DECENTRALIZATION AND DEMOCRATIZATION OF NATURAL RESOURCES MANAGEMENT PROGRAMS IN INDIA: A STUDY OF SELF-GOVERNING RESOURCE USER-GROUPS

by

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Abstract

For many decades in India, natural resource management (NRM) programs were implemented by government bureaucracies in a centralized, top-down manner. The programs were unsustainable and suffered from resource use inefficiency and inequity. In the 1990s, under pressure from civil society organizations and multilateral agencies, the Government of India and many State Governments introduced policies that decentralized NRM programs and mandated active participation of users in the management of resources. When implementation responsibilities were transferred to resource user-groups many of the problems associated with centralization could be reduced significantly. However, despite their proven capacity of being better resource managers than government agencies, the user-groups encountered difficulties as self-governed people’s organizations. Participation of users declined and problems of equity resurfaced in many user-groups.

This dissertation describes the research that examines the causes of problems in the governance of user-groups in villages of Mehsana District in Gujarat. Using an eight-fold criteria of good governance, the study looks at eight Water Users Associations (WUAs) that took over irrigation management responsibilities from the Irrigation Department. This program of decentralization of irrigation is called Participatory Irrigation Management (PIM). The assessment of each WUA on each of the eight criteria reveals a close link between characteristics of good governance and the process of democratization. It can be seen that the WUAs that performed well on participation, equity, transparency, accountability, rule of law and consensus-orientation were less likely to face situations of dysfunction than the WUAs that performed poorly on these criteria. These criteria for good governance are also the core
elements of democratic governance. At the same time, the case-studies reveal the tension between the democratization process that is attempted within the WUAs and the historical and cultural legacy of the feudal, autocratic and patriarchal society that rural India has been for many centuries.

The thesis supports the argument, with empirical evidence, that the decentralization process can be sustainable only when user-groups institutionalize democratic processes and the early leaders behave in a democratic manner. It also suggests that the transition from an undemocratic institution to a democratic one can be enabled when external support agencies play an important catalytic role.
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Glossary of Abbreviations and Terms

AGBM Annual General Body Meeting
AKRSP(I) Aga Khan Rural Support Program (India), an NGO based in Gujarat
Catchment area area in which rainfall and other surface flow are drained by a body of water.
Choudhary a sub-caste within the Hindu social order, predominantly agriculture labourers
Command area total area served by the network of irrigation canals from one reservoir, also referred to as Service Area
Community organizers field level functionaries who help organizing building capacity of village level institutions
distributory The second level of water distribution structure taking water from a Main Canal
DSC Development Support Centre
EC Executive Committee of the Water users association (WUA)
GBM General Body Meeting
GoG Government of Gujarat
GoI Government of India
ha Hectare, which equals 10,000 square meters
Harijans a sub-caste group outside the Hindu social order, also considered the untouchables by higher caste Hindus
ICS Irrigation Cooperative Society, the generic term of Water Users Association
ID Irrigation Department
IMT Irrigation Management Transfer, a generic term used for decentralization of Irrigation
Irrigation service area total area served by the network of irrigation canals from one reservoir
Ismaili a sect within the Shia Muslim community
JIM Joint Irrigation Management program
main canal  first level of water distribution structure taking water from the reservoir
minor canal  third level of water distribution structure taking water from a Distribitory.
MoWR  Ministry of Water Resources, Government of India
NGO  Non Governmental Organization
NRM  Natural Resource Management
O&M  Operation and Maintenance
out-let point  a gated structure on the Main and Distributory Canals from where water is released for further distribution
Panchayat  local self-governing body empowered to control village level governance
Patidars / Patels  a sub-caste group belonging to the Hindu religion, traditionally farmers
PIM  Participatory Irrigation Management program
Rabaris  a semi-nomadic group within the Hindu religion, predominantly herders.
Registrar of Cooperatives  a regulatory body for all cooperative societies in a state
salinity  a situation when soil becomes excessively loaded with salts and other chemicals.
Sarpanch  head of village Panchayat who is elected by elected councillors
sub-minor  the fourth level of water distribution structure taking water from a minor
Thakores  a semi-nomadic caste classified as a social and economically weak community
top-down approach  refers to a development approach, now largely discredited as unsustainable, that depends on governmental initiative and implementation
water courses  the fifth and last level of water distribution structures taking water from a sub-minor canal to the fields
water distributors  a paid staff of the Water Users Association responsible for supervising field level irrigation operations
water-logging  process by which soil becomes saturated with water, often leading to salinity
WUA  Water Users Association, the term used to refer to farmers’ organization.
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My return to the world of academia would not have happened if it was not for the encouragement and support of two people: my research supervisor, Dr John R Wood and my partner in life Sheilina Dhanani. I needed to be reassured, time and again, that it was possible and indeed important to return to academia after spending 15 years in the field, doing community organizing work in India. I got that reassurance from John and Sheilina. In fact, I am very fortunate to have met John at the right time and benefited immensely from his long and intimate association with India and his seemingly endless affection for anything that is Gujarati. Along the arduous route, I got valuable support from many more. Dr Les Lavkulich, in his own inimitable way, helped in dissipating tense moments during the early stages of the research. Dr Ashok Kotwal made me think about the practical relevance of the research by asking the simple question: “so what?” Dr. Milind Khandlikar helped me refine the methodology and kept the discussion lively by some welcome digression into cricket and politics.

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Chapter 1. Introduction

Preamble

In 1947, when India gained independence from British rule, 70.4% of the population depended on an income from agriculture-related livelihood activities (Indian Agricultural Statistics Research Institute 2006, p. 33). Over the next five decades, there was a gradual movement of population away from agriculture to other sectors such as manufacturing and services. Yet in 2006, more than 57% of India’s population continued to be reliant on agriculture, much of which was at a subsistence level.¹ The incidence of poverty is much higher among the rural population. This can be gauged from the fact that in 2006 despite employing such a large proportion of the population, agriculture accounted for only 17.5% of the gross domestic product (GDP) of the country (World Bank 2007, p. 1). Besides the high incidence of absolute poverty, there is an added problem of acute inequity in wealth distribution among this section of the population. There has been much debate over the causes of poverty in India. However, poor policies and inefficient public bureaucracies have long been blamed for the continuation of poverty and inequity.

When the welfare of such a large population is dependent on access to and productivity of natural resources, it can be expected that matters of ownership and control of natural resources will be quite contentious. In any democratic country, and certainly in the largest one, policies and laws must evolve through a process that engages people who are affected

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¹ Directorate of Economics and Statistics, Ministry of Agriculture, Government of India estimates that over 48% of the farmer households are indebted with an average outstanding amount of Rs 12,585 per household. (http://www.iasri.res.in/agridata/06data/chapter1/db2006tb1_52.htm.)
the most. This has not been the case in India. For five decades after attaining political independence, programs related to natural resources were tightly controlled and funded by the state through public agencies in a top-down manner (Wood 2004, p. 39). These agencies grew in size and operational mandate over the years, but at the same time degenerated into inefficient institutions that were not accountable to the people they are mandated to serve. They developed problems that were usually associated with centralized planning and implementation processes. These problems were only too acute in India, given the high spatial variance in agro-climatic conditions and many linguistic and cultural boundaries within. Some of the critical problems were: (i) the distribution of benefits from state sponsored programs was inequitable, (ii) the use of resources was inefficient and unsustainable in its social, environmental and economic dimensions, (iii) the choice of technology was restricted due to a blue-print or “master-plan” approach to program design and, (iv) the implementation of projects was done by state bureaucracies that were not accountable, cost-effective or transparent in their management functions.

In the 1990s significant changes took place in the political economy of India. Economic policies were liberalized. Under pressure from civil society and multilateral funding agencies, the central and state governments could no longer justify the continuing dominant role played by the poorly performing bureaucracies in the management of natural resource development programs. As a result, many state governments introduced a few important policy reforms that required the state departments to enter into consultation with natural resource user-groups, to enlist their inputs in program design and to enable their participation by sharing responsibilities to implement, manage and share the costs of
projects. The new set of policies was proposed under the premise that a centralized institutional structure is not appropriate for managing local resources. Instead, it recognized the strategic advantage of transferring key management responsibilities to resource users and their organizations.

The announcement of these policies was an indirect acknowledgement of the poor performance of government agencies and their shortcomings and failures in implementing natural resource management (NRM) programs through centralized top-down processes. Development discourses of that time had already started to advocate local governance of NRM over centralized public agency governance (Tang 1992, p. 50-57; Merrey 1996, p. 3). New policies thus emphasized increasing the role of resource users in all stages of resource development and management. On June 1, 1990, when the Government of India announced the first of the many policy changes that were to follow, it took many by surprise. The new policy required state Forest Departments to involve village communities in managing forests in and around their village (Ministry of Environment and Forests (MoEF) 1990). A set of guidelines, referred to as the Joint Forest Management (JFM) program, was a non-binding directive to the states. Yet, such a directive was unexpected, not the least by the Forest Department. Given their custodial nature of functioning and a long tradition of being a closed and rigid organization with absolute control over forest resources, it was considered unimaginable that they would share management responsibility with any other agency, let alone a people’s organization. Radical as it seemed at that time, it was not an isolated event in the recent history of natural resource management (NRM) programs. In fact, as subsequent years would witness, JFM was just a
quiet beginning of a wave of policy reforms that advocated participatory resource
management programs in India. By the year 1995, the Government of India and many state
governments introduced policy reforms in other NRM programs such as agricultural
development, watershed management and water resource management. All of them
mandated a role, to varying degrees, for formal organizations of resource users and a
corresponding reduction in the role played by government bureaucracies. The decade, thus,
marked the beginning of a process of decentralization of resource management
responsibilities to local institutions.

At the heart of these policy changes was the creation and active participation of
decentralized, membership-based institutions of resource users. Indeed many state-funded
programs in the NRM sector required formal institutional arrangements at the end-user
level. Such an organization of resource users, referred to as a user-group, was legally
necessary to receive public funds for project implementation. It would also serve as an
enduring institution for ongoing resource management responsibilities, which were until
then performed by state departments.

Optimism and enthusiasm marked the launch of many new programs formulated under the
new policies. Tens of thousands of people’s institutions were promoted across the country.
Substantial funds were made available to these institutions for projects in forest
management, micro-watershed development, irrigation management and drinking water
systems. Key functionaries from these institutions received training and capacity-building
inputs to perform the new role of resource managers. If everything went well, argued the
proponents of reforms, in a few years time these organizations would mature into robust, self-governing people’s institutions. Resource users would, by then, take on much of the role played by the bureaucracies.

Small scale pilot projects by Non Governmental Organizations (NGO) successfully demonstrated that when resource management responsibilities were devolved to resource users, the results were markedly better than what state departments could achieve (Vaidyanathan 2006, pp. 72, 152). Based on the success of these pilot projects, the central government made available funds for scaling up participatory programs. Capacity-building programs for new resource user-groups focused on the knowledge and skills required to manage the utilization of the resource. The results were very impressive. Resource use efficiency and financial sustainability in resource use improved significantly when managed by the users. The access to resources was better both in quantitative and qualitative terms. The users derived more economic benefits than they did when the resource was managed by a government department. On the whole, it was acknowledged by all stakeholders that resource users do have clear advantages over government departments due to their proximity to and economic relationship with the resources. Encouraged by this success, the number of decentralized programs and, through them the number of user-based institutions increased rapidly in the 1990s.

The basic premise on which decentralization was lobbied for, namely that users are better resource managers, seemed to stand vindicated. Most of the user-groups demonstrated sound resource management skills. By better managed resource, I am referring to improved
efficiency in resource use, better maintenance of assets, reduced operational costs and fiscal viability of the institutions. During the first few years of their existence, the user-groups achieved operational and financial results that the government bureaucracies had never been able to achieve. This observation was quite in line with similar experience in Nepal where a comparative study on irrigation management by the government agency and self-governing institutions concluded that on parameters such as resource use efficiency, operations of the infrastructure and water availability, the self-governed systems performed markedly better than the government agency (Benjamin, Lam et al. 1994).

**The Problematic**

As appreciation for the benefits of decentralization grew, so did new concerns about sustainability and governance. Even as the user-groups were doing well in managing resources, the frequency of problems stemming from poor self-governance increased. The capacity of NGOs or the state department to intervene and solve these problems was limited as the number of user-groups steadily increased. Dominance and capture of benefits by village level elites, declining participation of members of user-groups in management functions, misappropriation of funds and continued marginalization of women members were some of the serious problems.

While resource use efficiency improved significantly and management operations were more cost-effective, problems of inequity re-appeared. Gradually, some socially and economically disadvantaged members of the user-groups were marginalized in the management and decision-making process. The leaders of user-groups could not be held to
account when access to the resource was either constrained or even denied to such members. With the devolution of distributive responsibilities from government department to user-groups, rent-seeking opportunities for the department staff declined, but misappropriation of money or conflict of interest cases within user-groups were on the rise. Mismanagement of funds, nepotism and outright abuse of authority by office bearers of user-groups happened at a steadily increasing rate.

The problems created by such “stressors” were not the only concern for the promoters of the new policy. What worried them even more was the fact that often it required support agencies to discover the problems. In other words, monitoring systems and oversight mechanisms within the user-groups were either not effective or did not exist at all. When discovered, many of the incidences could be dealt with only through active intervention of the external promoting/support agency. Even those user-groups that had 5 years of resource management experience relied quite heavily on the NGO or the government department to resolve such problematic situations. User-groups that were relatively less troubled by stresses were, more often than not, sustained by a charismatic leader who could compensate for poor member participation. Rarely have such good leaders institutionalized their leadership style. Good leaders were a matter of chance, but leaders who abused their position for personal gain were not uncommon (Koppen, Parthasarathy et al. 2002, p. 20).

In many cases, the catalytic presence of an outside agency such as an NGO was necessary to insulate the associations from corruption and destabilizing influences from government functionaries. Yet, the role, and indeed availability of such catalytic support agencies were far from being examined, recognized and institutionalized. Cross-state studies of
decentralized irrigation projects, conducted in the year 2000, showed indications that leaders of water users associations (WUAs) tended to act in their own self-interest. Conflict-of-interest situations were common in these associations, as there were no formal guidelines to deter such acts of self-interests. Representation of socially and economically weaker groups among water users in the managing committee was gradually becoming ineffective due to the dominating behavior of elites in the committee (Koppen, Parthasarathy et al. 2002).

A number of problems associated with open access resources (forest and watersheds) or restricted access (community irrigation) have remained a challenge to resource managers for a long time. Ostrom had observed that good performance on management parameters, by itself, cannot be taken as evidence that the WUAs will be enduring and robust (Ostrom 1990, Chap. 2). Similarly, Vaidyanathan raised these apprehensions during the beginning of the process of decentralization of water resources management in India. He warned that problems of governance will be even more exacerbated in a heterogeneous community (Vaidyanathan 1999, p. 158). Experience during the early stages of decentralization in Gujarat State appeared to lend credence to these predictions. More recent studies based on such experiences from a longer timeframe of farmer-managed irrigation programs in states of Gujarat and Andhra Pradesh only seem to confirm the apprehensions (Parthasarathy 2002).

Thus, the capacity of these user-groups to deal with internal conflicts and external pressures became suspect. Many of them faced frequent disruptions in their operations and
required intervention from either an NGO or the department. Those user-groups that received support from NGOs did better in dealing with problems of governance than those promoted by government agencies or those without any support at all (Koppen, Parthasarathy et al. 2002). However, with rapid increase in the number of such user-groups, neither the NGOs nor the departments could sustain the intensity and quality of their support services. As a result, problems in a large number of user-groups went unattended. Where such interventions were not forthcoming, many user-groups even folded up or went into a dormant state. In some cases, members of the user-groups believed that the performance of the user-groups deteriorated to a level that would match the performance level of the department prior to decentralization.2

When NGOs and government departments encountered these problems, the response was to directly intervene and use their respective resources to mitigate the problems. For example, a corrupt office bearer of a user-group would be removed and replaced by a person considered more “honest” until this person was also found to be misappropriating. Poor accounting skill and weak moral values were commonly considered to be the cause of corruption. The support agency would have little time or the capability to do a diagnostic study by digging deeper and understanding the systemic causes of corruption. Therefore corruption was viewed as a cause of problems, rather than as an effect of poor transparency and accountability mechanisms. To the narrow extent that it was seen as an effect, the causes were attributed to lack of moral values and greed rather than to the perverse incentives that office bearers had to be corrupt. Similarly, to correct the problems of

2 Personal interview of a WUA president from Srisailam Irrigation Project in Andhra Pradesh, 23rd February 2005.
exclusion of disadvantaged members, the support agency would typically increase its visits to the village and, for a short time, increase its intervention in management functions, thereby, in effect taking control of the management and cajoling or coercing the marginalized members back into the fold. In other words, support agencies had to step in, handhold and walk the user-group through such problems. To be able to do this, the support agencies required close and regular monitoring of each user-group. With increasing decentralization of NRM programs, the number of user-groups has increased exponentially, thereby limiting the capacity of the supporting agency to respond to each problem in each user-group.

It is important to delve into these problems and identify what is causing them. Policy reforms were based on the premise that resource users have clear advantages over bureaucrats as resource managers. Did the new policies take into account the willingness and capacity of user-groups to undertake governance responsibilities? The results appear to suggest they did not. A cursory look at the problems encountered by user-groups indicates that problems do not emanate from matters of resource management but rather from matters of governance of the institution of users. More precisely, it emerges that the vulnerability of user-groups to dysfunction and stresses comes from their limited capacity to be strong self-governing institutions, and not from inadequate resource management capacity. It may well be true that support agencies and policy makers have not recognized the distinction between management capacity and governance capacity. The resistance and

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3 The distinction between management functions and governance functions is dealt with in greater details in Chapter 2. As I discovered during the study, the indifference to governance is partly explained by the prevailing notion that “management” and “governance” are interchangeable terms in the development lexicon used among practitioners.
even denial of the existence of the problems among development practitioners and policy makers that I met during the course of the study indicates this possibility. Given my own background as a community organizer, this resistance and denial were not hard to understand. It was quite common to find the terms “management” and “governance” used interchangeably.

It can therefore be argued that resource management capacity is an essential condition for a robust, enduring user-group, but not a sufficient condition. Equally important is the capacity of the user-group to evolve and function as a good self-governing institution. By focusing only, and perhaps excessively, on resource management aspects of decentralization, existing policy reforms undermine the importance of governance aspects. Should capacity-building programs be augmented to include subjects related to good governance, and not merely good management? While there is growing evidence that sound capacity-building inputs for management skills can be translated into better resource management, there is a dearth of evidence to suggest that building management capacity will improve the capacity to govern.

As a practicing development professional, I have been actively involved in NRM programs in India through direct or indirect association with the process of promoting village level institutions of resource users. Over the last decade, a large number of these village level user-group institutions required constant external intervention by support agencies such as NGOs to tide over internal problems of governance. Some even became defunct after a few years of active operations. Very few, perhaps less than 5%, could be considered as stable
and enduring self-governing institutions that could withstand stresses without life-saving intervention from external agencies. My interest in the present research on irrigation management was sparked when I attempted to diagnose the problem that threatened to undermine the program for decentralization of irrigation management in the western state of Gujarat. Preliminary assessment of the problem gave me some insight into the cause, but also indicated that an answer to it lies in understanding the history of the evolution of institutions and the legacy that shapes the way they are governed. As many "new institutional" theorists have observed, the rules and procedures of institutions shape political behaviour and the evolution of an institution is influenced by the historical "trajectories and turning points" taken (Putnam 1994, p. 7). There is a need to understand how the current institutional design characteristics of user-group’s rules and procedures fit with the political institutions. Similarly, a crucial question needs to be raised: is the legacy of traditional Indian political and economic institutions the right base on which decentralized user-groups should evolve and thrive as self-governing institutions? Is there a disconnect between the existing political culture of people’s institutions (and indeed all political institutions) and what is needed for decentralization to really work? This research is an attempt to unravel this relationship.

**Research Questions and Hypothesis**

To develop a research hypothesis, the problems described above can be framed into the following key research questions:

1. What are the underlying causes for the serious problems in a WUA that, if unattended, can render it defunct or dormant?
2. What is the relationship between these problems and the institution-building process adopted for decentralization?

3. What are the predisposing conditions for decentralization to achieve the desired objective of sustainable and equitable resource management?

4. Can decentralization of resource management yield equitable and sustainable resource use without simultaneous democratization of user-groups?

To answer these questions, I propose the following working hypothesis that establishes the relationships between decentralization, democratization and institutional sustainability:

**Decentralized resource user-groups are more likely to be sustainable when they have the capacity for resource management along with the capacity to function as democratic self-governing institutions.**

The dissertation is organized into nine chapters. This Introduction chapter has given an overview of the problem and placed it in the backdrop of policy reforms aimed at decentralization. After a brief discussion of some of the assumptions that went into the policy reforms, the emergent and problematic issues were identified with the specific objective of identifying the central research questions. Chapter 2 presents a theoretical and analytical framework that is adopted to address the research questions. The chapter will also present current theories and practices of decentralization and democratization. The same will then be examined in the specific context of NRM. The second section of Chapter 2 will place the discussion of decentralization in India in the context of democratic
institutions. The rhetoric of decentralization in India, both past and present, is examined here. Chapter 3 describes the research design and methodology used for the study. Chapter 4 introduces the program of Participatory Irrigation Management (PIM) in India in the overall context of decentralized NRM programs. This chapter contains a section that describes the implementation process of PIM. In Chapters 5, 6 and 7, eight case studies are presented. Chapter 5 gives an account of three Water Users Associations (WUAs) that are performing well in terms of good governance. Chapter 6 presents another set of three WUAs whose performance is considered to have failed. Chapter 7 presents three “in-between” cases of WUAs whose performance is ambiguous and problematic. In Chapter 8, interpretation and analysis of the data are presented. Inferences and conclusions are given in Chapter 9. It includes lessons learned and suggested approaches to mitigate the problems revealed in the case-studies.
Chapter 2. Decentralization, Democratization and Good Governance

This chapter is divided into two sections. The first section will present a theoretical and analytical framework relevant for the key research questions. This will include theories on decentralization and democratization, leading to a set of criteria for assessing good governance. The second section will explore literature pertaining specifically to Indian contexts by examining the evolution of political institutions and the resulting “political culture” that exists in today’s India. This will lead the discussion to the central question of whether this culture is adequately predisposed to decentralization polices for NRM in India.

Section 1: Theoretical and analytical framework:

Three interrelated theories are presented here. The first one deals with the theories on decentralization examining typologies of forms and levels and then narrows down to the type that is most relevant for this study. Derived from this discussion is the second set of theories on democracy and the democratization process. The third theory will help us understand the concept of good governance in its abstract form and then provide a focused discussion on its adaptation for democratic decentralization. By inter-weaving these three theoretical discussions, a construct of what “good governance” is, in the context of decentralized local people’s institutions, will evolve. The theoretical and analytical framework is graphically represented in Figure 1 on the next page. These discussions will illuminate the assumptions and expectations that formed the basis for policy reforms for

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4 The term “culture” is used from an anthropological view point commonly understood as consisting of four elements that are “passed on from generation to generation” - values, norms, institutions and artefacts. (Hoult, T. F, ed. 1969. Dictionary of Modern Sociology, p. 93)
After establishing that decentralization, for all its advantages over centralized governance, is the right policy choice, I will go on to argue that decentralization is effective only when democratization occurs in tandem. Finally, this section will examine the connection between good governance of NRM and the politics of democratization. The criteria for good governance, as derived from theories on decentralization and democratization, will then be presented as an appropriate analytical tool to gauge the performance of resource user-groups in terms of equitable and sustainable resource use.
Understanding Decentralization

Decentralization can mean different things to different people in different contexts. There is no consensus among scholars on a definition of the term except to allude to a “shift in the locus of power from the center towards the periphery” (Carney 1995, p. 3). The principle of subsidiarity is the overarching theme in these theories. This principle is based on the observation that decisions taken as close as possible to the citizens yield better results than those taken at higher levels. The most discussed context is that of formal governments, either at the national level or the sub-national level of states/provinces, districts and villages.

A widely used definition is the one formulated by Rondinelli: “the transfer of responsibility for planning, management, and resource-raising and allocation from the central government (agency) to (a) field units of central government ministries or agencies; (b) subordinate units or levels of government; (c) semi-autonomous public authorities or corporations; (d) area-wide regional or functional authorities; or (e) Non-Governmental Organizations” (Rondinelli 1981, p. 22). This definition captures not only the typology but also the scope for various levels of decentralization. Other literature on this subject, particularly the donor literature, has offered more detailed discussions using a three-pronged terminology to examine the process and impacts of decentralization. The three can be categorized under (i) administrative decentralization, which is often described as de-concentration; (ii) financial/resource decentralization, also referred to as fiscal decentralization and (iii) political decentralization or devolution (Rondinelli 1981, p. 16; Manor 1999, p. 5). There are other terms with subtle nuances that describe more forms of decentralization –
delegation, deregulation and privatization. There are very wide margins of overlap among
the various descriptions of these terms. Fortunately, in the context of this study, these
additional terms have little or no relevance and therefore no attempt is made here to draw a
clear definition or draw boundaries. However, at this stage of the thesis, it is necessary to
differentiate the three main types of decentralization.

Administrative decentralization: This type of decentralization involves a very limited
transfer of authority to units or sub-units at a subordinate lower level, such as regional,
district or local offices of the central administration or service delivery organization. These
units usually have delegated authority in policy, financial and administrative matters
without any significant independent local inputs. Decentralization involves the transfer of
authority for specific decision-making, financial and management functions by
administrative means to different levels under the same jurisdictional authority of the
central agency. This is the least extensive type of administrative decentralization and the
most common found in developing countries. General de-concentration occurs to the extent
that a variety of tasks are de-concentrated to a horizontally integrated administrative
system. Functional de-concentration occurs to the extent that specific tasks are de-
concentrated to the field units of a particular government body or agency (Parker 1995, p.
19). Some authors have questioned the legitimacy of describing de-concentration as a
means of decentralization at all, as the process of decisions making happens “without being
subject to local pressures” (Parker 1995, p. 6).

Fiscal decentralization: This process refers to downward fiscal transfers, by which higher
levels in a system cede influence over budgets and financial decisions to lower levels. This authority may pass to de-concentrated bureaucrats who are accountable only to superiors at higher levels, or to unelected appointees selected from higher up. Fiscal decentralization derives much of its advantage from the efficiency argument that comes when government is in closer proximity to the people. Revenue mobilization, innovation in economic activity, accountability of officers and grass-root level participation in governance will increase through fiscal decentralization (Bahl 2002, p. 253). A significant caveat that appears in most literature on fiscal decentralization is in relation to its close link with the devolution process. Based on experience in Africa, Mawhood critiques this form of decentralization using the same argument presented for de-concentration. Fiscal decentralization unattended by any steps towards democratization rarely increases the influence of organized interests at lower levels and therefore, by itself, fiscal decentralization cannot be regarded as an example of genuine decentralization (Mahwood, cited in Manor 1999, p. 7).

*Devolution:* The transfer of authority from central agency to units that are autonomous at a lower level, such as provincial, district and local authorities that are legally constituted as separate governance bodies is referred to as devolution and is the most common understanding of genuine political decentralization. Through devolution, the central government/agency relinquishes certain functions or creates new units of government that are outside its direct control. Devolution in its purest form has certain fundamental characteristics. First, local units of government or any institution are autonomous, independent and clearly perceived as separate levels of governance over which central authorities exercise little or no direct control. Second, the local governments/institutions
have clear and legally recognized geographical boundaries within which they exercise authority and perform public functions. Third, the local institutions have the power to secure resources to perform their functions. Fourth, devolution implies the need to "develop local governments as institutions" in the sense that they are perceived by local citizens as organizations providing services that satisfy their needs and as governmental units over which they have some influence. Local government can and must make and modify rules independently. Finally, devolution is an arrangement in which there are reciprocal, mutually beneficial, and coordinate relationships between central and local governments.

Decentralization policies for NRM in India fortunately present enough elements of all three types, including the critical element of devolution. Therefore, a more detailed discussion on the devolutionary dimension will be required for this thesis. Such a discussion will not ignore or under-value the importance of the first two forms of decentralization. To the contrary, a fuller discussion will show that devolution or democratic decentralization on its own is likely to fail. Democratic authorities at lower levels in political systems “will flounder if they lack powers and resources, meaning both financial resources and the administrative resources” to effectively carry out governing functions. In other words, political decentralization must be attended both by some fiscal decentralization and by some de-concentration or administrative decentralization (Manor 1999, p. 7).

The development literature is increasingly focusing on the holistic approach to decentralization. The United Nations Development Program connects the term “decentralization” with overall governance as it firmly believes that decentralization of, say
the public sector, in itself will not be effective unless support is also provided to strengthen local governance, involving the public, private and civil sectors. And, in turn, the achievement of good governance at the local level is also not possible without the transfer of responsibilities and capacities through decentralization. United Nations Development Program (UNDP) defines decentralization as “the systematic and harmonious interrelationship resulting from the balancing of power and responsibilities between central governments and other levels of government and non-governmental actors, and the capacity of local bodies to carry out their decentralized responsibilities using participatory mechanisms” (UNDP 2005, p. 3).

Decentralization vs. Centralization in Historical Context

The popularity of the wave of decentralization across the world in recent times can be (mis)interpreted as a ringing endorsement of the inherent superiority of decentralization over centralization. Such generalized conclusions may be incorrect and not a useful approach to understanding decentralization, as historical accounts of trends in the 20th century will tell us. An examination of the events across Europe, Asia and Africa during this period indicates that the preference for centralization (or decentralization) was largely a response to the prevailing political and economic opportunities and compulsions. There are valuable lessons to be gleaned from this discussion on the conditions that make a government predisposed to (de)centralization processes. The central theme of the discussion that follows, deals with historical aspects of political institutions.
Manor provides an interesting analysis to explain why centralization made so much sense in the post world war years. Waging a war required the leaders of Western countries to centralize resources. Their resort to collection and manipulation of information at the central level would then be used to justify the relegation of democracy and social welfare agendas to a lower level priority for the government. Such enormous powers enjoyed by the leaders continued well after the war was won. Centralizing policies worked well for political leaders by enabling them to manage and marshal scarce resources and to promote development of those sectors of the economy whose growth had been stunted due to the war or, as in some newly independent nations, as a result of colonial rule. Centralization of governance is attributed as the cause for the relatively impressive economic growth witnessed in these nations in the 1950s and 1960s. Many African nations could increase revenue flows and state expenditures during this period with what Young referred to as a “commandist” style of government (Young 1994, p. 214). The rapid industrialization of the Soviet Union (or at least the perception) also impressed leaders of newly independent countries in Asia and Africa to emulate the commandist style of government. Such governments, Manor argued, could sustain their centralizing policies due to the high level of trust enjoyed by the leaders, many of whom spearheaded the struggle for self-rule.

In a more specific case, India had to reconcile two rather inconsistent strategies, one emerging from Gandhi’s approach that promoted self-reliant local units of production (and hence governance) and the other espoused by the first Prime Minister Nehru that focused rather strongly on a state-led and technologically-driven centralized development plan modelled on a Soviet style planned economy. This perhaps, Manor alludes, led to the poor
performance and eventually gradual demise of large scale decentralized initiatives such as the Community Development Program launched in 1952 (Manor 1999, p. 20).

Some authors have suggested that a centralization process must precede decentralization. This seemed to be the interpretation of Huntington’s argument, even if unintended by him, that political order is an essential pre-requisite for subsequent emergence of democracy. One of the popular strategies to achieve political order, and the attendant administrative order, is to standardize and “blue-print” institutional designs, policies and programs that cut across diverse conditions (Huntington 1968). Achieving political order, therefore, has distinct centralizing tendencies while democratisation has characteristics of decentralization. This will perhaps explain why post-colonial India had to reconcile centralizing needs with the decentralizing ethos that Gandhi promoted so vigorously. With more than 21 official languages, 6 significantly varied agro-climatic regions and the active practice of at least 5 major religions that are further divided along many caste and sub-caste lines, India can be more aptly described as a “union of diversities.” To reach such a diverse population for the purpose of political mobilization (particularly during the freedom movement and immediately after achieving independence) or for implementation of state-funded development programs, it was logical to concentrate political, financial and administrative powers at the center. Streamlining of large programs and bureaucracies across such diverse conditions could therefore be considered imperative at that time to avoid total chaos and conflicts. The absence of a unifying force, in this case a strong center, could be a situation rife for social and political strife and the continuation of local feudal tendencies. Poor performance may have earned bad marks for centralization, but there is
indeed a strong case, using Huntington’s argument, that centralization did provide an enabling framework and an environment conducive for building democratic institutions subsequently.

The reign of centralized governance both in post-war Europe and post-colonial Asia and Africa was challenged when their performance came under increasing criticism for corruption, rigidity, unresponsiveness and inefficiency. For what they did wrong and what they simply could not do at all, the central agencies and authoritarian governments were compelled to examine options of decentralization (Diamond 1999, p. 123). Manor suggests that there were five problems or inadequacies, which emerged in the 1970s and 1980s, that centralized governance could not cope with: (i) the demand for benefits from governments exceeded their capacity to respond, (ii) slow or even the absence of economic growth began to take a heavy toll on that capacity, (iii) within some “transitional” systems, corrupt middle-level politicians and bureaucrats began pocketing huge proportions of the resources passed to them for further distribution, (iv) senior leaders in many nations began excessive use of centralizing power in ways that eroded the institutional strength and autonomy of many of these systems, and (v) ordinary people began losing faith in the first generation of national leaders, or in their successors who often seemed less heroic and charismatic (Manor 1999, p. 23).

In terms of inadequacies, central governments are ineffective and inefficient in providing local services due to their inability to customize services across spatial variations in the needs and preferences of the population of a country (Cheema and Rondinelli 1983). For
these reasons, in developing countries, the pressure to decentralize came from international lending agencies. Multilateral and bilateral agencies such as the World Bank, International Monetary Fund and USAID began emphasizing the importance of local initiatives and supporting local institutions that enable local participation (Diamond 1999, p. 121).

**Advantages and Challenges of Decentralization**

Wolman offers an interesting theoretical framework for critiquing the theory of decentralization (Bennet 1990, p. 27). He analyzes the merits of decentralization using two sets of values as criteria – Efficiency Values and Governance Values. Efficiency Values include productive efficiency and allocative efficiency. These two efficiencies will determine whether decentralization of goods and service provisions to a local governing body results in maximizing social welfare. Expectedly, such analysis had to deal with the popular argument that the advantages of economy of scale and the ability to internalize externalities will be lost in decentralized governance. In their defense, advocates of decentralization argue that standardized, less-differentiated goods and services suffer in qualitative terms and that it takes away the gain of economy of scale. Moreover, decentralization does not preclude the existence of higher levels of governance created with the specific purpose of centralizing the provision of certain goods and services and which can also use taxation and incentives to internalize externalities. The issue of scale, as also the issue of tackling externalities, can thus be addressed by selective centralization. A study

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5 Productive efficiency can be defined as 'using the least amount of resources to produce a given good or service or output is being produced at the lowest possible unit cost'. Allocative efficiency is defined as 'allocation of (limited) resources in a way that maximises the net benefit attained through their use.

6 Cost imposed by one local unit on another that cannot be compensated due to absence of a market mechanism across local units.
of large-scale decentralization in Bolivia in 1994 found that decentralization did have
discernable positive impacts on improving both productive efficiency (for example of
provision of goods and services) and allocative efficiency (for example of spending
Bank-funded road projects. Decentralized implementation and monitoring had a positive
impact on backlog clearance and the quality of roads.

The impact of decentralization on the second grouping, namely the “Governance Values”,
did not generate conclusive evidence of a positive relationship. This included parameters
such as responsiveness and accountability, diversity and political participation. Devolution
of powers to localities did enhance political participation amongst people because of
increased levels of interest and involvement. At the same time, local politics were more
susceptible to interest group capture or manipulation by powerful agents (Faguet 1997, pp.
9-12).

If the nature and form of decentralization are politically and culturally context-specific,
then the next step is to understand situations where decentralization can be undesirable or
decentralization can lead to serious problems. Some of the negative consequences are
discussed here. There are common themes that run through most writings on the pitfalls of
decentralization. They are categorized into four types. First is the tendency of
decentralization to trigger formation of “enclaves of authoritarianism”. This is common in
societies that have a long tradition of elite control and leadership that remains
unchallenged. By physically and socially excluding or repressing large sections of the
population, the elites can form “fiefdoms” that can ward off intervention from central authorities. To further consolidate their position, the elite enclave will reinforce the clientelism that existed prior to decentralization by capturing the increased flow of resources that result from decentralization (Diamond 1999, p. 133). In a study of Latin American countries, Nickson observed that “transferring financial power to local government may simply shift the canker of clientelism from the national to the local arena, where it will be even harder to control because of the absence of the strong countervailing regional and sectional interests found at the national political level” (Nickson 1995, p. 84). In such cases the efficiency value, used in Manor’s analysis will in fact worsen because enhanced transfer of resources to the local bodies will only encourage investments and spending that will generate short term gains (Manor 1999, p. 121).

The second potential pitfall of decentralization is the emergence or consolidation of intolerance and discrimination. In the absence of an external influence (often the central government) that can use central resources as leverage for ensuring non-discriminatory behavior, the small size of local bodies can exert pressure on minorities or socially disenfranchised sections of the community to conform or face the threat of marginalization. This is seen in India where scheduled castes and scheduled tribes stand a better chance of accessing development programs from the center as compared with locally administered programs. Similarly, after the breakup of the Soviet Union, ethnic Russians complained about being discriminated against in successor-states such as Lithuania despite having a population of more than 50% of the total (Diamond 1999, p. 134).
The exacerbation of geographic inequality is the third significant challenge posed by decentralization. If local bodies are required to be self-sustaining in terms of resource generation, as required in a decentralized setup, there will be serious disparities between local bodies that are endowed with different revenue generating capacities. This is a common observation in the case of rural and urban bodies. The scope of revenue generation is much higher in the urban areas due to their high concentration of population, commerce and industrial activity as compared to rural areas that rely predominantly on subsistence farming and informal trading. At the same time for a democracy to thrive, even local areas need financial resources to maintain minimum standards for essential services such as education and health. King and Stoker argue that the democratic advantages of small government should be weighed against the importance of distributive justice for democracy, which assumes that equality of opportunities requires maintenance of reasonably uniform standards in education and health (King and Stoker 1996, p. 218).

The fourth challenge deals with allocative and productive efficiencies discussed earlier. Efficiency advantages can often be lost when tasks that are sensitive to economies of scale are devolved to local bodies with smaller jurisdictions. Besides economic efficiency, the operational efficiency of certain tasks requires coordination between central and local and amongst local bodies that are better served in a centralized way. Waste, redundancy and confusion are some of the most serious problems of decentralization when large amounts of centrally collected revenue are transferred automatically to local level authorities. In such arrangements the central government’s ability to monitor is weak and great scope is presented to the local body for the transferred revenue to be dissipated in political
patronage. This can reinforce clientelist tendencies and electoral success is driven by patronage rather than good governance (Diamond 1999, pp. 136-137).

The limitations of centralized governance can also be understood from the perspective of the new institutional economic theory. Known as an extension of neo-classical economics, this new school of thought takes into account some of the unrealistic assumptions that can be found in neoclassical economics, namely, the existence of perfectly competitive markets, full and free knowledge or information, free mobility and price as a mechanism to bring equilibrium in the market. It is now widely accepted that such conditions rarely, if at all, exist anywhere in today’s world. New institutional economics introduces the concept of transaction costs and asymmetric information, two widely prevalent conditions in many parts of the world, and perhaps more acutely in developing countries such as India. When costs of monitoring, measuring, negotiating, communicating and enforcing decisions are high, and when available information is incomplete and incorrect (asymmetric), it leads to inequity, rent-seeking behavior, free riding tendencies and opportunistic behavior by decision-makers (North 1990).

It can be seen that the arguments against decentralization are certainly situation-specific. Rarely, if at all, are any of the challenges beyond resolve. Indeed, when this argument is juxtaposed with theories on decentralization and good governance (see the following sections) one can see that decentralization, in the absence of democratization, presents a situation where disadvantages come to the fore.
Devolution and Democratization

The foregoing discussion on the results of decentralization brings out more succinctly the manifestations and hence the consequences of the three levels, namely, de-concentration, fiscal decentralization and devolution. The challenges and problems of decentralization relate quite directly to the level of true devolution that is attendant to the first two types. Some of the challenges of decentralization can be understood and addressed when the process of devolution is correlated with the process of democratization. The concept and practice of democracy and the democratization process and its interpretation are as varied as the concept and practice of decentralization. There is much to be gained by a detailed understanding of democracy and all its nuanced interpretations. However, such a discussion is beyond the scope of this dissertation. It is neither intended nor, fortunately for this thesis, necessary to discuss the nuances of various theories on democracy. What is relevant, however, is an understanding of key elements of democracy that enable or inhibit sufficient engagement of members of a society or association in the process of decision making. Conversely, it is necessary to understand the reasons and circumstances that lead to the absence of participation or even disengagement by key stakeholders, a phenomenon widely seen across the world and more acutely in developing countries such as India. Therefore, after a brief examination in the abstract of theories on democracy, the discussion will focus on the knowledge and practice of democracy that is relevant for local institutions and in the context of decentralization.

There are numerous definitions of democracy and none of them can stand alone to capture all dimensions of the term. Each of them helps us understand the theory in a specific
context. While some of the core elements of a democratic polity have remained unchanged from the Athenian practices dating back to 507 BC, over the years the concept has evolved and adapted to the changing nature of society and institutions (Dahl 2000, p. 12). As Putnam puts it, history shapes institutions, which in turn shape politics (Putnam 1994, p. 7). The definition by Benjamin Barber fits the context of governance of local or regional resources: Democracy is "politics in the participatory mode where conflict is resolved in the absence of an independent ground through a participatory process of ongoing, proximate self-legislation and the creation of a political community capable of transforming dependent, private individuals into free citizens and partial private interests into public goods" (Barber 1984, p. 132). Giving it an institutional dimension, Schumpeter defines the democratic method as "an institutional arrangement for arriving at political decisions which realizes the common good by making the people itself decide issues through the elections of individuals who are to assemble in order to carry out its will" (Schumpeter 1950, p. 250). Dahl proposed five criteria to understand, and by extension, measure the extent to which a state government is democratic: effective participation, voting equality, enlightened understanding, control of the agenda and inclusion of adults. These criteria are valid for self-governing local institutions too (Dahl 2000, p. 38).

There is a general consensus that democracy is all about collective action and public decisions based on certain principles of equality of members, full information and free discussion on all issues for collective decisions, members' right to form coalitions and form a voice and vote in association with others, right to stand for key elective offices, and to hold elected representatives accountable for their decision (Beetham 2005, p. 7).
Level of literacy and even formal education are often considered a key pre-requisite for well functioning democracies. One of the earliest known sceptics, Plato, attacked the idea of total democracy, fearing that it will lead to poor and ignorant ruling over the educated and the knowledgeable. Much later in 1861, John Stuart Mill believed that every adult should vote only after they have completed post-secondary education (Crick 2002). With its high rate of illiteracy, this is particularly relevant for India.

**Democratization and Good Governance**

Governance can be defined in various contexts. The most popular one deals with the governance of a nation. Among the many that are available in the literature the following three capture some of the essential components that are relevant for this dissertation:

(i) Governance is the exercise of political, economic and administrative authority to manage (a nation's) affairs. It is the complex mechanisms, processes and institutions through which citizens and groups articulate their interests, exercise their legal rights and obligations, and mediate their differences” (UNDP 1997, p. 5).

(ii) Governance is the manner in which power is exercised in the management of a country’s social and economic resources for development. Governance means the way those with power use that power” (ADB cited in Sumarto, Suryahadi et al. 2004, p. 3).

(iii) Governance is "... the traditions and institutions by which authority in a country is exercised for the common good. This includes (i) the process by which those in authority are selected, monitored and replaced, (ii) the capacity of the government to effectively..."
manage its resources and implement sound policies, and (iii) the respect of citizens and
the state for the institutions that govern economic and social interactions among them
(Kaufmann, Kraay et al. 1999, p. 1).

For this study, governance had to be understood in specific contexts of organizations and
societies. Governing an informal institution (such as interest groups, religious and caste
groups) will differ from that of a formal organization (civil society organizations, public
service agencies, governments). Governance at a local level will be different from that at a
state, regional or national level. However, there are characteristics of governance that can
be identified in various contextual situations or domains to understand elements of
governance of an organization of farmers. An analysis by the United Nations Economic
and Social Commission for Asia and the Pacific (UNESCAP) gives a useful and relevant
classification of these characteristics. They are grouped here according to the following
eight major criteria as shown in the Figure 2 (UNESCAP 2003).

**Figure 2. Criteria for good governance**

![Figure 2](image_url)

Source: UNESCAP, 2003
1. Participation: Informed and organized participation by both men and women is a key cornerstone of good governance. Participation can be either direct or through legitimate intermediate institutions or representatives. The operative term here is "informed and organized" participation. This means freedom of association and expression on the one hand and the existence of enabling platforms for exercising the rights on the other hand.

2. Rule of law: Good governance requires fair legal frameworks that are enforced impartially. The concept can be understood better when we look at the opposite of rule of law, which is rule of persons. Organizational laws must stipulate the mechanisms employed to elect or appoint office bearers through a political process. It is different from “rule by law” in that it cannot be used as an instrument by the government, thereby making government itself above the law. In fact, rule of law serves as a regulator of governmental power. Rule of law means equality before the law. It also means procedural and formal justice. It requires special enabling mechanisms to protect the rights of social and economic minorities, and vulnerable groups.

3. Transparency: Transparency means that decisions taken and their enforcement are done in a manner that follows rules and regulations. It also means that information is freely available to and directly accessible by those who will be affected by such decisions and their enforcement.

4. Responsiveness: Good governance requires that institutions and processes try to respond to all stakeholders within a reasonable timeframe. This will imply the existence of
performance standards and monitoring systems that members can use to express their needs and track any deviation or distortion from agreed rules and norms.

5. **Consensus oriented:** There are numerous actors and as many viewpoints in a given society. Good governance requires mediation of the different interests in society to reach a broad consensus on what is in the best interest of the whole community and how this can be achieved. This can only result from an understanding of the historical, cultural and social contexts of a given society or community. Some literature refers to this element as **coalition building** among members by the leaders (Kohli 1990, p. 23) In the context of a small organization, this concept can be adapted to mean the ability of the organizational leaders to forge a coalition of enough members of the organization to move forward with decisions that are bound to create divergent responses.

6. **Equity and inclusiveness:** A society’s well being depends on ensuring that all its members feel that they have a stake in it and do not feel excluded from the mainstream of the society. This requires that all groups, but particularly the most vulnerable, should have opportunities to improve or maintain their well-being. Inequitable access or privileged entitlements reduce the level of participation. This in turn is a precursor to unstable coalitions or consensus-building processes.

7. **Effectiveness and efficiency:** Good governance means that processes and institutions produce results that meet the needs of society while making the best use of resources at their disposal. The concept of efficiency in the context of a well-governed irrigation
program also covers the sustainable use of water resources and the protection of the environment.

8. Accountability: Simply put, accountability is “the process of holding actors responsible for their actions” (Fox and Brown 1998, p. 12). The leaders of the organization must be accountable to its members just as governmental institutions, the private sector and civil society organizations must be accountable to the public and to their institutional stakeholders. Most literature on accountability agree that it is a principal-agent relationship where “the principal must be able to have the remedies or sanctions imposed on their agents as part of the right of authoritative direction that lies at the heart of the accountability relationship” (Mulgan 2003, p. 9). For accountability to be enforced in a membership-based institutional setting, the members (principal) must have “a capacity to demand of their leaders (agent) to engage in reason-giving to justify his/her behaviour, and/or impose a penalty for poor performance” (Goetz and Jenkins 2002, p. 5). Accountability cannot be enforced without transparency and the rule of law.

