierarchy between the department and WUA is deeply entrenched. This was evident during
the team’s meeting with the Sub Engineer and WUA members where the former was scathing in his remark about the dismal performance of some of the TC members. The declining influence and power of the department officials under the PIM could be a major concern for the officials and may pose a barrier in the long run for the project.

During the field visit, some farmers conveyed to the study team that the senior officials from the PIM Directorate should have a more direct contact with the community, have dialogue with the users and supervise the construction sites from time to time. Periodic review and monitoring including field visits by senior WRD official could help the WUA to be more active. However the time constraints also seemed to be a genuine problem for the officials at the Directorate as they have more work to do in their new capacity besides their on-going responsibilities.

4.2.10 Capacity building initiative: BAIF had done a lot for us...
The objective of the capacity building activities was to enhance the institutional capability of WUA to manage water resources and irrigation systems in a sustainable manner. Thus, BAIF’s capacity building activities were focused on the following areas:

- **Agriculture Productivity Enhancement**: The objective was to strengthen the technical, managerial, and institutional capacity in agricultural technologies for improved practice in irrigation management. It included activities like participatory research trials, soil testing, horticulture, integrated pest management, digging of compost pits, tree plantation, weeding, and construction of outlets in fields. The strategic thrust was to improve agricultural productivity at a relatively low cost taking the land and soil profile of the area into consideration.

- **PIM Awareness**: The focus of the PIM awareness activities was centered on decentralization and management transfer policies of the government. It also included information on water sector reforms that entail basin-level management of water resources by river basin organizations and mechanisms to ensure accountability. The dissemination of information was carried out largely through public awareness campaigns and village meetings and workshops. This program was aimed at both the farming communities as well as local officials.

- **Gender Mainstreaming**: gender analysis provided a foundation for ensuring that projects and programs include women and men to address their concerns. It implied looking not just at water distribution and infrastructure improvement but also women’s right to land, participation in community decision-making, access to information, credit and other resources.

4.2.11 Participation of women: we are asked to keep quiet...(by a woman sub-committee member)
BAIF used SHGs to mobilize community contribution. However, their role in decision making has not been significant. While the SHG in Kharpa village managed to collect Rs 16000 from 16 families, they were not included in any decisions. Some of the SHG members were selected for the women’s sub-committee but had no knowledge about their role and responsibilities. They were found to be equally oblivious to issues related to canal renovation/physical works as that was essentially seen as “men’s domain (aadmi ka kaam)”. The subcommittee members had never attended any of the meetings including the Aam Sabha (general assembly).

Mainstreaming gender in irrigation management clearly has a long way to go. At present “gender” is addressed through giving women the voting right without much clarity on its long term objective. Irrigation sector has since long been perceived as a male domain totally disregarding the fact that not only are women involved in physical activities related to canal maintenance but also the irrigation water is used for domestic purposes and livestock rearing which are essentially women’s responsibilities. Therefore these gendered needs need to be addressed at the design stage itself.
4.3 Impacts

The ICEF project was conceptualized to demonstrate on ground the mechanisms of participatory management and the eventual transfer of responsibilities from the state to the water users. Unfortunately, successive years of drought, high handed attitude of the WRD and the community dynamics slowed down the process considerably to make any meaningful analysis of the impact. What is evident however is the high level of public awareness about the project (popularly known as the Canada Project). Wherever the physical works have been carried out, the benefits are visible. It has also raised the aspirations of water users specially the tail ender and they have been putting pressure on the WUA to perform in public interest.

4.3.1 Agricultural productivity: We are expecting a good harvest...

In general it was indicated by the WUA that irrigated areas had expanded owing to regular water supply. The cleaning of canal network is further expected to benefit everyone including the tail-enders. At present, the main impact can be seen in terms of moving towards a more equitable distribution of water as the WUA has rearranged to have the water deliveries begin first at the tail end and then move upstream. This has been the most significant achievement of the project.

In most areas there has been a change in cropping pattern – earlier they were growing only Maize, Jowar and local cotton but post canal (ICEF), they have started cultivating gram, coriander, mustard and soya bean in some places. Farmers of a middle end village reported that earlier due to water scarcity only coriander was grown but this year they are growing wheat and lentils. They had already received three waters and one is expected around April. As the crops were still standing and not harvested during the study period it was difficult to estimate the increase in yield, but the general perception was “phasal achhi hogi”.

4.3.2 Community ownership: now we go to TC member if we have any problems...

Having a responsive WUA has been a great advantage for the community even while there are instances to suggest that WUA is not able to work as effectively as it should. However, practical considerations have prevailed over the long term strategic interests as far as community’s everyday problems are concerned. For instance, dealing with the officials like Amin, Chowkidaars and Sub-engineer was in any case not easy for the community as they were not always sensitive to the problems of the masses. Besides, the farmers also had to travel long distance to Jeerapur town to meet the officials. Now they approach the TC members directly (elected representative) for issues related to water distribution. Farmers also perceive WUA to be a better service provider than the Amins/chowkidaars.

According to BAIF, the project has been trying to develop WUAs’ capacity to manage local irrigation systems, use sound business practices related to agriculture, and adopt democratic principles in its management. BAIF in its annual reports writes that “the WUAs have been demonstrating the benefits of participatory irrigation management whereby management responsibilities and decision-making power are devolved to the farmers thus encouraging participation of all water users”. However, further needs to done in terms of making the sub-committees more active in order to broad base participation by providing opportunity to water users to get directly associated with decision making process of the WUA.

4.3.3 Impact on the landless: water or no water…we have to migrate

About 10-15% of the population in the command area is landless. They usually migrate to nearby towns working in stone quarries. The male earn around Rs 80/day while women get Rs 50/day. The total monthly income is estimated to be around Rs 5000-6000. During agricultural season, a few return back home while others continue with the quarry work.

There has not been any significant impact on the lives of landless population. The only difference is that with the introduction of new crops and water availability, their labour days have gone from 60 days to 80-100 days (approximately). They are paid around Rs 50-60/day for agricultural work but not assured.

Besides, for the marginal farmers given the small landholding (1-2 bigha) the return from the land is so small that often farmers engage their own family members for land preparation and
harvesting. Therefore migration seems to be inevitable not only for the landless but also for those with small land holdings exploring avenues to supplement their income during the lean season.

It should be realized that it is difficult to have impact at the level of landless and small farmers (only possible gain could be increase of labour availability in the village) unless the project aims to target them.

4.4 Sustainability
Sustainability is a complex issue and in the present context of Chhapi, it is too early to see any institutional mechanism to ensure sustainability. Besides, the issue of sustainability has to be seen in the backdrop of control still being wielded by the department and transfer of power has so far been only cursory. The WRD is happy to see the WUAs’ role confined to cleaning canals and drains and collect service fees but not necessarily interested in farmers associations taking over management responsibilities.

Majority of the members in WUA are inexperienced in matters related to water governance. They neither have the requisite skill sets (managerial) nor have adequate knowledge (technical) to negotiate with the department. They are at best the operational interface between the officials and community. The sense of ownership can only be strengthened by allocating adequate resources and devolving complete authority to the WUA.

The community is also skeptical about WUA assuming complete responsibility independently of the department. The fact that WUA has been totally ineffective in dealing with the menace of lift irrigation has been a matter of concern for the community. A group of farmer openly said that “this has to be dealt by the officials and BAIF as WUA does not have the requisite competence”.

Yet another major concern of the community is related to money. They fear that the WUA is quite likely to misappropriate the community contribution, as one of them remarked, “woh log paisa harap kar lenge”. Farmers are also afraid that WUA leaders will use their power to serve their personal interests instead of serving the interests of the community as a whole. This is a serious matter where the WUA given its past record is yet to gain community’s confidence and trust. Further, lack of internal cohesiveness has also contributed to the prevalent skepticism.

For the WUA to be truly autonomous and empowered, much needs to be done to enhance their institutional capacity. With the exception of the President and a few TC members, the rest appear to be “sleeping members”. Besides, attitudinal change, they ought to have sound technical and financial knowledge to make their institution viable. They also need to explore avenues of business opportunities and revenue generation.

4.5 Lessons Learned
The following is a summary of key issues and critical lessons about PIM in Chhapi. The issues are identified on the basis of direct observations (during field visit) and discussions with WUA and BAIF.

Strengths:
- Awareness building of community on water management. Pre ICEF, all that the community cared for was accessing water but now they have been sensitized about water conservation and management. therefore loss of surface water has been reduced to 5-10% as against 40% (before the start of the project).
- Canal was perceived as the Government property but with the introduction of PIM concept, sense of ownership is gradually evolving among the water users.
- Increase in participation of tail enders and small and marginal farmers has been a positive development in the project. BAIF has played a very proactive role in facilitating their participation.
Gradual inclusion of women in project processes has been a positive realization.

Institutional mechanisms for collective decision making and conflict resolution in place. This needs to be strengthened further.

New learning for BAIF as the organization got involved as the “social engineer” in the ICEF project. Besides they have also gained technical knowledge about irrigation management.

Value addition in agriculture including activities like soil testing, introduction of new varieties, vermin culture by BAIF in the project has been greatly appreciated by the community.

**Challenges**

Lack of transparency at the level of WRD has been a major constraint. For instance, estimates (component wise) are not shared even when the policy clearly states that estimates are to be jointly made with WRD and WUA. This is an implementation problem.

There is no review committee at the project level which could monitor the performance regularly and provide mentoring service. At present there are also no criteria of performance assessment of WUA. Although the Executive engineer has been entrusted with operation responsibilities, but he is reported to be quite busy with his routine work and also quite indifferent to the project performance. Besides, there is also a confusion regarding reporting. As three actors – WRD, WUA and BAIF – are involved, the line of instructions and clear delineation of roles and responsibilities are not defined.

Centralization of power in the hands of Sub-engineer. Apparently physical work can only be initiated by SE. Moreover, officials who have had long tenure in the office are reluctant to share decision making power with the WUA thereby undermining the WUA’s role. Therefore it is suggested that a dedicated official team including a SE should be appointed for this kind of time bound projects.

