

WATER, DIFFERENCE AND POWER: KUTCH AND THE SARDAR SAROVAR (NARMADA) PROJECT¹

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Summary

Kutch, a semi-arid district in the state of Gujarat in western India, is known for its water scarcity. This report examines the relationship between the Sardar Sarovar Project (SSP), a controversial dam under construction in western India, and Kutch, which is supposed to benefit from the dam. It highlights that contrary to decades of promise, Kutch does not stand to benefit significantly from the project and shows how the state has “manufactured” the dominant view that there is no alternative to this project for Kutch. This has two consequences: one, locally appropriate alternatives are not adequately explored; two, crucial aspects concerning social difference are obscured.

The case study gives a picture of the social, caste and power dynamics in a village supposed to benefit from the project and shows how these are intrinsically tied to the water question. The analysis of the arrangements governing land and water use indicates that access to and control over water resources was always differentiated and this differentiation is likely to increase with the advent of canal irrigation. Hence, notions of the “user” and “community” need to be de-homogenised to accommodate variations arising due to historical legacies, class, caste, gender and occupation.

The study argues that both macro and micro-level water interventions are blind to questions concerning social difference. In doing so water schemes build on or reinforce already skewed social and power relations. It contends that unless social difference is taken seriously, even ecologically sustainable options such as watershed development may end up being “old wine in new bottles.” In order for issues such as equity and social justice to be addressed in water interventions, the study argues for the need on the part of implementing agencies to be aggressively partisan in targeting the marginalised and socially excluded groups.

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1. OVERVIEW

1.1 Research Background

Even though large dams are controversial on social and environmental grounds, they still continue to enjoy tremendous legitimacy in international and national discourses on water resources management (Goldsmith and Hildyard, 1992). Large dams are considered by many planners and politicians to be the most efficient way to solve the irrigation and energy problems of developing countries. A good example of this is the Sardar Sarovar Project (SSP), a controversial dam under construction in western India, which is made out to be the panacea for dry areas such as the Kutch region in Gujarat (Narmada Planning Group, 1989; Raj 1996). In examining the relationship between the Sardar Sarovar Project (SSP), Kutch and the state, this study analyses why large-scale interventions such as the SSP are still preferred over smaller more localised options.

The detailed case study presented here addresses the local institutional arrangements surrounding resource use, the interface between social difference and resource management and indigenous perceptions and knowledge of water management. A large body of empirical research has examined collective managerial arrangements for common property regimes and has studied how local institutions have evolved to govern access to and control over resource use (Berkes 1989; Bromley and Cernea 1989; Ostrom 1990). Common property theorists argue that resources can be managed collectively for common good as opposed to private gain, thus preventing the gloomy “tragedy of the commons” predicted by Hardin (1968). Following these concepts, the research focuses on analysing the tasks and actions occurring in water systems and how these are linked to different relationships with other users and the state.

Common property theorists have tended to portray the community as homogenous and in equilibrium with an unchanging environment (Berkes 1989; Bromley and Cernea 1989; Ostrom 1990). This directs attention away from social difference which is, as will be argued, a key issue in understanding how access to and control over natural resources are determined by social categories such as class, caste and gender. Gender relations are often obscured in literature on resources management and women’s interests are still not adequately represented in water schemes (World Bank, 1993). Within the Indian context, and especially in Kutch, which is full of numerous castes and sub-castes, caste relations are a key aspect of social difference. Hence any analysis of user groups has to pay cognisance to the role played by caste, both historically and in present times in water resources management. Similarly, the power dimension in natural resources management has been downplayed.

This research shows that local hierarchies and politics go a long way in determining the success of future schemes. As local communities tend to be glorified, not least in burgeoning literature on indigenous knowledge (Shiva 1989; Chambers et al 1989; and Ferroukhi 1994), often both macro and micro-level water interventions are based on conceptual and operational fallacies regarding the “community.” Hence the study stresses the need to have a more nuanced and

dissaggregated view of the “community” (Leach, Mearns and Scoones, 1997) and address issues concerning social difference and local power politics, whilst studying local people’s interactions with and knowledge of natural resources. In doing so the research has followed the less populist “Beyond Farmer First” approach which stresses the manifold, discontinuous and dispersed nature of communities and local knowledge systems (Scoones and Thompson 1994).

The research focuses on the following key issues:

- The relationship between Kutch and the SSP. The role of the state in promoting this project and an analysis of perceptions on the SSP.
- The institutional and organisational arrangements governing natural resources management, especially water. These include tenure arrangements, the study of access to and control over land and water resources, and the role of the state in resources management.
- The identification of different users and social and power relations governing resource use; how these affect water access, use and control and the efficient implementation of water schemes.

1.2 Methodology

The methods used to analyse the state’s role in water resources management were textual analysis of various documents, semi-structured interviews and key informant interviews. At the village level, the emphasis was on qualitative methods in order to eschew situations of clear dominance between the “research subject” and the “research object”. As the main focus was on local people’s daily practices and perceptions, conventional tools such as top-down surveys or questionnaires were avoided as they tend to subvert the subject’s local experience in her or his everyday world as perceived by her or him. Even though the main emphasis was on qualitative methods, a census was conducted in the village in order to identify household heads and categories of people based on caste and wealth.

The main methods employed were participant observation and semi-structured interviews. Villagers were accompanied on their daily chores including fetching water, farming and grazing activities. Emphasis was placed on capturing the different layers of variation in the structure of the village’s social composition and people’s resource endowments/use rather than the creation of a numerically representative sample. As Merka, the village of study, is comparatively heterogeneous, efforts were made to have contact with all the different caste groups, even though this proved to be a rather Herculean task (see Appendix I for personal experiences on this). Research was conducted between November 1995 and August 1996.

2. THE DISTRICT OF KUTCH

2.1 Kutch and its Water Resources

Kutch district is located in a crescent-shaped peninsula in the Gujarat state of Western India. It is the largest district in Gujarat and has an area of 45,612 sq km constituting 23 per cent of the state. Kutch is like an island as it is bound by the sea in the South and West and by the Ranns (salt marshlands) in the East and North. Kutch was a princely state ruled by the Maharao of Kutch and was integrated into the state of Gujarat only in 1961.

Kutch has 887 inhabited villages with a population of 1.2 million. It has nine *talukas* or administrative sub-districts: Bhuj and Nakhatrana in the North; Lakhpat and Abrasa in the West; Mandvi, Mundra and Anjar in the South and Bachau and Rapar in the East (see map in Appendix). Apart from its very heterogeneous social and ethnic composition, the region has nine ecological zones (Gujarat Ecology Commission: 1994). Described in some government reports as “a museum of environmental hardships”, Kutch’s geology, climate and topography are intriguing, making it a fascinating and challenging place in which to study water resources management. Legend has it that much of Kutch was a navigable lake during the time of Alexander’s conquest of Sind (Thakker: 1988). All of Kutch’s 97 rivers are non-perennial and have a high run-off rate.

Rainfall is erratic and variable. The average annual rainfall is 388 mm ranging from 440 in the Mundra area to 338 mm in Lakhpat (Raju: 10: 1995). It only rains a few days per year, (15 days on average). Kutch has a semi-arid type of climate and accounts for 60 per cent of the semi-arid tract in Gujarat. Temperature ranges from 45 degrees centigrade in the summer to two degrees in winter. Kutch is considered to be a drought-prone district as droughts take place every two to three years.³

15 per cent of the area of Kutch is cultivable. Rainfed agriculture and animal husbandry are the chief occupations in Kutch, though settled agriculture initially did not have the same importance that it has today. Traditionally, most Kutchis, who migrated here from Sind (present day Pakistan), Rajasthan and other parts of Gujarat, were pastoralists. Even today the cattle population exceeds that of the human population and dairy products form a crucial part of the daily diet. Over-exploitation of the aquifer combined with sea water ingression has led to salinity in the water and soils and to a sinking ground-water table. Out of the nine *talukas* in the district two fall under the over-exploitation category. The groundwater table sinks at a rate of one metre per year and only eight per cent of the total precipitation is recharged to groundwater against the normal of 20 per cent (Gujarat Ecological Commission: 1994: 14ff).

Due to its topography, no major dam is possible in Kutch . Hence sites for new dams are limited. . There are 16 medium-sized and 160 minor-sized water schemes in Kutch (Raju: 1985). Many existing schemes work under their potential capacity due to a high rate of siltation (between 15

³ Analysis of the changing concept of drought and scarcity in state discourse over the years is beyond the scope of this paper. Since there is no clear definition of drought and scarcity, the notion is politicised, used and abused in many ways.