The absence of “good leaders” as a criterion for good governance may appear to many practitioners, as it did to me, as a conspicuous omission. However, for epistemological reasons, the availability of a good leader in a given space and time is a matter of chance and cannot be institutionalized. On the other hand, when we carefully examine the manifestations of the above eight criteria, it becomes clear that good leadership can be institutionalized when these manifestations, individually and in combinations, are activated. It can be argued that the probability of good leaders will be higher if conscious
efforts are made to identify and build leadership qualities in potential individuals. That may well be true. Yet, theoretically good governance must be a result of a convergence of situations that can be crafted and hence predictable. Fortunately, this is not an argument where leadership needs to be negated as a criterion for good governance. Instead, it can be argued that a critical dependence on good leaders can be made redundant if the institution establishes a firm rule of law and when office bearers perform accountably and transparently.

These concepts of governance are reflected in other literatures and research studies. The work done by the Asian Development Bank is an example. It looked at governance issues within the context of Asian countries (Asian Development Bank 1997, p. 9). The same characteristics identified by UNESCAP are found here too, only this time the eight are collapsed into four elements that are crucial for effective governance: accountability, participation, responsiveness and transparency. (i) Accountability is a mechanism whereby officials appointed by members to govern are answerable for their behaviour, and responsive to the entity (the members) from which their authority is derived. (ii) Participation refers to the involvement of the members in the development process. Beneficiaries and groups affected by the activities of the organization need to participate so that the organization can make informed choices with respect to their needs, and interest groups can protect their legitimate rights, alluding to the need for equity and inclusiveness. (iii) Predictability deals with an organization's law making and enforcement environment. It must be able to regulate itself via laws, regulations and policies, which encompass well-defined rights and duties, mechanisms for their enforcement, and impartial settlement of
disputes. Predictability refers to the fair and consistent application of these laws and implementation of the organization's policies. (iv) Transparency refers to the availability of information to the general membership and clarity regarding organizational rules, regulations, and decisions. It can be strengthened through the members’ right to information with a degree of legal enforceability. Transparency in an organization's decision-making and implementation reduces uncertainty and can check mismanagement by elected and appointed office bearers.

Another frequently used framework for assessing governance is the one that the World Bank proposed for statistically ranking all the countries of the world. This framework is a recombination of the components discussed above, but for the specific purpose of enabling measurement. It offers six “clusters of governance.” (a) Voice and Accountability measures the extent to which citizens of a country are able to participate in the selection of the governments. (b) Political Instability and Violence measures perceptions of the likelihood that the government in power will be destabilized or overthrown by possibly unconstitutional and/or violent means. (c) Government Effectiveness measures the perceptions of the quality of public service provision, the quality of the bureaucracy, the competence of civil servants, the independence of the civil service from political pressures, and the credibility of the government’s commitment to policies. (d) Regulatory Burden measures the incidence of market-unfriendly policies such as price controls or inadequate supervision, as well as perceptions of the burdens imposed by excessive regulation in areas such as foreign trade and business development. (e) Rule of Law measures the success of a society in developing an environment in which fair and predictable rules form the basis for
economic and social interactions. (f) Graft or corruption measures the extent of the exercise of public power for private gain (Kaufmann, Kraay et al. 1999, p. 7).

Another seminal work done in this field is by Elinor Ostrom in her research on governance of common property resources (CPR) (Ostrom 1990). Public irrigation systems are not CPRs in the purest sense of the term. Irrigation systems have clearer boundaries and control systems. Access to canals, though more open than privately owned wells, is far more restrictive than other forms of CPRs such as forests and groundwater. Yet, the conclusions and lessons drawn from Ostrom's work are very relevant to this dissertation in that they address issues of collective action and user-institutions. They have much to offer in terms of understanding the design principles of user institutions that are very critical, even central to the issue of governance of irrigation projects. Ostrom analyzed the performance of self-governing institutions of various user-groups that depend on shared resources (Ostrom 1990, p. 181). To understand the parameters that influence the performance she identified eight institutional design principles. They are (i) clarity of boundaries and membership, (ii) congruence of organizational rules, (iii) an arena for collective choices, (iv) monitoring processes, (v) graduated sanctions, (vi) conflict resolution mechanisms, (vii) recognized rights to organize and (viii) nested units (Ostrom 1990, p. 90). These design principles, combined with elements of governance, can be considered as building blocks for any user-based self-governing institution. Using these parameters, it is therefore possible to study the effectiveness and degree of success in the functioning of WUAs under an IMT program. There are areas of overlaps between Ostrom’s design principles and the eight fold criteria for good governance, particularly the criteria of rule of law, accountability and
Natural Resource Management and the Politics of Decentralization

Having examined the popular concepts of decentralization and democratization in the abstract, the ensuing discussion will focus on their relevance specifically for natural resource management. This discussion must start by understanding what we mean by Natural Resources Management (NRM). NRM refers to strategies and practices for sustainable utilization of resources such as land, water, air, forests, fisheries, wild flora and fauna. These resources, between them, provide various ecosystem services that underpin life on the planet. They constitute the basic building blocks for survival of all forms of life in terms of life-sustaining food production and various forms of public-good services. The ecosystem serves as a "source" (food fiber, fuel, biological diversity, drugs etc), provides services (photosynthesis, atmospheric gas regulations, climate and water regulations, soil formation and pest control etc.) and performs the “sink” functions such as absorbing pollution and other wastes (Prugh, Costanza et al. 2000, p. 15).

From an anthropocentric view, natural resources have a fundamental life-sustaining role in the well being of the entire human race. However, the welfare of some specific population groups, particularly rural communities, the poor and women, are more intricately bound to NRM than are others. Despite the declining share agriculture has in the overall economy of most countries of the world, the quality and nature of resource husbandry practices have a significant bearing on the quality of life of the population. An economist can argue that resource use efficiency, in terms of productivity and sustainability, can significantly impact
income levels and prosperity of not just the farming or rural communities, but the entire population of a country (Kotwal and Eswaran 1994, Chap. 4).

With such a basic, and yet significant role in the wealth creation and prosperity of human societies, it is only logical that policies and institutional arrangements for control and ownership of NR would be contentious. Those who have control over them will fiercely defend it while those who do not can be expected to strive hard to get access to it. Historically, the state, in all its forms (kingdoms, dictators, elected democracies or socialistic states), has been the dominant player in allocating these rights and privileges to its subjects or citizens. The purported raison d'être for this domination by the state is that only the state can ensure that vital resources are available to all in an equitable manner. To achieve this goal of dominant control, public policies have been framed and institutions created accordingly.

Globally, there are wide variations in the policies and characteristics of institutions that define ownership and management rights of NR. At one end of the spectrum is the policy inspired by Marxist theory where natural resources have no intrinsic economic value by themselves and it is the labor input that ascribes value to the resource (Sterner 2003). States play an important role in such cases by assigning and regulating user rights to the people. At the other end of the spectrum is the market driven valuation of resources that are then much coveted and developed and transacted under rules of the market place and regulated minimally by the state. Opposite as they appear, there is an important commonality across this wide spectrum – the State retains some form of final authority that
gives it the power to alter property rights and thus the way resources are used and managed. In most countries, the state is the single largest legal owner of natural resources. The type of instruments used to assert this control varies across countries and much depends on the political ideology that prevails. Therefore, rules and policies that aim to change the structure of rights and control over NR are formulated through a process that is essentially political. In fact, property rights are nothing but claims and assets that have been politically negotiated and defended. These rights are not only tangible claims over the resources themselves, but also over the institutional structure for NRM.

**NRM and Democracy**

Are democracies better placed to achieve sustainability in resource use? There is no conclusive evidence that correlates the two. Yet it is true that democratic nations have a better environmental management track record than autocratic nations. This is perhaps due to the fact that democratic nations are wealthier in terms of per capita income. The environmental Kuznets curve suggests that wealth has a positive correlation with strong environmentalism as evidenced by lower pollution in wealthier societies. It is difficult to substantiate an argument that correlates sustainability and democratization. However, the reverse may well be possible: autocratic politics can certainly not match democratic politics in ensuring sustainable resource management. This is because, in an autocratic regime, the political power enables the elites to use wealth to insulate themselves from the adverse effect of bad resource management practices. Moreover, collective action that is essential for many resource management problems is fostered better when institutions for public participation are present. The vertical networks that are characteristic of autocracies are less
effective in facilitating such participation. Another important process involved in sustainable management practice is conflict resolution. Autocracies tend to stifle voices of dissent and conflict and when they erupt, resolutions are handed down by elites with no scope for stakeholders to contest them (Prugh, Costanza et al. 2000, p. 87-88).

Whether or not democracy is the best political setup for sustainable resource management may be a matter unproven as yet. But few will dispute the fact that challenges to sustainable natural resource management will no longer be addressed solely by scientists or technologists. Prugh, Costanza and Daly go a step further by asserting that in today’s world, where facts are uncertain, values are in dispute, stakes are high and decisions urgent, science may even be subordinate to politics in addressing problems of sustainability and equity (Prugh, Costanza et al. 2000, p. 94).

With democratization and the gradual withering away of autocracies in many parts of the world, the nomenclature used to define state control of NR changed from that of “ownership” to “stewardship”. As the biggest player, the state found it imperative to take on the role of the main investor for development of these resources. In all the countries and particularly in those that had planned economies, as was the case in Eastern European countries and many socialist countries of Asia, including India, NRM attracted large public investments. Public agencies were set up to administer and provide technical inputs to implement state-funded programs. Up until the middle of 20th century, the focus of NRM programs was to maximize the economic benefits to end-users. Resources were considered unlimited and therefore little was done by way of policies that regulated or even moderated...
the rate of resource use or the efficiency of its use. During the latter half of the century, a 100% growth in population and an increase in per capita consumption of energy and food resulted in excessive pressure on resources. To make matters worse, this population growth was acutely lopsided in spatial terms. Poorer nations of Africa and Asia accounted for over 75% of the increase. This worsened the already bad resource management problems in these countries. Competing claims to limited resource base led to conflicts and social strife. The argument that the state must take on an even more dominant control over natural resources gained credibility.

**Section 2 – Democracy, decentralization and NRM in India – a historical perspective.**

The discussion in this section is focused on understanding the evolution of political institutions in India. The purpose of the discussion is to ask the crucial question: does the historical legacy of politics in India bode well for fostering democratic institutions in the context of decentralization and local self-governance?

**Democracy in India**

To understand the present state of democracy in India, at all levels of governance, it will be useful to trace its genesis. During the 17th and 18th centuries, the geographical boundaries of present day India contained a collection of princely states. A few of the rulers did encourage public participation in issues of governance, but so limited was the scope and so few and far between that they can be considered insignificant exceptions to an otherwise autocratic, feudal style of rule. The British colonization process in the 18th and 19th centuries and the freedom movement that started in the second half of the 19th century
resulted in the consolidation of the country as having one political identity of India. For the most part, colonial and feudal rule defined the history of India until 1947. Therefore, the transition from a British colony to an independent country can be considered as the beginning of democratic institutions and politics in India. Indeed, many historians and political scientists believe that democracy is a legacy of British colonialism (Weiner 1989, p. 77-79). The existence of a centralized state, a well-functioning civil service and introduction of elections are some of the institutions attributed to British rule. This conclusion is challenged by the fact that many other British colonies (including Pakistan, a country that shares the same ethno-cultural history with India) have failed to evolve into successful democracies (Kohli 2001). At the same time at the family level, Indian societies, irrespective of religious or ethnic background, patriarchal behaviour by male elders has been endorsed as a culture of respect, while women and girls are considered ill prepared for decision-making roles.

The manner in which political institutions developed in India during the first three decades after independence only further consolidated the centralizing process and the dominant role for the bureaucracy in all spheres of development, including that of natural resources. For decades, one political party, the Indian National Congress, virtually dominated the elections at the national level and in most states. So overwhelming was the domination that at the national level it was considered unthinkable that a party other than Congress would form a government. Actions by the political elite, legitimate or otherwise, went unchallenged due to weak and fragmented opposition. Such a lopsided democratic process became a conducive environment for political leaders at all levels of governance to co-opt
bureaucrats through a mutually beneficial arrangements. A nexus between party
functionaries and administrative machinery at all levels of the government grew strong and
well entrenched during this period. In the absence of a plausible alternative to the Congress
party, bureaucrats and party leaders found it mutually beneficial to retain centralized
control through government departments (Bhambhri 1971, p. 17).

A move towards decentralization was a significant change, given the historical dominance
of the state in all aspects of development planning and implementation, be it
industrialization or NRM. Under British rule for nearly 200 years, the Indian economy was
decimated by the extractive nature of trade by the colonizers. After independence in 1947,
a feudal and exploitative zamindari (landlord) system continued to dominate the agrarian
sector. Besides acute inequity in wealth creation and distribution, this system inhibited
peasant entrepreneurship and efficiency in farming practices (Sharma 1999, p. 99). The
early leaders of independent India, notably the first Prime Minister Jawaharlal Nehru,
believed that the state must play a leading and dominant role in alleviating poverty. Nehru
was a great votary of promoting science and technology for rapidly modernizing the means
of production, be they in industry or agriculture. Given the low literacy rate in the country,
particularly in the rural areas, there seemed to be a sound rationale behind setting up public
agencies staffed with educated technical cadre that could fast-track government sponsored
development projects. In 1952, the Government of India launched an ambitious country-
wide initiative called the Community Development Program (CDP). A separate ministry
was created in the central government that spearheaded this program across the country.
The CDP program may be considered the precursor to a rapid proliferation of government
departments. A department was created for every conceivable economic and welfare sector in rural development. Every state had separate departments for implementing programs in agriculture, irrigation, animal husbandry, forestry, soil conservation, public works, health and education.

The prevailing notion was that private enterprise and capitalism promote exploitation of the poor and that only an active state can ensure equitable wealth creation and distribution. Inspired by the centralized planning process of the erstwhile Soviet Union, India chose to pursue a "planned economy" or "command economy", with the Planning Commission in Delhi as the nucleus. From industrial licensing to state sponsored programs for rural development, government agencies played the controlling role (Desai 1979). Even those scholars who argue that India pursued a “mixed economy” model of plan, agree that the market component of the economy was overshadowed by the centralized plan component (Vyasulu 2003). Entrepreneurship that existed in civil society was viewed with the same suspicion that kept out profit-seeking private enterprises. This is reflected in a virtual absence of a significant role for individuals or civil society organizations outside of the designated government departments.

The presence of the state in the form of extensive administrative and institutional arrangements was most visible in agriculture and rural development programs. Despite large investments and such extensive presence, achievement of objectives was poor, particularly in the reformist and distributive goals of the programs. An agenda of land tenure reforms that was pursued since independence remained largely ineffective in
reducing skewed land ownership. Similarly, innovations ranging from “green revolution”, subsidies to price support policies of the state have disproportionately benefited the already well off (Sharma 1999, p. 126; Kohli 2001, p. 37).

Francine Frankel tries to explain why India failed to alleviate poverty on a significant scale despite numerous state-sponsored large-scale development programs administered by purported democratic institutions. In fact, she blames the very design of constitutional and administrative framework, created to suit the interests of powerful propertied classes, for the failures. She faults the assignment of key reformative subjects such as land reforms, agriculture credit, land revenue assessments and taxation to the dominant-class-controlled state government. This constitutional arrangement, she argues, was not conducive for any “sweeping changes in the social order by action from above”. She also claims that the ideology of non-violence and a preference for class reconciliation and accommodation over confrontation, so strongly advocated by Gandhi and his contemporaries in the Congress Party, meant that the state was unwilling to go through the upheavals of reforming hierarchical social structures (Frankel 1978, p. 22-23).

Democracy and Decentralization of NRM and PIM in India

In India, much of today’s institutional arrangements that govern NRM, bear witness to a legacy of centuries of state domination. The history of the property rights regime for natural resources in India is, therefore, quite revealing. During the colonial period (1790 to 1930) the proprietary, management and revenue-raising rights over most valuable NR were vested in the state. Limited community access to NR was permitted for subsistence
livelihood purposes such as grazing on common lands, collection of fuel-wood for domestic use and drinking water from public water bodies. The post-Independence period (1947 to 1956) saw a transfer of this power from the colonial agencies to agencies set up by independent India. The state more or less retained the British structure of property rights and administrative control of resources. Centralized control was justified as necessary to direct a program of development on behalf of the nation. The ‘line department’ approach to NR management was developed during this period. Political contestation over NR rights and management resulted in centralization that rejected local claims and demands (Baumann and Farrington 2003, p. 4).

For five decades after attaining political independence, programs related to natural resources were tightly controlled and funded by the state through public agencies in a top-down manner. These agencies grew in size and operational mandate over the years, but at the same time degenerated into inefficient institutions that were not accountable to the people. They developed problems that are usually associated with centralized planning and implementation processes. These problems were evident on many other former colonies in Asia and Africa. But they were only too acute in India, given the high spatial variance in agro-climatic conditions and many linguistic and cultural groups. Some of the critical problems were: (i) the distribution of benefits from state-sponsored programs was inequitable, (ii) the use of resources was inefficient and unsustainable in its social, environmental and economic dimensions, (iii) the choice of technology was restricted due to a blue-print or “master-plan” approach to program design and, (iv) implementation of projects was done by state bureaucracies that were not accountable, cost-effective or
transparent in their management functions.

The role and performance of public bureaucracies that are mandated to develop, manage and regulate natural resource management programs are often debated fiercely in India. Yet, there is a broad consensus among scholars and development practitioners that in the five decades after India’s independence (1947 – 2000), public agencies have not been able to achieve the objective of providing equitable and sustainable programs. The limitations and even failures of centralized governance are well studied and documented. Literature on this theme is quite diverse, but there are common conclusions that can be derived from most of them.

During the decade of the 1990s, while NRM decentralization was evolving, another important political change was playing out in India. Through an amendment (referred to as the 73rd and 74th Constitutional Amendment) to the Constitution of India, responsibilities and attendant authority, to govern natural and financial resources were devolved to a third tier of government at the local level. The 73rd Amendment identified specific areas of governance that were transferred to village level self-governments (known as Gram Panchayats) and the 74th Amendment for urban municipalities. Managing local water resources is one of the responsibilities given to this tier of government. As expected, there are areas of overlap and confusion in terms of specific responsibilities between the Gram Panchayats and organizations of water-users, such as irrigation cooperative societies.

The public irrigation program is one of the most significant NRM sectors that implemented
the reforms. The program is referred to as Participatory Irrigation Management (PIM) and
the process of ushering it in is referred to as Irrigation Management Transfer (IMT). Today,
there are many thousands of farmer-managed irrigation projects in India and many of these
have 8 to 10 years of experience behind them. Evaluative studies have generated many
lessons. These studies have shown that resource utilization is more equitable and efficient
under community management as compared to public agency management. However, the
performance of user-groups as a socially and politically stable entity has come under
question. There is sufficient anecdotal evidence indicating serious problem areas. As self-
governing democratic institutions, many of them have experienced turbulence and some
have even collapsed completely.

Despite the proven ability of many to be sound resource managers, why are most
organizations of resource users vulnerable to serious dysfunctions as a result of various
types of stress? To understand this, it is necessary to place the problem in the political,
social and economic contexts of the resource users. There is a popular notion among
scholars that India is a uniquely difficult and complex country to govern, given its cultural,
linguistic and geo-political diversity. This notion notwithstanding, it can be argued that
there is much to learn from other’s experiences in NRM programs and policy formation.
This research will contribute to the learning from the recent experiences of farmer managed
irrigation program under the Participatory Irrigation Management (PIM) program. As the
next chapter will explain, the case-studies from Gujarat represent a good sample of
decentralization at work. PIM program has many elements of decentralization and therefore
lessons from PIM will have broader relevance for other decentralization programs.
Chapter 3. Methodology

The key research questions raised in Chapter 1 deal with the governance of people’s institutions at the local level. Chapter 2 has thrown conceptual and theoretical light on these questions, but this research, as also most other social and political researches, will also be shaped by empirical and normative considerations. It will be empirical because the study will delve into the real experiences of water users associations over a period of time and generate objective, qualitative and quantitative data gathered from the field. And it will be normative because the emerging political values and ethics involved with processes like decentralization, participation and democracy will influence the conclusions and inferences about what works and what does not work in Water Users Associations.

Research Design and Strategy

This is a cross-sectional exploratory study of membership-based organizations of resource users which aims at understanding institutionalization processes and outcomes. The central feature is eight case-studies which describes the evolution of eight Water Users Associations (WUAs) of Mehsana District of Gujarat State. The narrative includes, but is not limited to issues such as the factors that provided motivation to water users to participate in the Participatory Irrigation Management (PIM) program, the role and intensity of interaction between the support agency and potential leaders of the WUAs, the emergence of leaders and their social and political backgrounds and subsequent behaviour as leaders. To get the resource users’ perspective, interviews have been conducted with eight randomly sampled farmers each from the eight Water Users Associations of the case-
studies. Figure 3 shows the research strategy adopted for this study.

Figure 3. Research Strategy

**Observation:**
High incidence of dysfunction among decentralized local resource user-groups and low level of capacity in governance.

**Research question:**
What are the weak elements of governance that cause dysfunctions among local user-groups?

**Hypothesis:**
Low levels of democratization among user-group institutions cause low capacity to function as a self-governing institution and, inter alia, cause failures in governance. User-groups are institutionally unsustainable and are predisposed to dysfunction and poor performance in governance when the level of democratization is low.

**Research Design:**
Cross-sectional exploratory study of resource user-groups (Water Users Association (WUA) using a deductive theoretical framework of decentralization, good governance and democratization.

**Indicators measured:**
Variables that indicate robustness of WUA – (i) intensity and frequency of incidence of dysfunction; (ii) frequency of intervention by external agencies required to resolve internal problems.

Variables that indicate the extent of democratic governance of WUAs – participation, rule of law, transparency, accountability, equity and inclusiveness, responsiveness, consensus building, efficiency.

**Data collection and analysis:**
Interview responses from, structured participant observation of and secondary content analysis of sampled respondents from sampled WUAs, Irrigation Department and NGOs. Data analysis for patterns of behavior among members of user-groups that has an impact on governance parameters, historical research on institutions of governance.

Framework adapted from Ahuja. (Ahuja 2003)
Sampling

A three-stage sampling process was adopted for this study. The first sampling frame consisted of all 155 WUAs in the state of Gujarat. They all have the same institutional design and are governed by a uniform set of regulations enforced by the state. Since this sampling frame includes all WUAs formed from 1995 onwards, it listed the ones that are functioning for 8 years (at the time of study) along with WUAs that were formed more recently. These WUAs, depending on the area of irrigation, belonged to irrigation schemes from three categories, namely, minor, medium and major\(^7\). Typically, major and medium irrigation projects would be large enough to need more than one WUA to cover the whole service area of the project. An argument often heard from irrigation managers is that a WUA’s capacity to manage its operations is a function of the size of its service area, its geo-political location and the number of WUAs that share water from the same reservoir. This is a valid argument, given some of the characteristics of a large reservoir, viewed as a shared common property resource.

Since the major and medium irrigation projects in Gujarat state differ significantly in size and hydrological characteristics, it made sense to avoid selecting the sample across various irrigation projects and instead, study WUAs from one major irrigation project. This sample selection would reduce concerns about the internal validity of the causal relationships across the WUAs studied (Bryman 2004). For example, if it is hypothesized that a causal relationship exists between a conflict resolution mechanism and the process of alienation of

\(^7\) The classification was based on the irrigation service (command) area: Projects that irrigated less than 500 hectares are minor, between 500 and 2000 hectares are medium and over 2000 hectares are major.
some members, the probability that externalities such as water-scarcity or regional political conflicts operate as another independent variable will be low since the selected WUAs face the same water-supply situation and political environment.

Data Collection

This research inquires into institutions, institutionalization processes and behavioural responses to an institutional design by the members of a formal organization of farmers. Conventional wisdom would suggest that a study based on qualitative data be done. However, during the process of developing the analytical framework and indicators of governance, it became clear that conclusive answers to the core research question would need a mix of quantitative data that can be statistically analyzed for trends, as well as substantial qualitative data that is generated separately. The argument that user-groups have built management capacity but not governance capacity had to be validated through an evaluation of these capacities using quantitative as well as qualitative data on components that combine to define governance.

Use of quantitative data is useful when we consider that important variables such as participation require attributes whose measurements will signify the extent to which participation exists within WUAs. Most of these attributes were measured using simple metrics such as attendance in meetings, number of conflicts and their resolution, existence and enforcement of rules and regulations of the WUA. Similarly, data about the performance of the WUAs in terms of achieving their primary objective of sound irrigation management was gathered from the registers and books of accounts. Multivariate analysis
of such quantitative data gives the research study a comparative analysis of strengths and weaknesses of WUAs with respect to their capacity to govern. Quantitative data was collected from primary and secondary sources. Respondents providing primary data included sampled farmer-members and office bearers of sampled WUAs. Secondary data was gathered from books of accounts and registers maintained by WUAs.

Qualitative data was collected through one-on-one interviews with farmer-members, office bearers and through participant observation in formal meetings of Executive Committee members and focus group meetings in the WUAs. Data was also gathered in interviews with Irrigation Department officers and field staff from the NGO that provided capacity-building inputs. Qualitative data was also elicited from primary as well as secondary sources such as reports from the Irrigation Department, policy documents of state and central government, and reports by the NGO.

Data sets related to four components of governance — participation, equity, transparency and accountability — were gathered through structured interviews (See Annexure 2 for the interview schedule). The researcher visited the villages and conducted the interviews either in the respondents' home or, in some cases, in the fields where the respondents were attending to seasonal agricultural activities. These interviews lasted approximately 45 minutes each. These interviews were done strictly one-on-one to avoid any peer pressure or any influence that another person's presence or participation might have on the respondent.

The first section of the interview was based on a mix of close-ended and open-ended
questions. It was tempting to go for exclusively close-ended, pre-coded questions so as to minimize errors due to interviewer variability (Bryman 2004, p. 28). However, the educational background and relatively low familiarity with even basic research techniques among the respondents made it necessary to use open-ended questions for which the answers had to be patiently post-coded into a coding frame that enabled manageable categories.

For the same reasons, it was also a challenge to refrain from using “probing” or “prompting” questions. The first situation was studiously avoided, even in the face of “no response” due to a respondent’s inability to understand the question. This in itself was a response of significance that had to be recorded. “Prompting” was used, by design, when some questions elicited no answer due to lack of knowledge of the subject matter itself. For example, questions related to the awareness of certain bylaws elicited no response from many respondents, as they had not been introduced to the term until then. However, when awareness of a specific bylaw affecting WUAs was probed by reading it out, some of them were able to respond, thereby giving valuable insight into the medium and language of dissemination of capacity-building processes employed during the formation of WUAs.

Table 1 on the next page presents a matrix of sources for data from primary and secondary sources.
### Table 1. Matrix of data collection methods and sources

<table>
<thead>
<tr>
<th>Primary</th>
<th>Secondary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qualitative</td>
<td>Reports from NGO, WUA registers of proceedings of EC meetings.</td>
</tr>
<tr>
<td>Structured open-ended interviews with farmers, EC members, NGO functionaries, Irrigation Department officials.</td>
<td>Ethnographic accounts of WUAs formation.</td>
</tr>
<tr>
<td>Participant and non-participant observation</td>
<td>Content analysis (of policy documents).</td>
</tr>
<tr>
<td>Quantitative</td>
<td>Book of accounts of WUAs</td>
</tr>
<tr>
<td>Structured open and close-ended interviews with farmers.</td>
<td>Irrigation register of WUAs</td>
</tr>
<tr>
<td></td>
<td>Training reports of NGO.</td>
</tr>
</tbody>
</table>

During the pre-testing stage of the interview schedule, responses to statements about attitudes were tried using a Likert scale. Here again, most of the respondents who participated in the pre-testing of the interview schedule had difficulty understanding the technique. Attempts to orient them to this technique resulted in the respondents getting apprehensive about a process that they perceived to be sophisticated beyond their comprehension. This explains the decision to use open-ended questions for qualitative data that were post-coded and close-ended for quantitative data through pre-coded response. Some of the codes for closed questions were generated through open-ended questions during the pre-test process.

Interviews generated data on two predominant types of variables: ordinal and nominal (categorical). A few questions sought data through dichotomous variables. Participant and non-participant observation generated the most significant qualitative data about the functioning of WUAs and the dynamics among and between ordinary members, office
bearers and Executive Committee (EC) members. In all cases, the collection of qualitative
data started with non-participant observation. The researcher would be a silent observer in
regular EC meetings, noting the conduct of the participants, responses and behaviour. It is
not an unusual practice in these villages to have EC meetings with silent observers present
without any formal introduction or invitation. The familiarity of the researcher with the
participants helped in building the rapport required for such meetings. Once the EC
meeting had finished transacting their regular business, the researcher introduced the
research topic and explained the research goal. In a participant-observer mode, the
researcher would introduce a topic through a lead question and then observe the discussions
among the participants. The researcher’s participation was limited to these lead questions
and occasional probing questions for clarification or eliciting a response from a shy
participant.

Secondary sources of data such as training reports from the support NGO (Development
Support Centre, (DSC)) and Process Documentation Research\(^8\) reports of early stages of
WUA formation provided very valuable historical information about the priorities and
perceptions that shaped the institution building process. Information about the frequency of
meetings and the attendances in these meetings in the last few years gave valuable
information about the extent to which matters of governance processes were
institutionalized. This data, coupled with structured observation in actual meetings gave a

\(^8\) The researcher had worked in some of the sampled villagers in previous years and had occasions to interact
with individual village members. The rapport-building stage in these cases was thus very short.
\(^9\) Process Documentation Research (PDR) was undertaken by Gujarat Institute of Development Research
(GIDR). PDR reports gives first hand an independent non-participant observer’s narration of the events
during the formative stages of WUA formation. Periodic analysis of narratives was done to gauge the
implementation process for adherence or deviation from what policy prescribed.
good picture of the style of functioning of WUAs. To collect data on WUA performance, quantitative information about irrigation operations and financial operations were collected from statutory registers and books of accounts that WUAs are required to maintain by law. Wherever possible, crosschecking of information gleaned from one register was possible with information from another record. For example, information about the extent of coverage of irrigation services across various locations of a canal could be cross-checked with information from cash-books that record receipts of irrigation fees paid by farmers for irrigation services provided.

**Case Studies**

By combining qualitative and quantitative data collected from various sources, it was possible to tell the story of each of the 8 WUAs covered in this research. While each WUA had a rather distinct story to tell, it was easy to see the cause-effect correlation between certain evolutionary and behavioral patterns of WUAs and the robustness of WUAs as self-governed institutions. Quotes from key leaders and NGO functionaries revealed, quite consistently across the WUAs, the underlying ideas and perceptions regarding democratic values and institutional strengths that prevail among the rural communities in Gujarat. This, coupled with discussions on the history of Indian politics and the resultant legacy, helps explain and contextualize both individual and institutional behaviours.

While retaining the scope to describe salient characteristics of each WUA, the case studies are structured in a way that data about key indicators for the level of democratization and governance within all the WUAs can be discerned for comparative analysis. These
indicators will be captured in the case study under the following thematic sections: (i) genesis of the idea of PIM and profile of key promoters of PIM in the village, (ii) early leaders and their election/selection process (iii) election process for and composition of Executive Committee, (iv) proficiency in irrigation operations, (v) incidence and consequences of conflicts, (vi) role and performance of the Secretary as a leader and as an executive member, (vii) rule-making and implementation processes adopted, (viii) level of participation by tail-end farmers, small land-holders and women farmers, (ix) financial management (x) capacity to deal with externalities, and (xi) the present status in terms of motivation and momentum to sustain WUA activities. Physical and financial data will be tabulated to facilitate a comparison across the WUAs.

The eight case studies will be presented in three chapters. Chapter 5 will include three WUAs that are considered strong in terms of performance on the criteria for good governance. Chapter 6 will give two case studies that show perceptible vulnerabilities and are considered prime candidates for failure. Chapter 7 presents the remaining three WUAs that are doing well on many criteria, but require help from the support agency for resolving crucial internal problems.
Figure 4. Map of India, Gujarat State and Mehsana District
Figure 5. Photographs of case-study villages showing representative dwellings

Above: A typical Patidar farmer’s house in rural Mehsana District

Above: A typical Thakore farmer’s house in rural Mehsana District
Figure 6. Photographs of Irrigation Canals

Above: A Section of Distributory Canal

Above: Rehabilitation of Water Courses by a WUA

Above: A Broken Minor Canal near Kiyadar
Chapter 4: Irrigation Management in India

This chapter discusses the importance of irrigation in India within the context of sustainable natural resource management and its role in achieving economic prosperity for the large proportion of the Indian population that is dependent on irrigated agriculture. In the following sections I will argue that despite attracting large public investments in irrigation infrastructure and the creation of very large bureaucracies such as Irrigation Departments to manage them, the institutional design and public policies that govern irrigation management are quite inconsistent with the importance the sector has.

Water Resources and India’s Economy

Agriculture and allied activities contribute only 28% of India's Gross Domestic Product and yet provide employment to 67% of her population (World Bank 1998, p. 3). The social and economic well-being of this large section of the population directly depends on equitable and efficient use of land and water resources. Even in the likely situation where non-farm based industrial activities and service sector opportunities gradually replace agriculture as the main source of livelihood, the contribution of improved agricultural productivity will remain crucial for the Indian economy (Kotwal and Eswaran 1994, pp. 65, 121). Provision of irrigation services is considered one of the most effective ways of increasing agricultural productivity.

Out of a net cropped area of 141 million hectares, 54 million hectares are irrigated (Directorate of Economics and Statistics 2004, p. 159). That amounts to 21.7% of the world's irrigated area, giving India the largest share of irrigated land in the world.
(Droogers 2002, p. 4). Globally, the role played by irrigation in food production has become increasingly critical as population growth and food consumption rates out-pace the rate of increase in area of land brought under agriculture. This reality is starker in India where the increase in net sown area has almost hit a plateau (see Figure 5) during the last three decades while the population has continued to grow at a rate of over 1.68% per annum. To feed this growing population, it has become imperative that India improves significantly the productivity of her limited land resources through irrigation and other technological development.

Figure 7. Trend in Agricultural land-use in India

![Figure 7: Trend in Agricultural land-use in India](image)

Source: Agriculture at a Glance (Directorate of Economics and Statistics 2004)

In the five decades between 1950 and 2000, India invested massive financial and human

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resources in the development of irrigation facilities and the adoption of modern agricultural practices. More than Rs 600 billion or US$ 80 billion (at 1980 base prices) was invested during this period to expand the area under irrigation (World Bank 1998, p. 4). As a result the irrigated area increased by 131%. Currently, 38% of India's net sown area is irrigated by three major sources of irrigation -- publicly owned and operated surface irrigation systems, publicly owned groundwater irrigation schemes and predominantly privately owned groundwater wells. Public systems irrigate about 36% of the total irrigated area of India (J. Brewer, S. Kolavalli et al. 1999, p. 14). More than 58% of agricultural production today comes from irrigated farms (ISEC, June 2003). Irrigation for food production uses up the largest share of human managed water supply (estimated at 80% in most South Asian countries).

Irrigation projects have contributed significantly in averting the spectre of an impending food crisis that was predicted in the early years of independence. India boasts of being a food surplus country today, even though 4.4% of rural and 1.1% of the urban population are food insecure and suffer from hunger (Mehta and Shah 2002, p. 20). Large reservoirs and canal systems are in fact considered as the icons of modernization and means to maintain food self-sufficiency. Yet there are predictions that at the current rate of population growth (1.68%) and agriculture productivity growth (3%), there will be a food shortage by the year 2050. Estimates by the Planning Commission of India indicate that agricultural productivity must grow at 4.5% per annum to meet the food demand. The scope for increasing the area under cultivation is difficult given the demand for land for

Private groundwater (49%), tank irrigation schemes (7%) and other smaller sources (8%) are the other sources of irrigation in India.
non-agricultural uses. Thus, to achieve this goal, productivity per unit area of irrigation will need to double by 2015 (World Bank 1998, p. 8). Simply put, irrigation facilities have to be optimally utilized to get "more crop per drop". While exploring the limited scope of expanding the physical area through new irrigation projects, the main focus must be on performance improvement of existing projects through appropriate reforms in management systems and institutions. This is considered a more cost-effective approach to the problem than creating new infrastructures (Lal 2003, p. 39-42). For example, improving water use efficiency by a mere 10% will save enough water to add 14 million hectares of land under irrigation (Postel 1993, p. 60).

Irrigation and its Importance in Agricultural Productivity

The agriculture sector benefits from irrigation in three different ways. First, it increases the crop output through enhanced productivity. Second, it stabilizes the cropping area, yield and gross output, thus reducing the temporal variations to which rain-fed farming is prone. Third, it plays an important protective role during drought.

Measuring the impact of irrigation is fraught with questions and disputes. The question of isolating the impact of irrigation as a single factor (referred to as the pure irrigation effect) from various associated factors such as farmers' response to market prices, wages for agriculture labour and the use of advanced agriculture technology is one of the biggest

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India has already developed 76% of its ultimate irrigation potential. Developing the remaining 24% will be progressively more difficult and expensive given the fact that the best technically feasible sites have already been exploited (Lal, R. (2003). Food Security and Environmental Quality in the Developing World. Boca Raton, Fla. ; London, Lewis Publishers.)
challenges for researchers. A shift from rain-fed to irrigated farming, more often than not, requires simultaneous change in the choice of crops, crop inputs (seed variety, fertilizers, pest-control) and cultivation practices (ploughing, land preparation, weeding) as well. Improved irrigation can be a trigger for changes in these associated factors. Therefore, it is possible and preferable to conceptualize the overall net increase in farm output as a consequence of the "bundle of factors" accompanying a change from rain-fed to irrigated farming. Such studies of the impact of irrigation on productivity of food crops have shown that a hectare of irrigated land produces an average of 2200 kilograms of food-grain energy equivalents (FEES) Units\(^{13}\) as against an average of 900 kilograms of FEES units per hectare of non-irrigated (rain-fed) land, a difference of 1200 kilograms. In the case of non-food crops, the differential is even greater. Irrigated non-food crops yield 3900 kilograms of FEES units whereas rain-fed crops yield 1000 kilograms, a difference of 2900 kilograms (Dhawan 1988, p. 83).

**Sources of Irrigation**

Water sources for irrigation can be broadly categorized into three types: (i) privately owned and managed dug-wells and tube wells; (ii) government owned and managed canals that draw water from reservoirs and deep-tube wells; and (iii) government or community owned and managed tank irrigation. Government management comes in the form of departments variably called Irrigation Department or Groundwater Development Agency.

\(^{13}\) Major percentage of irrigated land in India is cultivated for food grain crops. Since there is considerable diversity in the crops grown, the aggregation of crop output is equalized in terms of its calorific value as Food grain Energy Equivalent (FEE) Units.
Table No 2 gives the distribution of area irrigated by each of these sources in India.

Table 2. Irrigated area in India in percentage by sources

<table>
<thead>
<tr>
<th>Irrigation source type</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Privately owned and managed wells</td>
<td>49</td>
</tr>
<tr>
<td>2 Public canals from surface reservoirs</td>
<td>36</td>
</tr>
<tr>
<td>3 Publicly owned traditional tanks</td>
<td>7</td>
</tr>
<tr>
<td>4 Other sources</td>
<td>8</td>
</tr>
</tbody>
</table>

Source: Ministry of Agriculture, GoI, 2002

There are numerous variations in the operation and management systems used for irrigation from these sources. These in turn impact the efficiency and intensity\(^{14}\) of irrigation and thus the productivity per unit of land. This was demonstrated in a study that analyzed the impact of irrigation from three sources in four Indian states. Table No 3 gives the summary of the findings(Dhawan 1988, p. 84).

Table 3. Output impacts of irrigation by sources

<table>
<thead>
<tr>
<th>Irrigation source type</th>
<th>Incremental production per irrigated hectare over rain-fed yield. (Tons /Ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Privately owned and managed wells</td>
<td>5.22</td>
</tr>
<tr>
<td>2 Public canals from surface reservoirs</td>
<td>2.27</td>
</tr>
<tr>
<td>3 Publicly owned traditional tanks</td>
<td>1.65</td>
</tr>
</tbody>
</table>

Source: Dhawan 1988, p. 84

Private well owners have derived, in relative terms, significantly higher gains from irrigation than have farmers who get irrigation from public sources. Water extraction from privately owned sources is done with the help of mechanized devices such as diesel or

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\(^{14}\) Irrigation intensity refers to the ratio of gross irrigated area to net irrigated area. In simple terms, if a hectare of land is irrigated twice in a year, i.e. two crops are cultivated, then the intensity is 200%.
electric motor powered engines or electric powered deep submersible pumps. Energy costs and greater control and flexibility of operation make this source the most efficient in water use. On the other hand, public sources such as canal and tank irrigation are seen as common pool resources (CPR) or shared resources. They suffer from the problems associated with CPR governance. These issues are examined in the following sections.

What Ails Public Irrigation Systems in India?

Economic growth through agricultural productivity improvement is not the only objective of public irrigation systems. They have an important social-economic objective too: they provide irrigation to poorer farmers who cannot invest in expensive private irrigation wells, thus enabling a more equitable income distribution among the rural population. Moreover, they play an important role in areas where the groundwater table is inappropriate for irrigation or inadequate to support irrigation wells. Despite their importance, public irrigation systems in all of the states of India are a grave cause for concern. The achievement in creating physical infrastructure for irrigation may appear very impressive in terms of investment and number of projects, but in reality, in terms of delivering water to the fields is far less.

Much has been written on the role of these projects in achieving food self-sufficiency at the national level. However, such statistics mask some of the serious problems faced by water resource managers and users. Among the concerns that challenge public irrigation

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15 It must be mentioned here that farmers rarely pay the energy real cost due to direct and indirect state subsidy to rural electricity supply. Subsidies are not uniform across all states in India. Some states have high level of subsidy (in some cases 100% subsidy) for electricity tariffs for agriculture use. As expected, such states show clear evidence of poor efficiency characterized by excessive irrigation.
managers are the rapidly deteriorating condition of the physical assets, the increasing state subsidies in the form of underwriting operational losses of irrigation bureaucracies and the steadily declining utilization of the irrigation potential created (see Figure 8).

Figure 8. Utilization of irrigation potential created.

Among the concerns that get less attention are poor water use efficiency, environmental damage due to improper use and inequitable distribution of irrigation benefits. In most developing countries, the water use efficiency\(^{16}\) (WUE) in an irrigation system is as low as 30% even though irrigation projects are designed to have a potential WUE of 60%.

Average seepage loss from canals is 45% (Tiwari and Dinar 2002, p. 103). The Ministry of Water Resources estimated in 1991 that 5.8 million hectares of irrigated land were already degraded due to water-logging, alkalinity and salinity (Lal, Hansen et al. 2002, p. 37).

\(^{16}\) In simple terms, water use efficiency (WUE) in an irrigation system refers to the ratio of water volume actually applied at the crop root zone to the total water volume entered into the main delivery system.
On the equity front, water entitlements among farmers in the irrigation command area are prone to disruptions due to many systemic and social problems. The two popular notions of equity, namely, prior appropriation (head-enders versus tail-enders) and proportionate equality (small versus large land holders) are both problematic in public irrigation systems (Chambers 1988, p. 37). A recent study of public irrigation projects conducted in six states of India reveals that a farmer in the tail-end sections of a canal system is more likely to be deprived of irrigation services than a farmer from the middle and head reaches (Shah 2003, p. 12). Some of the main causes for this unsatisfactory performance of irrigation systems can be organized into three broad, inter-connected, categories:

**Institutional Constraints:** The state Irrigation Departments (IDs) are good examples of a typical Indian government bureaucracy, which has changed little over time. Administration is overly centralized and lacks accountability, management skills and client focus. It tends to be remote, top-down and have only minimal contact with farmers. The staff members are either civil engineers or office administrators with no mandate to address issues pertaining to agricultural development or social organizing. There are no direct links between the irrigation service provided, revenues generated, expenditures, and staff incentives. In many states in India, the ID has grown in staff strength to be one of the largest state employers. As a result, politically and administratively ID staff constitute a strong interest group. Past attempts at irrigation sector reforms have had to contend with the political pressure mounted by the employees. As an institution, they have no learning mechanisms and therefore a poor capacity to take corrective measures or respond to changing demands and

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17 Command area, also referred to as service area, is the technical term that refers to the land that can be irrigated by water distribution systems in an irrigation scheme.
new opportunities.

**Financial constraints:** Starting right from the very basic water pricing system, incentives for efficient water use are largely absent. Irrigation fees are very low, often less than 30% of operations and maintenance (O&M) costs and less than 2% the crop value (Oblitas and Peter 1999, p. 7). Mismanagement and corruption contribute to a high default rate in payment of these fees. Construction and major repairs to the physical system are contracted out and monitored centrally, leading to cost over-runs and pilferage. These factors have led to persistently inadequate allocations for upkeep of the physical system. As much as 70% of the O&M budget goes to staff salaries leaving inadequate funds for actual maintenance work (Joshi cited in Beck, Bose et al. 1999, p. 108).

**Physical constraints:** Common physical constraints include, in particular, inadequate maintenance of canals, resulting in progressive deterioration of the irrigation infrastructures. The physical constraints often stem from design flaws at the project planning and construction phases. Designs for delivery systems are often done with inadequate field level and historical data that farmers are ideally suited to provide. The result is a rapid decline in the physical condition of the system, which in turn, is the main cause for poor utilization and high levels of wastage.

**Institutional Dimensions**

Provision of irrigation services was long considered the domain of engineers. From being essentially a "technical" domain until the 1970s, it is only in the last two decades that
irrigation management has come to be recognized as a "socio-technical" enterprise (Uphoff 1991, p. 17). From seeking technological and economic "fixes" for prevailing problems, senior members of irrigation bureaucracies have come to accept that organizational, administrative and cultural factors impinge as much on the performance of a system as physical, financial and material ones. Planners at the national level have realized that it is no longer adequate to tinker with the technology and fiscal policies in isolation, without bringing in an active role for farmers and civil society organizations in water management.

The rhetoric of farmers' participation started as early as 1985 when the Government of India provided financial help to states for initiating Water Users Associations on an experimental basis and transferring certain responsibilities to the new institution. This program was called the Command Area Development (CAD) scheme. To administer this program, CAD Authorities (CADA) was formed in each state. The National Water Policy formulated in 1987 and revised in 2002, mentions that "efforts should be made to involve farmers progressively in various aspects of management of irrigation systems, particularly in water distribution and collection of water charges" (GOI 2002). Despite these policy pronouncements and modest budgetary support from the Government of India, very few states were willing to commit themselves wholeheartedly to a program that would significantly empower WUAs to manage irrigation within their jurisdiction.

Internationally, the need for and advantages of decentralization in the governance of irrigation was argued and experimented with as early as the 1970s (Uphoff 1986, p. 27). However, in India it took another two decades for the concept to gain political support and
be translated into concrete action. Several pilot projects were implemented by NGOs
during the 1980s and early 1990s to demonstrate the feasibility of and need for devolving
irrigation responsibilities to farmers’ organizations. At the same time, there was resistance
from expected quarters: the ID and certain farmers. IMT was expected to downsize the ID’s
strength when much of outlet level responsibilities shifted to WUAs. Also, farmers from
head-reach areas of the command derived illegitimate benefits from poor upkeep of
physical systems.

In the absence of clear political backing, the irrigation bureaucracies and local vested
interest groups were successful for a while in thwarting any policy level reforms that
threatened their continued control over assets and operations. For example, the seepage
from outlets is tapped free of fees. Large scale seepage also recharges the aquifer from
which they draw water through their private wells. In private conversations, department
staff also admit the loss of kickbacks from contractors and illegal rent-seeking
opportunities from farmers. The orientation of local and regional political leaders towards
the devolution of authority, as well as towards the broader objectives of irrigation

Announcing ridiculously low water charges was an effective vote-catcher and the fear of
losing the power to dispense political patronage through new projects and awarding
contracts for construction, made them poor candidates for a re-orientation. Calculations of
electoral gain or potential loss has prompted elected leaders to politicize water related
disputes and policies (Wood 2007, p. 39). For any major policy change to have widespread
acceptance and implementation it would be essential that both the political leaders and
bureaucracy, in that order, should support it.