Lack of clear operational guidelines has also been a critical issue. Presently the available guidelines (the proposal) have been simplified by BAIF for community’s consumption. As there are no official directives on this, the operational guideline stands to lose its legitimacy vis-à-vis the community. There have been instances when the people have demanded the signature of Executive Engineer on the guidelines to make the document official.

The community contribution should have been pitched at 10% and not 30% in keeping with the grassroots reality. By reducing the contribution from 30% to 10%, wrong messages have apparently been sent to the community as most of them are waiting for the contribution to be waived off eventually. This phase wise reduction of contribution from 30% to 20% then to 10% further created operational complicacy and confusion among the irrigators.

While NGOs have been engaged to build capacities of the community, there has neither been budgetary allocation nor the responsibilities defined clearly (for 1st two and half of the project period). According to BAIF, they were not authorized to even call for meetings and for that they have to go through the SE. Further, the NGO presence is not mandatory in WRD-WUA meetings. As a result of which BAIF often finds its positioning quite ambiguous.

**Way forward**

The department officials need intensive training on PIM, specifically on participatory concepts and methodology. As they continue to be at the centre of the project, their behavioral and attitudinal changes are pre-condition for any meaningful work on community based irrigation management.
• It is also suggested that the officials need to stay for a reasonable period as their frequent transfers or turn over can derail the project.

• An independent review committee is needed to regularly monitor the performance of WUA and provide guidance wherever needed.

• Given that the first two years of the project was spent on fulfilling the bureaucratic procedures (ICEF and Government of MP), the life of the project should ideally be 5-8 years. Even while the ICEF project had commenced in 2002, the actual work could begin only in 2004.

• A sustainability plan needs to be drawn right at the outset with clear guidelines on phasing out of WRD and gradual transfer of power to WUA with defined time lines.

• There is no system of volumetric measurement of canal water in the project site yet. As Dr Bhogle\textsuperscript{15} has recommended that slowly all the partners in the project will have to think about water measurement, conveyance efficiencies in DISNET, water audit and ultimately charging the water users on volumetric basis.

• The WUA should be able to generate revenue from irrigation system property, e.g., fisheries. This would also motivate the WUAs to protect and maintain the canal and earn regular income for their institutions. Therefore they need access to revenue records related to water tax collection.

• The WUA and its sub-committees need on-going capacity building training support. Therefore, periodic training needs assessment of the members are needed to deliver customized and output oriented packages to help them function effectively. The capacity building activities should go beyond awareness raising and include issues related to water management and governance, income generation activities and conflict resolution mechanisms. Alliance building with NGOs and research organizations from other states should be encouraged for cross learning.

• The management committee members have understood the principles of PIM and they are more aware of their rights and responsibilities. So, the next step would be to broaden PIM among all water users including women. Creative communication materials could be developed to spread the message widely.

\textsuperscript{15} Bhogle, SG: Mid term performance assessment of participatory restoration and management of irrigation system by water users in MP, ICEF, 2005
Chapter 5
Case Study: Gora tank, Chhatarpur

This case study aims to document the experiences of a pilot project at Gora tank in Chhatarpur district of MP, and highlights the innovative strategies being used by Viklap – the NGO - to motivate the farmers to contribute and also to get involved in the rehabilitation processes.

5.1 Project Profile
The Gora tank, built during the Chandela period is believed to be about 1000 years old, representing history and heritage. The tank has been an important lifeline for the people in the Bundelkhand region serving domestic as well as livelihood needs. However over the years, due to poor maintenance and successive droughts, the tank has fallen into a state of complete disrepair. Furthermore, the Urmil River (source of Gora) has been steadily drying up with the result that people could hardly get their land irrigated through the canal and had to rely heavily on private wells. Given the hilly terrain and poor soil cover, water seepage has also been a serious problem.

Table 8: Salient features of the Gora Tank project

<table>
<thead>
<tr>
<th>Feature</th>
<th>Gora Tank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Command area</td>
<td>1093 ha</td>
</tr>
<tr>
<td>WUA</td>
<td>1</td>
</tr>
<tr>
<td>Number of Villages</td>
<td>11</td>
</tr>
<tr>
<td>Total number of Water users</td>
<td>1800</td>
</tr>
<tr>
<td>Length of canal</td>
<td>16 km</td>
</tr>
<tr>
<td>Proposed budget for physical restoration through WUA</td>
<td>103 lakh</td>
</tr>
<tr>
<td>Farmers’ contribution (@10%)</td>
<td>10.34 lakh</td>
</tr>
<tr>
<td>Major crops</td>
<td>Soya bean, maize in Kharif and gram, wheat in Rabi</td>
</tr>
</tbody>
</table>

Vikalp, a local NGO based in Tikamgarh district has been engaged by the Project to work with the community. They have a field office at Chhatarpur – at the project site. As most of Vikalp’s staff members are local, they understand the local dialect and have a clear understanding of the community dynamics which have been a big asset in the project. They also have a woman staff exclusively dealing with mainstreaming of women’s participation in the project.

The key focus of Vikalp in this project has been to build institutional capacity of WUA to effectively undertake repair works through community contribution. Central to these capacity building efforts is organization of community based organizations such as WUA including women’s groups where Vikalp has tried to facilitate participatory planning to encourage a sense of ownership among the people in the project.

5.2 Implementation Strategy

5.2.1 Rapport building with the community

During the initial phase, Vikalp had to face insurmountable problems in working with the community as the farmers were suspicious of outsiders’ role in the irrigation management. For the first six months, there was no response from the community. Sensing the community’s reluctance to engage with Vikalp, the staff approached the WRD (Sub-engineers and water guards) who facilitated the interaction at the start of the project phase. Also, the presence of officials from PIM directorate for mass awareness helped in bridging the gap.

Organizing meetings with the farmers and WUA executive committee members was the first step carried out by Vikalp in the project areas. The purpose of these meetings was to explain the ICEF supported PIM initiative, its advantages – management of the users Vs the management by the Government. Although that was a very convincing reason as the slow response of the government to immediate problems was legendary yet the community
response was slow in the beginning. Vikalp started PRA exercises in the project villages as entry point activities, including participatory survey of households and canal to create baseline data, and organized short training programs in agriculture for the farmers – demonstrating new techniques. These efforts gradually paved way for a more meaningful dialogue with the community.

5.2.2 Community contribution
The ICEF project had envisaged 30% contribution from water users towards the cost of physical works which would lead to enhanced ownership and participation. However, community contribution has been a major issue in the project. Even while the community contribution has been reduced to 10% from 30%, the time taken for mobilizing contribution has been enormous. The community in Chhatarpur (Gora) was no different. Severe and extended periods (2004-06) of drought only aggravated the problem: only Rs 20,000 could be mobilized in the first year. Besides, most of the farmers perceived canal maintenance to be the government's responsibility and were reluctant to contribute towards the financial responsibility of canal management.

Therefore, Vikalp decided to try out a different strategy – it started working with a limited group of farmers from the minor canal area. The idea was to demonstrate the benefits (rehabilitation works) concretely on the ground in order to motivate others to contribute. A list of potential contributors (those who were interested) was drawn up for undertaking repairs at the minor level. Essentially, Vikalp's focus was to mobilize funds from those who could afford it. This strategy in due course of time had positive impact as more and more farmers came forward to join the initiative. Clearly, physical benefits accrued in a short time were distinctly visible to the community.

Samajhol (middle end) was the first village where physical work had started with Rs. 25000 collected from that area. That had a demonstrating impact on the rest of the community as they could see the results in terms of renovation and repair work and it allayed their fear of funds being misappropriated. It also demonstrated that in the medium and minor schemes where cash crops were grown on small irrigated holdings the community was willing to pay its contribution to get the work done. The project has managed to collect Rs. 10,34,000 as community contribution which is 10% of the total project cost.

Notwithstanding the successive periods of drought, the fact that the project could mobilize 10% of the cost as community contribution is a major achievement. In fact, as the table below shows, the project managed to mobilize maximum contribution in the year 2005-06, and this was mainly achieved due to Vikalp's ingenuity of selecting a small group of farmers in the minor outlets for demonstrating benefits (rehabilitation) on the ground. It also proves the fact that the farmers are ready to contribute, when there is a reasonable assurance of availability of water.

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<tbody>
<tr>
<td>Farmers' contribution</td>
<td>0</td>
<td>2.73 lakh</td>
<td>7.42 lakh</td>
<td>0.19 lakh</td>
<td>10.34 lakh</td>
</tr>
</tbody>
</table>

5.2.3 WUA: PIM matlab – nahar chalu karna aur bandh karna!
The WUA, which was constituted in 2000 had a number of internal problems. The Ex president of WUA was apparently only interested in making money. He even got his brother involved in the management of WUA which disturbed the functioning of the association. With the help of Vikalp, an Aam sabha (General Assembly) was called to change the leadership and subsequently one of the TC members was elected to be the president in 2004.

During the tenure of ex-president where getting any work done was virtually becoming impossible, Vikalp with the help of WRD had facilitated the formation of Nirman Samiti (NS) which had taken over the responsibility of all construction related work. The power of decision making was vested in NS by the PIM Director. The work subsequently started in a piecemeal manner where the TC members from each minor area were active in collecting community
contribution for physical work. As people from other areas saw the benefit of physical work, the contribution started to gain momentum.

The Executive Engineer at the behest of Viklap played a critical role in facilitating community participation. During the initial phase, he had intensive consultation with the community including the WUA in encouraging the farmers to get involved in the process. He kept reiterating that the canal was the property of the community and urged them to take an active interest in the management process. As a TC member said, *we have a lot of respect for Sharmajee (Executive Engineer) as he not only made us aware but also spoke in our language to motivate us*…”.