- 70 per cent).⁴ The implementation of government-sponsored watershed projects and micro-level water schemes has only recently become a priority. Watershed development falls under the jurisdiction of the Gujarat State Land Development Corporation (GSLDC) and state agencies working on rural development. The GSLDC presently has eight ongoing watershed projects. The role of NGOs such as the Vivekanand Training Research Institute (VRTI) and Jan Vikas has been significant in this area.

Kutchi identity is moulded around water, or the lack of it. Villagers across the length and breadth of the district say that the lack of water is the cause of their misery, the depopulated villages and mass migration⁵ out of Kutch. Water scarcity is attributed to low rainfall, ever-decreasing rainfall and perennial droughts. Memories are evoked of the times when Kutch was green and verdant, when the river Indus or Sindhu flowed through the region and watered the Banni region of Kutch (Kutch Development Forum, 1993). Such evocations of the former garden of Eden that was Kutch are not uncommon. They reflect a deep wish all over the district to make Kutch a lush and vegetated area.

Much of the Kutchi desire for water from outside the district has to do with the injustice that it has had to face vis-à-vis water due to natural and political circumstances. An earthquake in 1812 changed the course of one of the tributaries of the Sindhu (Indus) river and stopped its flow into Kutch. After the emergence of India and Pakistan as separate states as a result of partition in 1947, traditional socio-cultural links with the Sind basin were cut off and plans to divert Sindhu waters to Kutch were abandoned. Riparian agreements over the distribution of Punjab rivers left out Kutch, too. Kutch was then given the assurance that water from the Rajasthan Canal in the would be diverted to the area (For details, see Thakker 1988) . This, too, never took place.

These series of failed promises have resulted in Kutchis feeling very bitter vis-à-vis the state of Gujarat which they feel has successively marginalised the region. As water has always been promised from distant exogenous sources, till very recently there has never been any serious or concerted effort to develop endogenous and indigenous techniques of water harvesting or conservation. There is a wide-spread belief in Kutch that due to the harsh climate, erratic water supply, declining groundwater sources and frequent droughts, the only solution is to get water from the rivers of Gujarat (Kutch Development Forum, 1993) . That is why all hopes are being pinned on the Sardar Sarovar Project. Seen in this light, the Sardar Sarovar Project (SSP) is not only the last in the line of external water wonders supposed to transform Kutch. It is also considered by many to be *the* only hope for Kutch.

⁴ Dr Raju, personal communication, Advisor, Vivekanand Research and Training Institute, Mandvi.

⁵ The present population of Kutch is a little over one million. For every Kutchi living in Kutch, there is one in East Africa, the Gulf or in Bombay. People in Kutch attribute this great Kutchi diaspora to the lack of water and the “underdevelopment” of the region. I suspect that there are also historical reasons for this. Since time immemorial, the princely state of Kutch was involved in seafaring activities and played a key role in trade with East Africa and the Arab world. Thus, Kutchi entrepreneurship and its sense of adventure have also played a significant role in the migration of its people.

2.2 Kutch and the SSP

The SSP is a controversial multi-dam canal irrigation and hydroelectric project under construction on the Narmada river in Gujarat. If completed, the planned 163 metre dam is intended to bring drinking water to 30 million people and irrigate 1.8 hectares of land (Raj 1991: 11). It will also submerge 37,000 hectares of forest and agricultural land as well as the homes of at least 250,000 people.⁶

Plans to provide water for Kutch from the river Narmada have a long history and are no less complicated than the history of the Sardar Sarovar dam itself. They are presented here briefly. The Narmada river flows through three states, namely Madhya Pradesh, Gujarat and Maharashtra. Though the project was conceived almost a century ago, actual work has been stalled due to inter-state conflicts such as the height of the dam, the extent of submergence and the sharing of benefits. Different committees were set up to resolve all these inter-state conflicts such as the Khosla Commission of 1965 and the Narmada Water Disputes Tribunal of 1979. Kutchis maintain that the state of Gujarat did not represent their interests adequately and were biased in favour of obtaining benefits for Central Gujarat which has far better water endowments. As a result, during the course of several rounds of negotiations, Kutch successively lost out. From an original plan of three canals, the Narmada Water Disputes Tribunal sanctioned only the canal along the coast in 1979. Instead of allowing for the irrigation of 9.45 lakh acres of land in Kutch,⁷ only 95,000 acres of land were to get irrigation (Kutch Development Forum:1993). In this way only two per cent of Kutch's area stands to benefit from the Kutch Branch Canal.

The hurdles of the past, however, are few compared with future chances of getting water to the region. Apart from the financial crunch facing the state of Gujarat and the tremendous opposition to the dam from the project-affected indigenous peoples, the future of the dam is uncertain due to opposition from the state of Madhya Pradesh and a pending case against it at the Supreme Court. Furthermore, several logistical issues need to be tackled to make canal irrigation from the SSP a reality for Kutch.

Water can only enter Kutch after the Narmada main canal is constructed. Once diverted into the main canal, the water will traverse 500 kilometres before it enters into Kutch. Along the way the canal will cross major rivers such as the Mahi, the Sabarmati and the Banas and their valleys. Before entering Kutch, it will also cross the Little Rann. Here high evaporation is expected. The quantum of water entering into Kutch will almost be that of a small river. Consensus still has to be reached on whether the lift or gravity method will be used. No work has started as yet on the proposed Kutch Branch Canal (KBC) as the alignment line has not yet been fixed. The present plan envisages a canal of 200 kilometres in Kutch passing through a tiny coastal strip in Eastern and Southern Kutch. In this way five *talukas* stand to benefit: Rapar, Bachau, Anjar, Mundra and Mandvi. Only two of these *talukas*, namely Rapar and Bachau, are considered to be drought-prone. The other three are richer in

⁶ A discussion of the cost/benefit analysis of the project and a summary of all the controversies surrounding it, though interesting, are not possible in this paper.

⁷ One lakh = 100,000

groundwater endowments and are considered to be part of the belt that has experienced the green revolution in Kutch. The industrial belt of Kutch situated in the Kandla-Gandhidham area is also located in the command area. Thus, the needs of industrial residents and rich farmers may be met more than those of needy farmers in other drought-prone areas. The SSP, if realised, may also intensify the existing North/South divide in the district.

In short, providing water from the SSP to Kutch is still very much in an embryonic stage and promises to be a protracted process. Contestations continuously take place over the proposed command area and proposals are put forth before the state government from concerned Kutchi citizens who seek to increase the allotment of water to Kutch. It is ironic that water-hungry Kutch should be used by the dam proponents to justify the project, especially as it does not appear as though Kutch is likely to benefit significantly from the project. Nonetheless hopes and aspirations have been aroused among the people of Kutch. Powerful imagery is used to stress the situation and justify the project in Kutch (and neighbouring Saurashtra):

“They had seen farmers shedding blood from their eyes at the parched and cracked farms due to want of rains in Saurashtra and Kutch (...) Tearful tales of dry desert were heart-rendering and emphasised again and again the need to solve the problem of water for human and cattle population in the (...) Kutch region. People of Saurashtra and Kutch live on a dream of the Narmada waters reaching them (...)” (Sanghvi 1992: 5).

The SSP is considered to be the lifeline of Gujarat. The state of Gujarat accords it with the utmost priority. Almost a third of the finances of the last Five Year Plan were to be invested in the project. This is evident from the Eighth Five Year Plan of the state which says:

“The highest priority in investment is given to the Sardar Sarovar (Narmada) Project (...) An outlay of Rs 2900 crores which amounts to 25.22 percent of the total size of the Eighth Plan has been proposed for this single project which is the lifeline of Gujarat (...) Thus an outlay of Rs 3756 crores for the Eight Five Year Plan has been provided for irrigation (..) which includes outlay for SSP (...) This constitutes 32.66 per cent of the total Plan outlay for the Eighth Plan” (Government of Gujarat: 1992: 26-27).