The first decisive initiative by a state government in India towards farmer participation came in 1997 with the promulgation of the Farmers Management of Irrigation Systems Act in the state of Andhra Pradesh. This happened, in major part, largely thanks to the leadership shown by the Chief Minister of Andhra Pradesh, Chandrababu Naidu, who saw political advantage in decentralizing and devolving resource management responsibilities to user communities (Oblitas and Peter 1999; Wood 2002, p. 12-13). Subsequently, many other states followed in adopting the reforms. The pressure from lending agencies to phase out bankrupt public organizations also contributed to the recent spate of adoptions. In all the cases, the argument for such a transfer of management responsibilities was built and justified on the basis of evidence of the adequate management capabilities of farmers' organizations.

Institutions for Irrigation Management

The term Irrigation Management refers to the following activities: (i) water acquisition or capturing water for distribution; (ii) water distribution, also referred to as irrigation operations, involving the creation and operation of a means of conveyance from the storage site to the farmer's field; (iii) maintenance of the system including upkeep and renewal mechanisms to off-set impacts of wear-and-tear to the physical system; (iv) resource mobilization (financial and human) for undertaking operations and maintenance (O&M); and (v) conflict resolution among users and between two or more types of users (Uphoff

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18 As of December 2003, Tamil Nadu, Orissa, and Madhya Pradesh have already enacted an adapted version of the Farmers Management of Irrigation Systems Act. Four more states are on the verge of doing so.
1986). These activities are directed towards achieving the objective of irrigation—to provide water to farmers in a manner that enables them to maintain or increase levels of agricultural production.

These activities are organized around institutions and organizations, each having its own functions, structures and rules. The two main institutions that deal with irrigation in a direct manner are the public agencies created by governments in the form of an Irrigation Department (ID)\(^\text{19}\) and farmers’ organizations promoted by the ID or non-governmental organizations (NGOs) referred to in generic terms as Water Users Associations (WUAs). IDs are typically large bureaucracies with many levels of hierarchy. Field offices are located in almost all districts. To manage large irrigation schemes with 50,000 hectares or more of command area, there are separate offices that are dedicated only for a project or even part of a project. Engineers and office administration staff make up nearly the entire work force of an ID. They seek the help of law enforcement and judicial institutions whenever required while performing their regulatory roles.

*Physical aspects of public irrigation systems:* The engineering aspects of irrigation projects vary across states. The irrigation service area is decided after taking into account the available storage capacity of the reservoir and the nature of the demand from competing users in the downstream. The largest proportion of available water is taken up by farmers. In many projects the reservoir also supplies water for domestic consumption and industrial use.

\(^{19}\) In recent years, some of the states have changed the name from Irrigation Department to a more holistic term such as Department of Water Resource Development.
The delivery system has primary (main canal), secondary (distributory) and tertiary (minor) level conveyance systems (see Figure 9 above), each requiring appropriate physical arrangements for controlling water flow. Smaller systems that irrigate less than 1000 hectares of land will usually have a single canal system and a less complex arrangement for water distribution. Typically, the area irrigated from a minor canal feeds a village level service area through watercourses and field channels.

**Performance indicators of a public irrigation program:** No matter what type of physical infrastructure is used, irrigation management is considered successful and sustainable if it achieves all of the following objectives (Uphoff 1986, p 20):

1. Greater production, increased productivity and net income for farmers achieved through a combination of increases in area, cropping intensity and crop yield.
2. Improved water distribution, including greater reliability of adequacy and timing of deliveries and equity in distribution so that head-reach and tail-end farmers' water entitlements are protected.

3. Reduction in conflicts between central agency and water user-groups (especially in the case of large irrigation systems), as well as between water users groups and individual farmers.

4. Greater resource mobilization in terms of human and financial resources to operate and maintain the system and invest in periodic capital renewal.

5. Sustained system performance by managing water and soil resources so that long-term stability of production system is not compromised.

Institutional Reforms

What does the term "institutional change" mean for irrigation management? For the purpose of this research, institutional change can have two connotations: (i) a re-alignment of accountabilities within an existing organization and (ii) a re-alignment of responsibilities among stakeholders. In the context of this research, a need for reform emerges when the existing design and functioning of the institution (Irrigation Department) is not consistent with its objectives. A reform will therefore entail a redefinition of the roles and responsibilities of existing institutions and where required, of new institutions. In India, as in many other countries, this process has evolved as a transfer of management responsibilities and rights from the irrigation bureaucracy to farmers' organizations. Under the Indian Constitution, water is a state subject. Since different states deal with irrigation in different ways, there are significant variations in the pace of and extent to which Irrigation
Management Transfer (IMT) has taken place in India.

Research work done during the 1980s and 1990s in the field of natural resource management points to the advantages of inducting users and their institutions into the management of resources (Meinzen-Dick, R et al. 1995, p. 14; Brewer, Kolavalli et al. 1999, p. 114). Despite wide variance in the ability and willingness of different communities and cultures to act collectively, it was observed that better irrigation performance would result from the involvement of farmers in formal decision making and negotiations for water distribution (Chambers 1988, p. 172).

Farmers' participation in management can come in many forms and degrees. An analysis of farmers' participation by Uphoff gives us three propositions for understanding an "optimum" level of participation: (a) farmer participation is not a single event or concept but encompasses many specific kinds of activities, which water users can engage in, (b) farmers' participation will be more predictable, productive and sustainable if it is channelled through organizations appropriate to the tasks of irrigation management, and (c) farmers' participation will vary with the physical nature of irrigation systems and across various levels within a system (Uphoff 1986, p. 8). It is interesting to note that even though Uphoff cites some of the criteria for democratic functioning of the institutions, he does not specifically indicate that a democratization process is essential for enabling participation. There is reluctance on the part of scholars and practitioners to deal with the political dimensions of resource management and the implications of policy reforms that alter the way resources are controlled.
Another analytical approach to IMT is derived from the theory of devolution of authority from centralized agencies to end-users discussed in Chapter 2. At the heart of the theory of devolution is the argument that local, common users of a resource, who are empowered as a group to take over management of the resource, are motivated to manage water more efficiently and sustainably than does a central government agency. For this to hold true, there are certain essential pre-conditions that must exist. Vermillion summarized these pre-conditions as:

1. Continued dependence of users on the resource and vice versa,
2. A favourable benefit/cost ratio between the value of the output from resource management and the cost to users of investing social capital through community resource management, and
3. Absence of severe social divisions among resource users which would preclude communication and direct interaction among them (Vermillion 1997, p. 2).

Given the acute dependence on farm income for the well-being of a large proportion of rural families in India, and the fact that the provision of irrigation can improve productivity and profitability of food and non-food crops from 30% to 400% (Kerr 1996, p. 17), the first two of the preconditions can be assumed to exist with a fair degree of certainty. The same cannot be generalized for the third pre-condition. Historically, Indian societies have had marked social and political stratification, particularly in the rural areas. However, there is considerable anecdotal evidence of rural communities overcoming such divisions with the help of catalytic agencies. Pilot projects on IMT in the states of Gujarat and Andhra Pradesh have demonstrated that these preconditions can be created.
Experiments and pilot projects were implemented in many countries around the world during the 1990s to test new institutional designs and accountability structures. In a review of results from such projects it was concluded that “single irrigation systems managed by autonomous system-specific organizations accountable to their customers perform better and are more sustainable than systems managed by agencies dependent on the government” (Merrey 1996, p. 24). The autonomous organization in this case is the Water Users Association (WUA). The autonomy refers to its ability to take independent decisions regarding system operations, maintenance and resource mobilization without any direct involvement by a state agency.

A strong case for Irrigation Management Transfer is built around the argument that farmers are better managers of irrigation water than irrigation bureaucrats. WUAs are able to improve performance over that of public agencies due to their closer proximity to users, thereby allowing them to monitor services more effectively. When users become responsible for operations and maintenance, a built-in mechanism to address the twin problems of the institutional costs of enforcement and the lack of adequate local information becomes available. WUAs also facilitate the attainment of social goals such as democratization or the empowerment of women, as they provide an organized forum for expressing users' common interests (Subramanian, Jagannathan et al. 1997). Other impact assessments conducted across many countries conclude that there are more positive aspects to IMT than negative ones (Vermillion 1997, p. 29).
**Challenges Faced by WUAs**

Some of the challenges faced by the IMT process include the vulnerability of WUAs to being manipulated by local elites and the inability of politically marginalized members of the WUA, including women, to be an effective influence in decision-making processes (Koppen 2002; Koppen, Parthasarathy et al. 2002). The role of capacity-building support to WUAs is widely discussed as being crucial for ensuring institutional sustainability. The second important concern voiced by irrigation managers is the complexity of institutional arrangements under IMT when an irrigation project has multiple user-groups such as domestic water users and industries. The setting up of farmers' organizations at higher levels of a distribution system is still in the formative stage and thus no conclusive lessons can be drawn as yet.

**Process of Irrigation Management Transfer**

There are many variants of the process by which different states in India implement IMT. However, there are some key features that are common to most of them. The description of the process outlined here captures all the crucial steps required for IMT.

*Advocacy:* The reform processes were often initiated by NGOs, either as a result of field level research by NGOs or as a result of donor-advocacy. They lobbied state governments which in turn made policy proclamations to the effect that a certain number of irrigation responsibilities will either be totally or partially transferred from the Irrigation Department to farmers' organizations. These policy statements are formally communicated to the Irrigation Department through Government Orders.
Promotion of farmers' organizations: Where an NGO or other civil society organization is involved in the promotion of such reforms, farmers are organized into a Water Users Association or Irrigation Cooperative Society through community organizing support. In some states the district level officers of the Irrigation Department do the job of promoting the new policy. There is wide variation in the intensity of this process across states and even within a single state. In many instances the formal process of registration of the farmers' organization is done through administrative orders and formal paper work without much consultation and sharing of policy details with farmers or their leaders. When done in this manner, the process takes less than a month to finish. At the other end of this spectrum are the NGO-promoted cases where the process can take more than two years to accomplish. Training programs are organized for representatives of farmers where issues such as irrigation techniques, account keeping and agriculture development are covered in the curriculum. The design and leadership structure of the WUA is largely derived from the laws that govern the type of institutions (cooperative laws, charitable society laws, associations under specific government legislation). Typically a WUA will have a President, Vice-President, Treasurer and an Executive Committee with certain powers to plan, administer and raise resources. All these office positions are honorary and therefore offer no pecuniary benefits to the office bearers. They appoint a paid Secretary and water distributors.

20 Community organizing efforts by an NGO usually include dissemination of information about IMT policies, formal launching of the farmers organization through appropriate registration with government authorities, training of members and leaders and liaison with the Irrigation Department.

21 In Gujarat the state government has sought farmers' organization's participation in IMT even when they are not a registered legal entity. This was done to enable the WUA to gain experience of managing irrigation prior to a formal turnover of responsibilities.
Memorandum of Understanding (MoU): A formal agreement is drawn up between a farmers' organization and the Irrigation Department outlining the management responsibilities and rights of the WUA and the new role of the Department. The agreement states the mode of water supply by the ID to the WUA (quantum, frequency and price) and terms of payment, rebates and penalties.

Rehabilitation of the physical system: Many years of neglect and abuse have usually rendered the canal systems and distribution networks in a poor state of upkeep. Prior to turnover, the Irrigation Department undertakes to finance the repair and rehabilitation of these physical structures to a quality level which farmers consider essential for efficient irrigation. The first right to undertake this rehabilitation work is with the WUA. If they do not have the organizational capacity, they can revert back to the Department to get the work done through contractors.

Formal turnover to the WUA: This marks the stage where the WUA assumes complete responsibilities for managing the irrigation from the off-take point where the ID delivers water from the main system. The WUA evolves a system where members register their demand for irrigation services based on their crop plans.

Operation and Maintenance by WUA: The WUA appoints and pays for one or more staff to keep a book of accounts, prepare the irrigation schedule, supervise water distribution and report any non-compliance by member farmers. The Executive Committee does annual budgeting and announces the irrigation fees based on O&M costs and any capital expenses.
they may decide to undertake in future.

**Fulfilment of financial obligations to ID:** Based on the terms and conditions set out in the MoU, the WUA pays the ID for the water supplied at the intake point. They also provide irrigation reports.

**Consolidation of WUA:** When WUAs gain adequate administration experience and financial stability, they expand their operational mandate to include linkage activities such as agriculture input supply, credit and marketing. These services are aimed at maximizing income by deriving benefits of backward and forward integration of reducing inputs costs and maximizing output value.

**The Rights and Responsibilities of WUA and ID after IMT**

The following management responsibilities are transferred from ID to WUA:

1. Procurement of water from ID on a volumetric basis.
2. Operate and maintain the physical structures of distribution network from the off-take point downwards.
3. Decide the irrigation fees and explore other revenue generating avenues so that the costs associated with irrigation operations are recovered and provisions made for building a reserve fund to take care of future capital investments.

---

22 Quantum of irrigation is currently measured as the area irrigated irrespective of the number of irrigations or the amount of water per irrigation. Irrigation fees are fixed on a crop-area basis. Therefore there is no incentive to conserve water or avoid water intensive crops. The policy of de-linking water pricing norms from actual quantum of water used has resulted in over use and wastage.
4. Manage competing demands for water among farmers and resolve conflicts among users.

5. Evolve rules and regulations and enforce them through a reward and sanction system.

To fulfil these responsibilities, the WUAs have certain rights to govern and enforce rules and regulations. They can be broadly classified as:

1. Rights to specified water withdrawal from the public system (i.e. assured water supply from ID).

2. Rights to permit their members to cultivate any crop in the command area.\textsuperscript{23}

3. Rights to generate revenue from any legitimate activity. This includes fixing of irrigation fees, any levies or surcharges to cover routine operational costs or any capital costs that WUA decides to incur for improvement of distribution networks.

4. Rights to adopt any water distribution methods.

5. Right to expel members for violation of rules and regulations of WUA.

The WUAs do not, as yet, have ownership rights over the canal infrastructure. The state continues to be the owner. They do not have any defined entitlements to water from the reservoir. Therefore the WUA cannot seek compensation from the ID in the event of failure on the part of ID to release water from the off-take point. The sharing of responsibilities between ID and WUA under the IMT policy is summarized in the Table 4 on the next page.

\textsuperscript{23} When managed by the Irrigation Department, irrigation was provided only for certain approved crops. When managed by WUA, the farmers have a choice as long as they are willing to comply with the irrigation schedule prepared by the WUA.
<table>
<thead>
<tr>
<th>Rights/Responsibilities</th>
<th>Description</th>
<th>ID</th>
<th>WUA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design and construction</td>
<td>Reservoir</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Canals – Main and distributaries</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Canals – Water courses and field channels</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Maintenance of structure</td>
<td>Reservoir</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Canals – Main and Distributaries</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Canals – below distributaries</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Operations</td>
<td>Water release from reservoir</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Operation of Distributaries</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Scheduling irrigation rotations</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Assessment of area for water charges</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Monitoring of area actually irrigated</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Monitoring wastage/misuse</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Finance</td>
<td>Deciding irrigation fees</td>
<td>X*</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Collection of water charges from farmers</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Collection of any other service charges</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Enforcement</td>
<td>Irrigation rotation / timing</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Penalizing defaulters</td>
<td>X**</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Conflict resolution</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>Violation of rules/regulations</td>
<td>X**</td>
<td>X</td>
</tr>
<tr>
<td>Development linkages</td>
<td>Agriculture inputs supply / credit</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

* Irrigation department sets the base rate and WUAs sets the final irrigation fees based on the O&M costs.
** Legal authority to prosecute violators continues to be with ID. WUA has to refer cases to ID for action. The Bombay Irrigation Act that deals with public irrigation schemes, recognizes only an officer of the ID to file charges and seek prosecution. The Act is currently being revised to provide WUA functionaries the same legal position.
Enabling Conditions for Success of PIM

Most of the arguments presented in the literature on IMT justify the need for it, based on the shortcomings of the irrigation bureaucracies. The causes of the shortcomings, as discussed earlier, include poor organizational structure, lack of accountability to farmers, unviable water pricing policies and corruption by ID staff. IMT was based on the premise that farmers themselves, due to their close proximity and far higher stakes in irrigation, are better placed to implement these responsibilities.

The IMT program requires an enabling social, political and economic environment to stabilize and institutionalize the new roles played by farmers. Certain essential conditions must exist that reinforce the advantage of having farmers play a key role. To begin with, the farmers value water for agriculture activities and are willing to shoulder these new management responsibilities in return for better economic returns from their agriculture. If agricultural income falls significantly, or cultivation costs rise to a level where agriculture as a livelihood option is no longer viable, the level of interest and willingness will diminish rapidly. The second condition is that the ID will have to maintain and provide water from the reservoir when available. The WUAs have the primacy when it comes to accessing this water. The third condition is that the WUA has the management skills and can raise resources to carry out those responsibilities. Where such skills and capacities do not exist, they should be built over a reasonably short period of time. The fourth condition is that the WUA, as a member organization, has the capacity to govern itself.

While formulating PIM program, the NGOs and ID assume that these enabling
environment will be created in due course of time. My hypothesis implies that the issue of self-governance is too critical to be taken as an assumption while undertaking large-scale turnover of irrigation projects to WUAs. Going a step further, I argue that the existing process of IMT as practiced in many states of India is based on grossly inadequate information on the readiness and capacity of farmer organizations to take on these responsibilities.

**Participatory Irrigation Management (PIM) in Gujarat**

**Profile of Gujarat State**

Gujarat is the 7th largest state in India in terms of area (188,024 sq. kms.) and tenth largest in terms of population (50.7 million). As one of India’s most industrialized states, Gujarat has a variety of industries, the principal ones being general and electrical engineering, textiles, vegetable oils, chemicals, soda ash, and cement. Since the 1990s, the state has witnessed very high economic growth, peaking at 14% per annum between the years 1994-2002. The per capita annual income of Gujarat was estimated at Rs.28,355 at 2006 prices (US$ 708) in 2005-06, significantly higher than the National average of Rs.23,241 (US$ 581). The literacy rate is 69.14% as compared to 54% at the national level (GoG 2006, p. 90). The rural areas contribute almost all the illiterate population..

Despite being the most industrialized state in India, 63% of Gujarat’s population, predominantly in rural areas, rely on agriculture for their livelihoods. The State is the main producer of tobacco, cotton, and groundnuts in the country. Other major food crops
produced are rice, wheat, millets, maize, and pulses. The total crop area of 9.6 million hectares amounts to more than one-half of the total land area. The state has seen significant investment, both public funds and private, in creating irrigation facilities. A controversial irrigation project, the Sardar Sarovar Narmada Project, is expected to double the area irrigated by public irrigation projects from 1.9 million hectares to 3.9 million hectares. However, the actual utilization of the potential is only 15.99 million hectares (GoG 2006, p. 16).

The demographic profile of Gujarat state is quite representative of the country in terms of religious background. 89% of the population belongs to various castes and sub-castes of Hindu religion. Muslims make up 9% and the remaining 2% includes Jains, Christians, Sikhs and other religions. The distribution of Hindus across the sub-castes varies significantly. The northern and central districts of Gujarat have a larger proportion of higher caste Hindus including Patidars and Brahmins while the western districts from a region called Saurashtra has a majority of lower caste groups such as Kolis, Rabaris, Bharwads and Waghris.

**Early Experiments in Farmers’ Participation in Gujarat**

The first significant formal policy enunciation for a greater role for farmers in irrigation management was made only in 1987 when the National Water Policy mentioned that “efforts should be made to involve farmers progressively in various aspects of management of irrigation systems particularly in water distribution and collection of water rates” (Ministry of Water Resources 1995, p. 107). However, Gujarat experimented with farmer-
managed government irrigation project as early as 1978. Farmers from a village in the Ukai-Kakrapar Irrigation project in Surat District formed an organization named Mohini Water Cooperative Society and took over water distribution responsibilities from the ID. The experiment yielded valuable lessons, particularly in demonstrating the capacity of farmers to independently deal with canal management and water distribution. However, there are divergent opinions about whether Mohini Cooperative Society could be considered a success (Chambers 1988, p. 62). The farmers were predominantly cultivating highly profitable, but water intensive sugarcane crops and were given water in bulk by the ID at a heavily discounted rate. Even with such low bulk purchase rates, the Society could not mark up the irrigation fees to the farmers enough to generate revenue to meet the operational expenses of the Society. The society was propped up by grants and subsidies to cover the deficit in cost recovery. The experiment faltered frequently and had to be revived through intensive intervention by the ID. The idea of farmer managed irrigation did not gain momentum as a result of the mixed outcome from Mohini Project. Even though the Mohini experiment motivated 20 more villages of the Ukai-Kakrapar project to follow suit, by 1986 most of them were defunct.

**Joint Irrigation Management Program**

In 1983, the Government of Gujarat launched another initiative to enable greater participation of farmers. Under a pilot project called the Joint Irrigation Management Program (JIM), the ID facilitated the formation of Irrigation Cooperative Societies at the village level. The program required that the irrigation management responsibilities be shared between the Cooperative Society and the ID. Each Cooperative Society had a
Management Committee, which in turn appointed an honorary President and a paid Secretary. The responsibilities for water distribution, collection of irrigation demand and irrigation fees were given to the Management Committee. The revenue generated through irrigation fees was expected to meet the operational expenses, including the salary of the Secretary. However, in practice, the appointment and the amount of salary of the Secretary were fixed by the ID. Even though the Secretary was accountable to the Management Committee and the members of the Society, the payment of his/her salary was controlled by the ID.

The JIM program ran into difficulty right from the beginning. The task of forming the cooperatives was assigned to senior officers from the ID who in turn delegated it to field level functionaries. The task was perceived as an administrative chore and not a process of interaction with farmers. Very few, if any, of the ID staff members had any orientation or training in community organizing skills. In almost all the cases, the Cooperative Society was formed and registered with the State Registrar of Cooperatives in a matter of weeks. Apart from a handful of village level leaders, farmers were not even aware of the existence of such an organization. More than 80 Irrigation Cooperative societies were created as a result of this program. A study conducted in 1995-96 by an NGO, the Development Support Centre, found that only 16 of these Cooperatives had indeed taken any responsibility for irrigation operations. In the other Cooperatives, even though the Secretary drew a salary from initial grants provided by the ID, all irrigation operations were actually performed by the regular field staff from the ID. The program did not last beyond its second year. When the ID stopped providing grants for Secretaries' salaries, the
program wound up. Out of the 80 Irrigation Cooperatives formed under the JIM program, 74 were declared defunct and bankrupt and 6 of them were placed under “dormant” status by the State Registrar of Cooperatives. There were no subsequent attempts by the ID or any other agency to revive the JIM program.

**Pilot Projects by AKRSP(I)**

In 1989, the Aga Khan Rural Support Program (India) (AKRSP(I)), a leading rural development NGO in Gujarat, promoted Water Users Associations to manage three minor irrigation projects in Bharuch district. None of these three projects was operational when it was taken up by AKRSP(I). Having learned from the experiences of the Mohini Cooperative and JIM program, AKRSP(I) strongly advocated fiscal autonomy for the WUAs in fixing irrigation fees so that they could recover all operational costs and be financially self reliant. They succeeded in persuading the Government of Gujarat to accept this as a special policy for these projects. All the three WUAs increased the irrigation rates sufficiently to meet all expenses. Unlike the Mohini Cooperative and JIM program, the three WUAs not only reaffirmed farmers’ capacity to manage irrigation operations more efficiently, but also demonstrated that fiscal autonomy can make WUAs financially sustainable too. Through these projects, AKRSP(I) also highlighted the importance of the community organizing process in building the capacity of village level institutions to take over irrigation management responsibilities. However, all three of the WUAs required AKRSP(I)’s constant monitoring and intervention during conflicts among members.

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24 Minor irrigation projects have less than 2000 hectares of irrigation service area, medium irrigation projects have between 2000 and 10,000 hectares and major irrigation projects have more than 10,000 hectares.
Development Support Centre (DSC)

Development Support Centre (DSC) was founded in 1994 by a group of development professionals from Gujarat. The organization was created as a response to a demand for technical support services from many other NGOs in Gujarat that were actively promoting participatory programs in Natural Resource Management. Besides providing back-stopping support to NGOs in their NRM field projects, DSC also undertook policy research and advocacy work to promote an increased role for end-users of land and water resources. By 2005, the policy advocacy work of DSC had resulted in more than 55 administrative and policy reforms that impacted government programs in irrigation, watershed development and forest management. For their professional approach to development, DSC became acknowledged as the leading NGO with a reputation for experimenting with innovative institutional designs and management systems that would enable resource users to play a central role in resource management.

Right from its inception in 1994, DSC played an active role in promoting PIM in Gujarat. They developed the concept of farmer managed public irrigation systems further and applied it to medium and major irrigation projects in Northern Gujarat. The first set of WUAs was promoted in selected villages in the irrigation service area of the Sabarmati Irrigation Scheme in Mehsana district. Out of a total of 110 villages that were served by the canal networks of the scheme, farmers from 25 villages interacted with DSC over a period of three years to learn about the PIM program and be motivated to participate in the program. The WUAs of these villages are the oldest operational WUAs under the PIM.
program and therefore chosen as case-studies for this research.

In 1995, the Government of Gujarat formally announced that funds to repair or reconstruct damaged canals would be provided to the WUA before the responsibility of managing them was transferred from the ID to the WUA. Building on the community organizing process evolved by AKRSP(I), DSC developed various capacity-building programs aimed at strengthening the WUAs’ capacity to achieve the multiple objectives of sustainable and equitable irrigation for their members. As of 2006, DSC had promoted and provided capacity-building support to more than 100 WUAs in 4 different medium and major irrigation projects in three districts of Gujarat. They were also recognized by the Government of India as a training centre for PIM.

A Profile of Mehsana District

Mehsana district is located north of the state capital Gandhinagar. The total population is 1.83 million, ranking thirteenth out of 23 districts, around the median mark. The population density of 419 persons per square kilometre is significantly higher than the state average of 258 per sq.km (GoG 2006, p. S-22). This is attributed to comparatively progressive farmers and employment opportunities that entrepreneurs generated over the last five decades. The district witnessed steady in-migration from neighbouring districts to meet the demands of agricultural labour and, during the last 30 years, in non-farm based enterprises. Literacy rate is the fourth highest in the state at 75%. This relatively higher literacy rate is attributed to the pioneering work in basic education done by the erstwhile prince of Baroda, Sir Sayajirao Gaikwad during the late 19th and early 20th century(GoG 1975, p. 647).
Mehsana district is also well known for its progressive farmers and extensive irrigation systems, both privately operated deep tube-well and public irrigation schemes. The case studies examined in this thesis, namely the eight Water Users Associations belong to the service area of the Sabarmati Irrigation Scheme. This multi-purpose project irrigates 62,000 hectares of land, 44,500 hectares of which are in Mehsana District.

Hindus make up 89% of Mehsana’s population. Muslims account for 9% and 2% belongs to other minorities. Among the Hindus, it is the Patidars (also known as Kanbi Patels), who dominates the district politics and economy. Compared to other caste groups among the Hindus, Patidars are better represented in the district level government and at the state level government (For more details see Pocock 1972). To the outsider, all Patidars appear to be one caste group. In fact they have distinct sub-castes with rigid boundaries in matters of matrimony and trade relations. Kadwa and Lewa Patel are the two broad divisions within which there are sub-groups based on the domicile (GoG 1975, p. 185-186). Many villages have seen intense rivalry between these sub-caste groups among Patidars. Another caste group that makes its presence felt in the district level political leadership is the Choudharys. Economically they are well below the Patidars, but in recent years, leaders and entrepreneurs have emerged from the Choudharys too. This has caused friction between them and the Patidars during elections. Unlike most Hindu caste groups and subgroups, the Muslim population has tended to cluster around pockets of a few villages.
The Sabarmati Irrigation Scheme

The Sabarmati Reservoir Project was commissioned in 1979 as a multi-purpose water resource development project by the Government of Gujarat. The project involved the construction of a reservoir near Dharoi village across the Sabarmati, a south flowing river that originates in the watersheds of the Aravalli hills in the neighbouring Rajasthan state. The project has multiple objectives of supplying drinking water to urban centres, including the large city of Ahmedabad through pipelines, generating hydro-electric power and providing irrigation water through two Main canals and a network of Distributory, Minor and Sub-minor canals. As per the design of the irrigation project, a total of 74,822 hectares is the irrigation service area (taken from command area Map (NWRD) 1990). However, the construction of the canal networks was mired in litigation and construction delays. The actual irrigation potential was reduced to 55,000 hectares. Annexure 1 gives the command area map of the project. The Right Bank Main Canal (RBMC) supplies water to about 95 villages in Mehsana District and the Left Bank Main canal supplies water to about 35 villages in Sabarkantha District. The Sabarmati Project is classified as a Major irrigation project. Therefore it is administered by separate offices of under the Irrigation Department. The service area is divided into 7 Blocks. Each block has a team of engineers to look after Operations and Maintenance (O&M) of the canals. These officials continue to work for the Department even though substantial operational responsibilities have been gradually transferred to WUAs. There are plans to redeploy them in other government departments.
Case-Study Villages

All eight Water Users Associations selected for this study are in Mehsana district. They are located towards the tail-sections of the Sabarmati Irrigation Scheme. The WUAs from the tail-sections of the irrigation project were chosen for a purpose. In almost all irrigation projects, the villages from the tail-section of the canals were more prone to disruptions and water shortages. Such a situation makes the task of governance particularly challenging, testing the capacity of a WUA to build consensus.

The eight WUAs form a cluster of villages that are approximately 45 to 50 kms (as the crow flies) from the reservoir located near a village called Dharoi in the northern tip of the district (see map in Figure 4). The demographic profile of the case-study villages is representative of the district in terms of religion, castes and sub-castes, farming practices and socio-economic status. In one village, Kesimpa, Muslim form a majority. In another, Choudharys are a majority. The remaining six WUAs are a mix of Patidars, Thakores, Harijans and Rabaris.
Chapter 5: Building a WUA: Ingredients for Success

Introduction

It is hazardous to make conclusive assessments about the robustness and sustainability of people's institutions based on how well they are governed. How members of a village community will behave within a Water Users Association (WUA) depends on the social, economic and political environment. When these factors change, the responses from members will change too. This is particularly true for India at a time when the political economy is rapidly changing and the options or choices available to people are changing at the same pace. Yet, despite the dynamic phase of political economy that India and Gujarat are going through, for academic and practical reasons of learning, it will be possible and indeed necessary to recognize elements of good governance when we see evidence of it in the form of stable operations and enduring benefits to its members.

This chapter includes case studies of three Water Users Associations (WUAs) that I believe are doing relatively better in terms of moving towards good governance. From the narrative that follows, it will be evident that these WUAs have certain strengths, but also show weaknesses on some of the criteria of good governance as presented in Chapter 2. The reason why these WUAs have been categorized as “better performing” is because their aggregate strengths outweigh their weaknesses. This assessment will be explained in Chapter 8. The three case-studies profiled here are (i) Kansa-1 Water Users Association, (ii) Rangpur Water Users Association and (iii) Kesimpa Water Users Association.
Case-study 1. Kansa Water Users Association (Kansa-1)

Table 5. Profile of Kansa-1 WUA

<table>
<thead>
<tr>
<th>Name of Village</th>
<th>Kansa-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Population (Number of households)</td>
<td>12131 (1510)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Households by castes</th>
<th>Patidars</th>
<th>Rajput</th>
<th>Harijans</th>
<th>Brahmins</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patidars</td>
<td>996</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rajput</td>
<td>214</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Harijans:</td>
<td>110</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brahmins</td>
<td>44</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>146</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Main source of livelihood</th>
<th>Agriculture, Non-farm wages</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Total length of irrigation canal in the village</th>
<th>12,333 meters</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Total farmers in the service area</th>
<th>551</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Year of formation of Water Users Association</th>
<th>1983 (original) 1999 (revived)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Year MoU signed with Irrigation Department</th>
<th>2000</th>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Total cost of rehabilitation of canals</th>
<th>Rs. 250,000</th>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Designed irrigation service area of the canals</th>
<th>322 hectares</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Maximum irrigation area prior to PIM (hectares)</th>
<th>92</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Area Irrigated after PIM (Annual in hectares)</th>
<th>2001-2</th>
<th>185</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2002-3</td>
<td>No irrigation due to drought</td>
</tr>
<tr>
<td></td>
<td>2003-4</td>
<td>326</td>
</tr>
<tr>
<td></td>
<td>2004-5</td>
<td>152</td>
</tr>
<tr>
<td></td>
<td>2005-6</td>
<td>395</td>
</tr>
<tr>
<td></td>
<td>2006-7</td>
<td>165</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Average (% of designed total service area)</th>
<th>76%</th>
</tr>
</thead>
</table>

Kansa is a large village with 1510 households and a population of 12,131. 66% of the population belongs to the Patidar community and the rest is comprised of Rajputs, Brahmins, Harijans and Luvana. Harijans and Luvana’s are categorized as economically
and socially backward communities. Almost all castes have agricultural land. Besides their numerical advantage, Patidar (Patel) farmers also have larger per capita land ownership. Many of them have invested surplus income from agriculture in non-farm enterprises such as shops and the transportation business.

The nearest market and major civic utilities such as a higher secondary school, college and hospital are only 2 kms away in the town of Visnagar. More than 110 families have one or more members engaged in some commercial activity or employment in Visnagar. Compared to other villages in the district, Kansa shows clear visual evidence of relative prosperity. Concrete houses, scooters and jeeps are quite common sights in the village. Close proximity to Visnagar and being relatively wealthier than many other villages has also meant that Kansa village plays an important role in the block level and district level politics. Elections for village Sarpanch have always been fiercely contested and often acrimonious.

The village is deeply divided along political party lines. There are no caste affiliations that come into play in this divide. The politically dominant Patidars too are split, with one group firmly supporting the Congress party and the other supporting the BJP. Both factions are led by Patidars and therefore a “consociational” arrangement among Patels has not been a possibility.

As a consequence of such deep division, Kansa village has two milk cooperatives and two agriculture credit cooperatives. When DSC contacted the village for initiating the PIM
program, they found that the physical layout of the canal made it necessary to have two separate WUAs. The village has a large (more than 1100 hectares) irrigation service area. Two separate canal networks emanating from two separate off-take points from the distributory canal service this area. Given the large irrigation service area and population of the village, and two distinct hydrological units, DSC realized that one WUA would be too unwieldy. DSC anticipated that the decision to have two WUAs would be welcomed by the two factions.

That was not the case. Kansa had an existing irrigation cooperative society, though dormant, from an earlier program of Joint Irrigation Management in 1983 (see Chapter 4 for details on JIM). From early interactions, it became clear that the leaders of this society belonged to the Congress faction. Farmers belonging to the BJP faction indicated their reluctance to join the society and if compelled to do so, would be a source of conflict. The BJP faction was happy with the idea of a separate set up. But the Congress faction was not. They preferred expanding the existing society into one large WUA. With their leaders firmly entrenched in the existing cooperative society, this would give them the political advantage of controlling and therefore influencing a larger constituency. Deliberations went on for a year. The existing cooperative society even went to court to try to block the formation of a second cooperative society, arguing that it would adversely impact their business operations. The protracted battle ended when the court decided that the decision to form a second cooperative was not illegal and stated that it would be more effective than expanding the membership of the existing one. Unfortunately, the second cooperative was soon labelled as a rival BJP-dominated one, even though the membership was decided by
the location of farmers’ fields rather than political affiliations. The BJP label came as a result of the first President and Secretary of this Society. Both of them were well known BJP workers.

The second irrigation cooperative was registered in 1999. In a way, the two cooperative societies evolved together and received more or less the same support from DSC. In terms of landholding and caste structure, both societies have shared the same composition. And yet the two institutions can be considered a study of contrasts in terms of characteristics of governance. The two WUAs are referred to as Kansa-1 and Kansa-2.

Even though Kansa-1 Water Users Association was formed in 1983 as a part of the failed Joint Irrigation Management (JIM) program, very few farmers in this village knew about this attempt and the memories are very vague. It was not until 1997 that they showed any interest in reviving the irrigation cooperative in their village. The motivation came largely from interaction with the farmers of the neighbouring village of Thalota. Thalota had taken over management responsibilities from the Irrigation Department and the benefits were quite spectacular and tangible. It was farmers from Kansa who approached Development Support Centre (DSC) with a request to initiate a PIM program. Bhaichandbhai Patel, the retired village Sarpanch, took a leadership role and played a significant part in explaining the features of the PIM program to other farmers. Unlike their efforts in earlier villages, especially Thalota, DSC had to do little motivating or selling of the idea of farmer-managed irrigation to Kansa farmers.

25 Sarpanch is the elected leader of village local government.
As part of the capacity-building program, DSC arranged for 12 farmers from Kansa to be taken to successful projects elsewhere in the state so that they could have face-to-face interaction with successful farmer-managers. The biggest stumbling block in the process of building confidence, however, came from the local field officer of the Irrigation Department. He actively and openly discouraged the leaders from pursuing PIM by raising doubts about the capacity of villagers to deal with technical and financial matters of managing irrigation. With increasing number of the villages opting for PIM, Irrigation Department officials perceived a clear threat to their authority and the prospect of forgoing rent-seeking opportunities that came with it. It took a while for DSC to sort this out with the Department.

Canal rehabilitation was the first challenge the leaders had to face. As required in the PIM policy, the farmers were asked to contribute 10 percent of the total rehabilitation cost of approximately Rs 250,000. Against the expected Rs.25,000, Bhaichand managed to raise Rs 77,000 within a period of three months. Bhaichand convinced the members that the extra money would be used to meet unexpected costs. This was a remarkable achievement because DSC’s experience from earlier villages was quite the opposite. They found it difficult to convince farmers to share any part of rehabilitation costs let alone unknown future costs. DSC probed further to find out the reason for such an unexpected show of participation. The usual experience of DSC in other villages was that the leader would make an appeal to the villagers for contributions hoping that his stature and perceived credibility would be sufficient to get a positive response. It would therefore be the personal
charisma of an individual rather than the merit of the activity that was used to sell an idea.

In some cases it worked, while in others it did not. In both situations, the time taken for collecting the required contribution was between 4 months to 8 months. Kansa-1 leaders took a significantly different approach. DSC learned that Bhaichand had selected 7 or 8 individuals and assigned them the responsibility of contacting individual farmers and giving detailed explanation about PIM and the rehabilitation works. He also insisted that the farmers should be made aware not only about the benefits of PIM but also the responsibilities that farmers would have to take to get those benefits. This again was unusual in government programs where implementing agencies would often exaggerate the benefits and hide the costs in an attempt to aggressively sell the idea and seek cooperation from people.

From other villagers in Kansa, I had gathered that Bhaichand was an ordinary, but honest and respected Sarpanch of Kansa village a few years ago. He had not done anything notable during his tenure that villagers could recall. So I asked Bhaichand why he took a different approach, knowing well that increased public engagement would take more time and effort. His answer showed remarkable foresight and maturity. This is how he explained what he learned.

“When I interacted with farmers from Thalota in 1998, I came to know that the Thalota WUA had to face many saboteurs from within the village whose vested interest would be severely hurt as a result of PIM. They were creating conflicts within the village and in the process dividing the people. It became clear to me then that not many farmers in Thalota
had understood the full benefits of PIM and therefore were easily misled by these mischief makers. Had the farmers understood the full benefits of the program, they would have resisted any attempt to sabotage the implementation. The leaders of Thalota WUA had to deal with the saboteurs with little or no support from its members. That is not going to work. If the farmers don’t understand their benefits, they will not know what is at stake. And if they do not know what is at stake they will not stick their neck into such conflicts. I don’t want to be dealing with such conflicts in Kansa if the farmers don’t feel it is worth defending.”

Bhaichand also recollected that DSC had repeatedly cautioned that “PIM is not all about sitting back and getting benefits. It is about working hard and getting benefits”. He was referring to the training programs organized by DSC where the emphasis was on increased farmers’ responsibilities.

After securing the contribution towards rehabilitation costs, the canal rehabilitation work was done with excellent supervision. An informal supervisory committee had been formed in the first meetings of farmers held in 1997. Despite the alarms sounded by the local Irrigation Department official about the capacity of Kansa villagers to execute a good construction project, the farmers saw for themselves that the quality of work done under their supervision was far superior to the work done by the Department in the past.

As a result of the rehabilitation, the irrigable area went up from 180 hectares to 625 hectares. In the very first season, the WUA managed to provide irrigation to 388 hectares.
Inadequate water supply was the reason for not covering the entire irrigable area. The WUA charged Rs 425 per hectare as irrigation fees and recovered a hundred percent of the dues from farmers. Managing rehabilitation of the canal and irrigation without any interference from the Department was an unprecedented experience for the leaders. One of the most impressive aspects of the irrigation operations was the dramatic reduction in wastage of water. Before the rehabilitation work was done, the villagers believed that for every unit of land irrigated in the past, the Department would waste an equal amount of water due to poor planning and seepages. With rehabilitation and a scrupulously enforced irrigation schedule, the WUA virtually eliminated wastage altogether. The Irrigation Department has since acknowledged this achievement. This is evident from the fact that for irrigating 388 hectares, the Department had opened the distribution gate for exactly the same duration of time that they did in the past when less than 130 hectares were irrigated. Roughly converted into volume of water, Kansa-1 WUA had utilized the same quantity of water to irrigate a little less than 3 times the area.

The leadership style of this WUA was quite unlike any other. Bhaichand was careful not to display the autocratic leadership tendencies that the Kansa village Panchayat was used to. On the contrary, he insisted on calling a meeting of the Executive Committee for taking any major decision. He continued to do this despite every meeting turning out to be a volatile, heated one. In fact, many Executive Committee members remarked that this cooperative is bound to fall apart if such "bickering" continued. They would contrast their experience with that of their neighbouring village Thalota where meetings were a quiet affair under the leadership of a local charismatic leader. The community organizer from
the NGO would often remark that he wished that Kansa-1 would learn from Thalota and bring some order when conducting their meetings! That did not happen. Bhaichand would continue to deliberate, consult and even debate key issues such as water charges, the appointment of the paid Secretary of the WUA and supervision of water distributors.

The DSC community organizer narrated an interesting episode: DSC was organizing a study visit to the neighbouring state and had asked the Secretary and the chairman to join in the visit. The normal practice was to follow DSC’s instructions regarding who will represent the WUA in such study visits. If the chairman and Secretary were invited, they would be the ones to go. The WUA had little or no say in this matter as DSC would be paying 80% of the cost of travel. Since such trips are very coveted, the leaders rarely let go of the chance to travel. It was therefore a surprise to the DSC community organizer when the Secretary and the chairman of Kansa-1 insisted that a letter be written to the WUA without indicating specifically that the Secretary and President were the chosen ones for this trip. The Executive Committee made a rule that decisions about such trips should be taken by the Committee and not by DSC. Moreover, such opportunities must be shared among other members too.

Bhaichand had started a practice of signing off on all books of accounts every day or, at the very least, every week. The Secretary was expected to present a statement of accounts, duly signed by the chairman, in all Executive Committee meetings. Any discussion on accounts would be recorded in the minutes of the meetings. Very soon this practice became an integral part of the agenda for all Kansa-1 Executive Committee meetings.
The community organizer of DSC candidly admits that he was quite nervous about this kind of leadership. In fact, he thought it was just a matter of time before a contentious issue would be unresolved and eventually lead to the break-up of the Executive Committee and eventually the WUA. His apprehensions were also fuelled by the ongoing fights between the two powerful factions in the village. Members of one faction would come to the Executive Committee meetings and oppose any decisions preferred by the other faction. The tension between the two factions would play out in the form of heated exchanges during formal meetings. To have angry members shouting and yelling at each other and then storming out of the meetings was not unusual. However, the community organizer was surprised when the irrigation operations seemed to continue without a glitch. In fact, he usually did not encounter much opposition from individual members after a meeting was over. This contrasted with his experience in other cooperatives where the meetings would appear to be more harmonious and yet individual members would privately vent their feelings about the appropriateness of certain decisions.

The office bearers of Kansa-1 went through the same capacity-building programs organized by DSC that all other cooperatives before them did. During the rehabilitation phase, the training program focused on technical issues and supervisory skills. Just before the irrigation operations were to start, the training programs focused on water distribution techniques and accounting systems. Through study visits to other farmer-managed irrigation projects, they had learned the process of irrigation planning and budgeting. The Executive Committee decided to do the irrigation planning and budgeting as a part of the annual general body meeting (AGBM). This decision took even DSC by surprise because
they were aware of the potential for deadlock over the issue of water pricing. In almost every other irrigation cooperative that they have promoted, the DSC had found it very difficult to explain the need for increasing irrigation fees. Many farmers, usually instigated by the Irrigation Department officers, would pretend to be outraged by the proposed increase in the irrigation fees. Often, emerging leaders from new cooperative societies failed to justify such an increase and it would fall on DSC's staff members to explain. Bhaichand was aware of the possibility of this happening in Kansa-1 too. Yet, he insisted that the decision must be taken in public so it would be owned by all. All AGBMs would see very animated discussions that often teeter on a total collapse. Yet, not once did Kansa-1 defer the decision on water pricing. As everyone soon discovered, once the decision was arrived at, almost all members complied with it.

The monthly meeting of the Executive Committee is given a lot of importance. During the year 2006, the Committee met 13 times. The Secretary remarked that these meetings have become a routine even when there are no irrigation operations. On some occasions, the formal agenda of the meeting is dealt with in 10 minutes. To streamline irrigation operations, Kansa-1 adopted a scheduling system devised by the neighbouring Thalota WUA. They went a few steps ahead by improvising the system to include penalties for breach of rules by the farmers. To make the leaders more responsible, the Kansa-1 WUA passed a resolution that the penalty (usually a hefty fine) would double if the leaders were found breaking the rule. To my surprise, this provision had been enforced a few times in the last two years.
The WUA made modest attempts to involve women in the decision making process. It was obvious that the leaders had no conviction that women should and could play an equally important role in irrigation management. DSC’s attempts to persuade the leaders to induct women members into the EC were met with scepticism. In interviews with Harijans, it was clear that they had a high regard for Bhaichand and considered him to be fair and sensitive to their social and economic vulnerability. As an interest group they were consulted and often invited to the EC meeting specifically to enable them to make any point.

When Bhaichand stepped down in 2000, a more aggressive Harjivan Patel was elected as President. It did not take him long to realize that the EC expected him to temper his aggression. In 2004 Rambhai Patel took over and was the President at the time writing. The succession was smooth, with the EC taking the decision after discussions in meetings. Both successors have followed the democratic behaviour established by Bhaichand who had by then almost completely withdrawn from any leadership role.
Case-study 2: Rangpur Water Users Association

Table 6. Profile of Rangpur WUA

<table>
<thead>
<tr>
<th>Name of Village</th>
<th>Rangpur</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Population (Number of households)</td>
<td>1739 (385)</td>
</tr>
<tr>
<td>Households by castes</td>
<td></td>
</tr>
<tr>
<td>Patidars</td>
<td>254</td>
</tr>
<tr>
<td>Thakore</td>
<td>107</td>
</tr>
<tr>
<td>Others</td>
<td>24</td>
</tr>
<tr>
<td>Main source of livelihood</td>
<td>Agriculture, Animal Husbandry</td>
</tr>
<tr>
<td>Total length of irrigation canal in the village</td>
<td>15100 meters</td>
</tr>
<tr>
<td>Total farmers in the service area</td>
<td>224</td>
</tr>
<tr>
<td>Year of formation of WUA</td>
<td>1983 (original) 1997 (revived)</td>
</tr>
<tr>
<td>Year MoU signed with Irrigation Department</td>
<td>1997</td>
</tr>
<tr>
<td>Total cost of rehabilitation of canals</td>
<td>Rs. 915,400</td>
</tr>
<tr>
<td>Designed irrigation service area of the canals</td>
<td>503</td>
</tr>
<tr>
<td>Maximum irrigation area prior to PIM (hectares)</td>
<td>125</td>
</tr>
</tbody>
</table>

| Area Irrigated after PIM (Annual in hectares) | |
| 2001-2 | 394 |
| 2002-3 | No irrigation due to drought |
| 2003-4 | 387 |
| 2004-5 | 233 |
| 2005-6 | 414 |
| 2006-7 | 433 |
| Average irrigation after PIM (% of designed total service area) | 372 (74%) |

Like Kansa-1, Rangpur was another JIM village that was contacted as a part of the study by DSC. It turned out that Rangpur was one of only four villages among the 32 where the irrigation cooperative society actually took responsibility to manage water distribution for three years (1983 to 1986). Like all the other societies, the Rangpur cooperative too lost
money and eventually ceased operations. However, unlike the other societies that were declared bankrupt or defunct, the Rangpur society just went into a dormant state. Some of the village elders had vague memories of those years, but seemed to have come to one conclusion: the past attempt failed due to the Irrigation Department not fulfilling their part of the contract on two major counts. First, the Department continued to retain control over water releases and second, they consistently failed to reimburse on time the operational expenses of the society and in the process ran them into bankruptcy.