Pre ICEF phase, the concept of PIM was hardly known to any. All it meant was to release and stop water. The WUA was also not clear about its roles and responsibilities. Consequently, Vikalp had to invest a great deal in creating a broad awareness among the irrigator and building the capacities of WUA and TC members. They worked diligently with the management committee in enhancing their leadership roles, their responsibilities under the PIM act. The training organized by Vikalp included leadership development, WUA’s roles and responsibilities, technical inputs to undertake construction work related to canal maintenance and rehabilitation and organic farming besides the exposure visits which were organized by the PIM Directorate.

One of the problems faced by the WRD was the collection of irrigation tariff which was estimated to be only about 20-30%. This was grossly inadequate to cover the cost of operation and maintenance. It was not easy to convince the farmers to pay up the backlog but with Vikalp’s facilitation, the WUA managed to influence the users to accept that they were the principal beneficiaries of a good irrigation service and maintenance of the infrastructure. As a result of it, the collection of water tariff went up to 60%.

The sub-committees as per the PIM act had been constituted but these were largely non-functional with the exception of the Nirman Samiti. Vikalp was of the opinion that more time was needed for the other committees to start working effectively. Even while they were aware of their responsibilities, they had not had much of an opportunity as the actual work started since last year (2006).

5.2.4 WUA meetings
The WUA meetings, usually once a month, were called to discuss operational details such as physical work, expenditure and contribution received, resolutions passed for administrative purposes and selection of members for training. With the implementation of the ICEF project the need for regular meetings and taking decisions related to canal repair and maintenance was reflected in the increase in number of meetings and the number of resolutions passed for canal maintenance.

Further, at times small group meetings were called for voluntary work, e.g., cleaning the canal and so on. So far the attention seemed to be more on maintenance and repair work and less on water efficiency or equity in distribution. It must be noted that all these meetings were still being called by Vikalp.

Documents maintained by WUA included resolution register, minutes of the meetings and record of physical work. These documents had very sketchy information and nothing on processes – discussion and deliberations – of decision making. Clearly, the significance of documentation as a learning instrument is yet to be appreciated by the members.

5.2.5 Women’s participation: *if they (men) want our signature we make sure that they read out the content properly*…
A significant development could be seen in terms of women’s involvement in the WUA. Vikalp quite strategically had used the Swashakti platform to encourage women’s participation in the project. They encouraged women to come forward as TC members. As a result, 4 out of 10 TC members were women of whom 3 were nominated and one had to contest the election. This was indeed a significant achievement given the patriarchal social and cultural context of Bundelkhand region.
The Swashakti women’s group was found to be very strong and articulate. The study team met the women’s group in Purva Village (Middle end) where women had been taking an active interest in irrigation. As the leader of the group told the team quite forcefully that “it is a commonly held perception that farming and irrigation imply only men whereas women do more than 90% of the agricultural work and therefore they should have a higher stake in the irrigation management”.

Since the start of the project, the women had been participating in the project. Though they occasionally went for meetings, they could not really speak in front of the men. However, informally they had taken up the responsibility of monitoring the water management during the day. Additionally, they had been seeking more information on the Project and the potential role that the women could play. Besides having 4 TC members they also wanted to contest the treasurer’s position but it was hugely resisted by the community. Fearing a backlash, the women’s group decided to go easy on it.

The women clearly were looking for a larger share in the decision making role as they felt quite competent about irrigation management. The men had also been slowly coming around to appreciate women’s contribution. Vikalp with the help of WUA had been thinking of giving the women’s group the responsibility of collecting water tax as a pilot initiative. Men in the community were also found to be supportive of this future initiative as they felt that women understood development issues better than the men and it was about time that their (women’s) role was recognized by the society.

5.2.6 Physical Work

Given the poor infrastructure and inefficient irrigation system, the main thrust of the ICEF project was to expedite the rehabilitation work along the canal. Participatory walk through (PWT) surveys were jointly undertaken by WRD, WUA President, TC members and Vikalp staff to identify the problems. The money collected was spent directly on construction work and more importantly, the TC members worked as contractors (thereby diminishing the role of private agency) which also gave them an opportunity to gain confidence to execute these works. Physical works worth Rs. 50 lakh till date have been completed. The water users have also done works such as constructing cattle pathways, washing steps along the embankment, removal of encroachments and clearing shrubs for unobstructed flow of water. Most of such work was done as “shram daan” (voluntary labour).

Table 9. Physical works carried out at Gora

<table>
<thead>
<tr>
<th>Project activity</th>
<th>Achieved target (Gora tank)</th>
<th>Work descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canal works E/W</td>
<td>30.5 Km</td>
<td>Main, minor</td>
</tr>
<tr>
<td>Canal lining</td>
<td>.93Km</td>
<td>Main canal of Gora tank</td>
</tr>
<tr>
<td>Structure</td>
<td>38</td>
<td>Minor canal</td>
</tr>
<tr>
<td>Repairing structure</td>
<td>35</td>
<td>Main canal area</td>
</tr>
<tr>
<td>Farmer contribution</td>
<td>10.34 Lacks</td>
<td>Farmer contribution is Achieved @10% contribution</td>
</tr>
<tr>
<td>Work completed</td>
<td>50 Lacs</td>
<td></td>
</tr>
</tbody>
</table>

Source: ICEF six monthly report, Vikalp

A problem faced in physical works was that the government had decided that repairs would not include new designs or alteration of original designs. The emphasis was on restoring structures to original design condition which posed some problems for the community. The Gora canal design was made in the 60s without people’s participation and did not include a pathway for transporting harvest produce from field to farmer’s houses. The community had been demanding construction of a pathway over the canal but the officials were not willing to tamper with the original design. The community was upset about it as their needs were not taken into consideration even while the project claims to be participatory!

5.2.7 Water distribution and management

WRD continued to have the major responsibility of water distribution and its management. It was responsible for the distribution and allocation of water, from the main canal to the individual farms. Generally meetings were called by WRD to assess the irrigation needs. The
traditional system of Anubandhi existed in the area where the farmers stated their water requirement before the cropping season by way of an agreement to the Sub Engineers’ office.

One of the major problems in water distribution was that the tail end had been left out of the distribution system. The reason, besides poor state of infrastructure, was that the irrigated area had expanded (unofficially) in the mid and high end villages as a result of adequate and regular supply of water. On paper, a holding that showed 3 acres was actually irrigating 10 acres of land. As a result water did not reach the tail end. Even though on paper, it was ensured that water would reach the tail end first, the reality was different. The study team was informed by Vikalp that this year, the water would only the latter part of the middle village as the canal was badly damaged at the tail end. The main problem according to WUA was the linking canal of Gora tanks feeder which needed urgent repair work and for that an additional Rs 5 lakh was sanctioned by the project. However, since the area had come under NREG (National Rural Employment Guarantee Scheme), it had become a source of dispute between two Panchayats fighting over the ownership. Vikalp has been trying to get Gora WUA to take over the NREG work but nothing so far has come out yet.

5.2.8 Relationship with the Department
According to WUA, the department has been taking more active interest in the project, as compared to pre ICEF phase. However, it was a well known fact that the transition of transfer of responsibilities currently is at a superficial level. Perhaps, it is not misplaced to suggest that the department is happy to see WUA taking up the work of cleaning the canal but is not really interested in farmers taking over the decision making responsibilities. Given the limited time frame, the project has not able to address some of these transitional issues.

On the part of WUA also, there was no urgency as of the moment to take over more responsibility. They too seemed happy having a more dominant role in the minor outlets rather than in the main canal. Part of the reason for such lack of interest was also due to limited capacities of WUA on technical knowledge and also it was not easy to break the traditional barrier of deeply entrenched hierarchy with the officials. This was evident during the joint meeting of WRD and WUA where the officials positioned themselves as the knowledge repository as far as irrigation management was concerned.

5.3 Project Impacts
It was difficult to draw definite conclusions about either the outcomes or impact of interventions as most of the interventions were taken up only in the last one year or so and also due to lack of systematic monitoring of various economic and social parameters expected to be affected by these interventions. Evidently the main focus has so far been on collecting community contribution. The social dimension in the project has not been effectively addressed by any stakeholder. However, there were some “changes” as perceived by the community and NGO which are highlighted below.

5.3.1 Transition from Indifference to participation:
People’s participation in the Government program typically has often meant little more than short term wage employment. However, it is encouraging to see people’s participation has gone well beyond this in this project. There is a genuine awareness among the farmers and they are found to be more articulate than before. The project has facilitated the significance of community management and maintenance of the canal including norms for utilizations, sharing of benefits.

Further, community contribution and the construction related activities had been undertaken in a very transparent manner. This had helped in reinforcing the element of collective responsibility and accountability. In Samajhori (head end village), the team was appraised of the process of collecting contribution by the farmers as there was no TC member from that village. Such an initiative certainly illustrated the faith of the community on the system and a collective understanding of farmers’ role in irrigation management.

5.3.2 Organizational effectiveness:
The study team’s observations and interviews with the farmers indicated that WUAs were satisfied with the process and results of the new participatory arrangements for maintenance
and repairs. Further the WUA was hopeful of water reaching the tail end by the end of the project after the targeted construction was completed. They also expected an increase in average yields of 20-30%. The construction activities had clearly resulted in tangible benefits in terms of construction of washing stone steps, de-siltation of minors and distributaries. This had resulted in relative equity in distribution – water reaching the tail of middle villages.

In general the operational performance by and large as perceived by the community had been satisfactory during the last one year or so. Also the region had a good rainfall. The community was also happy with WUA’s performance as it had started to clear away the maintenance backlog. In the study area, almost everyone considered that maintenance had improved since the WUAs had been in charge. Further, the community contribution though was perceived initially as a serious problem actually helped in fostering a sense of ownership. This was echoed by a woman when she said, “It is our land…our right…we will have to pay to protect our resources…”

5.3.3 Agricultural Productivity:
Impact at the level of agricultural production was difficult to assess as the base line data was not available for comparison. In order to improve the productivity, focus of activities had been on canal restoring, support for construction of irrigation channels with agricultural related activities like promotion of organic farming, distribution of improved seeds, etc. Due to lack of relevant data it was difficult to state how these measures had contributed to improving the agricultural productivity. Further, the year 2006-07 was the first irrigation season after the restoration work was completed. Therefore it was difficult to measure the farm productivity by only collecting data of the current year. There was also no systematic effort by the project to enhance agricultural productivity.