Kutchis feel betrayed and aggrieved that nobody outside the district takes their water problems seriously and that they have constantly had to live with a series of broken promises. With the exceptions of a few, most Kutchis are determined to bring Narmada water to Kutch, despite all the known problems of canal irrigation and the fact that only a tiny coastal strip will actually benefit. The discourse on the SSP only talks about how this “water wonder” will transform the region and enrich it. Issues such as the equitable distribution of water, long-term effects of canal irrigation, the impact of irrigation on the existing high salinity of the soils are not addressed. In Kutch it is taboo to talk against the project or even to suggest that the SSP is not the panacea that it is made out to be. Critics of the project rarely speak out against it in public even though some irrigation and state officials may have their reservations towards the project as expressed in off-the-record interviews.

An NGO working on water harvesting and micro-level water projects considers it “political suicide” to speak out openly against Kutchi reliance on the SSP.

The propaganda machinery used by the state as well as decades of political promises have succeeded in “manufacturing” perceptions or myths that reinforce the bounty that is supposed to be the SSP.⁸ In Gujarat, the state has “*manufactured*” one dominant perception of water, namely, the Narmada project as the single solution. In doing so, political and business interests all over the state are being served.⁹ Additionally, the discourse on water resources management is hegemonised by this one project. Apart from consuming a significant portion of the state’s budget, the SSP may have jeopardised the future of several minor and medium-sized schemes all over the state. In Kutch detailed project proposals for over 20 minor schemes have been submitted since 1984 to concerned authorities in Gandhinagar. Since 1984, however, only five schemes have been sanctioned (Water Research Investigation Department, Bhuj). Kutchi officials attribute this to the lack of political interest in Kutch by the then Congress government; critics of the SSP attribute this to the lopsided diversion of state funds to the SSP. Whatever the reason, one thing remains clear: the large water intervention gets preference over the smaller ones.¹⁰ This also reinforces the tremendous dependency on the external solution to solve the water crisis, prevalent at every level in Kutch -the case study illustrates this at the village level- thus preventing the utilisation of local means and micro-level solutions in grappling with the problem.

Neither state nor local-level discourse on the SSP have addressed the socio-economic aspects of the project on the potential beneficiaries. For example: How would a specific area or village respond to canal irrigation? Who are the users and would their specific needs be met? Does social difference interfere with the functioning of water schemes? These issues are discussed in the detailed case study to follow.

3. THE CASE OF MERKA¹¹

3.1 Merka: The Area of Study

Fieldwork was conducted in Merka, a village in south-east Kutch in Rapar *taluka*. Rapar falls in the command area of the Kutch Branch Canal which is intended to provide Narmada water to Kutch. It is also the first area potentially to benefit from the Narmada Project in Kutch. Moreover, it is known for its water scarcity. Hence it was decided to select a village in this area. In total 19 out of 97 villages in

⁸ Here I borrow Herman and Chomsky’s concept of “Manufacturing Consent”. In a book titled by the same name they describe the role of the media in “manufacturing” consent and describe how support is mobilised for special interests that dominate the state and private activity.

⁹For example, the Gujarat government has been promoting industries coming up along the “Golden Corridor”, largely situated in the SSP’s command in Central Gujarat. It has attracted investments worth Rs 75,000 crores for this purpose (Desai: 1995).

¹⁰A similar situation prevails in equally drought-affected Saurashtra where several ongoing projects were found to be running behind schedule due to lack of funds (Economic Times, Ahmedabad, 4-7-1992).

¹¹ The village name has been changed for purposes of confidentiality.

Rapar are located in the potential command of the SSP. As the research aims at depth rather than breadth, one village, Merka, was selected for intensive study though visits were paid to other villages.¹² The main research village was selected for the following reasons:

- It is totally situated in the potential command area of the SSP and is considered by people in the area to be representative of it;
- It falls in between the spectrum of very large and tiny villages in the area;
- It is sufficiently heterogeneous to study all the research questions focused around social difference;
- Both agriculture and pastoralism are practised. It has irrigated and non-irrigated farming. Most of the potential users could therefore be covered;

Merka is located six kilometres away from the Little Rann of Kutch. Its climate is tropical, semi-arid to arid, with a mean annual rainfall of 456 mm. The topography consists of flat plains and gentle to moderately sloping residual hammocks and ridges. Soils in Merka range from gravely and sandy to fine loamy sand. Salinity in the soil is significant, partially due to its proximity to the Little Rann. The soils have low water holding capacity. Drainage is moderate to excessive (Gujarat State Land Development Corporation Ltd, 1988).

Merka has been declared a “no source” village along with 736 other “no source” villages in Kutch. “No source” refers to one or all of the following: Water is available 1.5 kilometres away from the village; the water level is below 20 metres; water is chemically not potable¹³. Once it is declared as a “no source” village, the Gujarat Water Supply and Sewage Board takes responsibility for the provision of water supply. This is either by tanker or by the pipeline. There are over 111 regional water supply schemes in the district and over 300 villages receive water by tanker. Accordingly Merka receives government-supplied water.

The chief sources of livelihood in Merka are agriculture and animal husbandry. Agriculture is largely rain-fed and staple crops such as millets (*bajra* and *jowar*) and pulses (*mug* and *math*) are grown. Commercial crops such as cotton and castor oilseeds provide some yields in rain-fed farms. Cultivators keep bullocks for their ploughs and cows or buffaloes for milk as the diet is rich in dairy products. Pastoralist families such as the Bharvads and Rabaris own between 50 and 200 heads of livestock, mainly sheep and goats. A few families own camels. The larger the herd, the more likely it is that the pastoralists seasonally migrate.

¹² Other areas studied more rapidly were Paccham in the North of Kutch where NGO work in watershed development is going on as well as villages in the Green Revolution belt of Kutch around Mandvi. Visits were also made to watershed projects conducted by VRTI and Jan Vikas Ecology cell.

¹³Mr Ahuja, personal communication Executive Engineer, Gujarat Water Supply and Sewage Board.

The following table gives some statistical information on Merka:

Population	3463
Number of Households	597 ¹⁴
Area of the village	16,664 acres
Total cultivable area	8,685 acres
Total irrigated land	100 acres
Non-irrigated land	8,584 acres
Wasteland	7,029 acres
Forest land	200 acres
Pasture land	640 acres

Source: Village *Talati* (Village Revenue and Administrative Officer) and study census¹⁵

Social Structure in Merka

As can be seen from the village map provided in the appendix, caste determines living space and is the basis of most interactions. Caste relations are crucial for water resources management practices as described below. Merka is a social and cultural melting pot which make it a very interesting place in which to address issues concerning social difference. The following groups are found in Merka and are presented here in almost the same hierarchical order as they are represented in the village:

- *40 Jadeja (Darbar) households:* The Jadejas, also known as Darbars (rulers) were the former rulers and feudal chieftains of Kutch state. They consider themselves to be superior to the other communities and still assert their authority and former glory.
- *117 Rajput households:* The Rajputs migrated to Kutch from Rajasthan. They form the bulk of the cultivators in the village. They belong to the warrior caste. In Merka, most of the irrigated land is owned by one large Rajput clan.
- *65 Rabaris households:* These are wandering pastoralists. They own up to 300 head of cattle and migrate seasonally every year.
- *37 Bharvad households:* Pastoralists. They own fewer animals than the Rabaris.
- *118 Kolis households:* Indigenous peoples or “scheduled tribes.” Kolis live by and large in the scattered settlements or *wandhs* outside the village. They are considered to be *jungli* (“wild”) by the rest of the village.
- *121 Harijan households:* Formerly known as “untouchables”. Even though untouchability has formally been abolished in India, they are still discriminated against in the village. They are largely landless and work as labourers in the village or outside.¹⁶
- *Others: 49 Muslims households, Jain shop-keepers; Brahmins, Gadvis, etc.*

¹⁴ This includes households in the scattered settlements or *wandhs*. The analysis on social structure is basically restricted to the residents in the village core.

¹⁵ I have discussed elsewhere about the problems on village-level statistical data and the discrepancies between data given by the *Talati* and data collected during fieldwork. See Mehta, Winiwarter et al, 1996.

¹⁶ The Harijans, officially known as “backward castes”, and the “scheduled tribes” are entitled to several benefits due to positive discrimination. Due to the reservation policy, a Harijan has become the village headman which is deeply resented in the village. This appointment has, however, not really helped to elevate the status of the Harijans in the village.