So when DSC offered to revive this cooperative and re-launch it under the new PIM policy, the idea was met with some skepticism. It took considerable extension work and prolonged dialogue over a period of one year before DSC members could convince the leaders that the new PIM policy addressed many of the design flaws of the earlier attempt. DSC also offered to be a mediating agency to ensure that the Irrigation Department would be made more accountable this time. Study-visits to Thalota were arranged for a group of Rangpur farmers. They also visited a few other farmer-managed irrigation projects in Gujarat and Maharashtra.

Right from the beginning, it became apparent to DSC that Rangpur, despite the failed irrigation cooperative, had a good history of cooperative institutions. The village had a successful milk cooperative and an equally successful agriculture credit cooperative. Both these cooperatives had been very profitable and well managed. Unlike many other villages in the district, institutions in Rangpur appeared to be less affected by conflicts among members or among the leadership. The milk cooperative and agriculture credit cooperative societies had track records of uninterrupted operation for over 25 years and consistently
good rating by government auditors. Such records seemed even more unusual when the
nature of Rangpur leadership is considered. The success could not be attributed to one or
two individuals or a family. On the contrary, the village had at least 10 individuals who had
the stature and respect that a village leader would command. Such a situation is usually
considered rife for the political conflicts and partisanship that are the bane of most village
level institutions. Rangpur has been spared all of this so far. The village seemed to have a
system of accommodating multiple leaders. Most of them have held the office of President
of the two other cooperative societies at some point in the past.

Two of them, Kanti Patel and A.P. Sahib, took a particular interest in PIM right in the
beginning of the interaction between Rangpur villagers and DSC. There was a reason for
this. Both had played an active part in the previous attempt in 1983. This time, they led the
discussions and sought clarifications on the provisions of PIM on behalf of the village. It
appeared to DSC community organizers that these two individuals would end up as the
President and Secretary of the revived irrigation cooperative society and would dominate
the leadership and operations of the society. They were surprised when this did not
happen. By the end of 1997, another five or six other elders started participating quite
actively. To revive the old cooperative society, DSC had to negotiate with the cooperative
Department and Irrigation Department to settle past dues. During all the interactions with
the Department, one or two farmers from Rangpur would always participate.

Active participation by a much larger number of leaders from this village did not go
unnoticed even at the Department level. The executive engineer, a senior officer of the
Department, was compelled to visit the village to take stock of the canal systems. The physical structures were in very bad shape and it became clear that substantial rehabilitation work would be required before some sense of stability could be brought to the irrigation operations. In 1999, Rangpur WUA took over management responsibilities for two canals with a combined irrigation service area of 503 hectares. The total length of the two canals was 15 kilometers long. There were 35 outlets and nine distribution chambers. The total cost of rehabilitating the entire physical structure was Rs. 915,000. To ensure that the rehabilitation work would be supervised well, the villagers met and decided that a representative from each of the 35 outlets would be responsible for oversight. From among the 35 representatives, they chose an Executive Committee of seven members. To provide oversight during the canal rehabilitation work, a five-member supervision committee was formed. The work was completed ahead of time and well within the budget. In fact an amount of Rs.75,000 was returned to the government. For DSC and the Department, this was the first indication that collective action in Rangpur would be significantly better than in other villages.

It was also evident that the villagers behaved within the “rule of law” when it came to matters of public work. The supervision committee had clear guidelines on procurement of materials and payment of wages to labourers. To avoid conflict of interest situations, the Executive Committee had resolved to remove procurement responsibilities from the job description of the Secretary. The supervision committee made bulk purchases of cement and bricks. Payments were made only after the material and work were certified to be of the desired quality. Farmers who had their fields adjacent to the canal were required to be
present when rehabilitation work was done on their section of the canal. And to ensure continuity in supervision, they appointed a paid supervisor who was accountable to the supervisory committee. When the first phase of rehabilitation work was undertaken, engineers from DSC visited the construction site two or three times a week. For the second phase, however, the frequency of such visits came down to once in two weeks.

By 2002 the Rangpur canal rehabilitation work was completed. The WUA managed irrigation operations independently even before the rehabilitation work was completed. During the year 2000, with only one phase of the canals repaired, the WUA managed to provide water to 116 of a possible 249 hectares. Prior to the management transfer, the maximum area ever irrigated by the Department was 125 hectares out of a possible 503 hectares. Despite having no prior experience of dealing with farmers directly, the leaders of the cooperative planned the irrigation schedule, worked out the irrigation fees, set up a payment schedule and appointed water distributors. To instil financial discipline, the WUA insisted on advance payment of 50 percent of the irrigation fees. The responsibility to collect water demand applications from farmers and advance payment of fees was allocated to Executive Committee members depending on the location of their farms. The irrigation scheduling and water pricing structure was discussed at the first annual general body meeting. Witnesses recall passionate discussions among members and prolonged negotiations with farmers’ groups that had differing viewpoints. Farmers with smaller landholdings were worried if they would be priced-out by large landholders. There were also questions raised about the legitimacy of the WUA to change irrigation fees that many farmers believed only government has a right to do. A member of DSC even confessed that
he thought collective action of any kind will be a challenge in Rangpur. It took a while for farmers to understand the budgeting process and appreciate the need for cost recovery.

Rangpur WUA’s irrigation scheduling systems and rules and regulations for the WUA members were further streamlined during subsequent years. To deal with delinquency among farmers and to make water distributors more accountable, the Executive Committee devised a penalty system. Farmers who broke rules were fined severely and water distributors would lose their wages if they slipped up on maintaining the order of water releases or if they were found to favour one farmer over another. The WUA took in Rs. 3,500 during 2003 through penalties paid by members. During 2004, Kanti Patel, the first President of the WUA, was fined Rs. 1,700 for taking water out of turn. An ordinary member would have paid only Rs. 850 for this offense. Kantibhai had to pay twice the amount because he was an Executive Committee member at the time. Office bearers of the WUA had to pay twice as much because the village expected them to be more responsible than ordinary members!

Soon after the first successful year of operations, much of the decision-making process was institutionalized. Rules and regulations were not made arbitrarily by the leader of the day. In fact, most of the commonly used rules are reviewed every year and in many cases revised to keep them relevant. For example, in 1999 the WUA had imposed a fine of Rs. 325 per hectare on out-of-turn-irrigation offenders. The WUA discovered that some farmers blatantly took irrigation out of turn knowing fully well that the amount they would pay as a fine would be less than the amount they would have to pay to a private water
provider. To deal with such cases, the Executive Committee increased the fines steeply. This decision was taken in an AGBM after very contentious and heated discussions.

Similarly, the WUA has mandated every member household to provide two person-days every year towards maintenance operations. This decision was taken during the initial years to keep the maintenance expenses low and to avoid a cash crunch. In the process, the WUA has saved more than Rs. 150,000 by way of wages that would have been paid for essential maintenance work such as de-silting of the canals. This amount was moved into the reserve fund. In 2004, the reserve fund swelled to Rs. 250,000. In the annual general body meeting that year, the Executive Committee proposed to do away with voluntary contributions from the members. After a quick discussion the proposal was accepted.

Rangpur village has an interesting tradition of appointing leaders. By their sheer numbers, Patidars are the single largest caste group, followed by Thakores. Yet, there is a near-total domination of Patels in the leadership of various village institutions. Out of the 55 Thakore households, only 13 have land in the service area of the canal. Similarly, they have a disproportionately low ownership of cattle and therefore do not have much presence in the milk cooperative or agriculture credit cooperative societies either. The Patidar community has five clear divisions along family lines. Historically, these five groups have staked their claim to leadership positions, but rarely through contentious elections. In fact, the villagers do not recollect an election for the positions of Presidents of the three cooperative societies in the village and that of the village head (Sarpanch). There is a tacit understanding between the five Patidar groups that the leadership positions would be rotated among the five groups and it is up to each group to nominate leader. Between the three cooperative
societies and the village local government (Panchayat), they have rotated the leadership positions between the five groups.

Such is the domination of the Patidars in Rangpur that it has virtually ruled out any candidate for leadership positions from other caste groups such as the Thakores and Harijans. The fact that the Patels have reached an agreement on sharing the leadership positions has further minimized the chance that a non-Patel would chose to run for such positions.

While the President has always been a Patidar, the composition of the seven-member Executive Committee of the WUA has been more representative. Besides ensuring the selection of seven representative farmers belonging to 35 outlets, the selection was carried out in such a manner that one member from each of the five Patidar groups is represented and there is one from the Thakores and one from the Harijans. During the last 20 years, the village has not seen an election either for the local governing body (Panchayat) or for any of the three cooperative societies. Neither the Thakores nor the Harijans have challenged the monopoly on leadership positions by the Patidars. During an interview with this researcher, one of the Thakore leaders candidly admitted that no Thakore would be able to command respect from the Patidar families. It was almost unimaginable that a Thakore or a Harijan would run for leadership positions.

To ensure that the rotation principle is adhered to for leadership positions, the WUA established a rule that the President’s tenure would be only for one year. As a result,
Rangpur has witnessed eight Presidents including Kanti Patel and AP Sahib. Arvind Patel was made the President twice though not for consecutive years. During the same period the WUA had two Secretaries. Jayanti Patel was the first one and served until 2001, when Ishwarbhai Patel took over and he continues to be the Secretary today.

Villagers describe both of them as honest and meticulous in their work. During the last eight years of functioning, there has been no case of an accounting lapse or misappropriation of the Rangpur WUA’s finances. Ishwarbhai insists on posting all transactions the same day and balancing the accounts daily. Even though this is mandatory, none of the other irrigation cooperatives studied for this research has been adhering to this requirement. Statutory auditors too do not consider this as an important book-keeping practice. Besides maintaining books up-to-date, Ishwarbhai would also present statements of income and expenditure to Executive Committee members at each meeting. The system of monthly executive meetings was also scrupulously adhered to. As a direct consequence of regular monthly meetings, the financial state of the WUA is reviewed at least 12 times a year. It is quite common for the executive members to ask for more details of certain expenditures. So far, the Secretary has always provided satisfactory answers to these queries. Members have shown particular concern about the cost-effectiveness of certain types of procurement. The expenditure incurred on wages and other maintenance activities during the irrigation operations are also regularly scrutinized. Ishwarbhai admits that his decisions on certain expenditures are certainly influenced by the fact that they would be scrutinized later. In fact, he would often defer making any significant expenses unilaterally until monthly Executive Committee meetings, where he would propose the item and let the
members deliberate and approve. All these measures have had a very positive stabilizing impact on the WUA's operations.

The WUA has evolved a norm for paying the salary of the Secretary and other temporary appointments. The quantum of wages and the duration of employment are decided based on the work-load and income of the WUA. To drive home the point about maintaining economic efficiency, the first Secretary, Jayanti, refused to draw any salary despite being offered one by the Executive Committee. His pension as a retired government employee was enough to sustain him, he argued. Ishwarbhai continued the tradition by not taking a salary for the first year and then only Rs. 500 per month for the second year and once the WUA had adequate reserves, Rs. 1500 per month. Similarly, the water distributors were appointed and paid only during the irrigation operations, unlike the Department where they are full time employees drawing a salary throughout the year.

The practice of holding regular meetings and inviting scrutiny of the accounts was nothing unique to Rangpur's WUA. The milk cooperative and agriculture credit cooperative societies had been functioning in this manner for the last 15 years. With a lot of movement of leaders across the three cooperative societies, the good management practices and style of governance in one WUA are promptly replicated in the other two societies.

Frequency and attendance in monthly Executive Committee meetings were good. The average attendance was about 60% of the EC members and about 6 ordinary members. Minutes were taken at all meetings and signed by the members.
DSC members were quick to point out that Rangpur has required the least number of visits from their office, and when they do visit it is likely to be for consulting Rangpur WUA office-bearers for organizing study visits to or training programs in other PIM villages. During 2006, staff members from DSC did not have to intervene to help in any management problem or mediate in any conflict situation in Rangpur.

Rangpur has not only benefited from having multiple leaders, but also a strong tradition of institutionalizing sound rules and practices that work. The domination of Patidars though the "consociational" arrangement between the five Patel groups appeared to be very autocratic and even denigrating to the Thakores and other minorities. But on closer examination, it was revealed that the Patel leaders would consistently court the support of minorities by consulting them and representing their specific needs in the EC.
Case study 3: Kesimpa Water Users Association

Table 7. Profile of Kesimpa WUA

<table>
<thead>
<tr>
<th>Name of Village</th>
<th>Kesimpa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Population</td>
<td>3602 (642)</td>
</tr>
<tr>
<td>Households by castes</td>
<td></td>
</tr>
<tr>
<td>Muslims</td>
<td>460</td>
</tr>
<tr>
<td>Thakore</td>
<td>51</td>
</tr>
<tr>
<td>Harijan</td>
<td>52</td>
</tr>
<tr>
<td>Rabari:</td>
<td>45</td>
</tr>
<tr>
<td>Others</td>
<td>34</td>
</tr>
<tr>
<td>Main source of livelihood</td>
<td>Agriculture, remittance from overseas, restaurateurs.</td>
</tr>
<tr>
<td>Total length of irrigation canal in the village</td>
<td>5250 meters</td>
</tr>
<tr>
<td>Total farmers in the service area</td>
<td>192</td>
</tr>
<tr>
<td>Year of formation of WUA</td>
<td>2000</td>
</tr>
<tr>
<td>Year MoU signed with Irrigation Department</td>
<td>2001</td>
</tr>
<tr>
<td>Total cost of rehabilitation of canals</td>
<td>Rs. 425,000</td>
</tr>
<tr>
<td>Designed irrigation service area of the canals</td>
<td>192</td>
</tr>
<tr>
<td>Maximum irrigation area prior to PIM (hectares)</td>
<td>81</td>
</tr>
<tr>
<td>Area Irrigated after PIM (Annual in hectares)</td>
<td>69, 204, 111, 186, 161</td>
</tr>
<tr>
<td>Average irrigation after PIM (% of designed total service area)</td>
<td>146</td>
</tr>
</tbody>
</table>

Kesimpa is a prosperous village. The village’s literacy rate is about 70 percent with most young men and women having gone to school up to the higher secondary level. Kesimpa’s relative economic advancement is evident from the quality of residential houses and assets owned by the villagers. Another conspicuous aspect of this village’s identity comes from the large majority of Muslim households. Approximately 70% of the village’s people are Muslims of whom 61% are Shia and 9% are Sunni. There are no conclusive data on livelihood and income, but village leaders estimate that over 60% percent of the Shia
Muslim families have at least one member employed in Middle Eastern countries such as Dubai. Remittances from these expatriate community members account for a significant proportion of household income of the families. Besides farming, this community is well known for its entrepreneurial qualities, particularly in running roadside restaurants all over Gujarat state.

Kesimpa was the sixth PIM village promoted by DSC. When DSC contacted the village for the first time in May of 1999, Kesimpa already had three cooperative institutions functioning. A milk cooperative and an agriculture credit cooperative society were non-denominational. The third one was a credit cooperative society exclusively for the Shia Muslim population. This society has conducted its business extremely well and has amassed a surplus of more than Rs 10 million in reserve funds. Kesimpa is different from our 7 other cases in its demographic composition. This is the only village with a Muslim majority. Unlike other villages in Mehsana district with large Muslim population, Kesimpa has experienced a relatively harmonious relationship between Muslims and Hindus. In 2002, when Gujarat state witnessed widespread violent communal clashes between Hindus and Muslims, Kesimpa managed to withstand provocation and incitement from political and religious fanatics. The villagers attributed this to the matured leadership and close economic ties between the two communities.

Kesimpa village is located right next to the off-take point of a distributory canal that branches from the main canal of the Sabarmati irrigation scheme. Two minor canals, M1R and M2R, were designed to irrigate a total of 194 hectares of land in Kesimpa. One of
them, M1R, had a design flaw and could not irrigate any land. The other minor canal was operational and provided water to 126 hectares. By virtue of being located right at the beginning of the distributory canal, the village had certain advantages and disadvantages in accessing water. Close proximity to the water source meant that they did not have any serious problems of supply resulting from damaged structures and operational inefficiencies of the Irrigation Department. However, they did have a problem arising out of the poor physical condition of the canals. Persistent seepages and leakages from the canal had resulted in water-logging on large parcels of land adjacent to the canal. Due to perennial water-logging, many farmers had already lost parts of their fields due to salinity. Continuing seepage was threatening to damage an even larger area. Besides, frequent breeches in the canal embankments would submerge access roads and put the villagers through serious hardship in transportation to and from the village. The concern in Kesimpa was not supply shortage as much as it was the damage caused due to demand mismanagement.

DSC initiated a dialogue with the farmers of Kesimpa in 1999. The initial response was less than enthusiastic because the farmers did not believe that PIM could solve their demand mismanagement problems. The farmers of M1R were sceptical too, as they did not get any benefits from the project. They assumed that redesigning the canal was beyond the scope of PIM. After a few study visits to Thalota (where farmers had a similar problem of water-logging, though on a smaller scale) the motivation to join increased. Thalota farmers had not only repaired the canals well, but also successfully irrigated even the tail-end fields. After a series of meetings and training programs, in March 2000 a WUA was
registered in Kesimpa. The process of institution formation took only 5 months as compared to an average of 12 months in other PIM villages of DSC. There are two major reasons for this. The first reason is the role played by existing leaders and the second is the role played by the Shia religious institution of the Jamatkhana – a place where Shia Muslims congregate for prayers and meetings every day.

Initial leadership was provided by Ghulam, Rasool and Kassam. All three of them were associated with the successful Shia credit cooperative society and had considerable credibility and knowledge regarding the operations of cooperative institutions. The village sarpanch, Sharif, also played an active role in motivating the rest of the farmers. Sharif was a wealthy businessman with interests in hotels, restaurants and commodity trading. His endorsement of PIM was seen as a sign of credibility for the program. While Sharif’s role was largely as a figurehead, Ghulam, Rasool and Kassam were the village representatives who participated in dialogues with DSC and the Department and also in study visits.

When the idea and concept of PIM had to be explained to the larger community of farmers, the Jamatkhana proved to be a very effective forum. Even though Jamatkhana is a place for prayers for the Shia community, the place of congregation is traditionally open to all communities. Not only did the place provide a good venue to address virtually the entire adult community at the same time, the sanctity of the place played an important part in keeping the discussions serious and orderly. The Jamatkhana, as an institution, came to be regarded as a constructive forum where development is discussed along with religious discourses.
A notable aspect of the formative stage of the cooperative society was the level of participation of ordinary farmers in the membership drive and the collection of farmers’ contribution towards the rehabilitation of the canals. The farmers were not convinced that they should be contributing any money towards the repair of an asset that belonged to the government. The discussion on the future benefits and entitlements and the implications of the transfer of management responsibility and decision-making powers were conducted in well-attended meetings. DSC members remembered quite lucidly that the number of questions and clarifications sought by farmers were much more than what they had encountered in other villages. It was quite common in the latter to see only a few vocal leaders who would engage the staff members from DSC or the Department with questions that were often reflective of their own personal interests and benefits rather than those of the larger farmer community. In Kesimpa’s case, the discussion was more broad-based and allowed more farmers to raise questions and seek clarifications. Although many farmers were reluctant to contribute in the beginning, the leaders could collect Rs 70,000 in less than a month after these meetings were organized.

As expected, the villagers wanted to begin the canal rehabilitation work on M1R so that water could start flowing for the first time. A supervisory committee was formed to provide oversight functions for construction activities. DSC organized training programs for the members of this committee for enhancing technical knowledge and supervision skills. The committee actively participated in recruiting labour and procuring materials. When the work on M1R was completed by December 2000, it was clear to the rest of the village that
PIM program offered a real opportunity to the farmers to mitigate the problems they had faced for many years. For the first time water flowed in the canal and reached right up to the last field. This achievement served as a confidence builder and was evidence of the autonomy and advantages that the PIM brings. Promptly, farmers from M2R also demanded that their stretch of canals be redesigned and not just repaired. Over the next few years, engineering plans for rehabilitation of the remaining stretches of M2R were completed. Due to disruptions in the funding arrangements from the Irrigation Department and acute labour shortages in the area, the actual construction work progressed very slowly. As of June 2007, Kesimpa's rehabilitation work continued to be done, but the irrigation cooperative took over irrigation operations completely and has managed every agricultural season for which water was available from the main canal.

When the WUA was registered in 2000, Ghulam was elected as the President and Kassam was appointed the Secretary. They were re-elected and re-appointed every year until 2005. That year, Kassam suffered a heart attack and needed by-pass surgery. He requested the EC to relieve him from the responsibilities of Secretary as he was incapable of visiting the canal site to supervise any construction work and irrigation operations during the agriculture season. Around the same time, the EC also requested Ghulam to step down. Ghulam had started a retail cooking gas agency in Vadnagar, a small town about 20 kms from Kesimpa. He was also an active real-estate agent. With a thriving business, he was found to be devoting inadequate attention to the activities of the WUA. In 2006, Roshan was elected as the President and Shabbir appointed as Secretary. Kassam volunteered to facilitate the transition from himself to Shabbir by providing hand-holding support for the
first few months of Shabbir’s appointment. When Ghulam stepped down from the office of the President, none of the other executive members expressed a desire to run for the position. It took the collective persuasion of the remaining members to get Roshan to become the President.

Today, there are nine Executive Committee members with representatives from Sunni Muslims and the Rabaris. The Executive Committee meetings are held regularly every month. Ordinary members are also welcome at these meetings. Even though non-executive members do not get to vote on any decision, they do bring issues of concern about irrigation operations to the attention of the committee members directly. In most cases the matter is dealt with promptly. The transition of leadership in 2005 had caused some disruptions in account maintenance but with DSC’s support the new Secretary was trained. To prevent any serious mistakes or financial misdemeanours, the EC appointed an internal auditor mandated to examine the books every month. However, this is not happening at the desired frequency and is a matter of concern for DSC. Moreover, the new President (Roshan) did not have the same familiarity with accounting procedures as his predecessor did. Also, the EC does not consider it important nor their mandate to ask the Secretary for reports to be presented and discussed in monthly meetings.

The committee has been successful in mobilizing collective action whenever required. In 2003, when a section of the M2R canal collapsed in the middle of an irrigation cycle, the WUA could rally enough volunteers to repair the breach quickly to minimize disruption to the irrigation schedule. On occasions, the WUA has also been able to organize private
investment to improve irrigation efficiency. For example, when the Irrigation Department expressed its inability to pay for the cement lining of water courses on some sandy patches, a group of farmers who stood to benefit from this work, banded together and contributed Rs.45,000 and did the work without involving the Department.

The WUA was quick to learn and adapt the lessons learned from successful operations in Thalota and Kiyadar villages that preceded them in the PIM program. The irrigation rotations that determine when a farmer gets his/her turn to take water are decided by a written guideline. This has reduced problems associated with arbitrary operation systems that some villages have adopted.

The rehabilitation of the canals and sound water distribution systems has resulted in a dramatic reduction in leaks and seepages. DSC members believe that the extent of water wastage has come down from 60% to less than 5%. The Department officials corroborate this fact too, and confirm that the WUA has irrigated more than twice the area with the same amount of water received prior to PIM. Reduction in leaks and seepage has also reduced problems of salinity and water-logging. Farmers have already started cultivating land adjoining the canal with the confidence that the crop will not be jeopardized by potential water-logging situations. By 2006, farmers had even changed their attitudes towards irrigation practices. During interviews with farmers, they candidly admitted that they previously would over-irrigate whenever the Department released water, despite knowing that excessive irrigation is detrimental to productivity. They did this to hedge against a possible delay and even denial of the next irrigation. But now it was possible for
them to restrain themselves from doing this because the irrigation schedule was more predictable and trustworthy. The average productivity of wheat and gram has improved by at least 15% for those farmers who did not have private alternative sources of irrigation (DSC 2000, p. 13).

Responses from interviews with 8 randomly selected Kesimpa farmer members indicate that the level of participation by members in the management is relatively higher than 5 other WUAs studied and only two WUAs had higher levels of participation. In absolute terms, however, the performance was quite poor. This was evident from the level of awareness of rules and regulations of the WUA and their individual rights and entitlements. Only 2 out of 8 could recount by-laws of the WUA that deal with the election of office-bearers and Executive Committee members. The average attendance of members in monthly Executive Committee meetings (that are open to all members) is less than 9%. The annual general body meeting of the WUA is attended by a little over 50% of the members.

While there are no obstacles or barriers that prevent or impede minority groups from deriving benefits from the irrigation operations of the WUA, the Executive Committee and the leadership was clearly dominated by the Shia Muslims. The Rabari member of the Executive Committee is the most irregular attendee at meetings. DSC members believe that his absence can be interpreted as a sense of alienation due to the dominating behaviour of Muslims. The Rabari himself did not believe that his participation in the meetings was in any way inhibited by the dominance of the Muslims.
The first President and Secretary were very impressed by what they saw in Thalota in terms of rule-making and systematizing of the irrigation operations and financial matters. They implemented them right from the beginning in Kesimpa and “routinized” these rules and systems early on. The WUA continues to adhere to these rules and has institutionalized them to such an extent that the change in leadership had virtually no impact on them.

During 2006-2007, DSC’s involvement in the Kesimpa WUA has been limited to technical assistance during the ongoing canal rehabilitation work. The WUA has not requisitioned any intervention to deal with irrigation operations or financial management. At the same time they did not resent any initiatives from DSC to monitor or counsel for improving equity and productivity. However, they chose to ignore any persuasive attempt by DSC to change the composition of the Executive Committee to include women and more members of the minority. They continue to rely on DSC when it comes to policy matters with the government and the Irrigation Department.

Kesimpa’s recent history of successful local institutions certainly laid a good foundation for the WUA. Added to this, there is a high level of coalition-making and cooperation among the Muslims and particularly Shia Muslims through their Jamatkhana. The initial leadership style of Ghulam and Shabbir was more consultative and enabled participation by the members. That tradition continued through the succession of the second set of leaders in 2005.

Kesimpa’s WUA has no conflict resolution measures in place right now. This inadequacy
has not tested them so far because conflicts have been dealt with quickly in open forums such as the EC meetings. However, in the absence of a binding procedure for conflict resolution, the present approach may be highly susceptible to failure.

Kesimpa WUA was an early starter in institutionalizing mechanisms for transparency. This laid the ground for a functioning accountability system for the office bearers. The practice of consulting members publicly before crucial decisions are made has also stood them in good stead. Kesimpa WUA has, however, not appreciated the need to formally enable representation of minorities and women in the EC. Benevolent leaders believed that their good intentions and sensitivity towards these groups are enough to safeguard their interests.
Chapter 6: Building a WUA: Ingredients for Failure

Introduction

When the participation level of members is extremely low and the leadership behaves in a manner that is reminiscent of the Irrigation Department, then it can be said that the purpose of decentralization and Participatory Irrigation Management (PIM) is defeated. Even if the business of providing irrigation services appears to be functioning, a vital question needs to be asked. Are the members of the WUA better placed in terms of receiving stable and sustainable benefits as members of a local institution than when they were recipients of the same service provided by a centralized Irrigation Department? The next two case studies will show how two WUAs can carry out irrigation operations without any semblance of participation by their members and how it gradually marginalizes the less vocal and politically weaker members. The cases will also demonstrate how an undemocratic people’s institution can become very vulnerable to even the slightest pressures. The first case of Denap WUA is about a leadership that is indifferent to the members’ needs and believes that irrigation is only about good water distribution techniques and prudent money management. The second case deals with an equally formidable leader of Kansa-2 WUA. However, in this case the leader’s commitment to his duty as a President is questionable. His political clout and stature make it difficult for the members to challenge him or hold him to account. While in Denap the farmers are gradually losing interest and increasingly disconnected from the management functions, Kansa-2 is a crisis waiting to happen. The leaders are either resistant to participation or they exercise an unhealthy control over the WUA.
Case study 1: Denap Water Users Association

Table 8. Profile of Denap WUA

<table>
<thead>
<tr>
<th>Name of Village</th>
<th>Denap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Population (Number of households)</td>
<td>8582 (1478)</td>
</tr>
<tr>
<td>Households by castes</td>
<td></td>
</tr>
<tr>
<td>Patidars</td>
<td>967</td>
</tr>
<tr>
<td>Thakore</td>
<td>291</td>
</tr>
<tr>
<td>Rabari</td>
<td>103</td>
</tr>
<tr>
<td>Harijan</td>
<td>59</td>
</tr>
<tr>
<td>Others</td>
<td>58</td>
</tr>
<tr>
<td>Main source of livelihood</td>
<td>Agriculture, Animal Husbandry</td>
</tr>
<tr>
<td>Total length of irrigation canal in the village</td>
<td>3010 meters</td>
</tr>
<tr>
<td>Total farmers in the service area</td>
<td>178</td>
</tr>
<tr>
<td>Year of formation of WUA</td>
<td>2000</td>
</tr>
<tr>
<td>Year MoU signed with Irrigation Department</td>
<td>2001</td>
</tr>
<tr>
<td>Total cost of rehabilitation of canals</td>
<td>Rs. 358,000</td>
</tr>
<tr>
<td>Designed irrigation service area of the canals</td>
<td>209</td>
</tr>
<tr>
<td>Maximum irrigation area prior to PIM (hectares)</td>
<td>65</td>
</tr>
<tr>
<td>Area Irrigated after PIM (Annual in hectares)</td>
<td></td>
</tr>
<tr>
<td>2001-2</td>
<td>133</td>
</tr>
<tr>
<td>2002-3</td>
<td>No irrigation due to drought</td>
</tr>
<tr>
<td>2003-4</td>
<td>126</td>
</tr>
<tr>
<td>2004-5</td>
<td>74</td>
</tr>
<tr>
<td>2005-6</td>
<td>130</td>
</tr>
<tr>
<td>2006-7</td>
<td>239</td>
</tr>
<tr>
<td>Average irrigation after PIM (% of designed total service area)</td>
<td>140 (67%)</td>
</tr>
</tbody>
</table>

Denap is about ten kilometers from Visnagar, the nearest town and market. It was one of the villages from a cluster of 16 that Development Support Center focused on while implementing the PIM program. Denap is one of the largest villages of Mehsana District in terms of village area and population. The cultivated area too is spread over a large area and therefore, the canals from the Sabarmati scheme are divided into four sections, each irrigated by a separate set of Minor Canal systems. As a consequence, four separate WUAs were formed under PIM. Denap-1 is profiled in this case study.
Denap village has deep political divisions along party lines. State level, district level and village level elections are bitterly contested with BJP and the Congress party battling it out for votes. The BJP is a Patidar dominated party, while the Congress is perceived as sympathetic to the minority castes even though Patidars occupy leadership positions here too.

The first of the many contacts and dialogues between DSC and the village leaders took place in 1995. Denap was yet another of the case-studies done by DSC to understand the process and outcome of an earlier Joint Irrigation Management (JIM) program launched in 1981 (see Chapter 4 for details). The study revealed that the process of forming the Denap Water Users Association under JIM was driven by the Irrigation Department and a few individuals from the village that were active in district level politics. These individuals appointed themselves as the President and the Secretary of the WUA. Department officials were quite content to go along with this arrangement because it helped them achieve the target set by the Government of Gujarat. While the WUA Secretary drew a salary from the Department right away, the WUA did not take on any management responsibility. All irrigation operations in Denap continued to be managed by the Department. It is widely acknowledged that a part of the salary of the Secretary was given to corrupt officers of ID as kickbacks. The President of the WUA too was happy with the arrangement, since it gave him a place as a member of, and thus a vote in, the Mehsana District Cooperative Union.26

It is a usual practice for candidates for leadership positions in the Union to bribe members

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26 District level Cooperative Union is a federated body of all cooperative societies in the district. The Union leadership is elected by the Presidents of member-cooperative societies. Elections are bitterly fought along party lines and members' votes are brazenly sold to the highest bidder.
in exchange for their vote during elections and during important decisions and debates. The President and the Secretary of Denap WUA, and indeed a majority of Denap village were supporters of the BJP. In 1982, the Cooperative Union too was a BJP controlled body. However, in 1985, the control of the Cooperative Union changed from BJP to the Congress. To settle political scores against the BJP, the office bearers of the Congress-controlled Union initiated a campaign and successfully disqualified Denap WUA by declaring it defunct. They did not have much difficulty getting this done because the WUA had virtually no activity to show for the two years of its existence. By 1986, it was clear that the program of JIM had failed to achieve the main objective of increasing farmer’s participation in irrigation management.

The first concrete step towards revival of the Irrigation Cooperative was taken in June 1998, when DSC community organizers and village leaders started to interact over the possibility of implementing a PIM program. By March 1999, the leaders had decided to follow the lead taken by neighbouring villages and join in. The defunct WUA of 1983 was resurrected. Even though the defunct society had only 12 members, some of them now dead, the decision to revive it, as against a fresh start with a new WUA, was taken mainly to avoid the long and arduous process of new registration with the Cooperative Department of the Gujarat Government. At the village level, however, DSC insisted that the WUA should enrol more members only after adequate consultations and extension work was done to increase the awareness about the PIM program among villagers.

27 We have to remember that the ICS was formed in 1983 by a few individuals with little interest in irrigation and motivated more by the salary of a Secretary that came with it and the political leverage it gave to the President at the District Union. Not surprisingly, the WUA was registered with the bare minimum administrative requirement of membership.
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The problems with irrigation operations in Denap were no different from what was generally seen in the district. They included poor upkeep of the physical systems, seepage from the canals, unreliable irrigation schedules and rampant corruption among the field staff of the department. The maximum irrigation that the ID could ever provide was 65 hectares out of the total serviceable area of 209 hectares. Therefore it did not take DSC or the village leaders long to understand the plan of action and anticipated benefits of PIM. Many of the farmers had seen their neighbouring villages manage their irrigation operations through their own WUAs.

It took less that a month for the community organizers and a couple of lead farmers to enrol enough farmers as members to meet the PIM policy requirement of having 51% of the total farmers in the service area. In fact, out of 265 farmers who had land in the service area, 178 enrolled, paid up the membership fees and purchased the mandatory share. The remaining 87 farmers did not enrol at that time. However, as non-members these farmers continued to derive benefits from the WUA even at the time of writing this study. Neither DSC staff nor the Executive Committee members of Denap WUA appeared to be concerned that such a significant percentage (32%) of farmers who derive benefits from the operations of the WUA were not members, and therefore not bound by the rules and regulations. Their response was simple and immediate. The law requires only 51% membership for getting registration, and once they achieved that requirement, there was no compelling reason to devote any effort and time to raise the membership any higher. Quite of few of the non-members did not know of their "non-member" status, nor did they seem
perturbed in any way when made aware of this. The Executive Committee as well as the non-members pointed out that membership in fact does not get the farmers any advantage over non-members and therefore, no one has revisited the process of enrolment. When I pointed out that some WUAs have differential irrigation fees for non-members, the executive members were quick to accept that such conditions would certainly increase the membership. Yet they did not see any reason for doing anything like that. One member of the EC put it bluntly: “If we have done well without any differential water pricing, why rock the boat now?” They had indeed done well, increasing the area under irrigation from a maximum ever of 65 to 165 hectares in the very first season that WUA managed. Such an impressive increase in irrigation had a telling effect on the morale of the farmers, particularly those that had fields in the tail-section of the canals. These fields were virtually cut off from the canal network for many years due to flaw in the design. These farmers collectively contributed Rs. 25000 to purchase and install pipelines from the minor canal instead of open water courses. In the process, the canal could irrigate an additional 25 hectares for the first time.

The first President of Denap WUA was Kantilal Reva Patel. The Secretary was Shankar Patel. Shankar and Kantilal were the key spokesmen for Denap farmers during the initial dialogues with DSC. In keeping with the pattern that saw the initial leaders assume the positions of President and Secretary, Kantilal and Shankar’s candidature was proposed by the members in the first AGBM. Shankar belongs to a family of grain merchants. So he was considered as a person with experience of dealing with money and records. His choice as Secretary was therefore a forgone conclusion for many members in Denap and also
among DSC staff. However, Shankar stayed on the job as Secretary only for a year, citing time-constraints as a reason for stepping down. Privately, the DSC community organizer admits that Shankar lost interest in the position when he discovered the limited scope for any special privileges or advantages that the position could add to his business’s advantage. He did not take well to the close monitoring and involvement of DSC and was irked when DSC insisted on regular meetings of the EC. It was not worth the time he spent doing the duties of a Secretary when compared to the foregone income from his family business.

Kantibhai Reva Patel, on the other hand, did not seem to mind the additional responsibilities that came with the position of the President. During the early years of the WUA, the position of President was not viewed with enthusiasm by leadership aspirants from either of the major parties. However, the combination of good rehabilitation work, extension of the service area through newly laid pipes and the notable increase in the irrigated area brought the WUA to their attention. In 2002, there were demands for a change in the President. Kantibhai had already become quite popular among the members and therefore the challengers demanded his ouster on technical grounds – the President, or for that matter a member of a WUA, must own land in the service area of the WUA. It was discovered that Kantibhai did not own land in this WUA. He owned land that was served by a canal managed by the second of the four WUAs that operate in Denap. Chaturbhai Patel, a wealthy and influential farmer from the BJP, successfully campaigned to remove Kantibhai and take his position. The entire campaign was based on support by party loyalists, rather than their suitability for the office of WUA President. Some members of the WUA believed that Chaturbhai’s wealth and political connections meant that no one
would hold him to account for his duties as a President. The community organizer from DSC also agreed with this opinion. As an owner of 6 hectares of land (as against an average land holding of 1.2 hectares), he was also the biggest beneficiary of the WUA.

The Executive Committee was dominated by the Patidars. Only one out of 11 EC members is a non-Patel, a Thakore. The minority groups were not kept out of the EC by design, but it was clear that a non-Patel would feel less comfortable sharing the forum with a Patel dominated body. In any case, even the Patel EC members did not actively participate in meetings or take on any responsibilities as part of the Justice Committee or Audit Committee or Operations Committee. As a result, the role of these committees was marginalized. When EC members were reminded of their poor attendance or poor participation or were persuaded by DSC or the Secretary to attend meetings more regularly, their common refrain would be to offer to step down from the Committee. EC meetings were irregular, few and far between. Even these infrequent meetings had poor attendance. On many occasions, EC members who failed to attend meetings consistently had to be replaced. It was common in these meetings to have one or two members requesting to be relieved from their duties as an EC member. It was also common to have EC meetings without the President in attendance.\textsuperscript{28} Even important decisions are taken by the Secretary without a full quorum of the EC. To comply with legal requirements, the Secretary obtained the signature of the EC members in the official register later, thereby defeating the very purpose of having forums that enable participation.

\textsuperscript{28} The bylaw of the WUAs specifies mandatory attendance by the President.
As with every WUA promoted by DSC, the Denap WUA’s office-bearers received regular capacity-building training on irrigation operations and financial management. In the process, the WUA implemented some of the water distribution and monitoring systems recommended by DSC. These were aimed at ensuring that tail-end farmers were not deprived of their share of water. Similarly, a reward and sanction system that emphasized clear penalties for breaking rules or delinquent behaviour during irrigation operations was introduced. However, awareness about the penalties among the members was quite low. Only one out of the 8 farmers knew of the existence of these penalties. None of them was aware of an instance where the penalty system was implemented. During the 2001-2002 season, 11 farmers were penalized for taking water from the canal without the WUA’s authorization. The farmers refused to pay the penalty claiming that they were only utilizing water that had seeped from the canals and therefore did not owe the WUA any money. There were claims and counter claims that these farmers had been victimized for their affiliation to a particular political party. The grievance remained unresolved, even though farmers were compelled to pay the penalty. There was a general feeling of discontent with the manner in which the conflict between the farmers and WUA leaders was handled. Despite having a Justice Committee, the matter was never discussed formally. As a consequence, such functional forums of representation were undermined. The ordinary members did not rely on these forums to raise an issue that concerned them. Instead, they believed that it was more effective to take the matter directly to Chaturbhai, the President. This only further undermined the role of the EC and the sub-committees. Members candidly admitted that they had more confidence in the ability of the leaders to solve their problems directly and not through committees that had no power.
The WUA found it difficult to find a Secretary when Shanker stepped down from that position in 2002. Those who had the necessary knowledge and skills to do the job, were not happy with the Rs.1000-per-month salary that WUA was willing to give. One of them, Manibhai Patel, took up the job for Rs.1500 per month, but soon asked to be relieved of the responsibility when he realized that the compensation was inadequate for maintaining his family, even though he agreed that the work load and the income of the WUA did not justify a higher salary. The problem was solved when all the four WUAs in Denap joined hands and rented common office premises and appointed Manibhai as a Secretary to all the four WUAs. Between them, the four WUAs paid Rs.3000 per month and shared the office expenses. Manibhai claimed to have no difficulty at all in maintaining separate books of account and managing funds separately for each of the WUAs. However, there were no Audit Committees or oversight mechanisms from any of the WUAs to make him accountable to the collective of four WUAs. With the EC meetings so infrequent and poorly attended, the Secretary’s work had no checks and balances.

In Denap, the WUA does not show the characteristics of a self-governed institution. The situation was aptly described by one WUA farmer who thought that the irrigation responsibilities had been “contracted to Chaturbhai and Manibhai.” The farmers were content with the benefits of the new arrangement, as it was markedly better than what they received when the ID had managed the irrigation. But the poor participation of farmers, and the lack of transparency and accountability of the leaders made the future very unpredictable.
Denap WUA is seen by its leaders and members as just another administrative arrangement for water distribution rather than a farmer-managed self-governing institution. The participation aspect of PIM is clearly not important to nor sought by the leaders or members. The fact that a large number of non-members are at par with the regular members indicates that the importance of rights and responsibilities of membership is not a consideration at all.
Case study 2: Kansa-2 Water Users Association

Table 9. Profile of Kansa-2 WUA

<table>
<thead>
<tr>
<th>Name of Village</th>
<th>Kansa-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Population (Number of households)</td>
<td>12131 (1994)</td>
</tr>
<tr>
<td>Households by castes</td>
<td></td>
</tr>
<tr>
<td>Patidars</td>
<td>1521</td>
</tr>
<tr>
<td>Rajput</td>
<td>109</td>
</tr>
<tr>
<td>Harijans:</td>
<td>160</td>
</tr>
<tr>
<td>Thakore</td>
<td>110</td>
</tr>
<tr>
<td>Others</td>
<td>94</td>
</tr>
<tr>
<td>Main source of livelihood</td>
<td>Agriculture, Non-farm wages</td>
</tr>
<tr>
<td>Total length of irrigation canal in the village</td>
<td>13,1120 meters</td>
</tr>
<tr>
<td>Total farmers in the service area</td>
<td>363</td>
</tr>
<tr>
<td>Year of formation of Water Users Association</td>
<td>2001</td>
</tr>
<tr>
<td>Year MoU signed with Irrigation Department</td>
<td>2001</td>
</tr>
<tr>
<td>Total cost of rehabilitation of canals</td>
<td>Rs. 873,000</td>
</tr>
<tr>
<td>Designed irrigation service area of the canals</td>
<td>574 Hectares</td>
</tr>
<tr>
<td>Maximum irrigation area prior to PIM (hectares)</td>
<td>114</td>
</tr>
<tr>
<td>Area Irrigated after PIM (Annual in hectares)</td>
<td></td>
</tr>
<tr>
<td>2001-2</td>
<td>120</td>
</tr>
<tr>
<td>2002-3</td>
<td>No irrigation due to drought</td>
</tr>
<tr>
<td>2003-4</td>
<td>159</td>
</tr>
<tr>
<td>2004-5</td>
<td>33</td>
</tr>
<tr>
<td>2005-6</td>
<td>165</td>
</tr>
<tr>
<td>2006-7</td>
<td>123</td>
</tr>
<tr>
<td>Average irrigation after PIM (% of designed total service)</td>
<td>120 (21%)</td>
</tr>
</tbody>
</table>

Case study 1 from Chapter 5 described the process of introducing PIM in Kansa village.

Kansa-1 was the first WUA formed in the village during the implementation of Joint Irrigation Management Program in 1985.\(^{29}\) When this society was revived during 1997, the support agency, DSC, had concluded that the command area of the irrigation canals was too large for a single WUA to manage. The decision to form a second WUA in Kansa

\(^{29}\) JIM program was a failed attempt the state government to enhance farmer’s involvement in irrigation management. The program was implemented by Irrigation Department. Farmers had no incentives to participate due to poor institution building process and flawed policies. The program wound up in 1987.
village was hastened when it became clear that the village was so deeply divided along party lines that a single WUA would be faction-ridden. Despite serious attempts by Kansa-1 to prevent the formation of another WUA, DSC managed to formally register the second one in 1999. The decision to go for a second WUA was also helped along by the physical layout of the canals. Two minor canals covered mutually exclusive command areas and therefore irrigation operations could be managed with little or no coordination required with Kansa-1. There were some farmers who owned land in both of the command areas. These farmers were members of both societies.

Kansa-2 Water Users Association has 363 members. It makes up 85 percent of the farmers in the command area serviced by the canal under their management. Such a high percentage of membership was a result of competition with Kansa-1. Both societies wanted to maximize the membership drive so that they could claim to be the original WUA and put pressure on the other to merge with them. Kansa-1 had 600 members and that made up 90 percent of the total farmers in the command area serviced by their canal. The cost of rehabilitation of the canal belonging to Kansa-2 was approximately Rs 853,000. The contribution of 10 percent was obtained with relative ease. But apart from contributing towards the cost, there was little by way of farmer’s participation in management. Unlike the other villages supported by DSC, the visits by village elders to the rehabilitation site were less frequent. While farmers knew that PIM was being implemented, and that they had contributed 10 percent towards the cost, very few of them knew how the rehabilitation work was planned and implemented. The first Secretary of the WUA was Ramesh V. Patel, popularly known as “RV”. RV was an entrepreneur himself -- he owned and
managed a cement pipe manufacturing unit in Visnagar. He therefore had experience in mobilizing labour and material for civil construction work and supervision for quality control. Since he did a very good job of planning and supervision, villagers were quite content to leave the job of Secretary to him. There was another reason for the villagers to let RV run the show. He had worked with the ID and had retired only a few years previously. While in the Department, RV maintained accounts and supervised construction work. The DSC staff and members of the WUA knew that as an employee of the ID, RV had taken bribes from farmers and contractors.

Any attempt by the DSC to delegate WUA management responsibilities among other villagers was met with indifference. Decisions about procurement of material, employment of wage-labourers and wage rates were taken by RV in meetings. His decisions were never challenged. RV's competency as a good manager and entrepreneur was never in question. Besides supervising the rehabilitation work of the canals, RV also played a key role in other construction activities in the village such as building a drinking water tank, approach roads and school buildings. Neither DSC nor the villagers are aware of any vested interest that RV may have pursued while leading the work of canal rehabilitation. When there was an acute shortage of workers for construction activities, RV managed to get them from his private business enterprise. His project management skills were so exemplary that even the DSC staff chose to invite him to do the planning and rehabilitation of larger canals sections outside their village. The DSC members clearly think of RV as a valuable asset not only for the Kansa-2 project but also for promoting the PIM program in other villages in the scheme. Most villagers were of the opinion that since RV was doing a really good job,
there was no need for them to get involved.