As per the socio-economic data collected for this study, it was estimated that there would be an increase in the production of grains and improvement in land productivity. However these changes in the agricultural economy also needed to factor in the changing price structure, reduction of subsidies and increase in input costs.

5.3.4 Enhanced participation of women:
The Swashakti program had facilitated in creating a base for strong women’s leadership in the project area which had been used effectively by Vikalp to encourage women’s participation. The male farmers had also been quite supportive of the efforts being made to enhance women’s membership in WUA. However, despite all efforts, women continued to have little say in decision making as they were only the nominal members of the WUA. The women needed more capacity building inputs in developing their managerial and technical skills. The project needed a well designed strategy to mainstream women’s participation in the canal management. Exposure visits to projects where women were managing irrigation interventions effectively was recommended.

5.4 Sustainability
There were no institutional mechanisms in place to ensure sustainability and also the time frame had been too short to deliberate on sustainability. WUA in its present capacity was involved only partially in the operation and maintenance of canal structure due to their limited technical and financial understanding of the project as well as reluctance on the part of the department to relinquish or share their power.

Even WUA was hesitant to assume more responsibility when asked if they had the potential to take on the leadership role independently of the department. WUA continued to see itself as subservient to WRD and therefore had limited stake in the management of the irrigation. At the moment their status appeared to be mere takers of direction given by WRD.

Further, Vikalp as an external NGO had been playing an effective catalytic role and the WUA seemed to be largely dependent on Vikalp. The initiative in the beginning had mainly been driven by Vikalp, including the technical know-how. It seemed that in both implementation and operation, the Vikalp staff had largely steered the process even while the community had managed to collect contribution successfully on their own, the impression remained that some
external guidance in an ongoing basis was necessary to encourage managerial efficiency and equity.

5.5 Lessons learned
There is no doubt that a lot has been learned in the process of ICEF-PIM project implementation. In the beginning, the WUA management committee was hardly aware of their roles and responsibilities. They were equally apprehensive of undertaking operation, maintenance related work on their own. However, over time, with hands on experience and training received, the WUA members including the TC members have gained confidence and the small outlets are being managed quite well. In the opinion of the users, the WUA has indeed been a better service provider than the government. However, there are challenges too. The section below aims to highlight the key learning with regard to potential and challenges in the project.

Potential:

- ICEF project is a unique experiment where WRD officials and WUAs are working in close collaboration with NGO in utilizing their community development skills. This presents a unique opportunity of convergence of social and technical skills
- There has been a greater awareness of water management among the community which includes conservation as well as proper maintenance of structures. This has also helped in inculcating a gradual sense of ownership vis-à-vis the canal which was earlier perceived to be the Government’s property.
- Women’s participation as TC members has been a hallmark in the project. Creative ways of engaging women needs to be explored further.
- Emergence of WUA as a representative body of farmers. While earlier only the President enjoyed the visibility but now the TC members have also established their leadership capabilities especially with regard to construction work under their command territory.
- The TC members have also emerged as efficient contractors as they got all the work done by themselves. They could be subsequently linked up with MPWSRP or further canal O n’ M work in future.

Challenges:

- Although significant progress has been made in PIM, a comprehensive understanding of participatory development/culture needs more time and attention. The department personnel implementing PIM needs to develop a thorough orientation and understanding of participatory concepts and methodology.
- The preoccupation of WRD with construction related activities has narrowed the scope of PIM. Besides, they are most reluctant to share information related to estimates and costs. As a WUA member said, “withholding of critical information is power…” Even if the estimates are shared, it is difficult to comprehend the language by a lay person as it is full of technical jargons.
- No implementation guidelines from ICEF/ Project Manager. Vikalp found it extremely difficult to operationalise the project on the ground. For instance, they did not know how to go about with the repair work. There was no help from WRD either. The ICEF project document had indicated the output/outcome, but provided no clarity on how to translate those in action as there were no activities identified.
- The project design had limited financial allocation for NGOs – there were no allocation for conducting capacity building activity till the 3rd year of project period. While the NGO was engaged essentially to build capacities of WUA, Vikalp had to manage some funds from their own sources which was not sufficient.
The project should have had an independent multi-disciplinary committee to provide hands on implementation/management support as well as undertake periodic review to enhance the effectiveness of the project.

Although the project had envisaged women’s participation it did not have much clarity on the roles and responsibilities of women in canal management. There were no suitable entry point activities identified to encourage women’s involvement in the project. Therefore the call for women’s participation much of the time has remained at the level of rhetoric.

The time frame of the project has been rather unrealistic. It is imperative for the project to take the geo-climatic factors at the project conceptualization stage. The fact that it is a drought prone area is not at all reflected in the project design. As a result, the earth work started in 2004 had to be soon abandoned due to a long stretch of drought. The actual work had only begun in 2006. So within this limited time frame, it is difficult to demonstrate any meaningful results.

Most importantly, the project does not mention explicitly about the prevalence of private irrigation wells in the command areas. In Chhatrapur, this has been a major issue as discussed earlier. Further, access to private source of irrigation (namely wells) may provide a big disincentive for the farmers to take an active interest in WUA. Therefore the crucial aspect of an integrated water resource management of surface and groundwater needs more attention.

Way forward

Constitution of an independent monitoring and review committee in the state to provide support to the pilot initiatives.

Intensive promotional programs explaining the advantages of participatory irrigation management are essential entry level activities for ensuring people’s participation. This can be done through organizing extensive meetings with the community and developing appropriate communication materials.

The WUA needs more mentoring and handholding support to become self-reliant and a vibrant democratic institute. Besides, enhancing their managerial and technical skills, they also need to be trained as potential entrepreneurs in raising funds to make the canal economically viable. They need support in exploring avenues of canal based income generation activities in order to earn regular income. The system of training and other skill development intervention should be ongoing process.

The sub-committees need to be made more active to enable them to widen the space of community participation. In this context, the PWT could be used as a monitoring and participatory evaluation instrument in order to broaden participation.

Irrigation water management sector requires inter-disciplinary approach and not mere multi-disciplinary teams. ICEF initiative has provided opportunity to its partners – WRD officials, NGO personnel, farmers’ organizations to develop such interdisciplinary approach and teams, which should be utilized as useful resource appropriately in future (Bhole, 2005)16.

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16 Bhogle, SG: Mid term performance assessment of participatory restoration and management of irrigation system by water users in MP, ICEF, 2005
Chapter 6.

Case study: Samrat Ashok Sagar Major Irrigation Scheme, Vidisha

Samrat Ashok Sagar Irrigation Project (SAS) Project is named after Emperor Ashok who governed Vidisha in 6th century BC. SAS is a major irrigation project located in Vidisha district. Its command area falls in parts of Vidisha and Raisen districts. The dam has been constructed on the Halali River, which is a tributary of Betwa River about 40 km. from Bhopal (capital of Madhya Pradesh).

6.1 About the project

The construction of the Samrat Ashok Sagar project commenced in 1973-74. The main dam was completed in 1977, while the main canal was completed in 1978. The gross command area of the project is 37419 ha and the cultivable command area is 27924 ha. The annual irrigated area in Rabi (1st November to 31st March) season is 25091 ha, and in Kharif (15th July to 15th October) season 12545 ha. Nearly 40% of area remains fallow during the Kharif season. Soyabean is being grown in about 13000 ha during Kharif, and wheat, gram and some pulses are being grown in 29750 ha during Rabi. The soil of the command area is medium and deep black cotton soil.

The condition of canal and the structures across the command is badly dilapidated. Tail end deprivations and water distribution disparities have been major issues, causing a lack of ownership in irrigation management and poor maintenance of canal system. The water tariff recovery is averagely below 46 %. The condition of the canal is increasingly damaging year after year. There is an average gap between irrigation potential created and utilize is 45 %.

The three tier farmer’s organizations were formed all across the public irrigation systems in the state in the year 2000. Around 1600 farmers’ organizations (FO) were formed all across the state through election by water users. But the role of FOs was largely confined within the annual canal maintenance work from state grant.

Two NGOs, SRIJAN and ASA were given the responsibility for SAS. The total irrigated command area of SAS is 37419 ha, there are 19 WUA constituted under this major project. Out of which ASA assigned for 13082 ha with 9WUAs. This study focuses exclusively on ASA process of intervention, good practices, outcome, learning and ends with flagging some of the emerging policy level issues.
<table>
<thead>
<tr>
<th>Feature</th>
<th>Samrat Ashok Sagar, Halali Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>District</td>
<td>Vidisha.</td>
</tr>
<tr>
<td>Irrigable Command Area (ICA)</td>
<td>13082 ha</td>
</tr>
<tr>
<td>Number of WUAs</td>
<td>9</td>
</tr>
<tr>
<td>No. of Villages</td>
<td>56</td>
</tr>
<tr>
<td>Total number of Water Users’ Households</td>
<td>5838 HH</td>
</tr>
<tr>
<td>Total length of canal area in ASA allocated area</td>
<td>225 km</td>
</tr>
<tr>
<td>Proposed budget for physical restoration through WUAs</td>
<td>RS 100 Lakh</td>
</tr>
<tr>
<td>Major crop grown:</td>
<td>Soybean, Wheat, Chickpea</td>
</tr>
<tr>
<td>Targeted contribution</td>
<td>10 Lakh</td>
</tr>
<tr>
<td>Actual irrigation</td>
<td>45 % below ICA</td>
</tr>
</tbody>
</table>

Some of the key socio-political features of the project area, which had a bearing on the project are as follows:

- **Political factors**: Vidisha is a politically influential, economically affluent area. Vidisha claims 3 ministers, including the present Chief Minister of the state. These political structures of the project influenced the ICEF project intervention for first two and half year of the project. The 1st term WUA presidents were not willing to accept the concept of cash contribution; they were under the impression that they can channelize funds from other sources (through their political nexus/ influence) and continued to undermine the cash contribution requirement under the project.