3.2 The Institutional Arrangements of Land in Merka in Historical Perspective

Land rights and water rights, as will be shown, are inextricably linked. Hence the following discussion on tenure is crucial to the water question as it has bearing on who will ultimately benefit, should the waters of the Narmada ever reach Kutch. When Kutch was a princely state, land was controlled and owned by both the state and by the Jadeja Darbars who had several petty fiefdoms. The state and the ruling Jadeja feudal chieftains had a reciprocal arrangement of revenue sharing known as the *Bhagyati* system based on the principle of brotherhood. Each chief ruled over his lands without much interference from the Maharao or king in return for providing assistance during times of war. Two-thirds of the agricultural land in present day Kutch was ruled over in this way¹⁷ of which little or no records are available today. The remaining one-third of the land was controlled by the state and came directly under the Maharao.

After Kutch became a part of India in 1948, a series of land reforms and land ceiling acts sought to re-distribute land on a more egalitarian basis. Large land-holdings were nationalised and re-distributed to the landless and lower castes. In 1958, a land reform act was passed which provided that no family could own more than two plots of land over 52 acres (District Revenue Office, Rapar). The 52 acres ceiling was specifically for Rapar *taluka*. In areas with better land it was significantly lower. Reforms continued right up to the late 1960s. Though some land-owners lost a lot of land, many families succeeded in holding on to it as land deeds were transferred to sons, many of them still minors, and widows. Ironically, this is the only way some women have land in their names in a society where otherwise this is not considered proper or in norm with the prevailing traditional. In many cases, even though Harijans were granted land, the land continued to be cultivated by the former owner, or they were granted barren waste-land unfit for cultivation.

Merka is one of the oldest villages of Rapar *taluka*. During the princely era, 60 per cent of the land in Merka was owned by the Darbars and Rajputs.¹⁸ The remaining 40 per cent was owned by the state which included waste-land, pasture-land and land tilled by traditional peasant communities who paid taxes to Bhuj (Village *Talati*, personal communication). After the land reforms large land-owners had to surrender their land. Nonetheless, even today the Darbars and Rajputs control about 50 per cent of the land in Merka. Even though the figures do not match up to this claim, the general perception in the village is that the Rajputs and Darbars control most of the land and “all” the prime irrigated land. The historical analysis shows that these two groups have always enjoyed privileges. They still enjoy key positions in the village. They dominate every realm, be it politics or community action. One Rajput clan owns over half the irrigated land. Even though they lost over 500 acres during the ceiling acts they have recovered much of it by buying land from pauperised farmers such as the Harijans and even Jadeja Darbars.

¹⁷ Himatsinghji Jadeja, personal communication. Member of the royal family of Kutch and uncle to the last Maharao.

¹⁸ The Rajputs of Kanmer enjoyed a special status during the princely era. They were allowed to own large estates and were also considered to be the brothers of the king. Instead of parting with a percentage of the yield, they paid the king 25 Kori (the old currency) a year in return for being allowed to use two oxen for their ploughs.

Even though their former glory may have declined, the Jadeja Darbars still continue to have *de facto* control of the village waste-lands. Contrary to the letter of the law, it is universally accepted in the village that waste-land is controlled by the Darbars. There are three cases of village waste-land being appropriated by Darbars and then sold off as house plots to *nouveau riche* Harijans who have made money due to migration to cities in Kutch. They also illegally demand money from the marginalised groups such as the Harijans and Kolis when they cultivate wasteland which is equally “illegal” in the eyes of the state. These informal and illegal modes of control over the wastelands by the Darbars are tolerated and ignored by the state. They indicate two things: one, that traditional feudal authority still wields power and control. Land-grabbing of waste-lands may even increase with the advent of canal irrigation, and if the perpetrators are Darbars or other higher castes, this is likely to remain unchallenged; second, the decline of waste-land and the conversion of waste-land to cultivated land will lead to further degradation of the village common property resources (CPRs) leading to serious environmental consequences.

A few large and rich Harijan, Koli, Rabari and Bharvad families had traditional family land even during the princely era as lands were often granted as gifts. However, they constitute the minority. Rabaris and Bhavads, being pastoralists, own very little of the land in the village though they are more settled than many of their counterparts in other Kutchi villages. Most Harijans today still remain landless. 44 per cent of all households in the village considered themselves to be landless (Census data).

Hence, the control of land lies in the hands of the Rajputs and Darbars. Historical legacies play a key role in this. This skewed distribution of land has not got corrected with land reforms and is likely to intensify. The question of who controls and has access to land is central to the water question. Obviously it is the landed who are most likely to benefit if and when canal irrigation gets to Kutch. In the case of Merka, the landed constitute high caste members who traditionally enjoyed power in the feudal society. Land sales and land prices are likely to increase with the advent of canal irrigation. This has already begun in the neighbouring village of Gagodar where Bombay-based villagers are returning home and buying land (Village *Talati*, personal communication).

3.3 The Institutional Arrangements of Water in Merka in Historical Perspective

Sources of water in Merka comprise rainwater collection in numerous tanks around the village, *viridas* or holes in river-beds or tanks and the use of groundwater via wells. Each of these are discussed below.

Tanks

Tanks are used for bathing and for providing drinking water for livestock and human populations. Apart from the main village tank, *son sar*, there are numerous *sim talavs* (tanks in the countryside). Each tank has its own history and benefactor, usually rich farmers or pastoralists, who financed the building of the tanks ostensibly for the good of all. It is considered to be a blessing and benediction

to provide water to humans, animals and birds and the act is seen to be a straight route to rewards in the after-life. Of course, not everybody has the power or financial clout to provide this largesse and the rich see it as their duty to pay for the creation and upkeep of village tanks. The subaltern history of tanks in the village tells another story. The Harijans and Kolis feel proud that the tanks were built by their sweat, blood and paid labour. Yet, no plaque adorns their name; their Gods are not venerated in shrines by the tank; their ancestors have not emerged as mythical figures.

Once a year on the 11th day of the Hindu Jeth month, just before the advent of the rains, the whole village gets together to desilt the tank and strengthen its foundation. While this appears to be a communally managed task, the participation of all the groups is not equal. Those who can afford to pay for labour and who have bullock carts go along. Hence, it is the rich who are more involved in these tasks than the poor. This institution today has acquired a symbolic character and the few who participate do so more for the blessings that they hope to receive than for tank maintenance. While some initiatives to maintain village tanks still continue to take place, the dependence on the government has increased in recent years. This has gone hand in hand with the all-pervasive character of drought-relief works.

Drought-relief

Every year at the end of the rains, an assessment is made of the crops and it is decided accordingly whether the year is a “scarcity year” or not. The system is also known as “annawadi” as it determines how many annas¹⁹ the crop is worth. The estimates are made by the *Talati* who is invariably not a farmer and is rarely present in the village.

If the year is declared by the state as a scarcity or half scarcity year, relief work begins around October and goes on until the rains set in. Relief work comprises road building, land-levelling and irrigation. Irrigation receives the lion share of work and budget allocation. Irrigation-related work includes the building of new storage tanks or the repairing, deepening and levelling of old tanks. At the village level, irrigation officials view various sites in consultation with the village *Sarpanch* (headman) and *Talati* and assess the technical feasibility of the projects. Even though the main criteria should be the catchment area and storage capacity of the potential tank, in Merka the selection of sites appears to be a rather arbitrary process more influenced by power politics within the village fabric than by ecological concerns. Until recently, the ex-*Sarpanch*, a Darbar, unilaterally made all the decisions. He tended to be in favour of tanks which were surrounded by Darbar fields and constantly vetoed relief work on tanks which would benefit Rajputs. Here, as in so many other things, social difference in the village plays a major role in determining whether a scheme is chosen or not and goes a long way in determining its acceptability in the village.

¹⁹ A rupee used to be made up of 16 annas.

The main aim of the scarcity work, as evident in the master-plan, is to provide employment or “man-days” and cash relief to families ear-marked for drought-relief.²⁰ It is, however, clear that such relief work is no solution to the drought crisis in Kutch. It is reactive, not proactive, in nature. It encourages dependency on the government and politicians. Politicians taking up the issue are seen to be champions of the water question. The short-term survival of the beneficiaries till the next rains, as opposed to long-term drought-proofing, is the main aim of drought-relief. This is evident in the master-plan which stresses how many “man days” of employment will be generated. Scarcity no longer refers to the lack of rains or dying cattle, but has come to symbolise an assurance of several months of income provided by the government.