The Executive Committee meetings and Annual General Body Meetings were very irregular and attendance very poor. RV was not forthcoming in sharing any information and farmer members were not asking for any either. In direct contrast to Kansa-1 where meetings were regularly held and attendance was quite high, Kansa-2 had to be prodded by DSC to hold meetings regularly. For many EC meetings, the attendance would be as low as 20 percent while Kansa-1 would have about 80 percent attendance. Annual General Body Meetings fared even worse in Kansa-2. Out of 550 members, only 30 or 40 members would attend, not meeting the minimum quorum of 10% required by cooperative law. Poor attendance is so endemic to cooperative bodies in the state that the law had to be amended to find a way out. In the absence of a quorum, the WUA can re-assemble after issuing fresh public notices and transact business that will be binding. Kansa-2 has always had to resort to this clause in the law.

Today, irrigation management is basically a two-person affair in Kansa-2. RV and the President, Jasubhai, take most of the decisions and leave no room for other members to either contribute or scrutinize the work managed by the Secretary. Jasubhai was and continues to be active in village and district level politics. Currently he is the President of Mehsana District Bharatiya Janata Party (BJP) and has been the village head (Sarpanch) of Kansa for 4 terms. He is also quite influential in state-level politics. Due to such political clout, Kansa villagers look up to him with awe if not deference.
DSC had expressed concern, subtly in the beginning and more overtly later, about the low level of participation by farmers. This did not go well with Jasubhai and RV, who described it as an unwelcome interference. On various occasions, Jasubhai would openly express his hostility towards DSC, even reprimanding members when they came visiting. RV was less hostile and did not mind DSC bringing visitors to the village, but he had never sought DSC’s intervention or help in the last 8 years fearing that DSC’s help would re-open the discussion on the poor participation by farmers. RV would require DSC’s help only while dealing with the ID. The situation in Kansa-2 posed a dilemma for DSC staff members. On the one hand they could leverage their connections with the ID and compel Kansa-2 WUA to change the leadership. On the other hand, such direct intervention ran counter to their objective of playing just an enabling role so that farmers are empowered to make changes as they deem fit. Since they did what they thought was sufficient to create the enabling conditions, they had no option but to take a passive role. In my conversations with DSC staff, it became clear that they too, like the villagers, perceived the problem as a case of misfortune that Kansa-2 got an autocratic leader.

The service area irrigated by the canal managed by Kansa-2 WUA is 13 kms long. A joint survey by DSC, several farmers and the Irrigation Department in 1999 had revealed that even when the canal was completely rehabilitated, it would not be able to irrigate more than 60 hectares of the designed service area of 574 hectares. That is when Jasubhai used his political clout and lobbied with the Department for a separate pipeline from a different feeder canal to feed this parcel of fields. Though this cost the department Rs. 2.1 million, Jasubhai’s political manoeuvring succeeded. Another factor helped the WUA get approval
for this project. The Secretary of the Irrigation Department (the highest position in the
department) was born in this village and was expected to consider this proposal favourably
even though the investment did not meet the cost/benefit criteria. Such acts of patronage
are not uncommon among senior civil servants and elected representatives and are not
looked down upon. Securing such a large investment by the department without any
requirement of contributions from the farmers was clearly seen as a show of Jasubhai’s
political might. DSC did not object to such flagrant preferential treatment as it would have
earned them the ire of the villagers, further pitting Jasubhai against DSC.

RV managed the rehabilitation works almost single handed. The work was done in phases
and in each phase he could mobilize labour and material much better than his counterparts
in other irrigation cooperatives. Labour availability was scarce and quality control of
building materials such as bricks, sand and cement was always a challenge during those
years. His managerial skills were evident and the impact could be seen in the good quality
of construction work. RV’s entrepreneurial skills were so impressive that DSC even sought
his supervisory services for rehabilitation of a section of the larger distributory canal. This
further consolidated his position as a competent office-bearer and helped him and Jasubhai
deal with DSC’s concern about low farmer participation.

Rehabilitation of the canals resulted in significantly extending the reach of irrigation water
along the canal. Out of a designed service area of 574 hectares, only 114 hectares had
received irrigation prior to PIM. After rehabilitation, this went up to 353 hectares.
However, only 173 hectares could be irrigated during the first two years due to a shortfall
in reservoir storage. It was also discovered that many fields were at a higher elevation than
the canal bed level. They would get water only if it was lifted by diesel pump-sets at the
farmers’ expense. Expectedly, these farmers were not very pleased at the prospect of
paying any extra cost for their share of water.

Irrigation operations did not go smoothly for Kansa-2 during the first two years after taking
over management from the Department. Since the rehabilitation was done in phases, many
farmers had had to sit out the first few cropping seasons. The larger land-holding farmers
were not pleased about this and had raised objections, accusing RV of bias and nepotism.
This was the first adverse outcome of low participation and information sharing. Very few
farmers knew the details of the rehabilitation plan and therefore were not convinced about
the reasons for being denied water. To avoid raising expectations, RV became very
conservative when it came to accepting requisitions from the farmers. Anticipating
disruption in water release from the main canal (which was not very unusual), he would ask
farmers to reduce the area for which irrigation was requisitioned.

Delinquency among farmers was low for two reasons. The design of the canal, being
constructed as a single stretch, allowed little scope for farmers to take water out of turn.
Any breach of the water schedule would have an immediate effect on the downstream
farmers and that would invite fierce protests. Secondly, farmers feared Jasubhai and would
avoid antagonizing him. Unlike other PIM villages, Kansa-2 did not adopt any water
scheduling systems to streamline operations. The water distributors who were appointed by
RV would release water to farmers using a rule-of-thumb system and therefore had the
discretion to alter the order of irrigation for operational reasons. RV claimed that the farmers had adjusted to the system and therefore there was no reason to formalize operations as done by other WUAs. Absence of formal complaints is cited as evidence that the system works to the satisfaction of the members. However, conversations with members have revealed a sense of uncertainty and anxiety among them. Some of them were perplexed as to why a simple system that seem to be working so well elsewhere is not adopted in Kansa-2.

The composition of the Executive Committee was another point of concern about Kansa-2 for DSC. All 13 members of the committee belonged to the Patidar community. Any attempt to persuade them to include a representative from Rabaris, Harijans and women has been fiercely resisted. Open hostility by Jasubhai towards DSC members has resulted in a lower frequency of interaction between the two. After initial attempts to raise concerns about the unhealthy domination of RV and Jasubhai, DSC has now adopted a wait-and-watch approach. They anticipate trouble when Jasubhai steps down or loses his political clout in the district. There is even a fear that individuals who are opposed to Jasubhai politically might sabotage the operations of the WUA to settle political scores once Jasubhai’s political influence wanes.

The total domination of RV and Jasubhai Patel is seen from the following anecdote: When I visited the office of the WUA, I was greeted at the door by RV. There was no other person in the office for the entire 30 minutes I spent. The first thing I noticed was a neatly printed canvass scroll on the wall, listing the name of the President and EC members of the
WUA. I asked RV why Kansa-2 WUA chose to spend money every two years for such an expensive scroll (since the EC positions are up for re-election every two years). He responded, quite nonchalantly, that they do not have that concern because the President and EC have not changed in eight years and most likely are not going to change for a while. He also added that everybody is happy with the present leadership and in any case nobody is really interested in taking such responsibilities.

The leadership of Jasubhai fits the traditional autocratic behaviour expected by the members from their leaders. The reluctance to have firm written rules for water distribution or to ensure discipline indicates that he and RV are avoiding any situation where they could be subordinated by rules. The result was quite apparent in the way the management functions were shrouded in secrecy and the way leaders were unaccountable for their actions. The very basic requirements of sound modes of representation were not met due to the static nature of the EC. The future of Kansa-2 WUA and the well-being of their members are thus tied to the political staying power of Jasubhai.
Chapter 7. Building a WUA: Mixed Ingredients and Problems of Uncertainty

Introduction

This chapter includes case studies of three Water Users Associations. All three of them have done very well in terms of irrigation operations. However, they have all had internal problems that required DSC’s direct intervention for solving them. Their performance is poor on certain criteria for good governance. The leadership has, on occasions, marginalized minority groups and tail-end farmers. The WUAs required regular reminders and alerts from DSC to improve their performance on equity and sustainability issues. The strengths of good leadership skills have not been institutionalized adequately, resulting in erosion of the strengths and even reversals to poor leadership and abuse of office.

We cannot predict whether these three WUA will be able to stabilize their governance and reduce their vulnerabilities to dysfunctions. These societies have not been able to reduce the risk of dysfunctions due to low participation and even exclusion of some members. While there is no immediate or evident threat, past experiences suggest that the probability of serious problems arising is high. The role of the external support agency, namely DSC, continues to be crucial in maintaining equity and participation while the EC and leaders have done well to carry out the irrigation responsibilities with ostensibly successful results.
**Case study 1. Thalota Water Users Association**

**Table 10. Profile of Thalota WUA**

<table>
<thead>
<tr>
<th>Name of Village</th>
<th>Thalota</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Population (Number of households)</td>
<td>3100 (460)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Households by castes</th>
<th>Patidars</th>
<th>Thakore</th>
<th>Harijans:</th>
<th>Brahmans</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>310</td>
<td>90</td>
<td>26</td>
<td>12</td>
<td>22</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Main source of livelihood</th>
<th>Agriculture, Animal Husbandry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total length of irrigation canal in the village</td>
<td>5100 meters</td>
</tr>
<tr>
<td>Total farmers in the service area</td>
<td>251</td>
</tr>
<tr>
<td>Year of formation of Water Users Association</td>
<td>1996</td>
</tr>
<tr>
<td>Year MoU signed with Irrigation Department</td>
<td>1996</td>
</tr>
<tr>
<td>Total cost of rehabilitation of canals</td>
<td>Rs. 810,000</td>
</tr>
<tr>
<td>Designed irrigation service area of the canals</td>
<td>352</td>
</tr>
<tr>
<td>Maximum irrigation area prior to PIM (hectares)</td>
<td>65</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Area Irrigated after PIM (Annual in hectares)</th>
<th>2001-2</th>
<th>2002-3</th>
<th>2003-4</th>
<th>2004-5</th>
<th>2005-6</th>
<th>2006-7</th>
<th>Average irrigation after PIM in hectares (% of designed total service area)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>134</td>
<td>No irrigation due to drought</td>
<td>209</td>
<td>100</td>
<td>199</td>
<td>172</td>
<td>163 (114)</td>
</tr>
</tbody>
</table>

Thalota is a medium-sized village on the outskirts of the trading town called Visnagar in Mehsana District. Due to its close proximity to the market and other civic institutions such as government offices, colleges, shops and commercial establishments, many households from Thalota have gained employment opportunities outside agriculture. Visnagar is also the divisional headquarters for the Irrigation Department. The offices of Block level
government agencies are also in this town. Most of the agricultural produce from Thalota is sold in Visnagar town.

Thalota politics is dominated by the Patidars, with a few of them active even at the district level. The richest and largest landholders are Patidars and they own most of the village shops. In contrast, the second largest caste group, the Thakores, belong to the officially classified “socially backward” group. Many Thakore households have very small parcels of land, tend to dairy cattle and have to supplement their agriculture income with wages from casual labour opportunities within the village or in Visnagar town. Participation of Thakores in village level or district level politics is almost negligible and therefore they have little or no leverage when it comes to tapping public resources. Prior to the introduction of Participatory Irrigation Management (PIM) program in 1995, Thakores rarely attended village meetings or participated in new initiatives. The relationship between Thakores and Patidars has been historically quite tenuous and at times violent. As is the case in most Indian villages, residential areas are largely segregated along caste lines. A visit to the village will leave a visitor in no doubt where the Thakores live and where the Patidars live. Such is the contrast in wealth and physical assets between the two caste groups.

Thalota WUA was the first village level institution promoted by DSC. In 1994, DSC made its first contact with the village through a political activist named Ramesh Patel. Ramesh was politically active at the district level. Thalota village was a part of his political constituency. To gain some political mileage, he urged DSC to initiate some soil and water
conservation projects through government subsidies. However, during their initial visits to the village, it became clear to DSC members that the village offered little scope for watershed activities. Instead, they discovered significant opportunities to maximize the benefits of the Sabarmati irrigation canal that flowed through the village. The canal seemed to be damaged and under-utilized. From the lush green farmlands, it was evident that agriculture in this village relied quite heavily on private tube well irrigation. Excessive withdrawal of ground water had already resulted in a rapid lowering of the water table. The farmers were aware that irrigation from deep tube wells is unsustainable. Since DSC had a mandate to assist farmers in improving management of public irrigation facilities that existed in the village, the initial dialogues with village elders were steered towards the scope for rehabilitating and better managing the irrigation canal that serviced this village. Ramesh Patel soon lost interest in the interactions and was never heard from again.

The initial response from village leaders to DSC’s initiatives was poor. This was partly due to the prevailing notion that any business with the Irrigation Department would be based on a highly unequal relationship. Like many other public bureaucracies in India, the Irrigation Department had serious credibility problems. Much of their irrigation service area never received water and those farmers who did, had to put up with erratic water scheduling. Past attempts to solve these problems produced very little result. To cope with such serious disruptions, many farmers had invested in alternative private irrigation sources such as deep tube-wells, pumping sets, pipelines and even illegal lifting of water from public water bodies. This situation had prevailed for more than 15 years, and therefore an equilibrium of sorts had set in. Farmers had given up on the ID and the ID was content with the status
Among the leaders and elders in Thalota, Amritbhai Patel seemed to take more interest in the dialogues with DSC than did the others. In his mid-50s then, Amritbhai had been the village head (Sarpanch) a few years previously and had some trading experience besides being a farmer. He was a salesman for pesticides and other agricultural inputs. He was also conversant with the local irrigation bureaucracy, as he had made several failed attempts in the past to improve irrigation operations by petitioning the Department. Expectedly, the DSC functionaries were drawn to him and used him as a conduit to supply information about the PIM program to the rest of the villagers. Amritbhai would accompany DSC staff members during their interactions with the Irrigation Department. In village meetings too, he would be projected as DSC’s point-man for the PIM program. By December 1994, Amritbhai seemed to be convinced enough about the merits of the PIM program. He offered to play the anchor role in the process of organizing the farmers to form an irrigators’ cooperative. Village meetings would be organized at Amritbhai’s behest. He became the informal spokesperson for the farming community of Thalota.

The DSC staff members quickly discovered that Amritbhai enjoyed considerable credibility among the villagers. Therefore, when a President had to be elected for the WUA, there was a near unanimous opinion among the Patidars that Amritbhai Patel should be the person. Very few Thakore farmers shared their opinion about Amritbhai. Whether they endorsed the decision or not is not known. To speed the process along, DSC staff members did not make any significant attempt to find if any other individual in the village would want to
contest for that position. No other potential leaders knew enough about the PIM program to appreciate the importance of the leadership positions in the cooperative. Over the next few months, Amritbhai succeeded in enrolling more than 125 farmers as members of the WUA. To ensure that the WUA was formally recognized by the Irrigation Department, over 51 percent of the landholders in the service area had to give their written consent to participate in the PIM program. With the enrolment of 125 out of 250 land holding farmers, Amritbhai Patel achieved what until then had been considered by DSC staff members as very difficult to achieve.

The enrolment process was largely centered on Amritbhai’s credibility and his promises to the members to improve irrigation in Thalota. Farmers from the tail-section of the canal, many of whom had never received water legally, were the first to be enrolled. The fact that some of the richer Patidar farmers had their fields in the tail section helped the process of enrolment. Amritbhai himself had a piece of land in that section. However, only 4 out of 60 Thakore families with land in the service area were among the 125 who enrolled. This was not an indictment of Amritbhai’s personal rapport with the Thakores. It was more a reflection of the extent to which Thakores considered themselves excluded in the development process due to their past experiences. Left on their own initiatives, DSC felt that Amritbhai and the rest of the Patidar leadership would not have made any extra effort to seek participation from the Thakores. At DSC’s urging, special meetings were organized among the Thakores with the specific agenda of assuring them that their participation would be welcome and crucial to the success of the WUA’s operations. Attempts were made to identify leaders among the Thakores and get some of them to be members of the
Executive Committee. After much persuasion, three members from among the Thakores agreed to be on the Executive Committee. Over the next few months, the Executive Committee was able to enrol about 60 Thakore farmers as members of the WUA. By December 1995, the WUA had a membership of 250 farmers.

Even though the policies for the PIM program required a formal memorandum of understanding (MoU) between the farmers' cooperative and the Irrigation Department before any transfer of management responsibilities could be made, DSC persuaded the Irrigation Department to start devolving some of the maintenance responsibilities to the WUA. The idea was to give the leaders of the newly formed institution an opportunity to take decisions and demonstrate their management skills. Despite resistance from the local offices of the Irrigation Department, DSC could secure permission from the higher officers to allot the physical rehabilitation work of the canals to the WUA. Due to years of misuse and neglect, the canals required major repairs and in some sections a complete re-building. In the normal course of events, such construction works would be contracted out by the ID. In many cases, the contractors would give a kickback to ID officers. Therefore, when this responsibility was given to the WUA, there were apprehensions that Amritbhai and other vocal members of the Executive Committee would corner the contracts themselves or receive kickbacks from local contractors. To prevent this from happening, DSC encouraged the cooperative to form a Construction Supervisory Committee within the EC to oversee the construction activity. An engineer from DSC made regular visits to the construction site to provide technical inputs and keep an eye on the Construction Committee. The policing role played by DSC had an unintended consequence. As DSC
discovered later, there was a sense of discomfort and unease among the members of the supervisory committee to perform the role of supervisors. They were aware of the scepticism and suspicion with which the rest of the villagers would look at their newfound role. The presence of a member from DSC gave them a stamp of legitimacy, contrary to what DSC was trying to achieve, namely, to genuinely empower representatives from amongst the villagers to take decisions and own the consequences, without depending on the credibility of an external agency.

The irrigation canal network in the village was such that the rehabilitation work had to be done on three non-contiguous sections. The initial budgetary allocation was insufficient to start all three sections together. The Executive Committee, with advice from DSC, decided to take the smallest of the three sections first. As it turned out, this was a strategically unwise move. This section, though shortest in length, irrigated farmlands belonging to the Patidar members. The decision to start work on this section was taken by the Executive Committee members with inadequate consultation with the Thakore farmers. Often such meetings would be held at short notice and at the convenience of Amritbhai Patel and a few other vocal Patel farmers. Thakore members of the committee claimed that this was deliberately done to keep them away. This was not the start DSC wanted for the cooperative. Senior members from DSC rushed to the village and organized the series of meetings and interactions with Thakores to reassure them that the decision to start work on that section was taken purely on technical and budgetary considerations. Assurances were also given to speed up the proposal to take up the other two sections that provided water to the Thakore farmers.
The construction work was completed well ahead of the deadline and well within the budget. The quality of work was far better than any the villagers had seen until then. This experience not only boosted the confidence of Amritbhai and the Executive Committee, but also got noticed by the ID. Soon Amritbhai and the Executive Committee were playing host to many visitors including locally elected leaders, other NGOs and senior officers of the ID. Villagers from other PIM projects were asked to emulate the process adopted in Thalota.

Riding high on their success, DSC and Thalota leaders decided that the WUA was now ready to take on responsibilities for water distribution. Informal arrangements were made between the Irrigation Department and the WUA to devolve farm level distribution responsibilities from department staff to the WUA. The WUA appointed a couple of men from the village on a daily wage basis to oversee water distribution. The Executive Committee and the two temporary workers canvassed extensively to ensure that the farmers in the area served by the repaired canal placed their request for water and paid a small portion of the irrigation fee as an advance payment. The Irrigation Department provided water at an outlet point from where distribution, monitoring and recovery of irrigation fees were done by the WUA.

The performance of the WUA in carrying out irrigation functions was spectacular. For the first time in 15 years, most farmers received water in the service area of the canal. None of the farmers had to take water from private tube wells. None of them complained about the
irrigation fee that was twice as high as the government fees, for they believed that the benefits far outweighed the extra cost.

By now, Thalota’s WUA had become a model of sorts. News of their successful endeavours reached the neighbouring villages. Amritbhai Patel now became a spokesman for the PIM program. DSC would use him effectively to convince other sceptical leaders. Within Thalota village, he was a hero and given singular credit for motivating and sustaining the farmers interest in irrigation management. He played a leading role in taking new initiatives and making major decisions. These included decisions about appointing a paid Secretary and water distributors. During the initial two years of the functioning of the WUA, Amritbhai also served as the Secretary of the WUA. His prior knowledge of running the sales agency and an innate ability to grasp new skills made him a good Secretary too.

However, as the irrigation operations and the second set of rehabilitation work started, DSC staff members urged the WUA to appoint a full-time Secretary. The Executive Committee turned to Amritbhai, indicating that they would be happy with any candidate nominated by him. Amritbhai Patel appointed Babubhai Patel as the Secretary for a very nominal honorarium of Rs 300 per month. Despite this new appointment, most members of the WUA believed that it was Amritbhai Patel who performed the dual role of President and Secretary. Babubhai had a diamond polishing shop in Visnagar and was happy to play a secondary role under Amritbhai’s leadership.
There was trouble in 1996, when work on the second and third sections of the canals commenced. In the second section, the WUA needed to cut down full-grown trees that had taken root right inside the canal structure. A few trees on both sides of the embankment had also been marked for clear-cutting. Chaganbhai Master, who owned a large parcel of land right next to the canal, objected to the cutting down of the trees. He claimed ownership of the trees and threatened to assault workers when they came to cut the trees. Villagers believed that Chaganbhai was sabotaging the functioning of the WUA because he was losing out in his business as a major private water supplier. Erratic and inefficient operation of the canal systems by the ID had served his business well, as farmers who did not have their own private wells ended up buying water from him at exorbitant rates.

Faced with physical intimidation and threats to dismantle the WUA, even Amritbhai could not deal with the situation. Officers from the ID that had legal ownership of the land, and legal authority to clear the land of all hindrances, didn't help out either. Many villagers and members from DSC suspected that Chaganbhai was provoked and prompted by the field staff of the Department. Initially DSC declined the request from the WUA to intervene and confront Chaganbhai. However when the work came to a standstill and the WUA gave up their fight, DSC was compelled to step in. A formal police complaint was lodged against Chaganbhai. The Irrigation Department was pressured to do what they should have done many years ago. After a delay of a few months, very acrimonious exchanges between Chaganbhai and DSC and a showdown with the police, the trees were finally removed.

This episode did have an adverse impact on Amritbhai Patel’s credibility as a leader. It also exposed the vulnerability of the WUA to saboteurs from within the village and their
inability to move the Irrigation Department to do their part of the work.

Rehabilitation of the second and third sections of the canal was done successfully. A total of Rs.810,000 was spent on rehabilitation. The PIM program required the benefiting farmers to contribute 10 percent of the rehabilitation costs. After some initial hesitation, all the farmer-members contributed their share of the costs. When all the sections were rehabilitated, the area that could be irrigated increased from 130 hectares to 380 hectares. Due to below-normal rainfall in the catchment area of the reservoir, there was an acute shortage in water supply from the reservoir for the next three years (1997 to 2000). This meant that the WUA had to curtail the demand of its members. Yet, despite significant reduction in water availability, the WUA managed to cover more farmers by improving distribution efficiency and dramatically reducing water wastage. Seepage from poorly constructed canal and wastage of water due to carelessness on the part of farmers as well as Irrigation Department staff were the main reasons for inefficiency prior to the PIM. The rehabilitation of the canals reduced the seepage and scrupulous supervision and stiff fines for water wastage meant that even the reduced quantity of water could be distributed to a larger number of farmers than was achieved during a normal year before the PIM.

During the years of low rainfall, managing a reduced irrigation potential equitably proved to be a challenge for Thalota. The WUA had informed all the members that they will not get water for the area they requisitioned. However, for reasons that are not yet clear, many Thakore farmers did not get any water at all. The Patidar farmers claimed that the decision to reduce irrigation demand was taken in regular meetings and that these were poorly
attended by Thakore farmers. Thakores, for their part, claimed that they were marginalized in the meetings and therefore did not see any purpose in attending them. This vicious cycle only ended up in alienating the Thakores further. During the winter season, Thakore farmers decided to boycott the WUA’s operations. Instead of building bridges with them and clarifying the basis for decisions taken earlier, the Executive Committee chose to ignore them. In fact, the EC, that was dominated by the Patidars, did not have any incentive to bring in the disgruntled Thakores. On the contrary, if the Thakores did not participate, it would only reduce the competition for scarce water. Since the available water was fully utilized and all the financial matters had been taken care of, the WUA did not have any compulsion to reach out to the Thakores. By the year 2001, the WUA had in fact generated a surplus and decided to venture into agriculture inputs supply. Amritbhai’s contacts with inputs suppliers came handy.

By 2000, the position of President of the WUA was more coveted than it was when PIM began in 1995. So when the term of Amritbhai as President came to an end, his re-election was not a foregone conclusion as many in the village had assumed. However, when Amritbhai Patel heard about the intention of some others to stand in the election for the President, he felt indignant. He offered to quit and not stand for election again. The very fact that there would be an election for choosing the next President was not a welcome idea in the village. Hard fought elections indicate a conflict-ridden village, said Amritbhai. This sentiment echoed across the village. Finally, the general body of the WUA chose Madhabhai Patel unopposed. The transition from Amritbhai to Madhabhai Patel did not go smoothly. Amritbhai was upset at being sidelined and therefore did not facilitate the
transition. To make matters worse, Madhabhai Patel did not have any prior experience of accounting systems and could not effectively monitor the Secretary Babubhai’s work.

After Amritbhai stepped down, Babubhai had to shoulder larger responsibilities.

Due to severe drought conditions, there was no canal irrigation at all during the years 1999 and 2000. Only those farmers who had deep tube wells could raise crops during these years. Therefore the WUA had no transactions to deal with from irrigation operations. The WUA, however, continued to provide agricultural inputs supply services. During 2001 and 2002, the situation improved significantly. Water availability was much better and even some Thakores participated in taking irrigation. In the year 2003, the WUA managed to provide water to irrigate an area of 206 hectares belonging to 226 farmers. This was the largest area ever irrigated by the canals. The salary of the Secretary was increased from 300 rupees per month to 900 rupees per month. The WUA had to engage four water distributors during the peak season. The irrigation fee had increased by 400 percent over the 1994 rates. The process of collecting water demand was streamlined. Each farmer was given a card that clearly stated his entitlement in terms of the area that could be irrigated and the number of waterings he or she would get. Stiff penalties and sanctions were established to deter farmers from taking water out of turn or wasting water due to poor land preparation.

By the end of 2003, the WUA had generated over Rs.30,000 as profit and even created a depreciation fund to take care of future capital investments and major repairs. Thalota’s success story had spawned similar efforts in neighbouring villages. Everything seemed to
be streamlined and stable. However, that did not last long. In March 2003, a chance visit to the village by DSC staff raised some questions about the bookkeeping practices of Secretary Babubhai. Further investigations revealed that an amount of Rs. 25,000 was missing from the accounts of the WUA. Later the Secretary confessed that he had inadvertently used that money for personal expenses and he had every intention of repaying it. As it turned out, the Secretary has been using the receipts from irrigation fees collection for personal expenses since 2001. It was no coincidence that this was the year the WUA got its new President. Madhabhai Patel admitted that he was not regular in checking the accounts and even when he did, he did not have the required skills to catch any anomaly. Whether the misappropriation was intentional or due to carelessness is not clear. But the modus operandi that led to the situation was now known: Babubhai Patel would accept irrigation fee payments from the farmers without issuing a proper receipt. This would happen when farmers paid the irrigation fee to him outside the office, often on the streets and get a verbal assurance that the transaction would be recorded into the ledger and proper receipts issued subsequently. However, there was neither a follow-up nor any oversight mechanism in place to ensure that the Secretary did indeed enter the transaction in the ledger and deposit the money in the bank.

Such a financial misdemeanour was bad enough for the credibility of the President and Secretary. The problem was compounded when it was learned that most of the irrigation fee payments in question came from Thakore farmers. Once again, Thakores believed that they were targeted by the Secretary. There may be some truth to it. Most Patidar farmers would feel confident enough to demand receipts for the payments later. On the other hand,
Thakore farmers felt intimidated when dealing with Babubhai Patel. There was even an attempt on the part of certain Executive Committee members to blame the Thakores for not demanding receipts. Tension flared again between Patidar farmers and Thakore farmers and the Thakore's threatened to boycott the WUA. Babubhai expressed his inability to repay the missing money, further aggravating the crisis. DSC had to intervene again and make arrangements for Babubhai to repay in instalments and plead with the Thakores to keep faith and be a part of the WUA. In a special AGB meeting, a large number of members demanded that the WUA be shut down so that they would not get any deeper in debt. Some of them were very vocal in expressing their misgivings on the very concept of self-governance, openly saying that rural communities can never be trusted to be honest.

This episode brought Madhabhai Patel’s leadership qualities under scrutiny. The Thakore families bitterly complained that their interests had not been safeguarded and that they had no representation in the Executive Committee. This time DSC concurred with this observation and urged the WUA to enhance the role played by Thakores in the management of irrigation. As a response to such sentiments, the general body of the WUA met and nominated Pradhanji Thakore as the President of the WUA to replace Madhabhai. The Secretary was unceremoniously fired. The members then pleaded with Amritbhai to come back and take responsibilities as the Secretary. After much persuasion by DSC, Amritbhai relented.

It was by now common knowledge that Amritbhai’s aggressive personality overshadowed others’ involvement. Pradhanji Thakore’s passive nature and shy disposition only made it
easier for Amritbhai to play his dominating role again. Since the crisis, the WUA has been doing well in terms of maintaining good accounts and streamlining irrigation operations.

Whether Amritbhai is more sensitive to the apprehensions of exclusion felt by the Thakores is not known. There is no way of establishing whether he is profiting from input supply services, given his past association with the input suppliers.

Until 2001, Thalota was considered a model village for showcasing PIM. It was representative of the process that was adopted to build the capacity of a village institution to function as a well-managed organization. Amritbhai’s dominating personality was initially interpreted as a leadership style that was assertive and commanded awe and respect from the entire village. This leadership style worked well for DSC in the beginning for mobilizing the villagers’ opinion in favour of PIM. He became the conduit between the farmers and DSC, which perhaps had an undesirable consequence. Key staff members from DSC did not see any reason or opportunities to interact with individual villagers.

Amritbhai’s prior experience of commercial activities as an entrepreneur proved very useful in ensuring that the WUA’s books of accounts and registers were maintained with little or no help from DSC. These skills were held in high esteem by the villagers and that gave them a great sense of security. They trusted Amritbhai with their money. At the same time, Amritbhai too came to believe that no one else in the village was competent enough to scrutinize his activities. Therefore, in 1998 when other well-known and politically powerful individuals challenged his position, his inability to comprehend competition or challenge, demonstrated his lack of maturity and familiarity with democratic processes and
procedures. The failure of his successor and the inability of the President to avoid the crisis thus seemed to vindicate the popular notion that only Amritbhai can deliver.

Amritbhai’s demeanour has not changed significantly. After resuming his role as the Secretary, he is even more averse to enhancing participation of other members in the management of the WUA. He told the researcher “let me do my job. That is all I ask of my members”. He did not show any indication that the crisis with the Thakores has made him any more sensitive to issues of equity. In response to a question about the strategy that Thalota WUA would apply for deciding members’ entitlements in the event of a 50% reduction in water availability, Amritbhai said all members will get 50% of their total area they own, irrespective of the size of land holding. This contrasts with a few other WUAs where small land-holding farmers were given more than 50% and large land-holders were asked to take a larger cut.

The key staff members from DSC believe that Thalota has weathered the storm and emerged stronger. Yet the question of broad basing the leadership remains unanswered. Neither DSC nor the members of the WUA can predict if the next Secretary and President can give a reasonable assurance of stability. Amritbhai was the architect of the launch of the WUA and he continues to be the all-important one-person.

The notion that having Pradhanji Thakore as President is sufficient to safeguard the interests of Thakores, is also wrong. As a matter-of-fact, Pradhanji Thakore's nomination or selection as President in the Executive Committee was done with little or no
involvement of the Thakore farmers. It was clearly a short term move by the Patidars to placate the aggrieved Thakores and also DSC. It was a move that would have no significant impact in terms of representing the Thakore community’s interests. Similarly the presence of three women members in the Executive Committee has not brought gender equity. Their presence is only as a consequence of DSC’s pressure.
Case study 2: Kiyadar Water Users Association

Table 11. Profile of Kiyadar WUA

<table>
<thead>
<tr>
<th>Name of Village</th>
<th>Kiyadar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Population (Number of households)</td>
<td>952 (103)</td>
</tr>
<tr>
<td>Households by castes</td>
<td></td>
</tr>
<tr>
<td>Choudhary</td>
<td>61</td>
</tr>
<tr>
<td>Harijans</td>
<td>17</td>
</tr>
<tr>
<td>Vaghri</td>
<td>8</td>
</tr>
<tr>
<td>Thakore</td>
<td>2</td>
</tr>
<tr>
<td>Others</td>
<td>15</td>
</tr>
<tr>
<td>Main source of livelihood</td>
<td>Agriculture, Animal Husbandry</td>
</tr>
<tr>
<td>Total length of irrigation canal in the village</td>
<td>10,600 meters</td>
</tr>
<tr>
<td>Total farmers in the service area</td>
<td>82</td>
</tr>
<tr>
<td>Year of formation of WUA</td>
<td>1998</td>
</tr>
<tr>
<td>Year MoU signed with Irrigation Department</td>
<td>1999</td>
</tr>
<tr>
<td>Total cost of rehabilitation of canals</td>
<td>Rs.1,120,000</td>
</tr>
<tr>
<td>Designed irrigation service area of the canals</td>
<td>315</td>
</tr>
<tr>
<td>Maximum irrigation area prior to PIM (hectares)</td>
<td>24</td>
</tr>
<tr>
<td>Area Irrigated after PIM (Annual in hectares)</td>
<td></td>
</tr>
<tr>
<td>2001-2</td>
<td>166</td>
</tr>
<tr>
<td>2002-3</td>
<td>No irrigation due to drought</td>
</tr>
<tr>
<td>2003-4</td>
<td>147</td>
</tr>
<tr>
<td>2004-5</td>
<td>55</td>
</tr>
<tr>
<td>2005-6</td>
<td>133</td>
</tr>
<tr>
<td>2006-7</td>
<td>109</td>
</tr>
<tr>
<td>Average irrigation after PIM in hectares (% of designed total service area)</td>
<td>122 (39%)</td>
</tr>
</tbody>
</table>

When Development Support Centre (DSC) contacted Kiyadar village in 1997, the village had already had a history of collective volunteer work. A religious organization called Swadhyay was actively organizing villagers in community activities such as tree planting, health and sanitation works and food banks for the poor. A Swadhyay activist, who came from outside the village catalyzed these activities. Meetings and discussions on religion
were quite common in the village. When responsibilities for community work were
assigned to volunteers, they were usually honoured. With clear religious undertones, the
activities of this organization found favour with a majority of villagers.

Kiyadar was the fourth village that DSC contacted for promoting the PIM program. The
first three villages where DSC implemented PIM program were in the neighbourhood. The
first interaction between DSC and villagers from Kiyadar happened in a workshop jointly
organized by DSC and the Irrigation Department in January 1997. This workshop was
aimed at disseminating information about the process and advantages of implementing
PIM. The first three villages where PIM was implemented (Thalota, Malekpur and
Rangpur) had sent office bearers of their WUAs to the workshop to share their experiences.
Representatives from about 15 other villages, including Kiyadar, had come to explore
whether PIM was right for them.

The two representatives from Kiyadar village who attended the workshop had contrasting
personalities. Haribhai Choudhary was a quiet short unassuming man, of shy demeanour.
Jesing Choudhary, on the other hand, was a vocal, well-known leader in the village. Both
of them were associated with the management of a milk society in their village. Haribhai
had already put in 20 years of work as its Secretary and Jesing was the President and
member of the executive committee a few times. Both of them had come to the workshop
at the invitation of DSC. As they admitted later, they had been very pessimistic when they
came to the meeting. Despite having run the milk WUA successfully for so many years,
they were quite sceptical of achieving similar success when it came to irrigation. There was
an important difference between a milk cooperative and the proposed irrigation cooperative. Running a milk cooperative required very little interface with any external institution, particularly a bureaucracy. On the other hand, to be effective, a WUA had to work closely with one of the most notorious bureaucracies, namely, the ID. Past interactions with the Department had always centred around complaints about problems with irrigation in the village. In most cases Department did very little about it or completely ignored such complaints.

Yet, Kiyadar village had an important reason to explore the scope of PIM. Unlike the neighbouring villages, Kiyadar did not have many reliable indigenous sources of irrigation such as deep tube wells. The few farmers who owned open wells were faced with rapidly depleting groundwater levels. Their best hope was the six kilometers long canal from the Sabarmati irrigation project that ran through their village. But serious design flaws and poor construction of its structures had resulted in gross underutilization of the potential irrigation. Since its commission in 1980, out of a possible 325 hectares of irrigable service area, the maximum area the canal could irrigate was 25 hectares. The situation was particularly challenging because the farmers’ fields were in the low-lying areas relative to the canal bed-level. The canal therefore required a long stretch of elevated embankments of over 1.5 meters high, making it quite prone to seepage. Many farmers whose fields were adjacent to the canal had to deal with water-logging and resultant salinity. Haribhai Choudhary raised these concerns at the workshop and was assured by DSC and farmers from Thalota that PIM held promise in terms of addressing these problems. Thalota had similar problems though to a lesser extent. A study visit was organized to Thalota for
representatives from villages that had potential for PIM, including Kiyadar. Soon after this, Haribhai and Jesing informed DSC that they were willing to give PIM a try.

While DSC offered to conduct a survey and prepare a proposal for repairing the canals in Kiyadar village, Haribhai and Jesing agreed to do the community organizing work. DSC engineers confirmed what Haribhai and Jesing had reported about the condition of the canal. If the canal had to be rehabilitated so as to irrigate all 325 hectares, it would require work on a six kilometers stretch and an approximate cost of Rs.1.3 million. As per the PIM policy and practice of DSC, rehabilitation work would commence only when farmers who stood to benefit contributed at least 10 percent of the total cost. For Haribhai and Jesing it meant canvassing to collect Rs.130,000 from approximately 75 not-so-wealthy households that had farms in the service area of the canal. Some of these households lived in the neighbouring villages of Malekpur and Gunja making it even more difficult for them to organize the farmers.

The collection of this amount proved to be quite a challenge for Haribhai and Jesing. Jesing quickly decided that it was going to be a difficult and long drawn out process. He would much rather have a few better-off farmers contribute a larger share than to collect Rs 700 per hectare from 75 households. Haribhai thought otherwise. He assigned responsibilities to three other individuals to contact all farmers and explain the need to contribute towards rehabilitation costs. After three months of effort, Haribhai and his team could only come up with Rs.70,000. The DSC staff members privately admitted that by collecting even Rs.70,000, Kiyadar had exceeded expectations. Unlike Thalota, this village did not have
many big farmers and they were not wealthy. The physical structure of the irrigation system had been so bad for so long a time that many farmers did not believe that any effort at rehabilitation could get water flowing through the canals.

An offer of help came from an unexpected quarter. Prahlad Ghosa, the Member of Legislative Assembly (MLA) representing the constituency that contained the village heard of the difficulties in raising Rs. 1.3 million. He offered to contribute Rs. 50,000 from a discretionary development fund available to him as an MLA from the central government budget. Tempting as it was, Haribhai declined this offer. Haribhai's logic was simple, even if it appeared unusual to most villagers. He explained that the participation of the MLA through such contributions would earn him a right to interfere in the management of irrigation operations. This, he argued, would result in decisions taken on political considerations rather than by objective rules and regulations and operational requirements. Despite some opposition from some members, Haribhai prevailed. This event was an eye opener for DSC and the villagers alike.

To tide over the problems of shortfall in the contribution, DSC urged the Irrigation Department to divide Kiyadar's rehabilitation work into three phases. The six kilometers stretch of canal was split into three projects to be taken up sequentially. Each project had a separate budget and catered to approximately one-third of the members. The collection received so far was enough to get the rehabilitation work started in the first one. For some components of rehabilitation, the members offered to work without wages. The foregone wages of approximately Rs. 20,000 were then considered as the farmers' contribution.
This is one example where their association with Swadhyay was helpful in mobilizing collective action. Here again, Haribhai played a key role in ensuring that most of the potential beneficiaries contributed.

While all these activities were going on, DSC urged the villagers to register the WUA and elect its leaders. The villagers did not see any compelling reasons to comply. They believed that Haribhai and Jesing were doing a fine job even without any formal organization and would rather leave it at that. When DSC insisted, however, Haribhai and Jesing organized a meeting in the village. There was a near-unanimous agreement that there would be no election for the position of President. Elections would only divide the village, the village leaders opined. They had gone through several bitterly contested elections for the Panchayat that left the village divided. Jesing proposed Haribhai’s name for the President’s position. The gathering of about 60 people overwhelmingly supported this. Haribhai, however, declined, stating that he would be better suited to work as a Secretary, since he already had 20 years of experience as a Secretary with the milk WUA.

Jesing was the next choice, but it was clear that Jesing was not very impressed by the importance of the office of President. Besides, Jesing was an active member of the block level marketing WUA and also had business interests in the neighbouring town. He believed that the time required to carry out the responsibilities of a President was not worth it. He proposed the name of Naranbhai and was promptly seconded by other village elders. Naranbhai was the village head (Sarpanch) during 1993-95. Naranbhai was not prepared for this nomination, nor was he even given a chance to consent or decline. So Naranbhai
and Haribhai became the first President and Secretary respectively of the WUA. And since Haribhai was drawing a salary from the milk WUA, he offered to work for the WUA without any remuneration.

In 1999, the first phase of rehabilitation was completed. For the first time in the history of Kiyadar, a public works project was implemented with complete control in the hands of villagers. The outcome was extremely good, both in terms of quality of construction and what it did for the morale of the villagers. A large number of villagers turned out at the construction site, more out of curiosity than to play any significant part in the process. A Construction Committee was formed to oversee procurement of material, as well as supervision of and payment of wages to the labourers who worked. The committee members, chaired by Haribhai, scrutinized the plans and estimates of the project, invited competitive bids for material and labour work and provided oversight. Soon after this work was completed the WUA signed an MoU with the Irrigation Department. In 1999, midway through their winter-crop irrigation, the WUA took over the water distribution responsibilities from the irrigation department. A total of 62 hectares belonging to 63 farmers was irrigated for the winter crop. With the exception of a few farmers, all of them received water for the first time and therefore the experience had a tremendous positive impact on the level of motivation and interest in the PIM program. The collection of farmers’ contributions towards the second and third phase of canal rehabilitation was accomplished much faster. The villagers in general seemed to have confidence and trust in Haribhai and the Executive Committee’s capacity to do a competent job.
Despite the first round of rehabilitation works, during the irrigation operations farmers had to face considerable difficulties posed by poor canal layout. There was a fundamental flaw in the alignment of the canal network that could not be undone by the rehabilitation works. Moreover, as mentioned earlier, Kiyadar WUA had to include members who owned land within the service area of the WUA but lived in the neighbouring villages of Gunja and Malekpur. Due to the distance between these villages, the water distribution schedules were not communicated with the other two villages. Under these circumstances there were many instances of conflicts between farmers. In all cases Haribhai had to intervene and settle these disputes personally. While intervening, Haribhai could ensure a sense of objectivity and justice. Since he did not have any affiliation to party politics, no one could accuse him of bias or vested interest. Haribhai grew in stature and soon became the face of PIM in the village. Members from DSC also interacted with Haribhai for all the subsequent works. With the help of two or three other members, Haribhai managed both the rehabilitation and irrigation operations extremely well. The process of mobilizing labour and material for rehabilitation works was particularly impressive. Haribhai ensured that selection and procurement of materials was never done by a single person and certainly not by himself unilaterally. As a result, details about the cost components of rehabilitation work were known to a larger number of villagers than is usually seen when public works are executed by the Panchayats.

The Executive Committee of 9 members was quite representative in terms of caste groups. A member from the Harijan community represented 15 Harijan families. Similarly, farmers belonging to head, middle and tail reaches of the canal system were also
represented. However, there were no women in the Executive Committee.

In practice, the committee relied quite heavily on Haribhai for taking the lead in most discussions and decision-making. Initially the Executive Committee met regularly. However, during subsequent years the frequency of these meetings and the participation level of Executive Committee members dropped.

Haribhai’s soft-spoken demeanour was well liked by the ID officials too. He would never confront the Department with aggressive complaints even when he did have concerns about irregular water releases from the main canal by the Department. Unlike the neighbouring villages, Kiyadar rarely suffered due to intentional sabotage by the field staff of the Department.

During his time as the Secretary, Haribhai introduced many water distribution systems. Learning from the experiences of Thalota and other PIM villages, Kiyadar too adopted a reward and punishment system to deter delinquency among farmers. Stiff penalties were imposed against delinquent members. Since Haribhai enjoyed a high level of credibility, most of the penalties went unchallenged by the offending farmers. It is not clear whether any of those farmers who were penalized would have wanted to challenge the decision, but they chose not to, fearing that Haribhai’s credibility and popularity in the village would not get them a sympathetic hearing. The fact that Jesing also backed Haribhai, further consolidated the impression that decisions taken by Haribhai and the Executive Committee were not up for scrutiny or review.
By the time the second and third phases of rehabilitation works were undertaken, the enthusiasm and participation level of the ordinary members and even the Executive Committee members waned. Even though there were provisions for an Audit Committee to regularly review and scrutinize the accounts and budgets, the members of this committee never actually asked for any accounts. During the first few years, Haribhai would provide details of the accounts voluntarily, but this practice too did not get institutionalized due to a lack of interest from the Executive Committee and the ordinary members.

The role of the President of the WUA has largely remained symbolic. The tenure of the President is one year and he or she can be re-elected by the EC if the incumbent chooses to run again. In Kiyadar, this process has been marked by indifference. Naranbhai was re-nominated the first two years. Jesang became the President from 1998 to 2000 and again in 2005 and 2006. In between two others were nominated – Ramsingh and Sangram. With the exception of Jesang, none of the others contributed in any significant way to the process of strengthening and institutionalizing the position of the President. Despite playing the sheet anchor role, Haribhai steadfastly refused to become the President. But in 2004, Haribhai retired as the Secretary of the milk WUA. Until then he was not drawing any salary or remuneration from the WUA. After retiring from the milk WUA, he accepted the offer of Rs.1000 per month from the WUA.

The functioning of the Justice Committee was impressive. Jesang and Haribhai set a good precedent by insisting that the committee address any complaints from the members in a
time-bound transparent manner. By penalizing the members promptly for any infraction of rules or bylaws, the Committee could convey to all members the seriousness with which they performed their duty. In a precedent-setting case, a member who also happened to be a teacher was found guilty of breaking the rules of water distribution. When it was established that had wilfully carried out unauthorized irrigation for 4-5 hours the Justice Committee decided to punish him with a penalty of Rs.500, instead of Rs 250 that the rules prescribed for ordinary members. The committee decided that the penalty should be harsher because the committee considered that as a teacher, his conduct should be exemplary and inspiring. Despite his protests, the farmer had to comply with the decision because he realized that a majority of members agreed with the committee’s rationale.

In terms of area covered, irrigation operations continued to improve steadily. By 2005, the WUA could irrigate approximately 180 hectares out of the 315 hectares of the original service area. A consensus developed among the villagers that the canal systems would require a major realignment if the remaining area were to receive water from the canal. Currently this is considered beyond the scope of PIM and therefore has not been attempted.

In 2004, DSC undertook a major initiative to create a federation of WUAs. By design, the federation would have an institutional membership consisting of irrigation WUAs from a cluster of villages serviced by a stretch of the distributory canal. The President of each constituent WUA would become members of the management committee of the federation. During its formative stages the federation required active and committed members of the management committee to act collectively in a mature way. DSC hinted that they wanted
Haribhai’s active involvement in the activities of the federation. As a Secretary he could not have participated. To work around this constraint, DSC requested Haribhai to become the President of the WUA and to groom another person to take over as the Secretary. Accordingly, Haribhai became the President in 2004 and appointed Raisang as the Secretary. The members of the WUA neither proposed nor objected to this change in leadership. As a promoting agency, DSC clearly had an unwritten prerogative to influence the choice of leaders, even when the choice of leaders might be dictated by some interest other than that of the WUA members. Raisang Choudhary was not up to the job and required considerable help from Haribhai. Besides playing an active role in the federation, Haribhai had to devote substantial time to train Raisang and supervise his work. Raisang continued to be the Secretary, but there is evidence to indicate that much of the Secretary's work continued to be done by Haribhai.