- **Social Factors**: Vidisha is a highly caste based and male-dominated patriarchal society, a fact clearly demonstrated at all spheres of household and community level institutional processes. There is a high incidence of absentee farmers and sharecroppers, many of the registered land owners are not farming themselves. This also influences the project as the sharecroppers are not genuinely interested to take ownership in the project process.

- **Economic Factors**: The local grown variety of wheat (locally called Sarbati) has premium market value and this requires less irrigation in comparison to other varieties. 65-70% of farmers in SAS command area grow Sarbati. This is a reason that farmers were not interested to participate in the project and contribute the cash contribution.

- **Technical Factor**: The structure of canal is in a highly dilapidated condition by contrast the proposed grant under ICEF ensures irrigator that the contribution money paid by them would be resulted through improvement in quality of water availability.

Action for Social Advancement (ASA) was engaged as one of the partners NGO in the project. The role of ASA is to facilitate participatory process through design, develop and implement strategies and building capacities of both farmers’ organizations and WRD personnel.

### 6.2 Implementation Strategy

#### 6.2.1 Community Mobilization:

ASA initiated the project at SAS and Satak with a package of comprehensive community interaction interventions, which began with PRA exercises all across the project sites. The PRA were followed up with some entry point activities on agricultural water productivity demonstration. The community mobilization interventions like mass awareness generation activity, interaction with focused group (WUA Management Committee and progressive farmers) were conducted during early project period.

#### 6.2.2 Building Rapport with Irrigation Department:

As explained above, the situation was unfavorable and complex from both irrigators’ front as well as from the department’s front at the SAS project site. The most critical problem was the
lack of continuity of WRD personnel, right from Executive Engineer (EE) to Sub-Engineers. During the 4 year project period, 5 executive engineers took over and handed over charge. During the 2nd year of the project, there were two EE conflicting for incumbency in SAS, Vidisha. To demonstrate some activity on the ground, the focus of ASA was to start the canal restoration work at selected reaches of canal. However, little progress could be made in relation of canal restoration work during the initial two years of the project period, and considerable time and energy invested to position the project at SAS.

6.2.3 Changing leadership of WUA:

ASA harnessed the opportunity to take into fold the new office bearers of WUA. Once a new batch of WUA leaders came into the project fold, ASA intensified the interactions by formalizing the institutional processes of regular committee meeting, general body meeting, problem identification through Participatory Walk Through (PWT) and reformulating the physical work plan for canal restoration with new batch of WUA office bearers. Fortunately the irrigation officer (EE) who positioned in Vidisha during this project period maintained a positive relationship with ASA and the WUA.

6.2.4 Canal Restoration Work:

The most critical challenge before the project is to achieve the physical works target of Rs.100 Lakh. Canal restoration work under ICEF-PIM project was riddled with problems related to the bureaucratic process of irrigation department work, where the irrigation engineers at field level plays important a key role, right from the estimate of physical work until the final payment of the completed work. The physical work progress remains below 50 % (of the target) till 2 month before the closing of the project.

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<tbody>
<tr>
<td>Physical work progress of SAS (2003-04 to 2006-07 as on 30th April, 07)</td>
<td>0</td>
<td>208000</td>
<td>503250</td>
<td>3732000</td>
</tr>
</tbody>
</table>

6.2.5 Other activities:

During the project, ASA strategically focused on issues of SAS water distribution disparity, tail end deprivation and Kharief fallow. ASA facilitated the process focusing on the deprived reaches like Andia Khurd, Bamuria, Billori and Karaira WUA. Along with the physical works, ASA worked on strengthening the institutional processes through regular meetings, training programmes and workshops on different aspect of irrigation management. This intervention was backed with the exposure visit to different successful PIM sites like Satak in MP, Ozar WUA in Maharashtra, and to different agriculture resource centers in MP focusing on irrigation management, agriculture practices, agricultural productivity. Water budgeting and participatory irrigation management practices were introduced in selected WUAs like Kararia.
6.2.6 Community Contribution:

Given the socio-political and economic condition of Vidisha, obtaining a community contribution of 30% was a key challenge for the project. To begin the physical work ASA focused on the water crisis in the reaches of tail end villages. ASA also maintained a completely transparent process of community contribution, using a system of giving an official receipt to each individual irrigator for their cash contribution. ASA also maintained a database of the same, which was accessible to all irrigators who can check the contribution status at any point of time. After the 1st phase of physical work was accomplished, community contribution was not much of a critical issue. But the progress in physical work proportionately to the community contribution has been a stumbling block all through the project period.

6.2.7 Women in PIM:

Keeping the male dominated societal structure of Vidisha in mind, ASA started with sensitizing the men during early project period. Gradually ASA approached the women through deploying women volunteers from within the community, which provided ASA access to interact with the women. ASA used the platform of Anganwadi to communicate the importance of the role of women in irrigation management. ASA also developed IEC materials focusing on the provision for women under MP-PIM Act including voting right to women. The impact of these activities were reflected when 78% of the women in ASA-SAS command area cast their vote in WUA election.

6.3 Project Impacts

It is somewhat difficult to assess the impact of the project at this stage. The total project period was four years out of which 2 years were spent on preparatory activities, 2006-7 is the 1st irrigation season where the project did reasonable amount of physical work and WUAs took the lead on irrigation management. The real impact in agriculture productivity is yet to be demonstrated in full. However the study captures the impact on following aspects:
6.3.1 Improvement in irrigation water availability:

In terms of the water reaching the lower reaches of the canal, there has been a marked change in the availability of irrigation water at tail end villages of Billori, WUAs. Earlier, the water used to reach these villages after 2 month of discharge from tank but now they get irrigation within 21 days of day of discharge from main storage. The last tail end WUA of the SAS command is Andia Khurd WUA. After rehabilitation work, water is reaching them within the expected time, and this region has received complete 3 irrigations, which became possible after almost 25 years. The farmers are now planning to take economically remunerative variety of wheat, which was quite impossible earlier. The canal is re-sanctioning work on main canal LBC D2 serving water to Kararia and Laskarpur WUA. Laskarpur is one of the tail end villages where water availability was sporadic in terms of quantity of water, timely availability of water. The tail end villages of Laskarpur Paho, Padaria, Jamaldi and Parsora, Harukhedi used to receive 1st irrigation water almost after two month since the last 8-10 year. As against the designed discharge of LBC-D2 120 CMS (cubic meter per second), the actual water discharge has been 50 CMS. After the 9 Km of canal re-sectioning work, the discharge level has been re-vitalized from 50 CMS to 120 CMS, and after 10 years, the irrigators of this tail end village have received their 1st irrigation within 20 days and now receive 3 irrigations. This year, the farmers have changed over from the traditional to improved varieties like HI-14/18, Loak-1 (which economically remunerative). Kararia WUA, which undertook large canal restoration work, experienced a recovery of around 100 ha of land, which was under seepage for last 10 years.

6.3.2 Social Impacts:

One of the critical challenges in irrigation management is addressing water disputes during the irrigation season. ASA conducted a study on water dispute and its impact at community and house hold level. The study found that the adult male members of the family stay continuously at the farm sites all thought the 3-4 month irrigation season, so as to ensure that their fields get adequate irrigation water. These tensions often percolate to irrigators house hold level and translated into family tension, where women and children of irrigated family are most vulnerable.

ASA carried out a small pilot intervention in one of the most challenging WUA of SAS: Bamuria. Bamuria WUA has been struggling with the problem of water dispute. Coupling the un-official outlet with illegal head-up was a rampant practice all across the command area. Through a series of focus group discussion with WUA MC member and the farmers of Bamuria, the team was able to establish the idea of WUA controlled irrigation management for 2006-07. This was put forth as one of the conditions before the canal restoration work was initiated under the project. A systematic irrigation planning was undertaken before the irrigation season where all problems were discussed and irrigators were convinced not to any tamper with the newly restored canal structure. The WUA in turn assured the irrigators that adequate irrigation would be provided. Each TC (Territorial Constituency) member was given responsibility to monitor this decision with the help of some progressive farmers and the ASA community organizer. The president of Bamuria WUA, Mr. Chndrasing Dangi took this up as a challenge and the result was extremely encouraging. The most remarkable achievement was that there were no illegal/ un-official head-up all across the command and in the whole season, there were only 5 small water disputes, which was redressed by the WUA. Earlier 25-30 dispute took place during the irrigation season some of which led to violence. The WRD Sub-Engineer and SDO also played a key role in this.

Some of the other social impacts demonstrated included the enhanced level of awareness and acceptance of the concept of PIM among the irrigators. The irrigators of Kararia and Bamuria shared that they can see the improvement in quality of canal restoration work as
because WUA monitor it and WUA is accountable to the command area irrigator because all irrigator contributed cash for the restoration work.

One of the unexpected outcomes is that there is quite a competition among the new batch of WUA leaders to deliver the quality irrigation services to the irrigator so that they can take political mileage.

6.3.3 Impact on Agriculture:

It is too early to assess the direct agricultural productivity enhancement, which can be ascribed to the physical restoration work. The impacts of ASA’s agriculture support activity however can be observed, beneficiary of PVSP trail plot mentioned that there is 30% improvement in production just by changing the seeds variety. Another indicator is that some irrigators of water logged area started practicing Rice during Kharif.

6.4 Sustainability

All the above impacts offer high promises for future sustainability, however the momentum initiated needs intensive follow-up. The WUAs who have handled considerable restoration works have developed their capacity to carry forward the future operation and maintenance work. 5 WUAs demonstrated the ownership on project process during this project period. The sustainable practice of PIM can be targeted in these 5 WUAs with sensitive strategic facilitation support for coming years. The positive impact of this WUA can be up-scaled to all across the command area. The real challenge is to keep this momentum continued to attain the overall sustainability of PIM.