The tanks often end up benefiting the landed, as the whole emphasis is on irrigation, not on drinking water. One good example is Chorvirda, a depression in one of the village tanks which always had water twelve months of the year. Literally, it means “Thieves’ Hole” as water was so plentiful that even thieves were assured of their water supply. During one of the scarcity works, a small dam was built over the tank. About 10 pump-sets were illegally installed over the tank.²¹ Most of the engines belonged to the powerful and landed Rajput clan mentioned earlier. They enjoyed a bumper crop, but the water in the tank was totally depleted. This has caused considerable hardships to pastoralists who could always count on this source to obtain water for their livestock.

The track record of tanks built or repaired under scarcity is dismal. Most of them are abandoned after the work is over and breach within a few months. As the main emphasis is on providing employment and generating “man days”, work on the same tanks often continue year in and year out. Their names, however, are changed. After relief work, ideally the tank should reach the safe stage. This takes place when it is handed over to private contractors who strengthen the foundation with cement to facilitate over-flow and avoid over-topping. In Rapar *taluka*, only 20 per cent of the tanks reach safe-stage. Since 1985, out of the 12 tanks worked on in Merka under drought-relief, only four passed over to the safe stage. Despite the safe-staging, one of them breached during heavy rains.

When one views the history of tanks in the village, one sees that there has been a gradual shift from villagers managing their tanks to complete dependence on the government to deliver the goods. Unfortunately, both the state management of tanks and the principles under which the tanks are repaired and constructed are flawed as the emphasis is on short-term relief. Even though one should not gloss over earlier village management of the tanks (as the rich and landed also took all the initiatives at that time) it took place without outside intervention. Local initiatives still take place, but they are feeble in comparison to what they used to be as the state is now viewed as the provider. This

²⁰ Drought relief has always existed. Even during the time of the Maharao grain and cash used to be given out. Then, however, migration to the Sind was a traditional coping strategy for both pastoralists and cultivators. If the rains failed, it was very common to move over to the Sind for a few years. Once the Sind was sealed off after the partition between India and Pakistan, “droughts” became more of a problem.

²¹ Only four pump-sets have been installed with official permission. At least eight are illegal. The stealing of water from tanks is common everywhere. Officially, permission is required from the *taluka* irrigation office, but it is a tedious and elaborate procedure. Hence the wide-spread system of bribing which keeps all the parties happy.

dependence is not likely to decrease. Indeed, the expectations created due to talk about the SSP are likely to lead to a further decline in local initiatives.

Well Irrigation

There are over 300 shallow wells in Merka. Most of them have dried up except for about 60 wells which are still used for irrigation. Wells are privately owned and privately managed. For several hundred years, irrigation took place using the “kos” system where water for irrigation was drawn up by means of a plough drawn by two oxen. While the amount of land brought under irrigation by this system was far less than by diesel pumps and electric motors, the advantage of the “kos” was that the water in the well was never totally depleted and recharging was possible. Since the advent of diesel pump-sets about 40 years ago and electric motors about 15 years ago, wells have been abandoned, dug, re-dug, deepened and broadened without any significant restrictions. The rule of the game is money. Those who can afford it, dig new wells or deepen their wells regularly.

In Rapar *taluka* there is no monitoring of well-digging, deepening and broadening. Well ownership goes hand in hand with land ownership. Nobody can prevent the construction of a private well. There are no specifications on the minimum distance between open wells, even though regulations for the minimum distance between borewells exist, which unfortunately are not followed. Another factor contributing to the over-extraction of water is skewed pricing of electricity. For example, an electric motor with a capacity of 10 horsepower costs Rs 100 a month whereas a 20 horsepower motor costs Rs 200. It makes no difference price-wise to the farmer whether the motors run for an hour a day or for 24 hours. Instead of pricing for the actual electricity consumed, pricing is based on the capacity of the motor. There is hence no incentive for the farmers to reduce their water consumption. Gujarat was the first state to pass a groundwater legislation in 1976 which dealt with the regulation and licensing of tubewell construction and control of groundwater use. Nonetheless its implementation has proved difficult as the regulations are always by-passed. Experts on groundwater are sceptical about whether the strict legal enforcement of these regulations is possible given the strong political opposition and as groundwater use rights go hand in hand with land ownership (VIKSAT:nd:11). Nonetheless, taking groundwater regulations and electricity pricing more seriously would entail a shift in focus from the current supply-oriented nature of water resources management to a more demand-oriented one.

Drinking water/water for domestic use:

With regard to drinking water, traditional and modern institutions function side by side. On the one hand, caste and religion lay out rules of purity and pollution dictating whose water can be drunk and whose should be avoided, and who should fetch the water. On the other hand, since the state has begun to provide water to the village, elected village leaders monitor the supply of water. Furthermore, some of the earlier restrictions on the lower castes have dissolved.

Until very recently, Harijans drew water from a separate well as interactions with them was considered to be taboo. (Even today, some Harijans prefer to go to their own well to avoid fights and conflicts). Tradition also dictates who should fetch the water. In most cases, it is young girls and women, except for the Jadeja Darbars who practice the *ojjal* system (complete segregation of women who are not allowed to leave their homes). Hence, Darbar men fetch the water for their households. Richer Darbar households buy water from the “Waterman”, a pauperised landless Darbar who sold off all his land to pay for the exorbitant dowries of six daughters! Darbar men have the most clout and power at wells and intimidate many women, especially young Harijan girls. The fact that they as men fetch water, has not changed the general perception in the area that it is primarily women who are responsible for water collection. While it is in Darbar men’s interest to improve water facilities in the village, they would rather change customary law and tradition within their own community so as to absolve them of this responsibility and allow their women to perform water-related tasks.

Traditionally, the main sources of drinking water were wells, *viridas* and tanks. Within the main core of Merka all the villagers, except the Harijans, would fetch water from the main village well which is situated a kilometre away from the main village. It was managed by the village Panchayat. Since the introduction of government water schemes such as the pipeline and the tanker, everyone has the right to collect water from the same source. Nevertheless, here too, it is the powerful - higher castes and able-bodied men- who enjoy the best access.

Until about a year ago, water was brought by a pipeline to Merka. The pipeline was constructed by the Gujarat Water Supply and Sewage Board and brought water to the village for about two years as part of one of its regional supply schemes. The water was obtained from groundwater sources 40 kilometres away and supplied water to several villages before it reached Merka. Due to the tail-end position and the sharp gradient in the area, the water supply was erratic and irregular and has now been discontinued. The reasons are fights over water collection between the villagers and poor maintenance. There were two stand-points and villagers had to stand in lines to fill water. The lines were never maintained and scrambles for water took place. In the fights that ensued, Darbar men emerged victorious as they were able to climb onto the tank and, thus, managed to grab the lion’s share.

Even though nobody prohibited Harijans from coming to the stand-points they were expected to wait until all the others finished before they could come forward to get water. The higher castes, especially Darbar men, regarded it as their prerogative to jump queues. On one occasion this was challenged by a young Harijan boy. He was hit on the head with a large stone by a Darbar man and needed to be hospitalised. The Harijans collectively decided not to accept this. A case was filed in the local court and since then some of the Darbar tyranny over water has calmed down. The judicial process promises to be slow and protracted and retribution may never take place. Nonetheless, this incident is cited in the village as one example of the lamb overthrowing the mighty lion.

After the pipeline scheme was scrapped, water began to be brought in a tanker. The tanker is supposed to come to the village three times a day. On some days, villagers are lucky if it comes once.

The truck traverses a distance of 50 kilometres and then pours out 10,000 litres of water into one of the village wells. Here too maladministration and corruption prevail. The water often arrives late. It is not uncommon to see women at 12 noon scraping the bottom of the well with their tumblers in the hope of filling the last drop. Often the drivers of the tankers are bribed to provide water to highway restaurants which deprives the villagers of their rightful share of water. The tanker drivers rarely come the stipulated three times, but they always manage to get some illiterate villager to certify via a thumb impression that the water had been dropped three times into the well.

Harijans are not denied access to the tanker water. While several villagers (Rabaris, Darbars) dislike the fact that Harijans fill water from here, they feel that they cannot protest as the water is provided by the government and according to the government “everybody is equal.” The tanker water is seen by Harijan women to be a real boon and improvement. One reason is that it is close to their quarters. As the well is sufficiently broad for about twelve people to pull water out at one time, they can occupy one side of it. Unlike other villagers, Harijan women do not want the pipeline scheme to be restored as they foresee discrimination and fights.