At the time of writing, Kiyadar was facing another challenge of a different nature. 2005 and 2006 witnessed high rainfall. The subsurface water table rose rapidly. The canal network, due to its high embankment, added to the subsurface infiltration. As a result, the land adjoining the canal ran the risk of being waterlogged. From an engineering point of view, appropriate drainage channels were needed. There were no provisions in the PIM program for such structures and therefore the WUA had to come up with resources internally. Haribhai was busy mobilizing finances from individual farmers and planning to use some of the reserves built up over the years for this purpose.

Even though Kiyadar relies quite heavily on agricultural income, and therefore on irrigation
sources, there is little evidence to suggest that village leaders made any attempt in the past to secure a reliable and stable water supply from the ID. The initiative taken by DSC was certainly the most significant attempt to organize farmers to secure their entitlement to irrigation water from the scheme. The emergence of Haribhai as an executive-style leader and the villagers' dependence on him is the most remarkable feature of the PIM program in Kiyadar. Unlike most other villages in the region, Haribhai does not derive his status as a leader from any past or present political affiliation or position. In fact, Haribhai has never run for an elected position either in the village or elsewhere. He built his credibility as a competent Secretary of the milk WUA. Despite not having held any public office, Haribhai did show remarkable leadership qualities and a maturity in dealing with opportunities and challenges during his leadership of the milk WUA and subsequently the WUA.

Haribhai possessed an exemplary level of integrity and commitment that is quite rare in villages in this area. This quality, coupled with his competency in performing the executive role of a Secretary, served the WUA very well during its formative stages. However, it also set in an attitude of complacency among the second line leadership and general members.

Haribhai did evolve water distribution systems that streamlined the work of the water distributors. The absence of such a system prior to PIM and the flagrant delinquency among farmers and ID officials were the main causes of poor utilization and damage to the physical systems. By having written rules and regulations, the WUA reduced the scope for
abuse and domination by certain powerful farmers. However there were no similar rules, resolution methods or a code of conduct to deal with conflicts. Haribhai’s active presence and involvement in conflict resolution has perhaps obviated the need for such written rules. DSC members and villagers whom the researcher interviewed did not express any serious concern about the quality of leadership after Haribhai retires or is no longer around. They believe that his position can be taken up by others within the village. Realities on the ground suggest otherwise. Raisang, who is the current Secretary, has neither the stature nor the competency of Haribhai, even after two years on the job. At the same time, the office of the President has remained only a symbolic one. Even though some of the past Presidents are well-known political leaders in the neighbourhood, none of them has expressed any significant desire to be active in the WUA. They preferred to leave the job of leadership to Haribhai.
Case study 3: Malekpur Water Users Association

Table 12. Profile of Malekpur WUA

<table>
<thead>
<tr>
<th>Name of Village</th>
<th>Malekpur</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Population (Number of households)</td>
<td>3101 (556)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Households by castes</th>
<th>Patidars</th>
<th>Thakore</th>
<th>Rabari</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>467</td>
<td>51</td>
<td>21</td>
<td>17</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Main source of livelihood</th>
<th>Agriculture, Animal Husbandry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total length of Irrigation canal in the village</td>
<td>6,662 meters</td>
</tr>
<tr>
<td>Total farmers in the service area</td>
<td>135</td>
</tr>
<tr>
<td>Year of formation of WUA</td>
<td>2001</td>
</tr>
<tr>
<td>Year MoU signed with Irrigation Department</td>
<td>2001</td>
</tr>
<tr>
<td>Total cost of rehabilitation of canals</td>
<td>Rs. 475,000</td>
</tr>
<tr>
<td>Designed irrigation service area of the canals</td>
<td>292</td>
</tr>
<tr>
<td>Maximum irrigation area prior to PIM (hectares)</td>
<td>162</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Area Irrigated after PIM (Annual in hectares)</th>
<th>2001-2</th>
<th>251</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2002-3</td>
<td>No irrigation due to drought</td>
</tr>
<tr>
<td></td>
<td>2003-4</td>
<td>231</td>
</tr>
<tr>
<td></td>
<td>2004-5</td>
<td>217</td>
</tr>
<tr>
<td></td>
<td>2005-6</td>
<td>231</td>
</tr>
<tr>
<td></td>
<td>2006-7</td>
<td>260</td>
</tr>
</tbody>
</table>

| Average irrigation after PIM (% of designed total service area) | 238 (87%) |

Malekpur village falls between the two major towns of Visnagar and Vadnagar. A medium sized village in terms of population and area, the village politics and economy are dominated by Patidars.

Malekpur’s political situation is atypical for the district that is known for its deep and often acrimonious political divisions along party lines. This village is known to be a stronghold of one political party, the Bharatiya Janata Party (BJP). There is virtually no support for the
other major party, the Congress, even among their traditional vote-bank among the minority communities with in the village. Elections have not being held for the office of Sarpanch for 26 years. A consensus candidate put up by BJP has always returned uncontested. For the same reason the Credit Cooperative Society and the Milk Producers Cooperative Society has also not seen any contest for the office of President or Executive Committee. Both these cooperatives are active and generating very profitable business for its members. The majority community of Patidars dominates the membership of both these cooperatives.

On the economic front too, Malekpur village has had a different character from the rest of the villages in the district. About 15 individuals owned and operated lucrative diamond cutting factories in Ahmedabad and Surat districts. These factories were instrumental in luring more than 160 youngsters out of the village to work in these factories. At its peak during the period of 1985 to 1995, diamond-cutting skills could earn a worker up to Rs 200 per day when the daily wage rate in village was in the range of Rs 35 to Rs 50. As substantial portion of these wages from the diamond industry would be sent back home and invested in improving land and acquiring agricultural equipments. In the late 1990s, the diamond cutting and polishing industry faced recession due to competition from China and Sri Lanka. That brought many of the youngsters back to the village and to farming. The industry is now slowly regaining strength again and is expected to take some of them away from agriculture once again. Due to such high out-migration, the proportion of share-cropping increased steadily in the village. The village elders indicated that up to 30% of the land holders of Malekpur were not the primary cultivators. Half of these share-cropping arrangements were out-right leasing of land to agricultural labourers or to other farmers.
from the village.

Malekpur village shares its border with Thalota, the first PIM village promoted by Development Support Centre (DSC). Besides the close physical proximity, the two villages share a common demographic profile. With approximately 70% of the households belonging to the Patidar caste, they are politically and numerically the dominant group in both villages. Social customs and traditions also bind the two villages together. Therefore when Thalota WUA began managing irrigation in 1995-96, farmers from Malekpur closely followed the process of PIM and its impact. Taking advantage of the familiarity with the program and close family ties between the villages, DSC enlisted help of leaders and office bearers of Thalota WUA to motivate and help Malekpur farmers to organize themselves into a similar WUA. In 1996, a series of meetings were organized in Malekpur where farmers and leaders from Thalota shared their experiences and explained the processes that they went through before taking over complete irrigation management responsibilities. During these discussions, farmers from Malekpur expressed their apprehensions about being a self-governing institution. Neither Thalota farmers nor DSC members could provide any convincing answers to these anxieties. However, the discussions on the financial and administrative implication of PIM were far more tangible and well comprehended. This was the first time that DSC promoted the PIM program through farmer-to-farmer extension techniques and therefore was not prepared to facilitate

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30 Kadva Patidars were, until recently, known for their rigidity in their matrimonial traditions. Marrying outside their caste group was fiercely frowned upon. Kadva Patidars, therefore, would actively seek out prospective partners belonging to the same caste from other villages for marriage proposals. As a result, strong family ties were forged between these villages. As with any closed community, Kadva Patidars too are faced with rapidly diminishing matrimonial choices. As a consequence, youth are now breaking this tradition and marrying outside the community and the elders now no longer frown upon such practices.
discussions on governance. Despite unanswered concerns, it was clear that Malekpur farmers were quite impressed with what Thalota had achieved in two years of PIM. So it came as no surprise to DSC that Malekpur required little or no persuasion to start the process of forming a WUA. Once the leaders endorsed the idea, there was no dissent or anxiety about the program. A formal WUA was registered in 1997.

When Malekpur began the process of implementing PIM, its leaders had to deal with a situation not seen in other PIM villages until then. Typically a PIM project starts with a survey of the physical status of the canal and plans for its repair or rehabilitation. In Malekpur’s case, the Irrigation Department had already undertaken substantial repair works on the canal in 1995 and 1996. It was therefore assumed that the canals were in good physical condition and required no further repairs. This unusual situation had an unexpected impact on the process of mobilizing farmers to be members and on the opportunity for them to participate. In a normal case, canal rehabilitation work would be a rallying point for village leaders to assign procurement or supervision responsibilities to farmers and in the process draw them into active participation in the WUA’s activities. Collecting contributions towards the rehabilitation costs would normally be a test of the leader’s ability to convince the farmers of the economic and operational benefits of farmer-managed irrigation program. Malekpur farmers, thus, were denied this opportunity. Prior repairs by the Department also had another adverse consequence, as the farmers discovered later. The quality of work executed by contractors was extremely poor and canal alignment and structural design had serious flaws.  

Right at the beginning of the canal, the bed level

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31 Irrigation Department carries out major repair work through contractors. Often, contractors maximize
was so high and the bed lining so poor that during the very first irrigation season after the repairs, the canals leaked. Fields adjacent to the canals were waterlogged and farmers feared that their land would soon be ruined due to salinity. In 2004, with DSC’s help, farmers had to lobby hard to obtain funds to do critical repairs all over again.

Even though the WUA was formally registered in 1997, it could not transact any business for the next two years due to drought. The reservoir did not have adequate storage to be able to operate the irrigation canals. This was another serious setback for the WUA. The membership drive, that was weak to begin with, was put on hold and the WUA went into a dormant state till the winter of 1999. Even when irrigation started in 2000, the leaders did not put in any particular effort to enrol all farmers from the command area. As a result, only 131 out of a potential 224 land owners in the command area were members of the WUA. Yet, during the 2000 season a total of 179 farmers received water and all of them paid the same irrigation fee, whether they were a member or not. There were no disincentives\(^\text{32}\) to be a non-member when it came to accessing water from the canal and therefore, non-members had no compulsion or advantage in becoming members. When asked why they chose to stay out of the WUA, non-member farmers could not give any particular reason. All of them agreed that if membership became mandatory to access irrigation, they would all enrol right away without any hesitation. There seem to be no correlations between membership and castes indicating the presence of any biases or profits by compromising on quantity and quality of materials used. They get around quality control requirements by bribing the Department officials.

\(^\text{32}\) In other PIM villages, non-members are given water at a higher price and have no entitlements. In the event of a water shortage in the reservoir, non-members are not included while irrigation plans are drawn. On the other hand, non-members would not contribute towards the rehabilitation costs. In many WUAs, to discourage late joiners, the society decided that every member would have to pay towards rehabilitation costs irrespective of the date of enrolment.
discrimination or exclusionary practices.

Babubhai Patel was the first person from Malekpur to take on a leadership role. Rambhai Patel was the second active person who showed leadership qualities at the beginning. Both of them played active roles in gathering information about PIM and interacting with DSC and the Thalota villagers. When the WUA was formally registered, Rambhai Patel became the first President and Babubhai Patel the first Secretary. Their selection by the Executive Committee was a foregone conclusion because very few other villagers knew enough about the program or participated in the WUA formation process. Rambhai was the Sarpanch of the village at that time. He was re-elected as President uncontested every year until 2002 even after he ceased to be the Sarpanch. There was no challenge to his continued re-elections. On the contrary, every year the EC and occasionally DSC, had to persuade Rambhai to continue to hold that office. The office of the President was clearly not a coveted one and Rambhai’s passive leadership style did little to change that perception among the members. In 2002, Amritbhai Patel became the President when Rambhai was persuaded by the EC to take over as the Secretary. The succession seemed to be a mere formality. In 2003, the tenure of Panchayat ended and elections announced. In keeping with the tradition, there was no contest. Amritbhai’s name was proposed as a consensus candidate and he was elected unopposed, again creating a situation where the same person is the leader of two local self-governing institutions.

While it was relatively easy to fill the President’s office, finding a Secretary was a much harder proposition. Rambhai Patel’s decision to be the Secretary was taken probably more
out of a sense of service than because of any monetary benefit or professional interest. However, when Rambhai died of an illness in 2002, it was difficult for the WUA to find a replacement. The main cause for this difficulty was the exodus of youngsters from the village into the lucrative diamond polishing jobs. For a brief period, the WUA retained the service of Kishorebhai Patel from outside the village to write the accounts and maintain registers. This arrangement was short lived, particularly when irrigation operations were in full swing. When the WUA learned that the agricultural credit cooperative too was having difficulty finding a Secretary, the two joined hands to contribute to a higher salary for an incumbent who could serve both institutions. Pashabhai Patel was finally recruited to fill the dual responsibilities. Fortunately for the two societies, Pashabhai proved to be very skilled in accounting. Malekpur is only the second WUA out of 55 in the Sabarmati project to get an A rating by the auditors from the Cooperative Department of the State government. There is no arrangement for internal auditors despite the WUA bylaws requiring them to appoint one.

All eleven Executive Committee members of Malekpur’s WUA are Patidars. There was no representative from the Thakores or Rabaris, nor any woman representative. Like all other WUAs in the Sabarmati project, Malekpur too had no written rules or guidelines for the election of Executive Committee members. In the absence of such rules, it was DSC’s persuasive influence that guided the process. The overarching criterion was to ensure representation of farmers based on location of fields along the canal system. Thus, the eleven farmers between them would represent land holders from head-reach, middle sections and the tail-end of the canal. DSC’s attempts to engineer inclusion of a Thakore or
Rabari or a women member in the committee did not yield any results. There was no
evidence to suggest that the Thakores, Rabaris or Harijans were kept out through a
deliberate systematic exclusion. In fact, Thakores have been consistently appointed as the
water distributors during the irrigation operations. The water distributor’s role can be quite
crucial in achieving smooth operations, particularly during times of water shortage. They
can also vulnerable to bribes and intimidation by the farmers and therefore require a high
level of confidence and interactive skills. The fact that the EC had no hesitation in
appointing Thakores as water distributors was an indication that there was no
institutionalized exclusion of non-Patidars from WUA management roles.

The regularity and frequency of Executive Committee meetings appeared to be very erratic.
Records indicate that formal meetings have not been held every month. For example, in
2002, the Executive Committee met only 7 times. The attendance too was poor with an
average of four members. The annual general body meetings are conducted merely as a
formality. The DSC members who attend these meetings described it as a ritual with little
scope for members to raise a new agenda or seek any discussion on an existing agenda.

In 1999, the Malekpur WUA managed irrigation independently. In its first year of
operations, they could irrigate 212 hectares of the command area. This was more than twice
the area that the Department could irrigate, even in the best of years. In subsequent years,
this area went up to 251 hectares and then 265 hectares. Every year since then, the WUA
has generated enough income to meet all its costs and obligations to the Department. For
the year 2006, the irrigation operations yielded a net surplus of Rs.41,500. While
productivity has increased only marginally, the profitability has improved significantly due to the lowering of irrigation costs. Reliable canal irrigation is cheaper than groundwater pumped from deep aquifers and even more economical when compared to private water market costs. System level water use efficiency has also gone up significantly due to reduction in wastage and overuse. For the same quantity of water that irrigated 125 hectares prior to PIM, the WUA has managed to irrigate 176 hectares. Financial viability is no longer a concern, as the irrigation fees are now set by the WUA after accounting for all operational costs. There are no pending payments to any supplier including the Irrigation Department.

Malekpur had an unusual beginning to their PIM venture. Having missed the process of community mobilization that is associated with collection of contribution towards rehabilitation cost, the WUA started out with minimal interaction between leaders and members. As a result, the level of awareness of PIM rules and rights has been abysmally low among members. In fact, only one out of 8 interviewed farmers knew that it was their own WUA that is managing the irrigation. The prevailing notion was that the President and Secretary were operating it as the Department’s agents in their individual capacity. With the dominance of BJP as the only viable party in Malekpur, the advantage of having a political opposition party play a watchdog role was also missing.

Even though the present and past secretaries have done a remarkably good job maintaining accounts and registers, the fact that very few, if any, farmers are privy to vital accounting and operational information, makes the WUA very vulnerable to abuse. In the absence of
an internal auditor, the scrutiny of accounts happened only during the annual statutory audit by the Cooperative Department. On many occasions, this audit has happened once in two years. With no oversight mechanism for two years, financial resources of the WUA were even more vulnerable to abuse. This situation was acknowledged by the farmers when they heard of a scandalous collapse of a cooperative bank at the district level where the Chairman and General Manager diverted large amounts of money from the bank through fraudulent loans taken on fictitious names. Yet, there are no remedial measures put in place to prevent a recurrence of this in their own institution.

Thakores and Rabaris do not have strength of numbers. They will therefore be at the mercy of the Patidars when it comes to safeguarding their entitlements. Their right to access irrigation water will be tested when there is a water scarcity condition. The question is, when decisions to reduce irrigable area are required, will it cost the poor disproportionately higher in the absence of clear operational rules and a mechanism for them to alert of any such inequity? Having missed the opportunity to participate in the rehabilitation activities, the farmers have settled into a role of recipients of water rather than co-managers of the resource. This is a situation that they are familiar with, having been a recipient of inefficient government departments for decades. Since the WUA is performing much better than the ID did, the members do not have any reason to be unsatisfied about the status. Thus, there is a perception among the farmers that nothing has really changed in terms of the institutional arrangement and that they are getting the benefits of a competent Secretary.
Malekpur WUA appears to be functioning without any overt problem. It has not requisitioned DSC’s intervention for any operational issues in the last three years. Yet, in the event of a serious conflict between members, or a misdemeanour by the Patidar leaders, there is no certainty that a fair resolution will be forthcoming. On the contrary, it can be assumed that conflicts might either not surface at all or if they do, the resolution may be biased in favour of the Patidars. They however do realize their limitation when it comes to policy matters or liaison with government agencies. They do not see their collective entity as a people’s institution that is strong enough to be able to leverage resources or influence the ID or any other public institution. In fact, they are really not a collective entity and do not see the potential benefits of being one. The members are content with the services they get due to the competency and integrity of the current Secretary and the existence of stabilized operation and maintenance systems for irrigation. There are no predisposing conditions that can predict institutionalization of the current strengths and therefore the institutional sustainability of Malekpur’s WUA is uncertain.
Chapter 8. Interpretation and Analysis of WUAs’ Ranking on Good Governance

The case studies presented in Chapters 5 to 7 offer a wide range of information about the performance of Water Users Association (WUAs) on essential components of governance. This chapter will sift through the information from the case studies and explore patterns and correlations on these criteria of good governance and the extent to which the WUAs have been able to function in an efficient, equitable and sustainable manner. To complete the comparative analysis, it should be possible to rank each WUA in terms of the likelihood of being an enduring self-governing institution.

Performance on criteria for good governance

The eight-fold criteria for good governance are summarized here for easy recall:

(1) Participation: Informed and organized participation by both men and women is a key cornerstone of good governance. Participation could be either direct or through legitimate intermediate institutions or representatives. The key to good participation is to have formal working systems for representation, and to create and sustain an enabling environment that is conducive for participation and adequate awareness about the rights and responsibilities of the members. (2) Rule of law: Good governance requires democratic legal frameworks that are enforced impartially. It also requires special enabling mechanisms to protect the rights of social and economic minorities, and vulnerable groups. When institutions are governed through the rule of law, then it moves away from rule of persons. (3) Transparency: Transparency means that decisions taken and their enforcement are done in a manner that follows rules and regulations. It also means that information is freely
available to and directly accessible by those who will be affected by such decisions and their enforcement. (4) Responsiveness: Good governance requires that institutions and processes provide a response to all stakeholders within a reasonable timeframe. A responsive institution will have sound learning mechanisms that alert the leaders to the need to change rules or take corrective actions to mitigate any deviations or dysfunctions. (5) Consensus oriented: Good governance requires mediation of the different interests in society to reach a broad consensus on what is in the best interest of the whole community and how this can be achieved. When institutions are created around shared resources, such as irrigation water, the means of arriving at a consensus are even more important. (6) Equity and inclusiveness: A society’s well-being depends on ensuring that all its members feel they have a stake in it and do not feel excluded from the mainstream of the society. Institutions must have mechanisms to overcome social and political hurdles that adversely impact access to resources and services by vulnerable groups within the membership. (7) Effectiveness and efficiency: Good governance means that processes and institutions produce results that meet the needs of society while making the best use of resources at their disposal. Governing systems are effective when specific interventions yield desired results. They are efficient when these results are achieved in a cost-effective manner. (8) Accountability: Office bearers who are representing members must be accountable to the public and to their institutional stakeholders. In general, an organization or an institution should be accountable to those who will be affected by its decisions or actions. Accountability cannot be enforced without transparency and the rule of law.

Table 13 on the next page gives a summary of base-line data of the eight WUAs.
Table 13. Comparison of base-line data of case-study villages

<table>
<thead>
<tr>
<th></th>
<th>Denap</th>
<th>Kansa-1</th>
<th>Kansa-2</th>
<th>Kesimpa</th>
<th>Kiyader</th>
<th>Malekpur</th>
<th>Rangpur</th>
<th>Thalota</th>
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<tbody>
<tr>
<td>Population</td>
<td>8582</td>
<td>12131</td>
<td>12131</td>
<td>3602</td>
<td>580</td>
<td>3101</td>
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<td>Caste diversity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Patidar (65%)</td>
<td>Patidar (66%)</td>
<td>Patidar (66%)</td>
<td>Muslim (72%)</td>
<td>Chaudhary (59%)</td>
<td>Patidar (84%)</td>
<td>Patidar (66%)</td>
<td>Patidar (67%)</td>
<td>Patidar (66%)</td>
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<tr>
<td>Thakore (20%)</td>
<td>Rajput (14%)</td>
<td>Rajput (14%)</td>
<td>Thakore (8%)</td>
<td>Harijan (17%)</td>
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<td>Thakore (28%)</td>
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</tr>
<tr>
<td>Rabari (7%)</td>
<td>Harijan (7%)</td>
<td>Harijan (7%)</td>
<td>Harijan (8%)</td>
<td>Harijan (8%)</td>
<td>Harijan (8%)</td>
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<td>Brahmin (3%)</td>
<td>Rabari (7%)</td>
<td>Vaghi (8%)</td>
<td>Rabari (4%)</td>
<td>Rabari (4%)</td>
<td>Brahmin (3%)</td>
<td>Brahmin (3%)</td>
</tr>
<tr>
<td>Others (4%)</td>
<td>Others (10%)</td>
<td>Others (10%)</td>
<td>Others (5%)</td>
<td>Others (5%)</td>
<td>Others (10%)</td>
<td>Others (5%)</td>
<td>Others (5%)</td>
<td>Others (5%)</td>
</tr>
<tr>
<td>Pre-existing</td>
<td>Agri. Credit Dairy</td>
<td>Agri Credit Dairy</td>
<td>Agri Credit Dairy</td>
<td>Agri Credit Dairy</td>
<td>Agri Credit Dairy</td>
<td>Agri Credit</td>
<td>Agri Credit</td>
<td>Agri Credit</td>
</tr>
<tr>
<td>cooperatives</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total irrigation area (ha.)</td>
<td>209</td>
<td>322</td>
<td>571</td>
<td>315</td>
<td>107</td>
<td>273</td>
<td>503</td>
<td>143</td>
</tr>
<tr>
<td>Total # of farmers</td>
<td>165</td>
<td>551</td>
<td>363</td>
<td>196</td>
<td>104</td>
<td>135</td>
<td>224</td>
<td>251</td>
</tr>
<tr>
<td>Audit rating (in 2006)</td>
<td>B</td>
<td>A</td>
<td>C</td>
<td>A</td>
<td>A</td>
<td>B</td>
<td>A</td>
<td>B</td>
</tr>
</tbody>
</table>
The eight Water Users Associations (WUA) selected for the case studies are assisted by the same support agency, namely, Development Support Centre (DSC). They all are part of the same irrigation project, the Sabarmati Irrigation Scheme. Further, all of them are drawing water from the same distributory canal and come under the administrative jurisdiction of the Irrigation Department office situated in Visnagar. While three of them, Denap, Kansa 1 and Rangpur, had participated in the earlier attempt at decentralization when the Joint Irrigation Program was launched in 1983, the other five WUAs were started specifically under the PIM program. Despite their earlier venture, Denap, Kansa 1 and Rangpur, showed no significant carry-over effect when their WUAs were revived. For all practical purposes, they too went through the same learning and capacity-building process that the other five new WUAs did. Cropping patterns and productivity figures are comparable across the 8 villages. On the social aspects, all of the villages have one numerically dominant community (not the same across the eight cases) living with three or more smaller sized caste groups. Table 13 on the previous is a summary of demographic, physical and financial details of the eight WUAs.

The analysis of the case studies will also look at the impact of various capacity-building programs and on-the-field support provided by DSC over a period of time. It is important to study the temporal changes because they will be an indicator of how well the governing capacities that may have been created through DSC’s intervention have become stabilized and institutionalised by the WUAs. Not only can we expect changes as a result of change in leadership at the village level, but also see it as a function of diminishing support from DSC. It was DSC’s policy that the support services provided by their staff to the WUAs
should taper off at a pace that corresponds to the incremental capacity-building that should take place in the WUAs over the same period. Besides, resource constraints would also compel DSC to focus its attention on newer villages in an expanding program. Such analysis will be useful for understanding the role of support agencies in implementing policies of decentralization.

Demography: Dealing with Plural Societies

Every village in India will have some salient social, political and geographical characteristics that distinguish it from other villages. At the same time, there are common characteristics that are shaped by age-old practices and traditions and can be seen in almost all villages in a district. Villages in Mehsana district typically have a multi-caste population with one caste dominating the political, economic and social arenas and setting norms and informal institutions. The minority, usually consisting of three or four other castes typically follow the norms without much contestation. In about 80% of the villages in Mehsana, the dominant caste is the Patidars or more specifically, Kadva Patidars. There are a few villages where Thakores or Choudharys form the majority and a few other villages with a Muslim majority. The eight villages profiled in the case studies more or less conform to this demographic pattern. Six of the eight villages have a Patidar majority, while Kesimpa and Kiyadar are two villages where Patidars do not constitute a majority. While Muslims form the majority in Kesimpa, Choudharys are the largest caste group in Kiyadar. Besides caste divisions, the villages also have class and trade-related divisions.

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Caste-based division manifests itself in far greater degree than class- and trade-related divisions when it comes to decision-making powers or political clout. As described in Chapter 4, Patidars (Patels) are at the top of the political, social and economic hierarchy. The Rajputs (Darbars), Choudharys, Rabaris, Thakores and Harijans follow in that order, down the hierarchy. In the context of people’s institutions and self-governance, such a demographic profile presents two challenges to a fledgling democratic polity: first, how to enable a governing system that reflects the social, political and economic diversity of a multi-caste village. The second challenge deals with the issue of dominance of one caste group over the rest of the groups and the extent to which such domination prevents participation and democratic behaviour. On the issue of dominance, an added dimension is the question whether a Patidar-dominated village will pose a significantly different challenge from a Choudhary or a Shia Muslim-dominated village. The analysis presented here makes an important assumption that in matters of governance, it is not so crucial to examine the variation across the dominant caste groups as it is to understand the generic trend observed in any “dominant-dominated” situation. What is perhaps more relevant here is to examine variations in the evolutionary process of governance with specific focus on how the institution dealt with conflicts in the face of one dominant group. The assumption here is that dominant groups, no matter which group, will tend to behave in a manner that preserves their dominance in order to retain political and economic advantages that come with their social status and strength of numbers. Similarly, the minority caste groups will strive to find opportunities and political avenues to ensure that their minority status does not deprive them of their legitimate entitlements.
The case studies profile the process and outcome of local governance by the eight WUAs. I have identified the style of governance by using the eight-fold criteria of good governance outlined earlier. Each criterion, by itself and when combined with other criteria, will help in understanding the extent to which WUAs have institutionalised democratic principles and practices. More specifically, it will answer the fundamental question as to whether higher levels of democracy in a WUA enable them to achieve the goals of PIM, which are to utilize irrigation water from Sabarmati Irrigation Scheme in an efficient, equitable and sustainable manner.

**Participation**

The name of the new program, Participatory Irrigation Management, strongly emphasizes the importance of participation. It acknowledges the limitations of centralized public bureaucracies, such as the Irrigation Department, in carrying out the tasks associated with grassroots level irrigation work. Decentralization was the approach chosen to enhance participation at various levels and through various means. When the locus of action shifts from a distant office of the bureaucracy to a place physically nearer to the task of irrigation, it creates a crucial condition that is predisposed to better participation in the task. The next important step is to set up enabling mechanisms that translate the advantageous situation into actual participation. To what extent did that happen in the WUAs? The case studies examined if, and to what extent, some of the key mechanisms required to ensure participation have been created and stabilized. More specifically, the study inquired if the WUA provided for:
1. Legally recognized opportunities for direct action by members.
2. Legitimate intermediate forums or methods of representation, when direct action is not possible or not a choice.
3. Mandatory means to keep members informed.

By design, a WUA is a three-tiered organization. The leadership consists of the President and Executive Committee. The second tier consists of the Secretary and water distributors who are the paid employees of the WUA and have a rather passive role in terms of decision-making. The third tier is the general body comprising all of the members of the WUA.

For an ordinary member, the scope for direct action is limited to the General Body Meeting (GBM). The monthly Executive Committee meeting is open to ordinary members only as observers. There are other specific task-related sub-committees that provide forums for members to take action on specific tasks. These subcommittees are made up of Executive Committee members only and therefore ordinary members have no formal role to play in the functioning of the committees.

Only three out of eight WUAs appeared to conduct their GBMs as specified in the bylaws: Kesimpa, Kansa-1 and Rangpur. Attendance was above 50% in Kesmipa and 40% in the other two villages. The other five WUAs recorded less than 20% attendance. Not only are the meetings in Kansa-1 and Rangpur long drawn out events, they are quite noisy and
lively with much discussion on almost all the agenda items. Kesimpa’s well-attended GBMs prided themselves on conducting brisk and smooth proceedings. In contrast, the other six villages found it difficult to achieve the required quorum at the first attempt. Three of them had to resort to a provision in the bylaws that enables them to carry on when a quorum is not achieved\textsuperscript{34}.

Another pattern observed, in all but Rangpur and Kansa-1, was a dip in the level of participation after the initial enthusiasm during the canal rehabilitation period. The reason is clear. With the exception of Malekpur, the rehabilitation phase was preceded by intense engagement between members and Executive Committee over the need for sharing costs. The rationale behind cost sharing was explained in great detail and that provided the members an opportunity to examine, question and offer counter arguments. The physical activity of rehabilitation further provided a reason and opportunity for members to see the consequence of the discussions and debates. Once this activity was completed, most WUAs, with the exception of Rangpur and Kansa-1, considered the regular irrigation operations to be the responsibility of the Secretary and Executive Committee. This notion was neither challenged by the members nor corrected by DSC or Executive Committee members themselves. Members settled into a situation where they too believed that it is the prerogative of the President and the Secretary to take operational decisions and lead any initiative for change or intervene and decide when there is a problem.

\textsuperscript{34} GB meetings can be called only after the date, venue and agenda are communicated 14 days in advance. GBM must have attendance of 25% or more of the total membership to take binding decisions. If and when the attendance falls short of 25%, the bylaws allows for a repeat assembly at the same venue after a wait of 30 minutes and public announcements.
The apathy of the members came out clearly in the interviews with individual farmers. Out of 64 farmers interviewed from the eight WUAs, only 6 (9%) of them were aware of the bylaws that defined the role of executive members and, more importantly, the rights of the members to participate and contribute in meetings. The same level of awareness was observed when it came to the role and responsibilities of sub-committees that are mandated to perform specific operational or governance tasks. Important among them are the Justice Committees that preside over issues of conflict and grievance redress, Audit Committees that oversee finance and accounting, and Construction Committees that supervise regular maintenance works. Only four of the eight WUAs had formally constituted a Justice Committee, five of them had internal auditors, and only three had Construction Committees after the rehabilitation work was completed.

For enabling and sustaining participation of members, adequate and appropriate forums need to be created and members made aware of them. Further, the mere existence of such forums was not enough, as evident from those WUAs that had various committees that rarely performed their duties. Out of 64 farmers interviewed, 46 (71%) believed that they had to make a representation to the President or the Secretary if they had a problem or conflict. Another 12 (18%) would have contacted DSC staff if they had a complaint. So an overwhelming percentage (89%) of the members interviewed did not consider these sub-committees as their representatives. They believed that the committee was constituted as a formality and that only the President, the Secretary and DSC had the real power to address their concerns. Another serious drawback about the committees is that though many of the members knew that such a committee was formed, they did not know who the members of
the committee were. Out of the 6 members who did consider these sub-committees as their representatives, 4 were from Kansa-1 and one from Thalota and one from Rangpur. 36 (56%) of the members said that the Secretary or the President were not obliged to share details of irrigation operations or the financial details with the members. Out of the 28 (44%) who said that their President and Secretary were duty-bound to provide any operational and account information on demand, 6 were from Kansa-1 and 6 from Rangpur, 5 each from Thalota and Kiyadar and remaining 6 from distributed across the remaining four WUA. Farmers from Kansa-1 and Rangpur, where such information was provided as a matter of routine, members attributed it to the leadership style of the President or Secretary. The members believed that such initiatives are specific to the individuals rather than following from any statutory requirement.

All eight WUAs have significant presence of minorities. Participation of members from minority groups is significantly lower than that of members from the dominant group. In the case of Thalota and Kiyadar, the Thakores and Harijans are notably marginalized both in terms of representation in the EC and attendance and interaction in meetings. Yet there is no evidence of any attempt to organize themselves as interest groups. In fact, during a group meeting where I was a participant-observer, the very suggestion of such an initiative was considered as a revolt or provocation in all of the WUAs except Kansa-1. However, even in Kansa-1, the EC did not think it was necessary to formally identify and encourage such associations. The fear was that such a process would only degenerate into the politicization of the WUA along party lines.
Table 14 summarizes the status in terms of degree of participation based on the four criteria mentioned above.

**Table 14. Score indicating level of participation**

<table>
<thead>
<tr>
<th></th>
<th>Opportunities for direct action by members</th>
<th>Intermediate forums or methods of representation</th>
<th>Mandatory means to keep members informed</th>
<th>Freedom of association and expression</th>
<th>Aggregate score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denap</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Kansa-1</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>13</td>
</tr>
<tr>
<td>Kansa-2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Kesimpa</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Kiyader</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>Malekpur</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Rangpur</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Thalota</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>5</td>
</tr>
</tbody>
</table>

0 = Unsatisfactory; 1= Low; 2= Moderate; 3= Satisfactory; 4= Good; 5= Excellent

The value for each component of participation was assigned after considering the relative strength and weaknesses as demonstrated by the respondents, evidence from registers and records maintained by the WUAs and consultation with DSC staff members who were closely associated with the WUAs. While there is an element of subjectivity in assigning values for this table, and indeed for similar tables in the forthcoming sections of this chapter, the analysis and interpretation are useful when considered as a relative measure of performance with the margin of error low and universal across all the cases.

The Table 14 gives equal weight age to all four dimensions of participation. Kansa-1 WUA emerges as the strongest in all of the four dimensions and hence in over all level of
participation. Yet it scores only 13 out of a possible 20 points. The deficiencies come when gender representation is considered. There are no women members of the Executive Committee. Women do not attend either the EC meetings or the AGM in great numbers. This is despite their active involvement in irrigation operations. Kansa-2 has no formal provision for members from the minority to make representation, though with DSC’s help the EC encourages interest groups to meet separately to discuss issues specific to their group and make representation to the EC.

**Rule of Law**

In the case of WUAs, or for that matter any local self-governing institution, the “rule of law” would imply a governing system that is driven by formal rules and regulations created as per the provisions of their Articles of Association. Such bodies will not have or make “laws” in the conventional sense of the term that applies to state assemblies and the national parliament. However, as explained in Chapter 3, interpretation of “rule of law” is as applicable to self-governing institutions as it is to state and national government. In other words, sound rule of law would mean that governance of a WUA must adhere to bylaws, rules and regulations as enshrined in the Articles of Association at the time of registration with the State Cooperative Department and as supplemented or amended subsequently through a resolution approved by annual general body meetings of the WUA.

The eight case studies reveal a remarkable variation in the perception of ordinary members as well as their leaders regarding the importance of, and indeed the understanding of the concept of rule of law. During interviews with individual farmers and group discussions, a
cliché that would be mentioned often was “everybody must follow rules”. Yet, when asked to explain what they meant by “rules”, less than half (30 out of 64) of the interviewed farmers could describe what this meant in practice. Among those who did, a majority of them were from Thalota, Kansa-1 and Rangpur (22 out of 30). When asked to cite examples of a sound regime of rules, most of the respondents from these three WUAs mentioned the strict irrigation scheduling rules, penalties for the breach of rules, and the impact of penalties on the behaviour of leaders and office bearers. Bhaichandbhai Patel, the first President of Kansa-1 WUA was the only respondent who could understand the contrast between “rule of law” and “rule of person”. He even characterized the type of governance in most of the other large cooperative societies and political parties in Gujarat as “rule of person”, reflecting the stranglehold that leaders have traditionally had on people’s institutions such as cooperatives and political parties.

To assess the extent to which the eight WUA cases performed in terms of the rule of law, it is necessary to draw a distinction between bylaws and rules/regulations that govern a WUA. The bylaws of a cooperative spell out the election process, tenure of elected positions, and the rights and responsibilities of the President, Executive Committee and Secretary. Bylaws must also abide by the requirements of law provided in the Gujarat State Cooperative Societies Act (1961). In the case of WUAs promoted by DSC, neither the farmers nor their leaders made any significant contribution towards the framing of these bylaws. DSC prepared, and provided to all WUAs, a template of desirable bylaws after studying other successful cooperatives societies in India and collating them into one set of
bylaws. Thus, all WUAs had the same set of bylaws at the time of registration. It was DSC's intention that after the registration process was completed, each WUA would re-examine and modify any bylaw to meet its specific needs. As it turned out, none of the WUAs even bothered to ascertain if any of the bylaws were inappropriate and therefore none of the original bylaws provided by DSC was either modified or removed. This explains why most ordinary members of WUAs and quite a few EC members were unaware of the provisions in the bylaws. They were not considered as “their own” bylaws, and were even referred to as the “DSC bylaws”.

Rules and regulations, also an essential part of the Article of Association required at the time of registration, dealt with operational aspects of conducting the business of irrigation. As expected, existing rules had to be modified or new rules and regulations to be introduced by the WUA progressively as they gained experience. The number of such modifications or new rules is one important, but not sufficient, indicator of the importance given by the WUA to adherence of the rule of law. The eight case studies revealed very interesting and significant variations in the number of such changes and the way they were brought about.

Rangpur, with 21 new rules, had the highest number of additions in the 8 years since their registration. Thalota and Kansa-1 came second with 17 rules each. Denap and Kansa-2 had only two new rules introduced after their registration. Both of them did so only after DSC

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35 This was done solely to avoid bureaucratic delays in the process of registration of a WUA. When any new bylaws or articles are introduced, the Cooperative Department would invariably raise objections and delay the registration. On the other hand, the Cooperative Act provided a cooperative society the right to add or amend bylaws through a resolution by the general body of the cooperative society.
drew their attention to the other WUAs, where these two rules were found to be very helpful. In the cases of Kiyader, Malekpur and Kesimpa, the number of rules that were either amended or newly introduced ranged between 4 and 9. It can, therefore, be argued that a WUA is more likely to revise existing rules and create new rules if it perceives benefits to be gained by creating and adhering to the rules and regulations, or in other words, the relationship between good governance and rule of law is mutually reinforcing.

The importance given by a WUA to the rule of law was also reflected in the level of awareness of rules among farmers. Members from Kansa-1, Rangpur and Thalota had higher levels of awareness compared to Kansa-2 and Denap, whose members had extremely low levels of awareness. Awareness about the rules was very low in Kiyader, Malekpur and Kesimpa too, but all of them had at least one President or Secretary who took the initiative or responded positively to DSC’s suggestions to bring in effective rules. However, with the change of the leadership, the adherence to the rule of law in these villages wavered.

To ensure the rule of law, it is not sufficient to have written rules. They must also be created through a participatory process and there must be mechanisms to ensure that the rules and regulations are implemented through enforcement. While Rangpur and Kansa-1 had a participatory process preceding the creation of new rules, in Thalota’s case, the new rules were introduced mainly by their first President, Amritbhai Patel, with little consultation of members. In the case of Denap and Kansa-2, even the rules that were

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36 New rules can be legally binding only when they are discussed in the EC meeting and then approved by
adopted from DSC at the time of registration were not all adhered to. The President of Kansa-2 went to the extent of stating in a General Body Meeting that the rules and systems provided by DSC were not suitable for them and therefore they were not obliged to follow them. However, he did not suggest any alternate set of rules. This resulted in the Secretary and President becoming de facto rule-makers. At the other end of the spectrum, in Thalota, Kansa-1 and Rangpur, the EC proposed many new rules, amended some of the ones proposed by DSC and dropped a few altogether. For example, DSC had proposed that the irrigation fees must be decided after a budgeting process that provided for a depreciation fund. The EC of Kansa-1 and subsequently Rangpur believed that it is not fair to pass the burden of capital expenses to the farmers in order to undo the mistakes of the ID. While they continued to adopt a budget that reflected all operational costs, they did not factor in depreciation.

There was a commonly held belief that leaders will have discretionary privileges above and beyond what the law permits and that they will enjoy some immunity against sanctions if they do break the law. Such beliefs are slowly changing in some of the WUAs. Evidence of this can be seen in the pattern of adherence to rules across the eight WUAs. It starts with having a clearly defined penalty structure for a breach of the rules. The level of enforcement can be gauged from the frequency of penalties levied and collected. Equality in the implementation of rules can be gauged from the distribution of penalties across the membership and leadership. Here again, Rangpur had not only the maximum penalties imposed, but also the maximum penalties paid by the office bearers including the President.

General Body by 2/3rd majority. The WUA has to send the resolution passed by the AGB meeting to the State Registrar of Cooperatives before it can become operational.
It may be counter-argued that the incidence of penalties and enforcement could also be an indicator of poor discipline and high delinquency among members. However, there is no evidence to suggest that the Rangpur or Kansa-1 or Thalota WUAs, with their higher incidence of penalties, are performing any worse than Kansa-2 or Kesimpa where there are no penalties imposed on anyone, let alone the leaders. On the contrary, Rangpur and Kansa-1 have the lowest number of conflicts or interruptions in operations and are among the best performing WUAs in terms of utilizing the irrigation potential and ensuring equity. In Kansa-2, members shied away from discussing anything about the incidence of delinquency or the abuse of privileges by the President or Secretary. Irrigation records indicate that a group of farmers who were denied water due to a breach in one section of the canal for two seasons did not make any representations at all.

Both Kansa-1 and Rangpur had got the process right from the beginning by ensuring that major decisions such as water allocation, irrigation fees and appointment of water distributors were made only at the GBMs. In both cases, the first Presidents were not only well respected in the village but considered approachable. In turn, both of them would insist on not taking major decisions without the formal endorsement of either the EC or the General Body. In Thalota too, these decisions were taken in GBMs, but the aggressive personality of the President Amritbhai Patel prevented any discussion on the agenda. In fact Amritbhai would even acknowledge with pride that he must take unilateral decisions about irrigation fees because only he was privy to the budgetary information of the WUA. This situation was even more acute in Kansa-2 where the President’s presence in the meeting would virtually end any participation by even the Executive Committee members,
let alone ordinary members.

Cooperative law requires that the minutes of proceedings of all EC and GBM meetings be maintained and scrutinized as part of the statutory audit. Further, all decisions regarding introduction of new rules or modification of existing rules should be done only after a resolution is presented and approved either in the EC meetings or GBM meetings. In Kansa-2 and Denap WUAs, the minutes of all EC committee meetings, which are held very infrequently to begin with, are almost identical in their agenda and description of the proceedings. The Secretary of Kansa-2 candidly admitted that many of the minutes have been written many weeks or even months after the meetings were held. The Secretary of Denap WUA lamented that there were very few new agenda items to discuss in these meetings and that was the reason why all minutes appeared to be identical. The members did not always, as required by law, sign the minutes of the meetings in Kansa-2. On the other side, Rangpur WUA was very scrupulous in following the legal requirement when it came to meetings and decision-making. The minutes of the meetings were elaborate, discussions and the process of arriving at each decision described in detail. Kiyadar WUA had witnessed sporadic periods of well conducted meetings. This happened when Haribhai Choudhary took an active interest in the day-to-day activities of the WUA. In his absence, the EC would not meet, or if they did, they would refrain from discussing any substantive agenda items.

There appears to be a link between the propensity of a WUA to create and enforce rules and the level of participation that the WUA leaders solicit or enable. In Kansa-2, the
President even went to the extent of saying that only WUAs with “weak leadership” need written rules and regulations. The weakness he alluded to was clearly measured in terms of wielding unquestionable power. Kiyadar and Thalota demonstrated that even with a well-meaning and skilful President whose leadership became a substitute for written rules, unless the good elements of leadership are institutionalised in the form of rules, smooth functioning of the WUA cannot be ensured.

Table 15 below summarizes the performance of the eight WUAs in terms of having a governance of the rule of law. Each WUA is rated on four important aspects of the rule of law: the propensity to create new rules through a democratic process, evidence of implementation of the rules, the regulatory effect on leaders and equality in rule implementation.

**Table 15. Score indicating adherence to Rule of Law**

<table>
<thead>
<tr>
<th></th>
<th>Introduction of new rules*</th>
<th>Evidence of enforcement of rules</th>
<th>Rule of law as regulator of leadership</th>
<th>Equality in rule of law</th>
<th>Aggregate score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denap</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Kansa-1</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>16</td>
</tr>
<tr>
<td>Kansa-2</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Kesimpa</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Kiyader</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>Malekpur</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>Rangpur</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>18</td>
</tr>
<tr>
<td>Thalota</td>
<td>5</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>14</td>
</tr>
</tbody>
</table>

0 = Unsatisfactory; 1= Low; 2= Moderate; 3= Satisfactory; 4= Good; 5= Excellent

* Number of new rules introduced by WUA:<2 = 0; >2<5 =1; >5<10 = 2; >10<15 = 3; >15<20 = 4; >20 = 5
Rangpur WUA emerges as the best of the eight while Kansa-2’s performance is dangerously low. Such a wide margin of variance across the two WUAs does not show any clear relationship to the caste composition since both villages are dominated by Patidars. There is however a relationship between performance and the type of leadership during the formative years of a WUA. Rangpur and Kansa-1 had the good fortune of starting with leaders who valued democratic principles. In contrast, Kansa-2 had the bad fortune of starting with an authoritarian leader in Jasbhai Patel. Thalota is an excellent example of how it is not the good intention of a leader alone that matters but also the ability of the leader to subject himself or herself to the same set of rules that other members are subject to. The importance of institutionalising the implementation of the rule of law is also evident from the performance of Thalota and the other four WUAs where the rule of law was either not given much importance or when it was, it was limited to the tenure of a good leader.