6.5 Lessons Learnt

ICEF-PIM Project is unique in itself for some of the features like up-front cash contribution from irrigator for canal restoration work; the project intervention at the legislative frame work level and the mechanisms of GO- NGO collaboration. At the SAS site, some of the potential areas for work are as follows:

Emerging new Leadership: Majority of presidents elected during second term of WUA elections in 2006 are young and dynamic, who see WUA as a political platform to enhance their political ambitions. Some of the WUA like Kararia, Bamuria, Billori and Andiakhurd have demonstrated exemplary physical work in relation to quality and quantity. This potential of this new leadership could be harness for a robust sustainable implementation of PIM in SAS.

Continuation of PIM Momentum: The potential of PIM is well demonstrated through people owned irrigation management in WUAs like Bamuria, Kararia during Rabi irrigation last year. Success lies with how to harness this created potential. Some of the important challenges to achieve success at SAS are orientation to WRD field personnel to lead a participatory process, capacity building of WUA for effective negotiation with WRD officials.

Complete rehabilitation of canal structure: An important requirement for sustainable PIM is to first revitalize the canal potential to designed command level, after which the WUA can be given complete responsibility of maintaining and managing the system. Under the project, restoration work has been done in some critical reaches. The canal structure of SAS needs considerable work, which needs to be done through a participatory mode. As such, some of the WUAs are quite competent to handle the participatory canal rehabilitation work with maintaining transparency and accountability.

Some of the lessons learnt through this experience are as follows:

Site specific strategy for PIM: An important lesson is that PIM is a “need-” and “farming system-” sensitive initiative, and hence requires site specificity in strategy formulation. In medium and minor schemes where cash crops are grown on the small irrigated holdings, the
community is usually willing to pay contribution and take ownership, however, in the major schemes where community gets abundance of water and still grows traditional crops and varieties like in SAS, the problem gets compounded with large irrigated holdings, absentee farmers-sharecroppers nexus and the large, stratified distribution network. Hence, during the project design the strategy for major project needs to be different than the small project. In a small project, the homogeneous social group is likely to accept the concept of participation comparatively quicker than a major project like SAS. The strategy for major projects could be piloting at a few sites and learning by doing and then replicating the approach based on learning to all across the project area.

**GO-NGO Collaboration:** It has been experience of ASA that the positive synergetic effort by GO and NGO is a core requirement to implement PIM in ground. The NGO plays an integral role as a facilitator to enhance a participatory process and create a social conditioning implementing PIM. In the resent setup after the closure of the ICEF PIM project, the future of this collaboration is uncertain

**Monitoring and Learning:** Regular participatory monitoring of day to day implementation and continuous progress analysis of ongoing projects is an important tool for steering the project direction to achieve the desired project out come. While in SAS there was no such regular, sensitive and strategic monitoring of project were undertaken by all stakeholders. This component should be integral part of project implementation strategy for future PIM projects in SAS or else where.

**Role of NGO:** The project document of ICEF-PIM project clearly spelt out the role of NGO as facilitating organization to promote the capacity of WUA and WRD to enable both the stakeholders to perform their changing role. But during the implementation process, the primary focus of the WRD and the expected role of the NGO was to assist in cash contribution collection and the primary performance indicator for NGO consider being achievement of Community Contribution target. This happens probably because of the project is being managed and monitored by the PIM Directorate which is an extended (technical) arm of irrigation department. Adequate attention should be given to orient and enhance the capacity of the engineers (who are being involved in the PIM at different level). The role of involving facilitating agency (NGO) should be clear to all stakeholders involved.

**Interdisciplinary Approach:** Irrigation and agriculture productivity requires inter-disciplinary approach and mere multi-disciplinary teams. ICEF initiative has provided opportunity to its partners – WRD officials, NGO personnel, farmers’ organizations to develop such interdisciplinary approach and teams, which should be utilized as useful resource appropriately in future.
Chapter 7
Synthesis: Conclusions and way ahead

The ICEF-WRD project was implemented on a pilot scale in the state of Madhya Pradesh with the objective of building the capacities of the Water Users’ Associations such that they are able to take on the responsibility and authority for irrigation management from the WRD. A unique feature of the ICEF-WRD project was the component of community contribution collection upfront before any physical activities could be initiated, and the involvement of four NGOs for facilitating the processes as well as building the capacities of both the WRD and the WUAs to manage the irrigation resources in a participatory and more equitable manner. This resulted in the WUA management committees participating in all aspects of project processes. Another important feature has been the emphasis placed by NGOs on improving water and agricultural productivity both as a means for establishing a rapport with the respective communities and for improving water efficiency.

This chapter is a synthesis of the lessons on PIM gained by three of the partner NGOs - ASA, Vikalp and BAIF - during its involvement with the ICEF-WRD projects. These lessons have been further supplemented by the observations of the study team from its visit to four of the ICEF-WRD project sites.

7.1 Lessons learnt

Given below is a summary of some of the key lessons from the ICEF-WRD project in terms of implementation and policy issues.

7.1.1 Role of farmers’ organizations in irrigation management

The ICEF project has demonstrated that Farmers’ Organizations or the WUAs can successfully manage irrigation at a micro level. In most of the ICEF-WRD project sites, the capacity building efforts put in by the NGOs, in terms of providing leadership and managerial skills as well as technical skills, have enabled the WUA Management Committee (MC) members (i.e., the President and the TC members) to take on their roles and responsibilities and perform as independently as possible within the given framework of MP-PIM Act. In particular:

- MC members have been extremely active in conducting the community contribution collection drive along with their respective NGOs;
- Successfully collected the required 10% of cost of physical works as community contribution;
- Maintained proper records of the contribution collected & expenses incurred on repairs and rehabilitation of the canal structure;
- Water tariff collections have gone up by 100% at Satak, 60% at Gora, _% at SAS;
- The WUAs have successfully participated in the assessment of operation and maintenance works required at each of the project sites through participatory walk through, have been actively engaged with the WRD local officials in selecting contractors and negotiating costs with them, as well as monitoring and supervising the O&M activities and the costs incurred;
- Conducted regular management meetings as well as general body meetings to inform members about the ongoing project activities.

One of the most significant outcomes of the ICEF-WRD project has been the amendments made in the PIM Act regarding participation of women. The amendments made allow a) voting rights to spouse of WUA members for WUA elections, b) mandatory inclusion of one woman member in the management committee, and c) formation of women sub committee. ASA in its project areas in Satak, Segwal and SAS launched an aggressive campaign to convince women to register their names in the electoral rolls and to exercise their voting rights. As a result in the project area 74% women voters exercised their rights during the 2006 WUA elections. Using the Swashakti platform at Gora, Vikalp encouraged women to participate in the project, and especially to come forward as TC members. As a result, 4 out of 10 TC members were women of whom 3 were nominated and one had to contest the election.
This was indeed a significant achievement given the patriarchal social and cultural context of Bundelkhand region. Women's sub-committees have also been formed at all project sites. Despite all these efforts, there is no clear thinking on the part of the PIM Directorate, NGOs or WUAs as to the role of women in irrigation management and what role the sub-committee members or the one nominated management committee member could play.

The above features show that the Satak WUA, the Gora WUA, the SAS WUAs are representative of their farmer-members and are democratic in decision-making.

7.1.2 Participation of farmers in management decisions
There has been a greater participation of member-farmers in management decisions. In most of the project sites, there was an initial reluctance to pay the community contribution towards cost of repair of the canal because of the fear that the money will be misappropriated by the WUA Presidents as in the case of Chhapi WUA, or because the physical works was taking just too long to start although some amount of contribution had already been collected as in Gora and STP WUAs. However, at all these sites, the NGOs tried to assuage the fear by undertaking physical works on a piecemeal basis. Clearly, physical benefits accrued in a short time were distinctly visible to the community. Moreover, the formation of the Works sub-committee in some of these WUAs ensured that a larger number of members were involved in monitoring and supervising, that quality work was being done, as well as that the costs are contained. Following the first phase of work, large numbers of farmers came forward to pay their contributions. This is clearly visible from the trend in community contribution as can be seen from the individual case studies. A feeling of ownership over the nahar arose since it was their money which was also ploughed into the projects, and they felt it was their responsibility now to take care of it.

At the Satak WUA, today, information about repairs needed in certain sections of the canal or cases of conflict resolution related to water distribution are taken to WUA managing committee members rather than to the WRD. Not only are the committee members more responsive, the farmer saves time, money and the effort needed to meet the WRD Sub Engineer.

The NGOs had to devise an entry point strategy at each of these project sites to establish a rapport with the community since most of them were new to the project areas. A lot of handholding went into raising the awareness of farmer-members, especially the women, about PIM and the ICEF-WRD-WUA project and their rights and responsibilities within this project. Today most of the farmer-members have realized that if they take an active interest in the management and maintenance of the canal, then not only will the quantity of water increase but in the long run agricultural productivity can also be increased.

7.1.3 Achieving equity of distribution of irrigation water
After two years of drought, for the first time in several years, tail-end villages in 2006-07 not only received irrigation water but received it in adequate quantities. In the Chhapi command area, it had been decided to release water first to the tail enders as they were out of the canal irrigation loop for the past 20 years or so. Therefore it was the WUA's decision to release two waters to the tail enders for cultivating gram, mustard and coriander. However, this has created tension with middle reach villages who have said, "we get three waters now, while we were promised four….now all the water goes to the tail enders". Water availability in the Chhapi area also gets reduced because of illegal lifting of water by non-command farmers and the inability/unwillingness of the WUA President to control them. This shows the challenges faced by the WUA in equitable water distribution, and emphasizes the need to work on issues like poor canal structure, illegal lifting of water by the non-command farmers, political affiliation.