It was mentioned earlier that Merka is considered to be a “no source” village. The term “no source” in itself needs to be deconstructed. Not only does its definition keep changing; there are also wide fluctuations in the number of “no source” villages over the years (Hirway and Patel: 1994: 54). The unstable nature of the concept explains why the policy measures are so short-sighted and ad hoc. Instead of providing a permanent structure in the village itself to solve the water problems, the state resorts to transporting water over a long distance. Apart from the logistical problems (lack of hygiene in the tanker, broken pipes, stealing of water), village-level choices seem to indicate that its water quality is in itself questionable.

Ironically, in “no source” villages such as Merka and neighbouring Palaswa, state-supplied water, be it the tanker or the pipeline, is rarely used for drinking. Even in the peak of summer when water scarcity is most felt, villagers in both villages consider state-supplied water to be the last option for drinking. In both villages, people prefer to go to their village wells or *viridas* for drinking water. State-supplied water is considered to be the avoidable option as it is “bland, tasteless and saline.” Nonetheless, in the main village core of Merka people are very dependent on tanker water for washing, cooking and other domestic purposes and its absence is felt by all. The interventions currently provided by the state do not seem to be the appropriate way to solve the drinking water problems in rural Kutch.²²

²²While those in the village core rely on the tanker and state interventions for their drinking water, people living in the *wandhs* or scattered settlements outside the main village get by with little or no state help. The main water source here is the *virda* or depression in river-beds or tanks. There are several non-perennial rivulets in the countryside around Kanmer. After the rains, depressions are dug in the river-bed which provide sweet water. *Virda* water is often considered to be fresher and sweeter than government supplied water.

3.4 Water “Users” and Social Difference

Historical Legacies, Access to and Control over Resources

Merka is a multi-caste village still very influenced by historical and feudal legacies. These legacies play a significant role in determining access to and control over natural resources. Due to the deeply entrenched nature of social hierarchies and inequalities which have been socially legitimised over several centuries, the control over resources by a minority remains unchallenged by the majority. Access to water for irrigation is inextricably linked to land ownership which remains with the higher castes. Institutions governing land and water use are not all-inclusive. It is not possible to talk about water as a “collective” good as there is no “collective” community. Hence there is need to de-homogenise the notion of the “user.”

Deconstructing the notion of the “User”

It is imperative to unwrap the homogenous notion of the “user” to accommodate the various variations and ambiguities that arise due to historical legacies, class, caste, gender and occupation. Despite the disparate nature of all the groups, they are all united in believing in the bounty of the SSP and the Narmada though obviously the impact that any future water scheme will have on them will be different. A four-fold typology of water users in Merka has been identified:

- Irrigators
- Marginal Farmers, the Landless and Casual labourers:
- Pastoralists
- Carriers of water for domestic users of water, by and large women

Out of these four groups, the irrigators constitute the minority, but control most of the land and water resources. It is also *irrigators* with whom policy-makers are most concerned. Drought-relief prioritises maximum expenditure to irrigation; policies on water focus on the need for irrigation and the extra-basin transfer of water via large dams. This groups enjoys bank loans and credit. The coveted yardstick in the village is irrigated land which explains why villagers are waiting for canal water from the Narmada. In Merka, women have little or no decision-making power in irrigation operations and there are hardly any irrigator women.

Even though farming in India is largely rain-fed, strategies to improve dryland farming do not enjoy the same sense of urgency that accompanies talk about large dams. The rain-fed cultivator is made to believe that his or her lot will continue to depend on the vagaries of nature and hence is resigned to migration and casual work when the rains fail. Long-term drought-proofing of the area is what will serve their interests the best. The role of women in rain-fed farming is significantly higher than in irrigation. Traditionally at least, women were responsible for crucial decisions on crops and seeds. There are many female-headed households in this group due to male out-migration.

The pastoralists are probably the least understood user group. There are no comprehensive policies on pastoralism. Pastoralists own very little or no land and are at the mercy of large farmers to provide water and fodder. Cattle endowments are not seen to constitute “wealth”. It has become increasingly difficult for many pastoralists to survive due to shortage of grass cover and the crumbling of original reciprocal arrangements between farmers and pastoralists. Hence it is not surprising that many of them wish to give up their traditional occupation and embrace farming. Large irrigation projects such as the SSP do not address the needs of pastoralists. SSP planners have not considered the provision of water to animals. In an area where the cattle population is significantly higher than that of humans this is serious omission. Most of the village’s female headed households are in this group due to the migratory lifestyle of pastoralists. Here women clearly control the household economy and make all the major decisions even when their men folk return home.

Women cross-cut every group, they also form the bulk of the last group (i.e. carriers of water and domestic users of water). Women neither have land rights nor water rights. Water scarcity affects them the most as it is they who are responsible for the fetching of water (Darbar men are the exceptions here). Even though women are largely responsible for water-related tasks, their participation in decisions vis-à-vis water is minimal. As mentioned earlier there are many female headed households in Merka, especially in the pastoralist groups. There is a tremendous mismatch between women’s control and power in the household and their power in the community at large. This mismatch is also reflected in women’s power in informal and formal institutions. State interventions, usually directed to male cultivators, tend to increase this gap.

Dependency on the Government

The term “user” is also problematic as it creates and legitimises a dichotomy between the state that supplies and the “user” who is seen to passively consume. The “user” is denied action and agency. Indeed, this is evident from the whole approach to drought-relief. An analysis of water management practices indicates that the village has shifted from relative self-sufficiency vis-à-vis water to significant dependence on the government. The politics of drought relief has encouraged this dependency and discouraged local initiatives. It has made villagers passive recipients of a welfare programme that sees them to the next rains. With regards to drinking water even though villagers want the government to provide more water, oddly enough they prefer indigenous sources (virdas, wells) to state-supplied drinking water. A significant portion of the village gets by with little or no state help. With respect to drinking water one observes the co-existence of dependence on the government on the one hand, and tremendous self-sufficiency on the other.

Social Difference

Top-down schemes such as the SSP are probably preferred by the state over bottom-up ones to avoid confrontation with the painful discrepancies that arise due to social difference. Following what was presented in this paper, the following questions need to be addressed when contemplating water

management interventions: Who selects the sites that will be worked on? Who are the power-brokers and intermediaries? Who ultimately ends up benefiting?

Addressing social difference is a messy business for researchers and policy-makers. It may cause conflict and strife in the village fabric. If the intermediaries are village leaders, and it is necessary to get their approval for legitimacy, they are most likely to be the rich and powerful from the well-situated groups. If NGO schemes or government interventions operate through them, care has to be taken that the schemes do not end up benefiting an already privileged class or caste. The powerful members, mostly men, are often far more articulate than the poor, women and marginalised groups and know how to speak the “outsider’s” language. Hence, it is easier to work with them, and the other less articulate groups are forgotten. Nonetheless, despite all the difficulties and complications, social difference has to be taken seriously. Otherwise research and policy-recommendations will build on and reinforce already skewed social and power relations.

4. POLICY CONCLUSIONS

4.1 Allowing Difference to Make a Difference

One of the most important lessons of this case study is that the socio-economic component plays a vital role in water resources management. Unfortunately, its importance is disregarded in most water interventions conducted by the state. Socio-cultural and economic dynamics amongst users need to be understood and appraised. Some suggestions of how to include the needs of all users effectively are presented here:

- The **social feasibility** of a future scheme is as important as its technical feasibility. It should accompany or even precede the geological and geo-hydrological surveys conducted of the potential sites for water interventions such as tanks and watersheds. Social feasibility refers to the scheme’s acceptability amongst several users; their willingness and ability to participate; the potential impact on the community; whether it will bring equal benefits to all participants, especially to those in a position of social and economic disadvantage. The social feasibility can be determined by means of **socio-economic appraisals**.
- **Socio-economic appraisals:** This includes a clear understanding of the area’s demography, gender/class/caste composition. The next phase would include understanding the current water and land use patterns, institutional arrangements, indigenous knowledge systems and potential conflict points in the community. Finally, the user groups and their relationships between them need to be determined.
- Water resources management is not only a technocentric field. It is unfortunately also androcentric in its orientation. The user is often considered to be solely a male cultivator. Consultation rarely takes place with women, not even when it comes to drinking water schemes. Hence there is need for greater **gender sensitivity** which could take place by institutionalising regular **gender training programmes** in irrigation departments and state water supply boards and by employing women staff.