The positive correlation between participation and the rule of law is not a coincidence. When members from Kiyadar, Denap, Malekpur and Kesimpa were asked about the reasons for their low motivation to attend meetings and participate in decision-making, a common refrain was that participation had not only economic costs in terms of time spent in formal meetings, but also social costs in terms of antagonizing leaders when they discover, post facto, that their opinion or suggestion did not conform to what the leaders wanted. They felt that the highly discretionary authority of leaders in decision making, or poor application of the rule of law, meant that the functioning of the WUA was highly unpredictable. They were not willing to increase their participation in terms of bearing the economic and social costs that come with it. This demonstrates the link between predictability and rule of law that many scholars believe is essential to good governance.
Transparency and Accountability

Most of the literature reviewed in this study discussed the importance of transparency and accountability as two separate characteristics of good governance. While gathering information in the field, however, it became clear that the data pertaining to the degree of transparency in the governing system and accountability of office-bearers to the members of a WUA could not be gathered independently of one another. As argued in most literature on the subject, transparency and openness in governance will lead to more accountability (see for example Fox 2007, p. 664-665). Analysis of the eight case studies strongly validated this relationship and therefore, these two criteria of good governance are examined together.

In India, endemic corruption is a much-discussed subject and is blamed for the most serious problems of widespread poverty and deprivation. Not surprisingly then, the issue that members of any WUA are most sensitive to in terms of transparency, or the lack of it, deals with accounts and financial matters. Due to low accountancy literacy among members, most of them believed that they could make little use of information about the financial affairs of their WUA even if it were made available to them. However, there was clear evidence of a change in this attitude in some of the WUAs. Even though none of the eight WUAs was required, either by the State Cooperative law or by their own bylaws or rules, to disclose day-to-day financial information to their members, Rangpur and Kansa-1 had introduced a practice of inviting any member to scrutinize their book of accounts during the regular EC meetings. Malekpur and Kiyadar followed the practice a few years later but secretaries from both the WUAs complained that despite inviting scrutiny of their work,
none of the members was interested. The EC of Malekpur did not believe that it was important to motivate and help members to seek information by making financial reports user-friendly. The Secretary of Kiyadar, on the other hand, made persistent attempts to share such information by posting the monthly account statements on public notice boards in the office. Thalota WUA, under the leadership of Amritbhai as President and later as the Secretary, dismissed the importance of striving for transparency in accounting matters. While he was always ready to have his books examined by DSC staff, and even sought regular training inputs to improve his accounting skills, Amritbhai bluntly rejected any suggestions regarding scrutiny of the accounts by “illiterate members.” The President and Secretary of Denap WUA were not averse to sharing details of financial and operational matters, but made no effort to encourage even their EC members to go into details. The Secretary of Kansa-2 was, by far, the most secretive of the eight WUAs when it came to disclosures. Due to the President and Secretary’s political stature, members felt intimidated to ask even the most basic questions about irrigation schedules. None of the eight individual Kansa-2 farmers interviewed had ever seen or sought financial information from the Secretary or the EC.

A discussion with the EC members of the need for transparency evoked strong sentiments from all the WUAs. It ranged from a healthy and animated debate about the risk of abuse and victimization in Malekpur WUA to an indignant walk-out by members of Kansa-2 EC. One member accused me of “sowing seeds of suspicion and distrust” among honest members. Another member described it as a “mischievous attempt to westernize Indian culture”. In almost all the other seven WUAs, the members had a genuine dilemma. Many
of the ordinary members and about half of the EC members believed that repeated scrutiny of the Secretary’s and the President’s work and decisions would be misconstrued as a loss of faith in the integrity of the office bearers. This sentiment was heard even in the Rangpur and Kansa-1 WUAs where the system of appointing internal auditors was taken seriously. In Rangpur, the Secretary provided a copy of the daily financial transaction listings to the EC members for discussion during the monthly EC meetings. These listings were discussed not only by the EC members but also by the ordinary members.

There is a tendency on the part of illiterate villagers and urban educated professionals alike, to attribute higher levels of transparency to higher levels of education and economic status of the villagers. The evidence from eight villages does not indicate any such correlation. Kansa-2 and Kansa-1 share the same educational and economic profiles as does Rangpur village. Yet, Kansa-1 and Rangpur have achieved considerable progress in disclosure of information while Kansa-2 WUA is almost regressive in that respect. At the same time, Kiyadar, which has arguably the lowest average education level and the lowest average income among all the eight WUAs, could introduce and sustain a higher degree of transparency than Denap, Malekpur and Kesimpa. All three villages have members with much higher levels of education and are among the better off villages in terms of wealth.

Thalota’s case requires a separate analysis. The dominating personality of Amritbhai Patel would ensure that no member dared to ask for information or question his decisions, particularly about the collection of irrigation fees and management of the WUA’s
agricultural input supply activities. In this case, many members had valid reasons for their anxiety. Amritbhai had his own private agriculture input-supply business and therefore presented a straightforward case of conflict of interest with the WUA. At the same time, Amritbhai had built a very strong credibility as an honest and committed promoter of farmers’ interests, a credibility endorsed by DSC through public statements. It would therefore be a very unpleasant task for any member to raise a query about Amritbhai’s work without hurting Amritbhai’s pride. Finally, when someone did ask, Amritbhai took affront and promptly resigned. On DSC’s repeated urging, he appointed a successor whose integrity he vouched for. As it turned out, the new Secretary had poor accounting skills that eventually led him to misappropriate Rs 35,000 from irrigation fees, in the process taking the WUA to the brink of a total collapse. The members, particularly the weaker Thakores, lost confidence in the ability of the EC to run the affairs of the WUA honestly. Interestingly, the loss of Rs 35,000 did not compromise the financial strength of Thalota WUA. They had more than Rs 150,000 in surplus to tide over any cash crunch. It was the vulnerability and unpredictability of their accounting system that had the members gravely worried. This event also ran counter to a popular perception that only financially weak institutions are vulnerable to a breakdown in governance.

The Thalota case reflects a very common malady that afflicts local people’s institutions in India. Despite countless incidences of abuse of leadership positions around them, ordinary members believe that leaders are, by tradition, not obliged to share information or be open.

As described in the case study, Amritbhai took active initiative to diversify WUAs activities from mere irrigation operations to sale of agricultural input supply. His tapped into the demand for quality seeds, fertilizers and pesticides from Thalota and neighbouring villages and saw the scope for profit from bulk procurement.
to public scrutiny and thus be accountable to the members. Thus the potential for the abuse of the office increases.

The interviews with farmers revealed another strong link between transparency and accountability. When asked if the office bearers will respond positively to a demand for transparency, almost half of the respondents (31 out of 64) believed that the response from their leaders would be negative. When asked about the reason for this, 21 out of 31 said that the leaders would fear losing their discretionary powers and be answerable to spending habits that are not justifiable or indulge in nepotism that is, like financial indiscretions, a privilege accorded to leaders.

In the discussions with EC members about accountability, I wanted to start the dialogue with a simple non-leading question: who is the EC accountable to? However, I had difficulty in framing the question because there are no colloquially used and understood words in Gujarati that are synonymous with the word “accountability”. So a few hypothetical situations were used as illustration to explain how accountability manifests itself. The response from the EC members indicated an acute ignorance about the concept and practice of accountability. None of the ECs from the eight cases thought they were accountable to their members. Rangpur EC members thought they were accountable to the President. Kansa-2 EC members thought they were accountable to the ID or the government. The remaining six WUAs were not sure if they were accountable to the ID or DSC. Finally, when prompted about being accountable to their members, they understood the logic but had difficulty accepting that leaders could be held to account by a collective
group. This response was understandable from the arguments put forward by the EC members in their defense. They believed that accountability would be meaningful only if the person or persons to whom they were accountable had the authority to punish. The ordinary members were not aware of the power they wielded, and even if they were aware, they had no mechanism to enforce it. In practice, it was indeed the ID that continued to play a crucial role as a source of finance for creating the physical assets and controlling the release of water and therefore the tendency to look upon them as a power center was understandable.

There were limited opportunities for members to hold their leaders and office bearers accountable. The annual General Body Meeting (GBM) was one of them. When a GBM is conducted in a democratic manner, as in Kansa-1 and Rangpur, leaders behave and relate to members with respect. Even though they do not acknowledge it, the functioning of ECs in Kansa-1 and Rangpur WUAs was influenced by the fact that they were answerable to the members in a GBM. The same outcome is seen in those WUAs where sub-committees such as the Justice Committee and the Audit Committee are functional and accessible to members. Besides Kansa-1 and Rangpur, Kiyadar and Kesimpa were the only other WUAs where the Justice Committees and Construction Committees were functional and therefore enabled members to either bring their problems for resolution or make a complaint and be heard when they are adversely affected.

There was one surprising response from a few ordinary and EC members about the reason why Presidents and Secretaries tend to be unaccountable to their members. By law, the
President does not draw a salary from the WUA. Secretaries are paid salaries that are considered very modest when compared to the salaries drawn by the ID staff who had similar responsibilities. In seven out of the eight WUAs (Kiyadar was the exception), the Secretaries candidly admitted that their salary was grossly inadequate compared to the value of the work done by them. As a result, there was a general perception among the members, and perhaps subtly cultivated by the leaders, that the leaders were providing their services on a *pro-bono* basis. Thus, it was difficult to set standards of performance for leaders and hold them to account when they have an aura of philanthropy and altruism around them. During the last eight years, only once was a President asked to step down for poor performance. The President of Kesimpa WUA was reprimanded by the EC for irregular attendance in the EC meetings and was asked not to run for the position at the end of his term.

Kiyadar, Kansa-1 and Thalota had created some performance standards for their Secretaries. Even though there have been more than 14 cases of serious lapses and even misappropriation of money among the eight WUAs, none of the Secretaries involved in it was sanctioned by the EC. In most cases, it was DSC or government auditors who discovered the accounting misdemeanors. There were no penalties in any of these cases. Two Secretaries, one in Thalota and the other in Kiyadar, resigned of their own free will. Both WUAs had great difficulty in replacing them. In fact, in both cases they brought back Secretaries who had done well earlier and pleaded with them to serve as interim Secretary.

Another significant gap in terms of transparency and accountability dealt with conflict-of-
interest situations. Abuse of positions of authority on account of vested interest is widely accepted as a serious problem in public service. During the field work for this study, Mehsana district was rocked by two major corruption scandals in reputed credit-union banks where the members of the governing board of the banks used their privileges to borrow large sums for ghost-companies. The local media covered extensively the collapse of these banks and the role played by the members of the board. The heightened awareness about the two cases enabled me to highlight the importance of conflict of interest rules and guidelines. Only Rangpur EC had passed a resolution barring the President and Secretary from any responsibility for procurement of contractors or materials. In the Kansa-1 and Kiyadar WUAs, the EC decided that the Construction Committee as a group would do procurement of material and services. In all the remaining five WUAs, the procurement process was limited to the President and Secretary. There is no evidence to suggest that any of them derived any undue benefit from these procurements. However, most members agree that such levels of disengagement by the members from management functions do reduce accountability and increase the WUAs’ vulnerability to the abuse of power and to corruption.

A serious deficiency in the laws governing accountability is the absence of a right to recall an elected leader for non-performance. None of the eight WUAs recalled their President or EC prior to the end of their term. There are only one or two cases in the district where a President was asked to resign mid-course due to a misdemeanor. In these cases, popular protests and social pressure were used to force the persons out of the office. There were no rules used or any legal path taken to achieve this.
Table 16 gives a relative valuation of the performance of the eight WUAs on four key components that make up transparency and accountability and an aggregate score to help rank their performance.

Table 16. Score indicating transparency and accountability

<table>
<thead>
<tr>
<th></th>
<th>Disclosure Practices</th>
<th>Internal auditing</th>
<th>Conflict-of-interest rules</th>
<th>Accountability of EC to members</th>
<th>Aggregate score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denap</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Kansa-1</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>Kansa-2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Kesimpa</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Kiyader</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>Malekpur</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Rangpur</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>16</td>
</tr>
<tr>
<td>Thalota</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>5</td>
</tr>
</tbody>
</table>

0 = Unsatisfactory; 1= Low; 2= Moderate; 3= Satisfactory; 4= Good; 5= Excellent

From the table above, a wide variance can be seen across the eight WUAs in terms of performance on the transparency and accountability measures. Rangpur is by far the best performing WUA. This is not surprising because they have shown high levels of participation and adherence to the rule of law. It can be said that good participation and rule of law can provide the basis for transparent and accountable governance. But the case of Kiyadar indicates that transparency and accountability can be achieved in the short run, if an individual leader takes the initiative to promote openness and set standards of performance for him (or her) self and other stakeholders. In Kiyadar, such openness was seen only because the then President Haribhai believed in it. However, no efforts were
made to institutionalize such openness and standards of accountability. As a result, when he stepped down from that position, the WUA reverted back to the situation where the Secretary’s and the EC’s work and decisions were no longer open for scrutiny. Precisely for the same reason, we saw that the Kansa-2 WUA leadership consciously closed any formal avenues for participation and rule of law that were likely to generate a demand for transparency and accountability from the members. Unlike Kansa-2, the poor performances of the WUAs of Malekpur, Kesimpa and Denap’s occurred perhaps not by design but due to misconceptions about the process of disclosure. There was also a common apprehension that transparency will only provide opportunities for mischief-makers to sabotage the functioning of the WUA.

**Responsiveness**

The nature of the central activity of a WUA, namely providing timely irrigation, requires that the leadership respond to the needs of their members in a time-bound manner. This was evident from the number of times that the eight WUAs were required to rapidly mobilize people and material to solve operational problems.

The most frequent and critical event occurs when the irrigation schedule is interrupted and even stopped all together when canals either clog up or break. Not only will such interruptions cause much complication to the water distributors in re-scheduling, but also cause serious damage to the crop if the delay in repair is too long. All eight WUAs have faced this situation at least four times in the eight years of operations. In the case of Kiyadar, such incidences were very frequent due to the poor condition of their canal
system. In Kansa-2, a group of 12 farmers were denied any irrigation due to a problem with canal alignment. The second most common problem that required response was when the WUA faced conflicts between members or between members and the EC. The presence and action of the Justice Committee or the EC itself determines the efficiency with which the conflicts are resolved. The third situation deals with the need to change rules and regulations when they were seen to be regressive or unfair to some members or unduly in favor of others.

Two discernible patterns emerge from analyzing the responsiveness of the WUAs. The first one shows a connection between responsiveness and the extent to which a coalition-building process occurs among the members. Among those WUAs that have poor participation, such as Kansa-2, Thalota, Denap and Kesimpa, members tend to complain to the EC about their problems only when it affects many members in a group. Thus, they would make a representation only if they are able to build a coalition and approach the EC or the Secretary. Where the coalition-building process is not established or is not part of the local tradition, such as with the Thakores in Thalota or the Rabaris in Kesimpa, the ECs respond with considerable lethargy. Expectedly, a preponderance of such situations is seen among minority groups.

One of the serious concerns expressed by the farmers during interviews is the apprehension that a responsive EC will be considered a weak EC. This again fits into the prevailing perception that leaders can be considered strong only when they set their own agendas and expect members to respond and not the other way around. The Secretary of Denap WUA
believed that prompt response to members’ demands will only spoil them. This impression was echoed by other members of the EC and even some ordinary members. The ability to ignore or override members’ needs is considered as an indication of the leader’s power. When the leader is a politically powerful person outside the village too, as in the case of Jasubhai Patel from Kansa-2, any initiative to respond to members’ problems is decided on the political mileage it can generate for the leader. Using his contacts with state level political leaders, Jasubhai would even mobilize government money for extending the irrigation coverage by constructing new canals without the mandatory contribution from farmers, further consolidating his position as a benevolent, even if authoritarian, leader who should be treated with deference.

The track record of responsiveness to individual farmers’ representation is quite dismal. Out of 64 farmers who were asked if they ever made any complaints or representations to the EC or President, only 11 could remember doing so. Out of these 11 farmers, 10 received a satisfactory response from the EC. The 53 farmers who did not make any representations claimed that they did not have any reason to complain. This was later proved to be incorrect, because most of the farmers did face problems at least once and in a few cases repeatedly over the last eight years. When reminded of this fact, they revised their responses and admitted that they did not complain to the EC because they did not think it was the EC’s mandate to help them. This attitude was probably a result of their long experience with an ID that was totally indifferent to farmers’ needs. It was understood that problems at the farmer level must be sorted out by the concerned farmer alone.
While farmers were not forthcoming in seeking their EC’s action to solve their problems, fortunately some of the WUAs took some initiative to set up a good monitoring system to identify problems early on and focus attention on quick remedial actions. When Kiyadar was faced with a serious breach of the canal, the EC could mobilize 50 farmers to volunteer their labor to plug the breach and restore water flow within hours of the breach. Similarly, Kansa-1 and Rangpur had authorized their Secretary to spend up to Rs 500 for an immediate response to any dysfunction in the irrigation schedule.

Openness and free flow of information also have a significant impact on the responsiveness. When EC meetings were held regularly and well attended by ordinary members (as observers or participants) as in the case of Rangpur and Kansa-1, the time taken to attend to a member’s problem was the lowest. In both villages, canal repairs have been undertaken within 24 hours of the damage. Kansa-2 had a good beginning when their Secretary, RV, who was a civil contractor too, could respond to canal breakages very quickly. But from the second year onwards, the response was not quite so prompt and when a few complaints from farmers were not attended to for more than a week, farmers stopped complaining. Subsequently, these farmers dropped out of irrigation operations altogether. When this was pointed out to the Secretary, he dismissed it as a problem of design flaw that the WUA cannot solve. This happened despite the affected farmers having contributed to the rehabilitation cost equally. Their problems continued to be unresolved as of December 2007.

None of the farmers or EC members believed that poor responsiveness to members needs is
an indication of poor accountability. Here again, the benchmark of performance is based on the poor standards set by the ID over the last 50 years. Therefore, any improvement on that performance is seen as due to the magnanimity and selfless work by the EC and Secretary or President. None of the 64 farmers believed that the EC should be sanctioned if they failed to respond to their problems. They argued that if the ID was not sanctioned for neglecting their responsibilities for all these years, the EC is far less endowed with resources and authority to address their problems. Therefore, it was a question of benchmarking the performance of EC against an abysmal precedent set by the ID.

Table 17. Performance of the WUAs in responsiveness

<table>
<thead>
<tr>
<th>Need for response</th>
<th>Denap</th>
<th>Kansa-1</th>
<th>Kansa-2</th>
<th>Kesimpa</th>
<th>Kiyader</th>
<th>Malekpur</th>
<th>Rangpur</th>
<th>Thalota</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irrigation disruption</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Conflicts</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Amending Rules</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Aggregate Score</td>
<td>1</td>
<td>7</td>
<td>1</td>
<td>5</td>
<td>7</td>
<td>3</td>
<td>7</td>
<td>5</td>
</tr>
</tbody>
</table>

0 = Unsatisfactory; 1= Low; 2= Moderate; 3= Satisfactory; 4= Good; 5= Excellent

Consensus Orientation:

There was a common misperception among members and leaders of the WUAs about the process that leads to consensus. A traditional rural practice of holding a *panch*[^38] is often cited as an effective way of dealing with divergent views or conflicts over shared resources.

[^38]: The word *panch* means five in many regional languages. This refers to the five elected members of the *Panchayat*. They are required to convene meetings to discuss conflicts or facilitate negotiation between opposing groups or interest groups.
or during collective action. This practice is more of a folklore than a contemporary institution. Even in those few villages where this happens as an exception, the process of arriving at a consensus is far from democratic in the sense that the presence of a powerful leader severely inhibits full and free discussions. There is also a misconception that consensus is achieved only when everybody gets what they want. This perception has led to an attitude of skepticism among leaders and villagers towards the practicality of the process.

When ordinary members were asked about the need for consensus in resolving disputed decisions, only 6 out of 64 members believed that a formal process is even possible. However none of them could explain why they should not have it. The very idea that disagreements could be resolved without the moderating presence and control of a powerful leader did not seem to be in their realm of possibilities. This supports the argument that the patriarchal and feudal history continues to shape the imagination of people when it comes to playing their part in democratic governance. When real participation of members is increased through enabling forums of participation and when rule of law makes the process of governance predictable, as in Rangpur and Kansa-1, the attitude of members towards their right to have consensus oriented decisions changes favorably. Thus, the fact that the Justice Committee was functional only in Rangpur and Kansa-1 is no coincidence. All the WUAs have much to do in this respect.

Rangpur WUA had a practice that comes closest to being called a consensus process. When there were divergent views that were not resolved, then the privilege of taking decisions
pertaining to such conflicting situations was rotated among various interest groups. In most cases the interest groups were defined by either the caste affiliation or the location (head reach, middle, and tail) of the member’s field along the canal. While this is certainly not a process that ensures fairness based on the merit of the case, it definitely plays an important role in establishing a sense of fairness in the decision-making process. Thalota WUA too had a process to arrive at a consensus. However, it was heavily centered on their leader Amritbhai. He would preside over the discussions between contesting parties and more often than not, achieve fair resolution because of the high degree of credibility he enjoyed. None of the other WUAs had a formal or informal process of arriving at a consensus. This deficiency is directly linked to the level of participation and the rule of law.

Equity and Inclusiveness

Most of the critiques of ID officials’ poor performance delve into their inability to ensure that all farmers receive their legitimate entitlements to irrigation water. This is consistent with the response I got from the ID staff who candidly acknowledged that farmers had no recourse to their grievances if they were deprived of their share of water. This was considered a *fait accompli* situation. Therefore, the farmers were attracted to the PIM program, among other things, because of its potential to ameliorate this situation by improving access to irrigation for more farmers than the ID managed to provide. Early results were particularly impressive due to the dramatic increase in access to water by the tail-end farmers of the Minor canal. In all eight cases, the rehabilitation of the canal may have contributed more to this improvement than any change in the management as a result of WUA. Yet, farmers linked the change with the PIM program. This perception was not
entirely wrong either, because the canal systems might not have been repaired if it were not for the provisions in the PIM program. As seen in Table 18, this perception was echoed in the responses from 56 farmers out of 64 who were interviewed individually for the study.

**Table 18. Responses about benefits of PIM**

<table>
<thead>
<tr>
<th>Most significant benefit derived from PIM:</th>
<th>Frequency (number of farmers)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Tail-end farmers will get better service</td>
<td>56</td>
</tr>
<tr>
<td>2. No dependence on government (ID)</td>
<td>34</td>
</tr>
<tr>
<td>3. Irrigation on time</td>
<td>31</td>
</tr>
<tr>
<td>4. Less wastage of water</td>
<td>26</td>
</tr>
</tbody>
</table>

*Source: Interviews with farmer members of 8 WUAs*

When asked to cite the four most significant advantages of the PIM program, the most common response was the potential positive impact the program can have on equity. This response is consistent with the findings of other studies that have examined the problems faced by farmers during the pre-PIM period when the ID had managed the operations (For example, see Shah 1999, p. 11).

There are three dimensions of equity that can be analyzed in PIM: location-based, class- or caste-based and gender-based equity. Among the three dimensions of equity, location-based equity is easily the best perceived and understood by farmers. That is not hard to explain. When canal structures malfunction due to poor maintenance or due to delinquent behavior by the other farmers, the tail-end farmers feel the impact the most. Years of neglect by the ID had resulted in an attitude of resignation by tail-end farmers and indifference among head-reach farmers. So acute was the problem that in 5 out of the 8
case-studies, at least 15% of the farmers in the service area had not received water from their canal even once in the 10 years preceding implementation of PIM. Despite repeated complaints to the ID and in some cases to their MLAs, the situation had not improved. The PIM program was presented to these farmers as an effective way to address this problem. During the canal rehabilitation phase, the attention of DSC staff and leaders from the village was focused on ensuring that the canals were repaired right to the tail-end sections of the network. In some cases such as Thalota and Kansa-2, the canal alignment was re-designed to serve more farmers than was originally planned. Therefore, when the farmers from the tail-section saw irrigation water reaching their field for the first time, it left a strong positive impression of PIM. Anecdotes of tail-end farmers getting water for the first time proved to be one of the most effective motivators in enrolling more villages into the program.

Table 19. Summary of irrigation operations by WUAs

<table>
<thead>
<tr>
<th>Village/WUA</th>
<th>Denap</th>
<th>Kansa-1</th>
<th>Kansa-2</th>
<th>Kiyadar</th>
<th>Kesimpa</th>
<th>Malekpur</th>
<th>Rangpur</th>
<th>Thalota</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total irrigable Service Area (Ha)</td>
<td>209</td>
<td>322</td>
<td>571</td>
<td>315</td>
<td>107</td>
<td>273</td>
<td>503</td>
<td>143</td>
</tr>
<tr>
<td>2001-2</td>
<td>133</td>
<td>185</td>
<td>120</td>
<td>166</td>
<td>69</td>
<td>251</td>
<td>394</td>
<td>134</td>
</tr>
<tr>
<td>2002-3</td>
<td>126</td>
<td>326</td>
<td>159</td>
<td>147</td>
<td>204</td>
<td>231</td>
<td>387</td>
<td>209</td>
</tr>
<tr>
<td>2003-4</td>
<td>74</td>
<td>152</td>
<td>33</td>
<td>55</td>
<td>111</td>
<td>217</td>
<td>233</td>
<td>100</td>
</tr>
<tr>
<td>2004-5</td>
<td>130</td>
<td>395</td>
<td>165</td>
<td>133</td>
<td>186</td>
<td>231</td>
<td>414</td>
<td>199</td>
</tr>
<tr>
<td>2005-6</td>
<td>239</td>
<td>165</td>
<td>123</td>
<td>109</td>
<td>161</td>
<td>260</td>
<td>433</td>
<td>172</td>
</tr>
<tr>
<td>Average</td>
<td>140</td>
<td>245</td>
<td>120</td>
<td>122</td>
<td>146</td>
<td>238</td>
<td>372</td>
<td>163</td>
</tr>
<tr>
<td>% utilization</td>
<td>67%</td>
<td>76%</td>
<td>21%</td>
<td>39%</td>
<td>137%</td>
<td>87%</td>
<td>74%</td>
<td>114%</td>
</tr>
</tbody>
</table>

Members who did not receive water
Tail-sections
No pattern
Tail-end
No pattern
Tail sections
Tail sections
Thakores and Tail-end

Source: Compilation of information from irrigation registers and interviews with water distributors

From Table 19 above, it can be seen that, with the exception of Kansa-2, all WUAs have increased their irrigable area significantly when compared to the performance prior to PIM.
While the increase may appear to be spectacular, it must be mentioned here that these figures are also a reflection of how poor the management was under ID. In all cases, the increase can be attributed to the rehabilitation work carried out by the WUAs. This increase, while laudable, cannot necessarily be singularly attributed to the PIM program. It can be argued that a rehabilitation program without any participatory elements could also result in such an increase in irrigable service area. Indeed, in many other non-PIM villages in Gujarat where the ID had undertaken canal repair works as part of the regular work plan, the service area did increase to the same extent as seen in the PIM WUAs in the first few years after the repairs. To establish that this increase in irrigation coverage is attributable to a change in governing system (besides canal rehabilitation), an analysis of the performance over the next few years is done here.

Table 19 also shows that in some years the irrigated area has been substantially less. This, in absolute terms, can be interpreted as a result of poor performance by the WUAs. But that is not necessarily the case in all WUAs. The years 2002 and 2004 were drought years and the reservoir did not have enough water to provide adequate water for irrigation. In fact, the year 2002 was one of the worst in 25 years in terms of rainfall. The state government suspended irrigation completely and diverted the scarce resource for drinking water supply. These figures, however, are relevant for this analysis when the performance is compared across the WUAs for a given year. Since all eight WUAs fall under the same distributory canal, any cutback on supply due to drought would affect all of them equally.

Quantitative data can be used to assess performance of the WUAs relative to each other.
We see that some of the WUAs have managed to provide more water than others in terms of percentage of their total designed service area. The last row of Table 19 also tells us about the category of farmers who were denied water when there was a scarcity situation. WUAs from Kansa-1, Kiyadar and Kesimpa appear to have distributed water across the canal locations without unduly depriving farmers from any particular section of the canal. In the case of Rangpur WUA, farmers of the tail section were denied water for two years. But on closer examination it was revealed that the canal required substantial rehabilitation that was beyond the scope of the WUA management. The worst case is seen in Kansa-2 where more than 60% of the farmers were consistently deprived of water. The leaders made no extra effort to address the reasons for such low utilization of the canal capacity. In Denap and Malekpur, tail-end farmers were disproportionately affected when the canals were damaged or during a disruption in supply. The Thakore farmers in Thalota were kept out of the irrigation operations for no apparent reason other than indifference on the part of the Thalota leadership who were predominantly Patidars. Those Thakores who had their fields in the tail-end suffered even more. This was the only case out of the eight WUAs where evidence of both location-based and caste-based inequity was observed.

It is pertinent here to examine what mechanisms were employed by Kansa-1, Kesimpa, and Kiyadar WUA to ensure that no tail-end farmer was deprived of water due to scarcity conditions. At the behest of DSC, all WUAs were urged to adopt a water distribution system that safeguarded the rights of all farmers with special emphasis on tail-end and small land-holding farmers. Kansa-1 and Kiyadar WUAs decided that the irrigation schedule would be so structured that the last farmers in the tail-section would receive water
first in every alternate watering. In Kesimpa, the WUA resolved to compensate the farmers if they did not receive water due to mismanagement of the operations. Both these mechanisms put pressure on the water distributor and the EC to monitor and ensure that these rules were not broken. Such an accountability system also created the environment where all farmers, particularly those from tail-section, reposed confidence in their leadership. In other words, by making the EC and the water distributors more accountable, the farmers could cultivate crops in a more predictable environment. Kansa-2 and Denap WUAs abandoned these mechanisms after employing them for 2 years. It cannot be conclusively said that the actions of these two WUAs were deliberately intended to deny tail-end farmers their entitlements. Despite reminders and alerts from DSC, however, the leaders of the two WUAs chose to ignore the issue, thereby indicating that achieving equity was not a priority for them. The absence of any grievance redressal mechanisms for the farmers meant that the leaders were never obliged to correct the problem. It is no coincidence that Denap and Kansa-2 performed poorly when it came to participation and transparency.

The second dimension of equity, namely class/caste-based equity, does not show any significant pattern or correlation with the governance of the WUA. With the exception of Thalota WUA, in no other village do we see any exclusion of a group from access to water based on either their land-holding or wealth status or the caste to which they belonged. In the case of Thalota, there was a clear connection between poor utilization and poor participation by Thakore families. The EC and the Secretary did not take complaints from Thakores seriously. This resulted in the marginalization of Thakores over the years and
finally a boycott of the WUA operations. It required DSC’s intervention to bring them back into the fold. However, there is no evidence to suggest that the ECs or the leaders of any of the WUAs are particularly sensitive to the issue of vulnerabilities of weaker sections of the community. A member of DSC hinted that DSC’s presence and monitoring, even if infrequent, may have had some influence in preventing elite capture. This observation cannot be considered conclusive until we see the impact of a total withdrawal of DSC influence. However, it can said that the absence of any bylaws or rules for affirmative action that safeguards the interests of traditionally excluded groups such as the Thakores, Harijans or women may point to the possibility that class and caste based exclusion, as seen in Thalota may surface in other WUAs too.

The performance in terms of equity is arguably the worst when it comes to gender equity. While most WUA leaders were prompt to suggest that improved irrigation has benefited all, including women, by way of increased income, none of them could explain why women were not participating in the decision-making process despite playing a key role in irrigated agriculture. Group discussions with women from these villages also did not elicit any particular concern over their poor participation. However, from focus-group discussion with women members, it did emerge that increased irrigation did have a negative impact on their lives. The foremost concern they have is that with increased emphasis on irrigation efficiency and strict scheduling of water distribution operations by the EC and water distributors, many women are required to be in the field at odd hours of the day and even at night. Not only did they feel unsafe working at such hours but also found that it increased the burden of managing household work and farm work. This negative impact on women is
seen across all WUAs and therefore cannot be attributed to any particular style of governance. None of the eight WUAs have women among the EC or office bearers. Women’s concerns are therefore neither represented nor resolved.

When DSC initiated a discussion on enhancing women’s role in irrigation management, there was no hostility towards the idea, but none of the Presidents or EC members did anything to put the idea into practice. In a condescending attitude reflective of the deep-rooted patriarchy in the WUA, the EC and male members of the WUA welcomed DSC’s suggestion of making a washing *ghat* (a cement platform) on the canal structure for women to wash clothes. They did not appreciate my observation that washing *ghats* do not enable women to participate in irrigation management nor give them a place in the decision-making process of the WUA. Table 20 summarizes the scores on equity.

**Table 20. Performance of the WUAs in achieving equity**

<table>
<thead>
<tr>
<th>Type of equity</th>
<th>Denap</th>
<th>Kansa-1</th>
<th>Kansa-2</th>
<th>Kesimpa</th>
<th>Kiyader</th>
<th>Malekpur</th>
<th>Rangpur</th>
<th>Thalota</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locational</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Caste/class</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Gender</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Aggregate score</td>
<td>5</td>
<td>7</td>
<td>4</td>
<td>7</td>
<td>7</td>
<td>5</td>
<td>6</td>
<td>4</td>
</tr>
</tbody>
</table>

*0 = Unsatisfactory; 1= Low; 2= Moderate; 3= Satisfactory; 4= Good; 5= Excellent*

**Effectiveness and Efficiency**

In Chapter 3, we discussed the relationship between effectiveness and efficiency. In the present context, effectiveness refers to the capacity of a WUA to achieve the primary objective of the institution, that is, increasing production and productivity of agriculture
through improving irrigation services, both quantitatively and qualitatively. Efficiency refers to an indicator that measures the output generated for a unit of resource input. In the case of WUAs, water and financial resources are the two most significant resources for which efficiency of use will impact the effectiveness of WUA activities. In fact, it is one of the core arguments used to explain the advantages of decentralization of governance. While responding to the questions about equity and inclusiveness, 51 out of 64 farmers had rated the increase in irrigated area as one of the four most significant benefits of PIM (see Table 18). This response is understandable when the impact of PIM on increases in the irrigated area is considered.

As shown in Table 21 on the next page, all the WUAs have improved upon even the best performance ever by the ID prior to PIM. Rows 8, 9 and 10 in the table give the average irrigation achieved by WUAs during the previous 6 years, the maximum irrigation done by the ID prior to PIM and the percentage increase respectively. Despite the significant increase in the potential service area of each WUA, the actual area irrigated during the years between 2000 and 2007 was less than the potential. This was due to cutbacks in water supply from the main reservoir due to inadequate storage. A Memorandum of Understanding requires the ID to inform each WUA of its entitlement during such cutbacks. However, in practice this is rarely done, leaving the WUAs to prepare a tentative irrigation plan and then adjust it to realities.

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39 The frequency of below-normal rainfall in the catchment area of the reservoir has increased to the extent that in the last 15 years (1990 to 2005) the reservoir was full to capacity only once.

40 The Memorandum of Understanding (MoU) is signed between a WUA and the ID prior to transfer of management responsibilities. The MoU covers all aspects of responsibility sharing and accountability of both parties, and these are not limited to water allocation responsibilities.
Table 21. Irrigation operations and Water Use Efficiency of WUAs

<table>
<thead>
<tr>
<th>WUA</th>
<th>Denap</th>
<th>Kansa -1</th>
<th>Kansa -2</th>
<th>Kiyadar</th>
<th>Kesimpa</th>
<th>Malekpur</th>
<th>Rangpur</th>
<th>Thalota</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irrigable Service Area (Ha)</td>
<td>209</td>
<td>322</td>
<td>571</td>
<td>315</td>
<td>107</td>
<td>273</td>
<td>503</td>
<td>143</td>
</tr>
<tr>
<td>1 2001-2</td>
<td>133</td>
<td>185</td>
<td>120</td>
<td>166</td>
<td>69</td>
<td>251</td>
<td>394</td>
<td>134</td>
</tr>
<tr>
<td>2 2002-3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 2003-4</td>
<td>126</td>
<td>326</td>
<td>159</td>
<td>147</td>
<td>204</td>
<td>231</td>
<td>387</td>
<td>209</td>
</tr>
<tr>
<td>4 2004-5</td>
<td>74</td>
<td>152</td>
<td>33</td>
<td>55</td>
<td>111</td>
<td>217</td>
<td>233</td>
<td>100</td>
</tr>
<tr>
<td>5 2005-6</td>
<td>130</td>
<td>395</td>
<td>165</td>
<td>133</td>
<td>186</td>
<td>231</td>
<td>414</td>
<td>199</td>
</tr>
<tr>
<td>6 2006-7</td>
<td>239</td>
<td>165</td>
<td>123</td>
<td>109</td>
<td>161</td>
<td>260</td>
<td>433</td>
<td>172</td>
</tr>
<tr>
<td>7 Average</td>
<td>140</td>
<td>245</td>
<td>120</td>
<td>122</td>
<td>146</td>
<td>238</td>
<td>372</td>
<td>163</td>
</tr>
<tr>
<td>8 Average utilization of Irrig. Potential</td>
<td>67%</td>
<td>76%</td>
<td>21%</td>
<td>39%</td>
<td>137%</td>
<td>87%</td>
<td>74%</td>
<td>114%</td>
</tr>
<tr>
<td>9 Maximum irrigation prior to PIM (ha)</td>
<td>65</td>
<td>92</td>
<td>114</td>
<td>25</td>
<td>81</td>
<td>111</td>
<td>125</td>
<td>65</td>
</tr>
<tr>
<td>10 Increase in area pre- and post PIM</td>
<td>116%</td>
<td>166%</td>
<td>5%</td>
<td>388%</td>
<td>80%</td>
<td>114%</td>
<td>198%</td>
<td>150%</td>
</tr>
<tr>
<td>11 WUE pre-PIM Hours/hectare</td>
<td>0.18</td>
<td>0.21</td>
<td>0.15</td>
<td>0.48</td>
<td>0.21</td>
<td>0.16</td>
<td>0.14</td>
<td>0.25</td>
</tr>
<tr>
<td>12 WUE post-PIM Hours/hectare</td>
<td>0.11</td>
<td>0.11</td>
<td>0.14</td>
<td>0.14</td>
<td>0.12</td>
<td>0.08</td>
<td>0.05</td>
<td>0.12</td>
</tr>
<tr>
<td>13 Change in WUE*</td>
<td>41%</td>
<td>44%</td>
<td>7%</td>
<td>71%</td>
<td>44%</td>
<td>50%</td>
<td>66%</td>
<td>50%</td>
</tr>
<tr>
<td>14 Rank based on WUE improvement</td>
<td>5</td>
<td>4</td>
<td>6</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

* Water use efficiency (WUE) is calculated by using proxy indicators for volume of water irrigated. In the absence of a mechanical water measuring device, the measurement of volume of water is based on the time duration (typically in hours) when the canal outlet was open. Change in WUE is calculated in the reduction in rate of water flow in terms of hours per hectare.
Uncertainty in irrigation schedules and quantum of water available was expected to create situations of conflict and strife in the village. However, none of that happened in any of the WUAs. This was largely due to a very effective water scheduling system that all WUAs adopted. The system required the WUA to guarantee a minimum supply of water to all those farmers who made a formal request and paid part of the irrigation fee in advance. As the actual supply situation becomes clearer, the supply is increased equitably. Since each farmer, who is in good standing in terms of payment of irrigation fees, is given a written commitment by the WUA, the temptation to cheat anyone out of his or her entitlement is low. All eight WUAs have achieved better performance even under uncertain conditions. Thus, it can be conclusively argued that irrigation management transfer, from ID to WUA, has been effective in increasing the area under irrigation.

If the average area irrigated by the WUA (post-PIM) during the years 2001 to 2006 is compared to the best performing year by the ID (pre-PIM), with the exception of Kansa-2 and Kesimpa WUAs, all WUAs have doubled their irrigated area. Kansa-2 registered a marginal increase of only 5% from the pre-PIM performance because the WUA was content with irrigating only one stretch of the canal even though, with some repair work, an additional stretch of canal could have been made operational. Kiyadar had the maximum increase of 388% largely due to the extremely poor condition of its canals prior to PIM. Even though the ID operated the canals at full capacity, only a small section (25 ha) of the service area could access the water. Much of the water flowing through the canals was wasted. Under PIM, the canal rehabilitation work and good monitoring of irrigation operations by water distributors of the WUA easily increased the area under irrigation to an
average area of 122 ha. As discussed earlier in this chapter, mere improvement in the physical infrastructure of the canals cannot be regarded as the cause for this increase in irrigated area. The fact that the WUAs had complete autonomy in planning and operating the distribution system contributed as much as the rehabilitation of the canals did. Such a conclusion is validated from the experience of neighboring non-PIM villages where the ID had undertaken canal repair work. In these villages, despite better canals the area under irrigation did not register any significant increase.

Quantitative analysis of the increase in area under irrigation as a result of PIM does not reveal another equally, or perhaps even more significant achievement in water use efficiency (WUE). An accurate measurement of the increase in water use efficiency was not possible because the physical system of the canal networks did not permit measurement of the volume of water irrigated. Such a measuring device was not installed or required either by the ID prior to PIM or by the WUA after PIM. However, there is a commonly used proxy indicator of duration of water flow from each WUA’s off-take point that enables estimation of volume of water supply. As explained in Chapter 4 on Methodology, the total volume of water received by a WUA was calculated in terms of the number of hours that water was released at the off-take point for that particular WUA. The time taken for irrigating a unit area was used as an index of water use efficiency. Table 12 (Row 14) ranks the WUEs of the eight WUAs by comparing the performance before and after the introduction of PIM. The data used for post-PIM performance came from the year 2006-2007.
As expected, Kiyadar WUA reported the maximum improvement in WUE with 71%. Having inherited the canal network in the worst condition among the eight WUAs, prudent monitoring and good maintenance enabled the WUA to increase the area under irrigation without a proportionate increase in volume of water. What was remarkable in the case of Kiyadar was that even after rehabilitation of its canals, the water distribution was difficult due to a design flaw that the WUA could not address. It became clear to them that efficiency could be seriously compromised if farmers did not cooperate with constant vigilance and prompt action whenever the canal system threatened to overflow or break. Enforcement of stringent punishments and sanctions was a major factor in ensuring that farmers did their part. The same factors contributed to an excellent performance by Rangpur WUA (66%). The EC of Rangpur had given particular attention to the tendency of certain farmers to waste water and imposed heavy penalties on the first few offenders.

Kansa-2 also registered modest improvement in its WUE, despite not having any noteworthy participation from the farmers. This is because they chose to irrigate only one section of the serviceable area that was in relatively good condition even prior to PIM.

During the initial years of PIM, DSC and WUA leaders had expressed anxiety over the financial viability of WUA level operations. It was well known that irrigation fees collected by the ID were far short of the cost of operation and maintenance (O&M). It was imperative that WUAs not only increased the irrigation fees but also reduced the cost of O&M. All eight WUAs did well to achieve the twin objective of cost-effective O&M and increasing the irrigation fees. As a result, none of the WUAs has run a deficit budget. In fact, many of them have generated surpluses from their regular operations and created a
contingency reserve fund. Kansa-2, Malekpur and Denap WUAs were the most conservative when it came to increasing irrigation fees. At the same time, they did not follow the lead taken by Kiyadar, Rangpur and Kansa-1 WUAs where the Secretaries drew only a token honorarium in the initial years so as to reduce the O&M costs. For this reason, the former three WUAs barely covered their costs, while the latter three generated more than Rs 40,000 in surpluses. Unlike water use efficiency, financial prudence and cost efficiency appear to be influenced by the extent to which WUAs enabled participation by their members.

Table 22. Financial performance and cost effectiveness of O&M (2005-2006)

<table>
<thead>
<tr>
<th></th>
<th>Denap</th>
<th>Kansa-1</th>
<th>Kansa-2</th>
<th>Kesimpa</th>
<th>Kiyader</th>
<th>Malekpur</th>
<th>Rangpur</th>
<th>Thalota</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reserve Fund as on Dec 2006 (Rs)</td>
<td>105,000</td>
<td>62,000</td>
<td>12,000</td>
<td>95,000</td>
<td>12,000</td>
<td>102,000</td>
<td>95,000</td>
<td>72,000</td>
</tr>
<tr>
<td>Irrigation Fees for Rabi crop 2006 (Rs/Ha)</td>
<td>700</td>
<td>750</td>
<td>345</td>
<td>750</td>
<td>700</td>
<td>700</td>
<td>710</td>
<td>750</td>
</tr>
<tr>
<td>Total O&amp;M cost</td>
<td>23000</td>
<td>36,350</td>
<td>44,200</td>
<td>16,536</td>
<td>23,220</td>
<td>26,230</td>
<td>46,040</td>
<td>42,030</td>
</tr>
<tr>
<td>Area irrigated</td>
<td>130</td>
<td>395</td>
<td>165</td>
<td>133</td>
<td>186</td>
<td>231</td>
<td>414</td>
<td>199</td>
</tr>
<tr>
<td>O&amp;M cost per hectare</td>
<td>176</td>
<td>92</td>
<td>267</td>
<td>124</td>
<td>119</td>
<td>113</td>
<td>111</td>
<td>211</td>
</tr>
<tr>
<td>Level of participation (from Table 6)</td>
<td>4</td>
<td>13</td>
<td>1</td>
<td>5</td>
<td>8</td>
<td>4</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>Performance in cost effectiveness</td>
<td>3</td>
<td>5</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

Source: Compilation from WUA records and personal interviews with WUA secretaries
* 0 = Unsatisfactory; 1= Low; 2= Moderate; 3= Satisfactory; 4= Good; 5= Excellent.

Table 22 presents financial details of the eight WUAs along with their performance in participation. There is a correlation between level of participation and cost effectiveness. It can be seen that Rangpur and Kansa-1 WUAs have among the lowest O&M costs per hectare while Thalota and Kansa-2 have the highest. However, Thalota had an additional
expense of running an agricultural inputs store. They also had income from this store to offset some of the high wage costs they had to spend due to breaches in the canals. Setting irrigation fees is always a contentious issue since any attempt to raise the fees beyond the government irrigation rates would invite some hostility from the members. It was not possible to obtain details of O&M expenses of Kansa-2 that reported an unusually high figure in relation to the area irrigated.

It can therefore be concluded that with regard to effectiveness, the process of decentralizing irrigation management transfer through the PIM program has resulted in achieving some of the objectives of decentralization, namely increasing the area under irrigation and in the process increasing total production. There is no conclusive evidence to suggest that the extent of increase in area is related to the level of participation by members. On the other hand, in terms of resource use efficiency, there seems to be a relationship between the way a WUA is governed and the level of efficiency it achieves in water use efficiency and financial cost-effectiveness. It can seen that when a WUA is able to engage its members in decision-making, to establish and enforce rules for sanctions and rewards and be transparent in financial matters, the likelihood of achieving higher levels of efficiency is also higher.

**Conclusion**

From the analysis of the eight case-studies based on the criteria for good governance, it is possible to infer, in relative terms, where each WUA stands on each of the criteria. However, for the analysis to be more meaningful in answering the central research
questions, the performances of each WUA must be seen holistically. As discussed in Chapter 2, when governance has strong elements of participation, transparency and accountability, then the decentralization process is more likely to establish strong and stable democratic values and practices. Rangpur and Kansa-1 have demonstrated that this is true in the case of PIM and WUAs. Both the WUAs are strong in enabling members’ participation, which in turn influences the way the EC behaves in a more transparent manner. The outcome is, as expected, better performance in equity and accountability. It can also be seen that when a WUA has a sound rule of law, it is more predisposed to having higher participation.