This year Bamuria WUA of SAS, Vidisha set an example by practicing the tail to head irrigation within their WUA command area. This effort is quite cumbersome to implement in one WUA of a major project. Still this work was undertaken quite successfully.

Balkhar, the tail end village on the main canal, received irrigation water on time for the first time in several years during 2006-07 rabi season. During the field visit for this study, in Feb 07, farmers had already received two irrigation waters and were anticipating two more waters.
7.1.4 Participation of farmers in O & M of the irrigation system

Broad-basing information has been used effectively as a planning as well as monitoring tool. The Participatory Walk Through (PWT) is a very good tool to involve the larger number of farmer-members in the assessment and planning of the repairs and rehabilitation work needed at a particular project site. In each of the seven ICEF-WRD Project sites, PWTs were conducted and this gave an opportunity to the farmers to see what activities will be undertaken as part of the project and how.

An amendment of the MP PIM Act allowed the formation of six sub-committees (works, agricultural, social justice, womens, purchase, and sub-committees) which helped to establish a more inclusive process of decision making beyond the management committee of the WUAs. This is also a useful tool for participatory monitoring. A larger number of farmers could be involved in the various activities of the WUA. However, in most of the WUAs not all six sub-committees were formed, and even when formed, with the exception of the Works committee, were only on paper. This was primarily because of the project time constraint considering that the new WUA was elected only in 2006. Some examples of the activities of sub-committees are:

- In the case of the Gora WUA, the ex-President of the WUA was only interested in making money for himself and was not interested in starting any physical works on the canal. Under these circumstances, Vikalp (the NGO facilitator in this project) facilitated the formation of *Nirman Samiti* (NS) which had taken over the responsibility of all construction related work. The power of decision making was vested in NS by the PIM Director. The work subsequently started in a piecemeal manner where the TC members from each minor area were active in collecting community contribution for physical work. As people from other areas saw the benefit of physical work, the contribution started to gain momentum. Similarly in the Satak WUA the works committee were actively involved in the preparation of work estimates with the WRD, selection of contractors and costs negotiations with them even to the extent of reducing the rates quoted by them, and monitoring the final execution of the work.
- The *Agricultural sub-committee* at Satak engaged itself in finding ways of improving land and water productivity with the assistance of the NGO partner (ASA). Trials and demos were held on Participatory Varietal Selection for seed variety and quality, vermicomposting and other organic farming techniques, water efficiency and water monitoring, etc.;
- The *Social Justice sub-committee* has been quite proactive especially in the STP, Segwal and SAS command areas. Most of the conflicts are related to flow of irrigation water through field channels and their location. This year the Bamuria WUA in SAS command area was able to stop the unofficial outlets/irrigation practices across their command area. Now irrigators settle the issues within WUAs; TC members play an important role in redressing the water disputes.

7.1.5 Ensuring financial transparency

The Satak, Segwal and SAS WUAs have shown their commitment to establishing transparency in financial transactions, especially where collection of community contribution and its usage were concerned. The ‘*anubandh agreement*’ between the WUA and the farmer-irrigators for payment of contribution, the ‘ICEF Contribution Bill’ and the ‘ICEF Contribution Receipts’ are all examples of systems established by ASA and the WUA to make the management committee accountable to the people. Similarly, an agreement between the WUA-WRD at the time of initiation of physical works makes the process open for everyone. ASA also initiated the process of Social audit, over the last three years, as a means to inform members about the money collected as contribution from them, the quantum of physical activities performed under the project and the costs incurred, and what will be done in the future.

Whether WUAs can establish social equity or not is a big question mark. This gets further complicated because of politicization of WUAs, where the WUAs are seen as an appropriate platform to launch a political career. The former president of the Chhapi WUA posed a major challenge for the project as he had political ambition and tried to use the WUA platform to further his political career. Given the distrust among the community members and the
potential threat of misappropriation of funds by the WUA President, BAIF suggested that the community contribution be sent directly to the account of the Executive Engineer and receipts be issued by the WRD as proof of payment. This emerged as an effective alternative mechanism to overcome the complex situation. Elections in the Satak WUA were highly politicized but political affiliations did not affect the working of the WUA.

7.1.6 Farmer’s involvement in physical works
An important learning for PIM from the ICEF-WRD project sites is that **physical restoration works have to be in tandem with contribution collection from the community.** In other words, participatory irrigation management must be **visible.** At all the project sites, where studies were conducted, the NGO staff reflected on how difficult it was to convince people to pay the 30% community contribution towards the cost of physical works. ICEF had wanted this contribution upfront and in cash. Most of the project areas were in the midst of a drought during the first three years of the project cycle and farmers were strapped for cash. Moreover, past experiences of people with the WUA leadership as well as with WRD did not convince them that their money would be utilized appropriately. And most importantly, despite the high contribution there was no guarantee that the canal system would deliver the irrigation water. Despite these misgivings at most project sites, farmers contributed even before any physical works started. An analysis of community contribution and physical activities accomplished during the first two years, clearly showed that physical works did not keep pace with contribution collection. The requirement for upfront contribution was affecting the quantum of physical work that could be performed under the project and time was gradually running out. ICEF, therefore, decided in 2005-06 to bring the contribution percentage down from 30% to 20% and then further down to 10% in 2006-07 following a mid-term evaluation which recommended such an action.

The above graph analyses the issue with Satak WUA as an example. During the first year almost Rs 5 lakh contribution had been collected but physical restoration work worth only Rs 1.2 lakh had been conducted. The delays were attributed to the unusually long process of technical sanctions required by the WRD from the WRD. The momentum of contribution collection (Rs 6 lakh in the second year) could be maintained only because by the end of the second year substantial activities had been initiated. During these two years physical work only to the tune of Rs 9 lakh had been performed as against the required Rs 20 lakh worth of work if contribution is taken at 30%. It was only during the last 2 years that restoration work worth more than Rs 1 crore had been completed. At Satak, although people did not have
difficulty in making the 30% contribution, the lack of physical activities to keep pace with the amounts collected, made the people feel that the project partners would be unable to keep their promises and were therefore reluctant to contribute. Therefore, the donor changed the rate of contribution from 30 to 20 percent. Because of the difficulties faced by other WUAs in collecting the high contribution rate of 20% upfront and in cash, the rate was again dropped to 10 percent. But at Satak by end of third year, the WUA had already collected more than the 10 percent required. The excess amount was deposited in the WUA account to be taken care of at a later stage.

The issue of reducing community contribution from 30% to 10% upfront and in cash created another difficulty in terms of the mindset of the people. People did not want to make their contributions in the hope that the entire amount may be waived soon, based on their historical experiences related to various government programmes.

7.1.7 The role of NGOs in PIM
A unique feature of the ICEF-WRD project was the involvement of NGOs for capacity building of WUA and irrigation department. As quoted by Dr S. Bhogle from the report of one of the project workshops, “The project essentially would be jointly implemented by the WRD and the NGOs – an integrated total team, without any division into technical and social units.”

However, from the project side, the only role visualized for the NGOs was collection of the community contribution. Some of the NGOs experienced difficulty in calling meetings without the permission of the SE; and NGO presence was not even mandatory in WRD-WUA meetings which placed the NGOs in awkward situations. In the first three years, funding for NGOs was also limited to meeting their salary and administrative expenses only. No special efforts were made by the WRD to strengthen this. But even with this framework, the NGOs managed to achieve a great deal, investing their own resources to implement innovative strategies for awareness generation and rapport building with the community, and for establishing their own credibility as to why they were involved in the project. The NGOs created on-site project teams, including people from local areas familiar with local issues and able to converse in local language; a team which was sensitive to womens’ participation; and technically qualified to deal with irrigation management issues as well. All four NGOs used their individual strengths to introduce rural developments programmes which helped break the ice, like, livestock development, ensuring food security by establishing linkages with government agencies during the period of drought, agricultural improvement programmes like improving seed variety and quality, soil testing, etc. They also organized several training programmes, workshops and exposure visits for WUA management committee members, sub-committee members, some other progressive farmers, women farmers, and WRD officials. In other words, NGOs worked as catalytic agents facilitating the learning process.

One very important outcome of NGO involvement in the project was awareness building of community on water management. Pre ICEF, all that they cared for was accessing water but now they have been sensitized about water conservation and management.

7.2 Towards Irrigation Management Transfer: Way ahead for PIM in Madhya Pradesh
Although the GoMP has made a commitment for PIM through the enactment of the PIM Act, in practice not much is being done in establishing the PIM on the ground, and subsequently moving towards complete IMT. The key issues that need to be addressed include:

- **Absence of a roadmap for PIM in the state:** While the PIM Act is in place, there are no guidelines on how to operationalize it in the field, in terms of what kind of farmers’ organizations to hand over PIM to, what capacity building needs they have, how their capability should be built up, and how their institutional maturity issues should be assessed and so on.

- **Buy in of PIM within government system:** There is still a lack of complete buy-in of PIM within the WRD which sometimes creates an impediment to promote the cause of PIM wholeheartedly within the department. While the PIM directorate has been set up at the state level, it functions within the WRD department, with practically no

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powers, which renders is rather dysfunctional. A PIM Directorate headed by Director, PIM was established as a separate cell to monitor and evaluate PIM implementation and capacity building activities in the state. Although the Director is at the level if EE no clear powers have been defined for this cell.

- **Lack of resources for capacity building**: There is a critical lack of resources to support capacity building initiatives of the FOs and the departmental staff. Within the WRD, the budgetary allocation for capacity building for PIM forms less than 0.5% of the capacity building budget. The ICEF project experience in Madhya Pradesh and elsewhere shows clearly that WUAs need continuous support and handholding in building skills in technical aspects of physical works, irrigation management, water distribution, handling O&M, and crisis management. For many of these functions, NGOs and other specialized institutions have proved to be far more effective than the government machinery. In the absence of resources, there are neither any funds for direct capacity building of WUAs, nor for hiring specialized institutions to provide support to WUAs and the WRD.