Participation via Partisanship?

By and large, public participation in water schemes has been significantly less than originally intended. In some cases it was as the implementing agencies considered participation to be merely financial in nature. Participation cannot just be restricted to the community contributing or raising funds for 25 per cent of the project as has been the case for some of the watershed projects in southern Kutch. If participation is considered merely in economic terms, the poor and landless will not “participate.” One has to go beyond this or else the project remains top-down in nature and will lead to the same kind of dependency on the external agency as is the case with drought relief.

How does one make sure that all the groups participate equally and that the scheme does not build on and reinforce already skewed social and power relations? We cannot wish social difference away. It will have to be considered as a “built-in” short-term cost with long-term benefits of a project and accordingly time and money will have to be invested in dealing with it. One way of making sure that the marginalised groups participate is by according them with more power and by establishing solidarity with them at the very outset, for example, by setting up base in the Harijan quarter or appointing women leaders. I am arguing for the need to be *aggressively partisan*. By being *aggressively partisan*, the implementing agency can target groups who would otherwise be socially excluded due to elite-driven agendas. While this might bring to the fore deep-seated conflict points, such conflict, I would argue, is the lesser evil when compared with the perpetuation of systemic social inequality and injustice. Initial conflict may also be necessary for true conflict resolution and co-operation.

Some Caveats

Taking social difference in water resources development seriously will entail encountering the following dilemmas and conflicts:

1. Nature v/s Social Equity

Should ecological regeneration or the equity dimension be the first priority? Often by focusing primarily on the area’s ecological regeneration, project implementing agencies overlook the fact that it is often the village’s landed or historically advantaged groups who reap the benefits of the newly installed percolation tanks or check dams. Such trade-offs are bound to take place. It is nonetheless important that the implementing agencies are aware of the social consequences of their decisions and projects. Ideally, environmental conservation and social justice should complement each other and not be treated as mutually exclusive variables.

2. Village homogeneity v/s heterogeneity

NGOs and officials working on watershed development have certain unwritten rules: By and large homogenous and “unified” villages are preferred over heterogeneous and conflict-ridden ones. When talking about the replicability of Ralegan Siddhi, an internationally renown attempt at community-

based watershed development in Maharashtra, Pangare and Pangare (1992) contend that a conflict-free community is one of the prerequisites of the project's success. What happens then to the "difficult" multi-caste villages? Are micro-level water interventions based on participation truly implementable and replicable? One of the NGOs working in Southern Kutch had to withdraw from a village as one of rival groups threatened to break the newly constructed water management structure. It is not surprising why such a community would be avoided as NGOs often have to achieve targets and establish credibility. Nonetheless, one can only hope that NGOs and other state agencies will gradually attempt to work in heterogeneous "difficult" communities for it is here where power equations are the most skewed and inequalities the greatest. The poor of these communities are also the most deserving.

4.2 Watershed Development: Old Wine in New Bottles?

This study has contended that the SSP may not ultimately benefit the people of Kutch. Large scale state-directed water interventions rarely concern themselves with the socio-economic dynamics in beneficiary communities. The political economy of irrigation schemes in India is well known and has been extensively documented in the literature. It is generally the rich and powerful who are assured of canal water in Indian villages while for the poorer classes it is more problematic, even though they are considered as users (see Bose 1987). The Merka example has shown that the existing pattern of water and land use is already differentiated. It does not seem likely that the equation will change with the SSP. The case study also highlighted the drawbacks of existing state-led interventions in trying to solve the water crisis. The tanker, pipeline and drought-relief are short-term ad hoc measures and not permanent solutions for the water needs of the poor in dryland regions.²³

Clearly, a long-term holistic approach is required. Watershed development may be one such approach. This approach comprises soil and water conservation; reduction of run-off; restoration of vegetal cover; replenishment of groundwater reserves; wasteland development etc. Some of its principles such as rainwater collection are in keeping with traditional techniques used in villages such as Kutch where tanks and *viridas* play a central role in water supply. Villagers in Merka have a nuanced and detailed knowledge of the run-off patterns in their locality; they know where the slopes and gradients are and from where the water "escapes" untapped into the Rann.²⁴ They, in fact, feel a sense of frustration and helplessness during the monsoon season when they see the water flow away into the Rann within a matter of hours. The advantages of watershed development are obvious, nonetheless there are several potential stumbling blocks, such as:

²³ Interventions such as the tanker and pipeline are flawed on environmental grounds, too, as their main source is groundwater, a valuable resource in Kutch. As stated earlier, the aquifer in several areas is already overexploited. Moreover, the average life-span of a tubewell used for state water supply is about 50% less in Kutch than it is in other parts of India (Mr Ahuja, personal communication). Consequently, 70 government tubewells have already been abandoned and others are confronted by sinking water tables. Ideally state-sponsored water supply should be more sustainable in nature.

²⁴ Academics and hydrologists bemoan how water in Kutch flows "waste" into the sea. Interestingly though, villagers have never mentioned the word "waste" and seem to recognise more than their urban counterparts that there is no place for the concept of wastage in natural hydrological cycles. They speak instead of water "flowing" away or "escaping" into the Rann.

Institutional Hindrances

Even though the approach is a holistic one, the institutional arrangements are too cumbersome and compartmentalised. There is need for more inter-agency co-operation. Until now only departments for Rural Development have taken the lead in developing such programmes. Unfortunately, even water resource ministries are not concerned with it. Watershed development needs to be tackled by water resources ministries, irrigation and forest departments etc.

Lack of Widespread Acceptability

There is the wide-spread notion that water harvesting structures and watershed development are add-ons to surface water schemes. There exists scepticism as to whether they are viable options to large dams. Obviously drought-proofing of an area cannot take place overnight and watershed development is a long and protracted process. The changes brought about in a watershed area are less visible compared with edifying structures such as dams and canals which often adorn plaques of leaders and politicians. This along with the fact that watersheds do not serve powerful business lobbies may explain why watershed development has not been taken up as a political issue.

Unequal Tenure Arrangements

Water rights are inextricably linked with land rights. Those with land benefit more from recharged structures than the landless. As long as access to water is determined by land ownership, there will always be winners and losers in water interventions. Even though the landless and other marginalised groups may benefit from the proposed agro-industries and, hence, stop migrating, there will be no significant change in the stratified hierarchy of the village unless radical transformation takes place in tenure arrangements. Nonetheless, watershed development still remains the best option for the poor as their survival needs (i.e. drinking water, grazing, rain-fed cultivation) are given precedence over commercial needs.

One of the main arguments of this paper was that social difference affects both macro and micro-level water schemes. Despite the impressive surge of ideas on watershed development even at the state-level (Ministry of Rural Development, 1994), there is the danger that this euphoria will lead to turning a blind eye to the many discrepancies arising due to social difference as outlined in this paper. If this does take place, watershed development may end up being “old wine in new bottles”.

Hence, difference not only constitutes a dilemma to the notion of “community-based sustainable development”, it is also one of the greatest challenges to the micro-level development project at the turn of the 21st century. While the ethno-cultural aspects of difference are celebrated by a growing constituency (for example, interest in indigenous art and culture), the socio-economic and political aspects are glossed over. Dealing with difference entails a process of political and socio-economic restructuring and negotiation which may be conflict-ridden. There is need for partisanship and constant questioning of the current status quo. Only in this way can technological

and ecological changes be accompanied by the social change required to address issues such as equity and social justice.

4.3 Final Thoughts on Kutch

Semi-arid areas such as Kutch confronted by water scarcity and desertification constitute over 35 per cent of the world's land mass. These areas are considered to be liabilities instead of exciting challenges for development. They are viewed as "problem areas" by policy-makers as the yardsticks applied are more relevant for water and resource-rich areas than for drylands. Despite the litany of despair about ever-increasing drought in Kutch, it appears as though some kind of equanimity exists and has existed vis-à-vis water scarcity. Scarcities have always been part of the ecological reality of the region and the inhabitants planned on a cyclical basis to cope with them. Since India's independence, however, policy-makers have tended to plan on a yearly basis with an over-emphasis on drought-relief. Irrigation has also been the main priority, with focus directed towards it instead of comprehensive plans for CPRs or pastoralism.

Given the alarming depletion of groundwater resources, the first obvious intervention that needs to be implemented is an embargo on its overdraft. Water conservation techniques and watershed development need to acquire the same importance that the SSP enjoys. It is also necessary to address the demand side of water resources management by enforcing groundwater regulations and by introducing pricing mechanisms for water and electricity.