**Promising, Yet Challenging**

It is very difficult, yet important to quantify the extent to which an institution demonstrates qualities of good governance. In the earlier sections, the WUAs were given scores based on how they performed on each of these criteria. How do they perform when each of these criteria combines with each other? Are there patterns where good performance on one criterion appears to be linked to another? On what criteria are even the best WUAs falling short? Table 23 on the next page is an aggregation of the scores assigned to each WUA on the eight criteria of good governance. The total score of each WUA, relative to other WUAs, gives a fair indication of the relative strength and weakness. It can be seen that the best performing WUAs, Rangpur and Kansa-1 lead the rest of the WUAs by a considerable margin. Yet, even they are well short of the maximum possible scores (55 out of 80 and 53 out of 80).
Table 23. Aggregate score of performance on criteria of good governance

<table>
<thead>
<tr>
<th></th>
<th>Denap</th>
<th>Kansa-1</th>
<th>Kansa-2</th>
<th>Kesimpa</th>
<th>Kiyader</th>
<th>Malekpur</th>
<th>Rangpur</th>
<th>Thalota</th>
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<tbody>
<tr>
<td>Participation (Max: 20)</td>
<td>4</td>
<td>13</td>
<td>1</td>
<td>5</td>
<td>8</td>
<td>4</td>
<td>10</td>
<td>5</td>
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<tr>
<td>Rule of law (Max: 20)</td>
<td>4</td>
<td>16</td>
<td>2</td>
<td>7</td>
<td>9</td>
<td>9</td>
<td>18</td>
<td>14</td>
</tr>
<tr>
<td>Transparency and Accountability (Max: 20)</td>
<td>1</td>
<td>13</td>
<td>0</td>
<td>4</td>
<td>11</td>
<td>2</td>
<td>16</td>
<td>5</td>
</tr>
<tr>
<td>Responsiveness (Max: 5)</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Consensus (Max 5)</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Equity (Max: 5)</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Effectiveness and efficiency (Max: 5)</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>Aggregate Performance (Max: 80)</td>
<td>15</td>
<td>53</td>
<td>5</td>
<td>22</td>
<td>37</td>
<td>20</td>
<td>55</td>
<td>32</td>
</tr>
<tr>
<td>Aggregate Rank</td>
<td>7</td>
<td>2</td>
<td>8</td>
<td>5</td>
<td>3</td>
<td>6</td>
<td>1</td>
<td>4</td>
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</table>

The reasons why even the best of the WUAs fall well short of the ideal level of good governance becomes clearer when these outcomes are viewed against the backdrop of the attitude and perceptions that members expressed in their interviews and group discussions. When we look at the process and pace of institutionalization of democratic principles and practices across the eight WUAs, we see a crucial role played by the key actors in the formative stages of WUA formation.

The behavior of the first set of leaders appears to have had a significant impact on the evolution of democratic practices. This could be due to the inherent qualities of the first leader, as in Kansa-2, or due to the initiatives taken by DSC in influencing the first leader, as in Rangpur. When the Presidents and Secretaries did not display the traditional
autocratic behavior, as in the case of these two WUAs, ordinary members set the precedent of participating in meetings and engaging their leaders in an interactive and accountable manner. There is, at least to some extent, an “irreversibility” of this process when members realize and benefit from participation. Where such initiatives were not actively pursued by the initial leaders, as in Malekpur and Kesimpa and Thalota, the members found themselves in a familiar situation of dealing with a distant, powerful leader who is accountable not to the members but to agencies outside the WUA. Since such behavior from leaders is only to be expected, given the predominant political culture of autocracy, members from the three WUAs do not see it as an aberration. As Thalota demonstrated, it is not necessarily an outcome of vested interest or an incompetent leader. Competent and benevolent but autocratic leaders like Amritbhai Patel are considered as normal and even idolized. This prevents the members of the institution from grasping the true implication of poor participation and poor transparency until a crisis, such as the one that befell Thalota, leaves them leaderless and vulnerable to a collapse. Kansa-2 is a clear case of deliberate and conscious effort by the leader to prevent any participation that may make him open to scrutiny and subsequently held to account for non-performance or misdemeanor.

There are clear inadequacies and distortions in the way democratic practices are adopted by all the WUAs. One of the central issues of participation, namely, fair mechanisms of representation of interest groups, particularly minority groups, is inadequately addressed in all the WUAs. The total absence of women in any leadership positions is a serious gap in making the WUA truly representative of all stakeholders. Here again, the patriarchal nature of Indian societies, and particularly in rural societies, is a serious impediment to
democracy, just as the autocratic and feudal nature of leaders is. Norms of representation are also distorted by practices such as the "consociational" democracy of Rangpur.42

Putnam’s view that history shapes institutions and, institutions in turn shape history is valid not only from a long term perspective, but also from the perspective of events and actions within the lifetime of a newly formed institution. In this chapter we have seen the impact on governance of actions, or inactions, by individuals, leaders and decision-making bodies such as the Executive Committees and various sub-committees. It was also clear that the external support agency, be it the NGO or the ID, had a profound influence on the introduction and institutionalization of good governance practices. Are there patterns in the way the actions of these key actors combine with various criteria of good governance? Is the connection between good governance and democratization evident from the pattern observed from the case-study analysis? What lessons can be drawn from these patterns?

The next chapter presents some answers in the form of conclusions and lessons learned for policy makers and practitioners and points to the direction and path that are more likely to yield enduring self-governed WUAs.

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42 To recollect, Rangpur WUA rotates their leadership positions among five powerful Patel families after seeking consensus from non-Patel families.
In Chapter 1, I discussed some of the compelling arguments that were put forth by advocates of decentralization of natural resource management programs in India. The public bureaucracies, by their very design and mandate, had clear disadvantages while resources users, by their close proximity to resources and with more defined direct stakes, had clear advantages in achieving equity, efficiency and sustainability of resource use.

Gujarat State has been in the forefront in implementing many of the decentralization programs. In 1994, as a pilot program on decentralization, Gujarat supported 12 Participatory Irrigation Program (PIM) projects that were implemented by two NGOs. These projects demonstrated that farmers’ organizations, in the form of Water Users Associations, can achieve significantly better outcomes in terms of increasing the area under irrigation, improving water use efficiency and making the operations financially viable. Building on this success, the PIM program was scaled up in 1995 to include more than 150 villages and eventually became a law when the program was legislated by the state government as the Gujarat Water Users’ Participatory Irrigation Management Act, 2007.

However, in justifying the need for this study I had raised concerns about the sustainability of the WUAs as robust and enduring self-governing people’s institutions. The concerns were based on the increasing frequency of problems of governance faced by the WUAs and a disturbing trend among some WUAs to dilute the objective of equitable access to
irrigation by all legitimate members of the WUA. This was evident from the number of instances when the external support agency, Development Support Centre (DSC) had to intervene either to solve a financial crisis or to ensure that the WUA leadership maintained sound equity of access to water. These concerns were raised in the key research questions for this study: What are the serious problems in a WUA that, if unattended, can render it defunct or dormant? What are the underlying causes for these dysfunctions? What is the relationship between these problems and the institution-building process adopted for decentralization? What are the predisposing conditions for decentralization to achieve the desired objective of sustainable and equitable resource management? Can decentralization of resource management yield equitable and sustainable resource use without simultaneous democratization of user-groups?

The eight case-studies have illustrated the kinds of dysfunctions and their likely causes. In analyzing the causes, we could see some clear patterns of correlation between various criteria of good governance and the specific role played by the criteria that define the democratization process. Some patterns are less clear but indicative of possible correlations that need further examination. The following sections discuss these patterns and the conclusions derived from them.

Decentralization of Management Responsibilities

Chapter 2 discussed James Manor's theoretical framework on decentralization. It described three inter-related processes that could also be argued as incremental stages of decentralization. They are administrative decentralization, fiscal decentralization and
devolution of the decision-making process. The PIM program, by design, was found to have substantial characteristics of all three processes or stages. The analysis of the eight case-studies gave us evidence of the actual extent to which each process of decentralization has been implemented and the extent to which the WUAs have derived benefits by achieving that stage of decentralization.

In all the eight case-studies, there is tangible evidence that WUAs have increased the area under irrigation and as a consequence, increased total production by and income for the farmers. The increase in area has come about largely due to better maintenance of the physical infrastructure of canals, better responsiveness to irrigation needs of the farmers and significant reduction in the wastage of water. Similarly, all eight WUAs are financially self-sufficient in terms of meeting their operation and maintenance costs and, in some cases, generating a significant surplus towards future capital expenses. From this, it can be concluded that the WUAs have the necessary technical or engineering know-how to carry out irrigation operations including construction and repair works. They also have demonstrated the necessary financial management skills to deal with the sensitive issue of pricing and recovery of irrigation fees. In carrying out all these responsibilities, the WUAs were required to operate in an autonomous way, without any role or scope for interference by the ID. All decisions pertaining to water distribution, repair and maintenance and financial management were taken by the WUAs. To the extent irrigation operations within the WUA’s service area were concerned, it can be said that decision-making powers were truly devolved from the ID to the WUA. Even though DSC played a crucial role as a support agency during the formative stages of the WUAs in shaping the behavior of
leadership and establishing key management systems, they otherwise had no legal or even formal role in the actual operations of any WUA. By rejecting any initiatives by DSC to help or intervene in their affairs, Kansa-2 WUA showed that a WUA can prevent any external agency other than government regulators from influencing their activities. Therefore, the policy towards decentralization of irrigation management through the PIM program was not only designed adequately but also put in practice at the village level.\(^\text{43}\) Thus the central argument that resource users are better resource managers than centralized bureaucracy is validated in these case studies.

Decentralization, Good Governance and Democracy

Six of the eight-fold criteria of good governance dealt with the way WUAs governed themselves as democratic institutions. The criteria of participation, rule of law, transparency, accountability, equity and consensus orientation are also key elements of a good democracy. The remaining two criteria, namely, efficiency and responsiveness too are arguably important indicators of good governance, but from the analysis of the case studies of WUAs, these criteria combine well to be a more appropriate indicator of the performance in resource management rather than governance.

There are significant variations in the performance of the eight case-studies on these two

\(^{43}\) When the PIM program runs its full course, an entire irrigation project including the reservoir, main canals and distributory canals will be managed by various tiered farmers’ organizations. At present the management responsibility for canals above the distributory level continues to be with the ID. To that extent, the PIM program under the current dispensation is not entirely under the control of farmers. In this respect, the claim to complete autonomy in decision making is not valid. A WUA’s performance must depend on timely release of water from the reservoir and distributory canals by the ID.
broad categories of criteria for good governance. There are discernible patterns of correlation between the criteria within the two categories and across the two categories. The most significant of these patterns is the centrality of participation as a lynch-pin criterion that impacts the performance of WUAs on the rest of the criteria. Those WUAs that developed and sustained effective ways and means to enable their members to participate in the decision-making process have also performed better on the criteria of transparency, accountability and rule of law. This finding makes a compelling case for strengthening participation as the critical element of capacity building. Its impact on overall governance is evident from the fact that high levels of participation in a WUA (as in Kansa-1 and Rangpur WUAs) not only strengthened performance in other criteria of good governance, but also strengthened democratic behavior. Democratic governance, in turn played a significant role in better resource management too. Therefore, good governance that is based on strong elements of democratization creates an enabling environment for achieving good resource management results. This translates directly into better institutional sustainability and an enduring robustness that is evident from the relatively low need for any external agencies' interventions.

The case studies reveal an equally important finding that the converse is not necessarily true. That is, strong resource management capacity does not necessarily create the conditions for developing democracy or good governance. This is seen in the case of Thalota and, to a lesser extent Kansa-2 WUAs. Both of them introduced sound resource management practices and achieved results that were better than the results of the ID. Yet, both WUAs were controlled by autocratic, even if benevolent leaders, as in the case of
Thalota. Participation by members was greatly inhibited and this in turn resulted in poor transparency and accountability and a gradual degeneration of equity. The relationship between leaders and members became quite tenuous and unpredictable. In precisely the same way that democratization strengthens the robustness of the WUAs, the absence of democratization makes the WUAs vulnerable to dysfunctions.

When participation and transparency are combined with responsiveness, it can be seen that if decentralization is done in a democratic way, responsiveness improves markedly. However, if the process merely hands over administrative or fiscal powers to a few powerful individuals, there is no pressure on the leadership to be responsive. Democratization tends to enhance the speed, quantity and quality of responses.

**Good Governance and Leadership**

There are many reasons as to why some WUAs could take the path to democratization while others did not. The role played by the initial leaders of some of the WUAs appears to have been crucial in setting a precedent for what is expected from leadership positions. The existence of an established and dominating leader prior to formation of the WUA makes it difficult for democracy to take roots and become consolidated. The difficulty occurs not only because of the resistance by such leaders to change, but also due to reluctance by the members to challenge established political relationships.

As discussed in Section 2 of Chapter 2, democracy has not been part of the predominant political culture in the rural areas of India. On the contrary, dominating, autocratic leaders
are quite the norm and most villagers have seen no other political system in their life-time. Therefore, when leaders of new institutions continue to lead in the same undemocratic manner, they rely on the mentality of their members to accept the old type of leadership. In fact, as most farmers interviewed individually indicated, they expected no change in the behavior or style of governance from their leaders. On the contrary, when some of the leaders did conduct themselves in a democratic manner, the ensuing enthusiasm for participation was misconstrued as indiscipline resulting from their lack of leadership qualities. At any rate, as the following years revealed, the precedent set by good leaders during the initial few years played an important role in entrenching a more democratic leadership style and conduct by the EC towards the general membership.

Contrary to the popular belief that a successful democratic WUA must have a charismatic leader, ordinary individuals can also emerge as leaders who assimilate democratic values from positive experiences gleaned from other successful democratic institutions or through sensitization programs organized formally. The leaders of neither the Kansa-1 nor the Rangpur WUAs can be characterized as charismatic or popular. Yet, both of them valued the lessons learned from study visits to other WUAs and training workshops organized by DSC aimed at enhancing participation. Ordinary individuals who are not predisposed to autocratic or paternalistic ways of leadership style are more amenable to imbibing democratic values. However, in the absence of any hand-holding support and learning opportunities, the mere absence of dominating leadership is not enough to take the WUA towards democratic governance. The first set of leaders from Kiyadar, Malekpur, Kesimpa and Denap WUAs received inadequate inputs from DSC for building democratic leadership
qualities. As a result, the WUAs either relied heavily on one individual’s benevolence and goodwill or gradually saw their leaders becoming indifferent to their responsibilities. In other words, democratic behavior needs not only to be inaugurated, but sustained through institutionalization of democratic practices.

Another widely held impression among WUA members is that the welfare of poor and vulnerable members is dependent on the compassion and benevolence of their leader. The evidence from the case-studies suggests otherwise. The interests of weaker members stand a better chance of being safeguarded if the WUAs establish and sustain mechanisms that enable participation and representation of various legitimate interest groups. A notable weakness of all eight WUAs is the absence of a consensus-building process. Historically, the weaker sections of the populations have refrained from organizing themselves and in the absence of a recognized coalition-building process, an important attribute of good democratic governance is lost. The impact of this loss is seen in WUAs where groups of farmers have been excluded either due to caste considerations (Thalota) or due to the location of their fields (Kansa-2) or gender (in all eight WUAs).

Members of the WUAs showed a marked passiveness towards holding their leaders and representatives accountable. The strong residual presence of feudalism and colonialism is largely responsible for this attitude towards leadership. There is also an issue of misplaced trust that is further aggravated by the fact that accountability regimes do tend to cultivate a culture of suspicion in the beginning that damages cultures of professional responsibility and undermines members’ trust (Castiglione and Warren 2006, p.8).
Proper implementation of the rule of law will be self-evident if it serves as a regulator of the EC and the President’s authority. It must also be, and be seen to be, implemented with equality across the membership. Both these attributes struck a chord with members of those WUAs where participation was high and awareness of rules was also high. Their sensitivity to the rule of law occurred because it defies a traditional and predominantly accepted notion that leaders have privileges that are discretionary in nature and that they have immunity against punishment.

**Governance and Equity**

The likelihood of achieving high levels of equity in access to water and thus the full benefits of PIM is directly related to the levels of constructive participation of members in decision making. The wide variance in location-based, caste-based and gender-based equity across the eight WUAs is directly correlated to the level of participation of these interest groups. The participation of women in WUA governance is the least of the three related groups. This is reflected in the total absence of women members in ECs and as Presidents. The limited gender-focused work by WUAs has been the direct result of DSC’s intervention. However, the efforts to further enhance their participation have been inadequate and quite ineffective in the face of the very deeply entrenched patriarchal nature of WUA in rural Gujarat, invariably reflected in the acute marginalization of women’s role in governance. Attempts by DSC to increase participation of women have faced two hurdles. One is the result of reluctance and even resistance by men to enhance the scope for women to play a more significant role in governance functions. The second hurdle to
overcome is women’s fear of adverse repercussions and reprisals from male members of their own family. On many occasions, husbands have prevented women from taking part in any activity outside of their homes. This had made it difficult for even external support agencies to identify the scope for women to make a meaningful contribution in governance.

The performance on location-based and caste based equity is also directly related to the extent to which these groups are represented in the EC and the extent to which they are able to hold the EC and the President accountable. The analysis of participation clearly showed a direct relation between availability of functional modes of representation of interest groups and likelihood of sustained equitable access to water. While there may be arguments that a mere formality of reservation of representatives in a decision-making body for interest groups has limited effectiveness\textsuperscript{44}, there is no evidence to suggest that such provisions are counter-productive. As the successful WUAs showed, when precedents are set, representatives from even weaker sections of the population can safeguard their entitlements by influencing decision-making process. The counter-argument is even more valid: when interest groups among the membership are not represented, the likelihood of their marginalization is higher than when there is representation. Therefore, a strong case can be made here to introduce, where they do not exist, rules of representation that make it mandatory for divergent interest groups among the membership to be represented. For interest groups which are historically more prone to exclusion, such as the Harijans and women, the rules that protect their right to representation must be reinforced through

\textsuperscript{44} Arguments against reservations are bolstered by the apparent failure of mandatory reservations for women and social backward class people for the office of the Sarpanch of Village local government called the Panchayat. In most cases, the women Sarpanchs are sidelined by their husbands or other male members of her family.
periodic review, particularly in the first two or three years when democratic practices are becoming institutionalized. As Kansa-2 has shown, when a WUA has a lopsided representation for many years, it becomes even more difficult to change as incumbent representatives will be emboldened by the inaction of general members.

**Role of External Support Agencies**

As a support agency, DSC had significant influence in the way the WUAs’ capacity was built to take on these responsibilities. While some of their support services can be seen to impact all the WUAs uniformly, there is a wide variance in the impact of their support in other areas. There is a clear pattern that connects the area of support and the impact it has had on WUAs. The process of building a WUA’s capacity for performing the business operations of water distribution and cost recovery can be considered as a fairly standardized process with little value-based subjective elements. DSC has done remarkable work in introducing tested and robust water and financial management systems right at the beginning of WUA formation. The responses from DSC staff members during this study clearly indicate the importance they attached to these systems and their abiding belief that these management capacities are central to solving the problems faced by the ID prior to PIM. This conforms to the long-held beliefs among development professionals that technology and financial management skills are essential and sufficient for a successful irrigation, or indeed any resource management project. When it came to the processes for building a WUA’s capacity to institutionalize participation and build democratic decision-making processes, the efforts made by DSC were significantly less than the efforts put in to improve the WUA’s capacity to deal with the business aspects of good irrigation.
management. These processes involved far more value-based and subjective issues than the operational aspects of irrigation and therefore far more challenging efforts to develop training and support modules. Moreover, the political nature of these processes would imply that the approach taken by DSC will itself be shaped by DSC's own understanding of the participatory process and values pertaining to democracy. The leadership and senior staff members of DSC were certainly more sensitized to democratic behavior than any of the WUAs or even other NGOs and civil society organizations in Gujarat. However, to a large extent they share the same social and political environment and have their political beliefs shaped by the same historical and cultural legacy which shaped the beliefs of villagers of Mehsana district. This has influenced their understanding of the role that democratic governance plays in successful decentralization and strengthening of WUAs and is reflected in the manner in which support services have been designed and provided. The training programs and skill-building support services are lop-sided in favor of improving operational and resource management skills.

There is another challenge that external agencies have to deal with. They have to find the right balance between two roles they play, one by design and the other by default. They have a role of a capacity-building agency that is recognized and perceived as such by both the ID and the villagers. The second role that they end up being thrust into is as the proxy leadership of the WUA, where they directly get involved in the governance of the WUA. This happens when there are indications of problems. This is a role that DSC refrained from performing despite many occasions where the WUA was slipping towards being an undemocratic institution. This happened in Kansa-2 and Thalota. There are no shortcut
answers to this dilemma. However, acknowledging the distinction between the two roles is the beginning of the search for an answer.

**Process of Institutionalization**

As Thalota WUA showed, the mere existence of a system is not enough to guarantee stable democratic values. When democratization is introduced from the top or catalyzed by external agencies, it takes a while to get institutionalized or, as Diamond put it, “to become the only game in town” (Diamond 1999, p. 65). Dahl ascribes such stability to the existence of a strong political culture that gets further strengthened when the institutions go through a crisis or when undemocratic influences threaten to overrun the institution (Dahl 2000, p. 137). The farmers and DSC staff admit that the intervention by the support agency, in this case DSC, was considered critical in retrieving an extremely difficult situation in Thalota. Members of the WUA came to the typically wrong conclusion that they were not ready for self-governance because the leadership was not trustworthy. This re-enforced the traditional belief that a “good and honest leader” is paramount in the democratization process. While this belief is not misplaced at all, it reflects an incomplete understanding of what the democratization process really requires. Good leaders will help raise the quality of democratic behavior, but the absence of good leaders will not reverse the democratization process if the essential criteria of good governance are not only introduced but also institutionalized. In the immediate aftermath of the financial crisis, the new leadership in Thalota and, perhaps to a lesser extent, the staff members from DSC appeared to have lost the opportunity to learn from the crisis. They did not correctly diagnose the cause of the crisis as a failure to govern democratically and instead considered it as a consequence of
the misfortune of having a bad leader. It remains to be seen if the correct lessons will be
derived in the years to come.

Traditional leaders in India have followed an unwritten, yet very commonly understood
practice of avoiding written rules. It perhaps comes from the fear that written rules will
reduce the latitude they have to take decisions based on individual discretion. Good
governance will militate against this tradition. Whenever there is discretion there is room
for arbitrariness, and discretionary authority on the part of a few "must mean insecurity for
legal freedom on the part of its subjects" (Dicey 1982, p.110). When the rule of law is
institutionalized, as seen in the Rangpur and Kansa-1 WUAs, the arbitrariness in decision
making is reduced significantly and the members feel that the governance is predictable.
Even poor leadership succession will have much less of an adverse impact than when the
rule of law is not institutionalized.

Revisiting the Hypothesis

The policy reforms in India in favor of decentralization of natural resources management
are steps in the right direction. Local management of resources by resource users have
given them more benefits on a significant and measurable scale. By securing irrigation
water on time and in quantities required for their crops, the eight WUAs in the case studies
have demonstrated that decentralization works to their advantage. From an environmental
point of view, the water use efficiency too is markedly better when WUAs manage
irrigation, making the resource use environmentally more sustainable than when the ID was
managing it.
Since none of the WUAs went all together defunct during the study, it cannot be said conclusively that poor governance will result in complete failure. It does, however, highlight the increased vulnerability to dysfunction and potential failure. The case of Thalota showed that despite committed leadership and high scores on criteria such as Rule of Law and Efficiency and Effectiveness, a total collapse was averted only due to the intervention of the external agency. Moreover, on four of the eight criteria, the differential in scores between the better governed WUA and the poorly governed WUA was the most pronounced. These criteria are Participation, Rule of Law, Transparency and Accountability. Not surprisingly, these criteria are also the ones that define the level of democratization. This reaffirms the hypothesis that good governance with strong democratization creates conditions that are predisposed to sustainable WUAs.
Bibliography


Annexure 1. Service Area Map of the Sabarmati Reservoir Project
Annexure 2. Questionnaire and Interview Scripts

Category 1. WUA level details:

(Obtained from books and registers maintained at WUA office and provided by Secretary of WUA).

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**Organizational Details of Water Users Association:**

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<table>
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<th>Number of members registered with WUA</th>
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<th>Designed Service Area in Hectares (Gross/Net) in Hectares</th>
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<th>Area irrigated before IMT in Hectares</th>
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**Financial detail**

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<tr>
<td>C</td>
<td>Reserve funds as on 31st March 2004 (Rs.)</td>
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<tr>
<td>D</td>
<td>Depreciation Fund as on 31st March 2004 (Rs.)</td>
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<tr>
<td>E</td>
<td>Funds owed to Irrig. Dept. as on 31st March 2004 (Rs.)</td>
</tr>
<tr>
<td>F</td>
<td>Total turnover of WUA including input supply/marketing (Rs.)</td>
</tr>
<tr>
<td>G</td>
<td>Water rates (in Rs. per hectare) and payment by members (%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Water rate</th>
<th>Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2002</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2003</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**H. Management costs**

<table>
<thead>
<tr>
<th>Year</th>
<th>Salary costs</th>
<th>Repair &amp; maintenance</th>
<th>Total Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2001</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2002</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2003</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Copies of season-wise irrigation reports and members' payment records were obtained from the WUA office (published document) for assessing the irrigation performances across the years. The reports give details of:

1. Year-wise, crop season-wise area irrigated.
2. Year-wise, crop-season wise farmers who accessed irrigation.
3. Year-wise, season-wise payments made by farmers for irrigation fees.
4. Attendance, important agenda items.
5. Decisions taken during General Body Meetings, Executive Council (EC) meetings.
6. Documentation of conflicts and resolution status.
7. The number, extend, cost and nature of physical repair and maintenance.
8. Detailed costs of administrative expenses.

**Category 2: Chairperson / Secretary /Executive Committee Member.**

The following questions were used to gather qualitative data pertaining to several independent and intervening variables that aggregate to provide comparable measures of how the WUAs on the eight (8) components of governance identified in the research design. Some of the components overlap in its relevance. Dependent variable 1 combines two components of Participation and Equity/Inclusiveness. Some of the independent variables can be sourced from interviews and crosschecked by studying the records kept at the WUA office.

The interview script given here is a composite one used for all four types of respondents. Some of the questions will be appropriated for respondent-specific issues.

**Dependent variable 1. Participation, Equity and Inclusiveness**

Intervening variable for participation (1). Level of information among members (from sampled WUA members and office bearers).

**Independent variable --- Existence and awareness of Rules:**

1. Do you know if the WUA has any written rules and regulations? Yes/No
2. If "Yes" to (1), list any 5 rules and regulations from memory:
   a. 
   b. 
   c. 
   d. 
   e. 
3. If "No" to (1) read out the first 5 Rules from Memorandum of Association (MoA).

Ask if they heard about them. If yes, how many times do they remember the enforcement of that rule in the past 5 years:
<table>
<thead>
<tr>
<th>Rule</th>
<th>Knowledge about it</th>
<th># of times used in the last 5 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rule 1</td>
<td>Yes/No.</td>
<td>0 1 2 3 4 5</td>
</tr>
<tr>
<td>Rule 2</td>
<td>Yes/No.</td>
<td>0 1 2 3 4 5</td>
</tr>
<tr>
<td>Rule 3</td>
<td>Yes/No.</td>
<td>0 1 2 3 4 5</td>
</tr>
<tr>
<td>Rule 4</td>
<td>Yes/No.</td>
<td>0 1 2 3 4 5</td>
</tr>
<tr>
<td>Rule 5</td>
<td>Yes/No.</td>
<td>0 1 2 3 4 5</td>
</tr>
</tbody>
</table>

**Independent variable --- Responsibilities:**

1. Do you know if the WUA has any written responsibilities for its members? Yes/No

2. If "Yes" to (1), list any 5 members' responsibilities you remember
   a. 
   b. 
   c. 
   d. 
   e. 

3. If No to (1), select first 5 members' Responsibilities from MoA. Ask if they heard about them. If yes, how many instances of non-compliance can he/she remember:

<table>
<thead>
<tr>
<th>Responsibilities</th>
<th>Knowledge</th>
<th># of instances of non-compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responsibility 1</td>
<td>Yes/No.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Responsibility 2</td>
<td>Yes/No.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Responsibility 3</td>
<td>Yes/No.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Responsibility 4</td>
<td>Yes/No.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Responsibility 5</td>
<td>Yes/No.</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

**Independent variable ---- Members' rights:**

1. Do you know if the WUA has any written Rights for its members in the MoA? Yes/No

2. If "Yes" to (1), list any 5 members' Rights you remember
   a. 
   b. 
   c. 
   d. 
   e. 

If "No" to (1), Select first 5 members' rights from MoA. Ask if they heard about them. If yes, how many times have they exercised it:
Rights | Knowledge | # of times the right was exercised
--- | --- | ---
Rights 1 | Yes/No. | 1 2 3 4 5
Rights 2 | Yes/No. | 1 2 3 4 5
Rights 3 | Yes/No. | 1 2 3 4 5
Rights 4 | Yes/No. | 1 2 3 4 5
Rights 5 | Yes/No. | 1 2 3 4 5

Independent variable --- Management decision process:

(Prior information about 5 major agenda items taken in the last 5 EC meetings was collected from the Minutes of the EC meetings (maintained by the Secretary)).

<table>
<thead>
<tr>
<th>Issue #1. Raised by member (name of the member);</th>
<th>Discussed/ Not discussed;</th>
<th>Decision taken / No outcome/Deferred decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issue #2. Raised by member (name of the member);</td>
<td>Discussed/ Not discussed;</td>
<td>Decision taken / No outcome/Deferred decision</td>
</tr>
<tr>
<td>Issue #3. Raised by member (name of the member);</td>
<td>Discussed/ Not discussed;</td>
<td>Decision taken / No outcome/Deferred decision</td>
</tr>
<tr>
<td>Issue #4. Raised by member (name of the member);</td>
<td>Discussed/ Not discussed;</td>
<td>Decision taken / No outcome/Deferred decision</td>
</tr>
<tr>
<td>Issue #5. Raised by member (name of the member);</td>
<td>Discussed/ Not discussed;</td>
<td>Decision taken / No outcome/Deferred decision</td>
</tr>
</tbody>
</table>

Based on the information above, the following questions will be put to the respondents.

Awareness about critical decision making in the EC.

<table>
<thead>
<tr>
<th>What were the management decisions from the last EC meeting?</th>
<th>Could list out 1 / 2 / 3 / 4 / all / None of the decisions.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who proposed the agenda for the decision?</td>
<td>Correctly identified 1 / 2 / 3 / 4 / All / None.</td>
</tr>
<tr>
<td>Did you raise any issue yourself in the last 10 EC meetings?</td>
<td>Y/N. # of issues ____</td>
</tr>
<tr>
<td>Was your concern discussed in the EC meeting?</td>
<td>Y/N # of issues ____</td>
</tr>
<tr>
<td>Did you raise any issues on behalf of your members in the last 10 EC meetings?</td>
<td>Y/N. # of issues ____</td>
</tr>
<tr>
<td>Was any of your members’ concerns discussed in the EC meeting?</td>
<td>Y/N. # of issues ____</td>
</tr>
</tbody>
</table>

(Gather information about the process of taking the following management decisions prior to the interview. The information is sought from the promoting agency -- NGO or Irrigation Dept.)

[List five major management tasks and the process of decision making as provided in the IMT program and WUA by-laws. Based on the information gathered verify the level of awareness of the process and provisions by asking the following questions]
Who decides the water rates for the members?  Correct / Incorrect answer

How are the water rates fixed?  Correct response/ Partially correct/ Not correct / Did not know.

How is the water distribution system finalized?  Correct response/ Partially correct/ Not correct / Did not know.

How are the incentives for timely payment of water charges fixed?  Correct response/ Partially correct/ Not correct / Did not know.

How is a financial defaulter penalized?  Correct response/ Partially correct/ Not correct / Did not know.

Intervening variable for Participation (2).
(Representation in leadership): From WUA records:

<table>
<thead>
<tr>
<th></th>
<th>Caste 1</th>
<th>Caste 2</th>
<th>Caste 3</th>
<th>Caste 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Caste Diversity (# of members in EC)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Location of farmland (# of EC members)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Representation of land-holding class in EC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Gender ratio in EC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Intervening variable for Participation (3). Enabling forums for participation
(Following information from WUA records)

1. Number of General Body meetings in a year/attendance: 1/2/more than
2. Average attendance (% of total membership). ____%.
3. Attendance profile: number of households across the following categories who attend meetings.
4. Farm location wise (head/mid/tail): ______/______/______.
5. Caste wise (upper caste/lower caste): ______/______.
6. Land-holding (small/medium/large): ______/______/______.
7. Gender (male/female): ______/______.
8. Number of EC meetings in a year ______.
9. Average attendance in EC meetings (as % of membership): ____%
10. Number of Regular\(^{45}\) items on the agenda of EC.
11. Number of Special\(^{46}\) agenda items in the last 4 meetings.

6. Is there a formal process for members to raise concerns in a meeting? Y/N. If yes, give a brief description.
   1. Number of concerns brought to the EC during the last 12 months: ____.
   2. What are the top five frequently reported grievances? Verified later from minutes of EC meetings) (i)----------(ii)----------(iii)-----------(iv)-----
   3. Who chairs the EC meeting?\(^{47}\) Chairman____/Rotating ____.

Intervening variable for Participation (4). Ownership of assets and institutions.

7. Cost sharing/operations:
   Number of members who contributed full share of canal rehab costs: ____.
   Number of members who defaulted on canal rehab costs: ____.
   # of members who paid O&M costs on or before time: ____.
   # of members who contributed time/resources for O&M:
     1. For supervision: # members: _____ . Average hours:_____.
     2. For repair & maint.: # of members:______. Average hours: _____.
     3. Other types of contribution: ______(Description)

7. Did the WUA have any operating loss during the last 5 years: Y/N. If yes, Rs____
8. How was the loss covered? A) shared equally among members b) shared pro-rata as per land holding c) transferred from reserve fund, d) carried over to next year.

Dependent variable (2): Rule of Law:

(The following information will be gathered from the written constitution/Memorandum of Association of the WUA. Subsequently, the respondents will be asked about the existence and use of these rules to assess their awareness and willingness to use them.)

A. Rules for providing leadership

1. Are there written rules for accepting nominations to elected positions. Y/N. If No, how are the positions filled.
2. Rules for ensuring the right of every member to run as a candidate. Y/N
3. Rules that provide representation of various interest groups to the offices. Y/N
4. Provisions for mid-course recall of office bearers who do not perform. Y/N

---

\(^{45}\) Regular Items of agenda are repeated every meeting. Examples include (i) Review of irrigation operations, (ii) Statement of income and expenditure, (iii) Status of irrigation service fee payment etc.

\(^{46}\) Special Items are those specifically sought to be included by members for a specific meeting.

\(^{47}\) There is a practice to propose another members' name for specific meetings so that Chairman's prejudices are not an obstacle for participation by all members.
B. Irrigation operations

5. Written rules for fixing water charges for irrigation. Y/N.
6. Written rules governing water distribution and irrigation operations. # of rules _____.
7. Written norms of sanction for infringement of rules. # of rules _____.
8. Written rules for law and order situations. # of rules _____.
9. Written rules for appointment, remuneration and termination of secretary and water distributors position. Y/N.

C. Conflict resolution

10. Written rules for referring conflicts between members. Y/N.
11. Written rules and procedure for fair resolution of member conflicts. Y/N.
12. Provision for redressing members' grievances and appeal.

D. Implementation of Rules

1. If yes to question A-1, was the rule implemented during the last election of office bearers? Y/N. If No, reason___________________.
2. If yes to question A-2, how many candidates ran for the Chair (#___) and Vice chair (#___)?
3. If Yes to question A-3, is the EC representative as per rule.
4. If Yes to A-4, was there ever a need for recall? Y/N. If No to question A-4, how are non-performing office bearers removed? _______________________.
5. Refer question B-5, how was the last water rate decided?
6. Refer question B-6, what system is used for water distribution?
7. How many members have been penalized for non-compliance of rules? #______.
8. How many members have evaded penalty for violation of rules? Why?
9. How was the last conflict in WUA resolved? (As per rule/not as per rule).
10. Is there an unresolved conflict at present?
11. How was the secretary appointed and paid? (As per Rule/Not per rule).
12. How was the water distributor appointed and paid? (As per Rule/Not per rule).

Dependent variable (3): Transparency

(The following questions are designed to understand mechanisms and effectiveness of mechanisms that enable transparency)

1. The Secretary's and water distributor's salary is fixed by the (i) General Body (ii) EC (iii) Chairperson, (iv) Arbitrarily (v) External agency) (Verify from Minutes of the meetings)
2. The expenses of chairperson and vice-chairperson is approved by General Body / EC / Others.
3. Statement of salary and expenses of office bearers are given to members (i) every month (ii) 6 months (iii) annually or (iv) not given separately.
4. Repair and maintenance contracts are discussed in EC meetings. Y/N.
5. Income and expense statements are shared with the members (i) monthly (ii) quarterly (iii) half-yearly (iv) annually (v) not at all.

6. Violation of rules by members/office bearers are communicated to general body through (i) public notices (ii) through EC members (iii) informally (iv) no formal system.

7. Members' grievances and resolutions are reported through (i) public notices (ii) through EC members (iii) informally (iv) no formal system.

8. Water availability and access to irrigation service is reviewed and communicated to members through (i) public notices (ii) through EC members (iii) informally (iv) no formal system.

9. Status of over-dues and non-compliance of financial obligations by members and office bearers are reported through (i) public notices (ii) through EC members (iii) informally (iv) no formal system.

10. Balance sheet and income-expenditure statements are an integral part of annual report. (Y/N).

11. Hard copies of annual reports are given to all members. (Y/N).

12. Members have a right to examine books of accounts at any time? (Y/N).

13. Number of instances when members have requested access to accounts and registers. 

14. Number of complaints about financial irregularities in the last 5 years? 

15. Number of irregularities resolved effectively. 

16. Is there any information that is not open to member's scrutiny? Y/N. If yes, describe.

**Dependent variable (4): Accountability**

The following questions are framed to gather information on existence of mechanisms, their comprehensiveness, use and impact on ensuring accountability of WUA leaders to the members.

**Mechanisms:**

1. What are the statutory reports prepared by WUA officers for the members?

<table>
<thead>
<tr>
<th>Type of report</th>
<th>Frequency in year</th>
<th>Actually produced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial -- income expenditure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial -- expenditure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial -- Salary and perks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operations -- irrigation service</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operations -- Misdemeanours</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operations -- Beneficiaries profile</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operations -- Repair contracts</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Is there an Internal Audit system. Y/N. If yes, how frequent is it done: /year

3. Is there a statutory external audit? Y/N. If yes, how frequent: /year

4. Number of Adverse remarks in last years Audit report:

5. Was a copy of Audit report given to members? Y/N. If no, reasons
Operating Plan:

1. Is there an Operating Budget? Y/N.
2. If Yes to question 1, is it approved by General Body? Y/N. If no, who approves the operating budget? ____________.
3. Is there a plan for administrative tasks?
4. Is there a responsibility chart / job description for President, EC members and Secretary? Y/N.
5. If No, who decides the responsibilities? ________________________
6. Is there an incentive/disincentive system for performance of office bearers? Y/N.
7. Is there an annual target for irrigation services? Y/N.
8. Is there an annual target for revenue generation? Y/N.
9. Are there measurable performance standards for office bearers? Y/N

Evaluation:

1. Is the actual financial report compared with Budget? Y/N.
2. What is the average deviation from the Budgeted Income? _____%.
3. What is the average deviation from the Budgeted Expenditure? _____%.
4. Is the budget performance reported to members? Y/N.
5. What was the action taken for deviation, if any? ____________________.

Appeal/grievance procedures:

1. What is the procedure for a member to register a complaint or appeal against performance of WUA.
2. How many instances of objection or complaints from members were recorded in the last 12 months? Financial ________. Operational ________
3. How many objections and complaints led to investigation? Financial ______. Operational ________.
4. How many objections or complaints led to penalization of concerned office bearer?

Conflict of Interest Guidelines:

1. Are there conflict of interest guidelines? Y/N
2. Are office bearers subject to special reporting requirements? Y/N

Code of Ethics:

1. Is there a code-of-ethics for office bearers? Y/N. For members? Y/N

Community Consultation Procedures:

1. Are there management decisions that require mandatory consultation with members? Y/N. If yes, list them: ________________________________.
Access to Information:

1. Do members have unrestricted access to all information pertaining to WUA? Y/N.
2. If Yes, how can a member access information (describe the procedure).
3. Is the right to information protected by WUA by-laws? Y/N
4. If not, how does it work?
5. How many times did members seek information in the last 12 months? _____.
6. Was information access refused anytime in the last 12 months? Y/N. #______.
7. Under what circumstances was the information access refused? ________________

Dependent variable (5): Responsiveness

1. What are the performance standards in terms of response time for:

<table>
<thead>
<tr>
<th>Incident / problems</th>
<th>Standards Y/N</th>
<th>Average response time</th>
<th>No standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor canal repairs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Major canal repairs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Irrigation schedule / distribution conflicts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial enquiries</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appeals against sanctions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any other need for action</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Fairness and equity in response: The following information is pertaining to the last 12 months.

<table>
<thead>
<tr>
<th>Category of members seeking interventions</th>
<th>Number</th>
<th>Response time (Avge)</th>
</tr>
</thead>
<tbody>
<tr>
<td># of interventions sought by tail-end farmers:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#of interventions sought by head-reach farmers:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#of interventions sought by small holding farmers:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#of interventions sought by large holding farmers:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#of interventions sought by upper caste farmers:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#of interventions sought by lower caste farmers:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#of interventions sought by office bearers:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#of interventions sought by ordinary members:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dependent variable (6): Consensus building

1. Are decisions with disagreements put to vote? Y/N
2. If No to 1, how is the disagreement resolved?
3. How many management decisions in the last 12 months evoked disagreement among EC members?
4. How many decision disagreements were resolved in the last 12 months? _____.
5. How many decision disagreements were unresolved in the last 12 months? _____.
6. Are there written procedures for resolving dissent/disagreement? Y/N.
7. If no to 6, are there informal institutions for resolving disagreements. Y/N.
8. If yes to 7, describe the process. ________________________________________.
9. Does Chairperson or any member have formal veto powers? Y/N.
10. If yes to 9, how many times has it been used in last 12 months? ______.

**Dependent variable (7): Resource Use Efficiency**
*Information will be taken from the WUA irrigation registers/accounts*

<table>
<thead>
<tr>
<th>Efficiency parameter</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>O&amp;M costs per farmer (Rs)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O&amp;M costs per hectare (Rs)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water used per hectare (Hours of irrigation)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of penalties for water wastage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of breaches in the water courses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of salaried staff per farmer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of salaried staff per hectare</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Category 3**

**Information related to the capacity building process and inputs received by WUA functionaries.**

(This information was available from WUA records and also from the promoting agency, namely the NGO/Irrigation Department (ID))

1. When was first dialogue initiated by the NGO/ID? MM/YY
2. Who were the initial contacts in the village? _____________________________.
3. How many formal meetings were organized for farmers prior to the launch of IMT? ________.

**Training programs**

IMT program was launched in 1994 along with a series of training programs aimed at building management capacity of farmers to take over many functions of irrigations from the Irrigation Department. The following table will cover the topics / contents of the training program.

<table>
<thead>
<tr>
<th>Topics</th>
<th>How many person days of training</th>
<th>When (MM/YY)</th>
<th>Any refresher? (Y/N)...How many?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topics</td>
<td>Relevance</td>
<td>Impact on capacity.</td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------------------</td>
<td>-----------</td>
<td>---------------------</td>
<td></td>
</tr>
<tr>
<td>Theory and practice of participation</td>
<td>0 1 2 3 4 5</td>
<td>0 1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Accounting principles / methods</td>
<td>0 1 2 3 4 5</td>
<td>0 1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Canal rehabilitation – Technical</td>
<td>0 1 2 3 4 5</td>
<td>0 1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>--- Supervision</td>
<td>0 1 2 3 4 5</td>
<td>0 1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Quality control of physical works</td>
<td>0 1 2 3 4 5</td>
<td>0 1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Water distribution system</td>
<td>0 1 2 3 4 5</td>
<td>0 1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Land development for irrigation</td>
<td>0 1 2 3 4 5</td>
<td>0 1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Budgeting and fixing water rates</td>
<td>0 1 2 3 4 5</td>
<td>0 1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Water use efficiency</td>
<td>0 1 2 3 4 5</td>
<td>0 1 2 3 4 5</td>
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</table>

Using the above table, rank the importance, on post-facto reflection, and impact on the capacity built among the respondents. (1 - very low.....5 - very high)
Monitoring and Evaluation

<table>
<thead>
<tr>
<th>Governance components:</th>
<th>0 1 2 3 4 5</th>
<th>0 1 2 3 4 5</th>
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<tr>
<td>--- Equity</td>
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<td>0 1 2 3 4 5</td>
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<tr>
<td>--- Rule making</td>
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<tr>
<td>--- Transparency</td>
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<tr>
<td>--- Accountability</td>
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<td>0 1 2 3 4 5</td>
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<tr>
<td>--- Leadership</td>
<td>0 1 2 3 4 5</td>
<td>0 1 2 3 4 5</td>
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<tr>
<td>--- Consensus building</td>
<td>0 1 2 3 4 5</td>
<td>0 1 2 3 4 5</td>
</tr>
<tr>
<td>--- Conflict management</td>
<td>0 1 2 3 4 5</td>
<td>0 1 2 3 4 5</td>
</tr>
<tr>
<td>Any other topic</td>
<td>0 1 2 3 4 5</td>
<td>0 1 2 3 4 5</td>
</tr>
</tbody>
</table>

1. On hindsight, what has been the three most difficult aspect of your tenure as Chairperson/Vice Chair/EC member.
   a. __________________________
   b. __________________________
   c. __________________________

2. If you have to undergo training all over again prior to IMT, which of the training programs would you chose as three of the highest priorities?
   a. __________________________
   b. __________________________
   c. __________________________

3. What have been the three most pressing concerns you have as a farmer member?
   a. __________________________
   b. __________________________
   c. __________________________

4. What is your level of satisfaction as a farmer member on the following parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Level of satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Timely irrigation services</td>
<td>0 1 2 3 4 5</td>
</tr>
<tr>
<td>b. Affordable irrigation fees</td>
<td>0 1 2 3 4 5</td>
</tr>
<tr>
<td>c. Upkeep of physical systems</td>
<td>0 1 2 3 4 5</td>
</tr>
<tr>
<td>d. Response time of enquiries / request for attention/action</td>
<td>0 1 2 3 4 5</td>
</tr>
<tr>
<td>e. Resolving conflicts</td>
<td>0 1 2 3 4 5</td>
</tr>
<tr>
<td>f. Preventing conflicts</td>
<td>0 1 2 3 4 5</td>
</tr>
<tr>
<td>g. Being informed of administrative and financial status regularly.</td>
<td>0 1 2 3 4 5</td>
</tr>
<tr>
<td>h. Ability to raise your concerns in the EC and be heard</td>
<td>0 1 2 3 4 5</td>
</tr>
<tr>
<td>i. Receive help in agriculture inputs and extension services.</td>
<td>0 1 2 3 4 5</td>
</tr>
<tr>
<td>j. Election process and choice of candidates</td>
<td>0 1 2 3 4 5</td>
</tr>
<tr>
<td>k. System of rewards and punishments.</td>
<td>0 1 2 3 4 5</td>
</tr>
</tbody>
</table>
1. Inclusion of tail-enders in irrigation  
   - 0 1 2 3 4 5  
m. Inclusion of tail-enders in management  
   - 0 1 2 3 4 5  
n. Inclusion of women in management  
   - 0 1 2 3 4 5  
o. Efforts to improve water use efficiency  
   - 0 1 2 3 4 5  
p. Any other aspect  
   - 0 1 2 3 4 5
Annexure 3. Certificate of Approval from Behavioral Research Ethics Board

<table>
<thead>
<tr>
<th>Principal Investigator</th>
<th>Department</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kotwal, A.</td>
<td>Economics</td>
<td>B04-0714</td>
</tr>
</tbody>
</table>

Institution Where Research Will Be Carried Out:
UBC Campus

Co-Investigator:
Eanarth, Shashidhuran, Economics

Sponsoring Agencies:

Title:
Decentralization of Natural Resource Management and Self-Governing People's Institution in India

Approval Date:
Nov 4, 2004

Term (Months):
1

Documents Included in the Approval:
Oct. 29, 2004 Contact letter / Consent form / Sept. 21, 2004, Questionnaire

The protocol describing the above-named project has been reviewed by the Committee and the experimental procedures were found to be acceptable on ethical grounds for research involving human subjects.

Approval of the Behavioural Research Ethics Board by one of the following:
- Dr. Hayes Frankish, Chair.
- Dr. Cay Holbrook, Associate Chair.
- Dr. Suan Rowley, Associate Chair.
- Dr. Anita Hubley, Associate Chair.

This Certificate of Approval is valid for the above term provided there is no change in the experimental procedures.