- **Run down irrigation systems**: Majority of the schemes are old and require rehabilitation. Implementing PIM in a dilapidated scheme works is a disincentive for the farmers’ organizations as it can not make much improvement in the supply of water to the farmers’ due to limitation of broken canal networks. As such, it is extremely unrealistic to hand over irrigation infrastructure in poor condition to farmers’ groups and expect them to take over, repair them, and ensure equitable water distribution.

- **Convergence of agriculture extension in PIM**: Another major issue is the lack of integration of agriculture extension component in the irrigation system. The MP PIM Act had envisaged that agricultural productivity (and cropping intensity) will improve in PIM areas as a result of improved agricultural practices introduced by the Agricultural department. In fact, in the WUAs, officials from both the WRD and the agricultural department are ex-officio members. In practice however, this is far from reality. With the agriculture extension machinery non-existent, command farmers have no access to knowledge and problem-solving services. There is no coordination between the WRD and the Agriculture department at any level despite the fact that irrigated agriculture has the potential of contributing a major share to the state’s total agriculture production. Hence, there is hardly any constructive plan to optimize the water availability through enhanced agriculture productivity. As a result the productivity in the irrigated command is still very low in comparison to the irrigated area served by the private sources of irrigation.

All these factors mentioned above have made PIM a non-starter for the state. This is evident by the fact that despite the PIM Act being in operation for nearly 8 years, there is not much of improvement in regard to the core issues of irrigation management like low capacity utilization, tail enders’ problem of not receiving water, water conflicts, etc. In the absence of clearly laid out guidelines and institutional setup with adequate powers, the Act, but itself can do little to strengthen peoples’ institutions, and hand over irrigation into the hands of the irrigators.

In the present scenario in Madhya Pradesh, which is one of the states that has a legislative framework for PIM, there are certain gaps that need to be addressed if the full potential of this powerful tool is to be harnessed. While these are gaps, these also provide opportunities for practitioners of PIM for directing their future work. The IMT therefore should be a gradual process in the state in correspondence with the up-gradation of the status of physical system and the FOs.

Specific recommendations are discussed in the following paragraphs.

**7.2.1 A roadmap for PIM in Madhya Pradesh**

As mentioned before, the biggest hindrance now in the state is that there is no guidance on how to operationalize PIM. The PIM Act is a significant step taken by the state government and reflects commitment at the highest levels. However, unless a roadmap is developed,
which clearly outlines the objectives behind the initiative, targets to be achieved, constraints
faced and existing opportunities, long and short term strategies and monitoring mechanisms,
only partial success can be achieved. Furthermore, in the absence of benchmarks, it would
be impossible to measure the progress of the initiative.

7.2.2 Enabling conditions for a transition to IMT
A complete irrigation management transfer (IMT) from the WRD in favour of WUAs is being
recommended, in a gradual process in the state in correspondence with the up-gradation of
the status of physical system and the WUAs. The process of IMT however would require
some critical policy amendments including complete transfer of irrigation asset to the WUA
and authority of water pricing, collection and retention of revenue by the WUA. Policy
changes need to be made to recognize the need for volumetric measurement of water, water
budgeting, water accounting and its audit. Some of the conditions that need to be met with
are:

- The WRD should be assigned the role of service providers/facilitators without having
  any role in the decision making process or interfering with the functions of the WUAs.
  Under the MP PIM Act, Water Resource Department is made accountable as
  competent authority. Engineers of WRD have been made the competent authority to
  Farmers Organization (FO). However, it is recommended that in case of IMT the
  WUA will not be liable to meet the expenses of existing staff of WRD working at the
  irrigation sites. The role of the existing WRD field structure at scheme level will be to
  provide the services as required by WUA. After 2nd year WUA will start paying the
  service charges at a subsidized cost and then gradually WUA will pay all the service
  charges for the services provided by WRD field personnel. The requirement of
  volume of service and number of staff will be decided by WUA. Such role and
  relationship of the Competent Authority would provide more strength to the WUAs in
  their development as an institution. Such role of the competent authority should be
  made explicit in the act also.

- Management Transfer of following assets should be made to the WUA:
  - Irrigation Tank: Management of tank, fishing, de-silting, tank water by WUA.
    However the dam maintenance and dam safety will remain with the WRD.
  - Entire canal networking system: The management of entire canal network
    system.
  - Land: All the land that are in possession of the irrigation scheme (land along
    canal networking, land with tank and tank embankment.

WUA see these as some of the potential sources of revenue generation. If the WUA
is delegated with the right to generate resources from these assets it can help WUA
to accumulate additional financial resources.

- Fixation, collection, retention and management of water revenue should be delegated
  to the WUA. However, the revenue generated may be utilized only for the purpose
  of management and development of WUA. The WUA may support WUA for collecting
  the revenue for initial two years, after which WRD services may be bought from WRD
  on mutually agreed term and conditions.

- The MP-PIM Act has provision of delegating the power to levy and collect the fee by
  farmers organization as prescribed by the government time to time. As per the MP-
  PIM Act the FOs has status of independent body corporate, and can disburse this
  responsibility under the purview of act. Also the WUAs have already exhibited their
  level of competence in managing institutional and technical issues and have been
  involved in community contribution collection as part of the ICEF project, as detailed
  in the previous section. Proper notification for delegating the responsibility of tariff
  design and collection to the WUAs has to be made.

7.2.3 Involving civil society organizations in PIM
While the WRD can play the regulatory and guiding role, NGOs are far better equipped to
play the role of facilitating agencies in programme implementation, as was seen under the
current ICEF-WRD project. A partnership between WRD and NGOs can help establish the correct synergy between technical and social requirements for facilitating the process of change. There is a need to make use of existing opportunities to pilot this approach further. The World Bank supported water sector restructuring project in the state provides a great opportunity to institutionalize the participation of civil society organizations into PIM. This has already been tried out in other states like Chattisgarh and Orissa, and should be taken up in Madhya Pradesh as well.

7.2.4 Capacity building
It is clear that unless the capacity building efforts are streamlined and further intensified, IMT in Madhya Pradesh will continue to remain elusive. Capacity building efforts need to be continued to (i) bring about an attitudinal change in the WRD personnel and to sustain the changes that have already come about following implementation of PIM in the state since 1999; and (ii) continue building the technical, managerial, financial and conflict resolution skills of the WUA. Needless to say, a capacity building drive must be supported with adequate financial resources.

Capacity building and hand holding support for WUAs
There is a need to consult with water users about what support services are most needed by the farming community in order to assume the new responsibilities and tasks as well to overcome constraints and to explore new income opportunities. The experiences in PIM through out the country suggests a continuous (at least 5 years) support programme to the FOs for them to become a vibrant institution. Support services during and after management transfer include advisory services about institutional arrangements for the WUA, establishment of organizational and financial procedures and skills, credit facilities, legal advice, marketing and construction procedures. Training and extension will be an important too to development the knowledge and skills of farmers and enable WUA officials to undertake management responsibilities and ensure more profitable irrigated agriculture. Specific areas in which WUA capacities need to be built are as follows:

- Development of Perspective Plan by the WUAs: The bottom line for each FO is to becoming a truly people’s institution with financial viability in managing the O&M, working harmoniously with the WRD with clear distinct role of each partner, and capable of integrating agriculture with the market for backward and forward linkages. The Perspective Plan should take a comprehensive view of the constraints and opportunities of the system and make strategies for the system to become institutionally and financially viable. The Perspective Plan essentially would try to answer the following core questions:
  - What is the rehabilitation and up-gradation plan of the project, the cost estimate, implementation arrangement, the role of FOs and the DoWR in the R&U work ?
  - How would finance be arranged to meet the expenses of complete O&M including depreciation of capital cost?
  - What would be done to increase the cropping intensity\(^{18}\) and enhancement of agriculture productivity ?
  - How to improve the governance system, participation of women in the decision making process, and assessment of performance of the FOs.
- implementing Perspective Plan, monitoring and course correction,
- establishing institutional mechanism for agriculture extension including backward and forward linkages with the market,
- developing service providers especially for agriculture extension,
- establishing institutional linkages between the FOs and the various organizations (PRIs, Dept. of Agriculture, horticulture, watersheds, Banks) including research establishments in the public and private domain,
- maintain effective financial and record keeping system,

\(^{18}\) In irrigated command the cropping intensity should be at least 200% if not more, which means the entire command is cultivated for two crops at least. At present the Cropping Intensity is low almost equivalent to the rain-fed agriculture
• make special efforts to improve real participation of women in the decision making process of the FOs.

**Capacity building of WRD staff**

A component completely missing in the current training strategy is ignoring the training requirement of the WRD staff, who are supposed to provide facilitation to the FOs in their changed role. This gap needs to be bridged.

• *Training facilitation skill*, with emphasis on participatory learning methodology. The WRD staff should be intensively involved in imparting training to the FOs. Obtaining training facilitation skill including logistic management would be a necessary skill for them.

• *Participatory irrigation management* – concept and practices. This should include the legal framework, Indian and global experiences, Irrigation Management Transfer, etc. This would help in perspective building of the trainees.

• *WUA Support functions* - courses that train how to provide support services to FOs. These courses would focus on technical, administrative and financial management requirement of the FOs.

• *Community facilitation skills* - courses that explain the fundamentals of community processes, monitoring the performance of community institutions, resolving conflicts, improving inclusiveness, maintaining transparency, etc.

• *Promotion of agriculture extension* - Including analysis of agriculture situation in the command area, problems and opportunities, participatory varietal selection and promotion methodology, formation and development of Farmers’ Producers’ company, agribusiness, legalities of producers’ companies, etc.

• *Technical skills on irrigation management* - Including determining water supplies, estimating water requirements, efficient water distribution, water scheduling, water auditing, on-farm water management, infrastructure planning, etc.

Training, exposure, workshops are also required for the functionaries of the associated departments like DoA, Department of Revenue, Horticulture, Fisheries, KVKs, agriculture universities for their orientation on the PIM, IWRM and other issues of coordination etc.