Second, there is urgent need to explore non-agricultural related forms of development such as livestock development. As mentioned earlier, Kutchis were traditionally pastoralists, perhaps a more suitable occupation for the area than intensive agriculture. Today, pastoralists are the most misunderstood group in Kutch and feel that their occupation is withering. Perhaps it is time to revive the tradition of animal husbandry and focus on livestock and dairy development. More interventions need to take place to develop silvi-pastures and rangelands.

Third, Kutch is rich in mineral deposits such as lignite, salt, bauxite and limestone. At the moment, in the name of development of a "backward area", Asia's largest cement factory and other industries are moving into Kutch at the initiative of the state of Gujarat. There is unspecified speculation on the impact of these industries as information is scarce. Hence, environment impact assessments need to be conducted to specify which industries will be sustainable for the region in order to provide employment and not further intensify the competition between industrial and domestic demands over water.

Finally, it is important to view areas such as Kutch on their own terms. Can every dryland become an Israel? Can every agricultural area develop into a Punjab? Perhaps not. With all its different soils, Kutch could be a dryland granary setting a precedent in the development of drought-resistant crops and seeds. And as is the case now, it can further utilise its cultural strengths in indigenous arts and crafts for enhancing the region's economic development. Policy-makers need to understand that dryland systems have their own dynamics. They require policies and development

strategies unique to their systems. They are different and perhaps even fragile. But they are not liabilities.

APPENDIX 1

The Researcher and Social Difference

As indicated in the section on theory, the literature tends to gloss over people's participation in resource management without addressing the painful discrepancies that arise due to social difference. Most research on the Narmada issue has focused on small isolated villages in resource-rich areas where the communities were relatively homogenous and egalitarian. The study village, however, presents a different picture. It is a multi-caste traditional village sharply divided not only along caste and class lines, but also due to rivalry arising out of different political affiliations.

Even though researchers enter heterogeneous and in-egalitarian communities with all the good intentions of uniting all the groups in meetings and discussions and conducting truly participatory research, village hierarchies and century-long traditions often prevent this from being realised. In fact, the research or policy recommendations run the danger of feeding into or building on existing unequal social and power relations. A good example to illustrate this is my own research experience. To test the hypothesis that social difference is a crucial determinant in the successful implementation of water management schemes, it was necessary to live in a community which was fairly heterogeneous. Even though I made it very clear to the village leaders in the beginning that I would be working with all the groups, as time progressed they expected me to build alliances only with people of whom they approved (i.e. members of higher castes and those of the same political affiliation). I was expected by the majority of the village to stay away from the Harijans and observe the dominant practices of purity and pollution (i.e. observe norms on whose water/food could be consumed and whose should be avoided). The first time when I drank tea offered by the Harijans there was a scandal in the village. The Harijans were, of course, thrilled and kept inviting me over to have tea and food and used this as a bait to assert themselves vis-à-vis the higher castes. My hosts, who were landed peasants from the higher caste, were absolutely aghast and feared that the whole village would condemn them for taking me into their house. Yet, their strong sense of honour and pride prevented them from allowing me to leave their home. Right through my stay in the village, I constantly had to justify to them and to members of higher castes why it was imperative for me to interact with the Harijans. Once when I returned to the house after visiting the Harijans one of the younger daughters shouted, "The Harijan has returned" and sprinkled some water on me. The sprinkling of water after physical contact with Harijans is seen to have a purifying effect. Finally, after two months of ongoing discussion, my "improper" behaviour was tolerated on the grounds that I was not a Hindu and was from the city. After all, they said, for city people "everybody is equal".

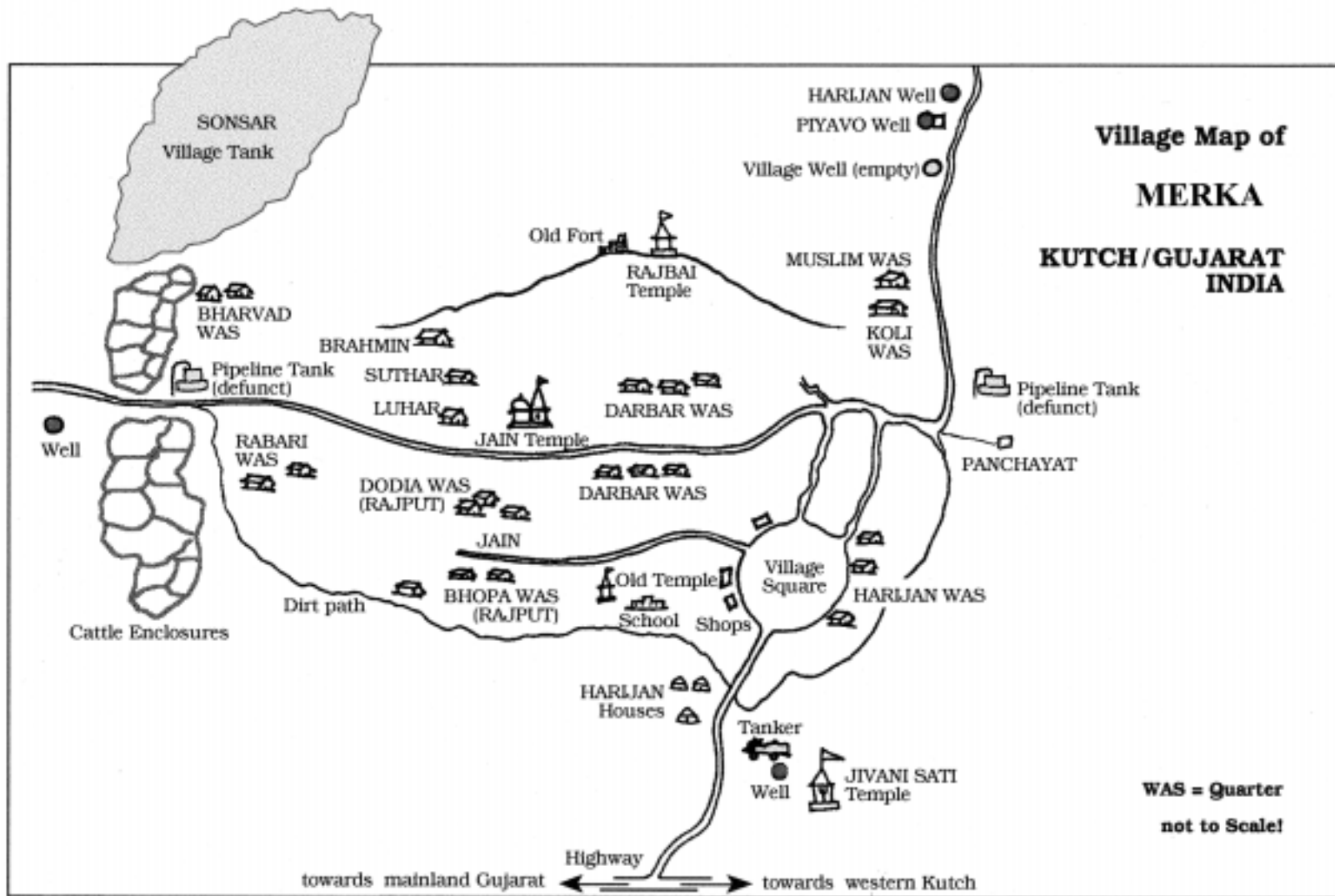
In all the months in the village, I found that it was virtually impossible to get women from different castes together for a meeting. Women transcended caste barriers far less willingly than men. This is chiefly because their exposure to the outside world is far less than men, having to face several restrictions such as veiling and seclusion. There was no inter-caste horizontal solidarity amongst the women, though the intra-caste solidarity was very strong. There is also no tradition in the village of

a women's association. Collective action by women, if any, took place in the realm of embroidery work. Here, too, each caste operated on its own. It was easier to get men from different castes together, especially those who played an active role in community affairs, but even during these meetings it was very clear who was from the higher caste and hence "superior" and who was from the lower caste and hence "inferior". I finally had to resort to working with each caste/ resource group separately.

Social difference was not only one of the topics of research. It virtually affected the research at every stage. On the one hand, I ran the risk of jeopardising the research by antagonising the higher castes and several village leaders. On the other hand, observing all the norms of purity and pollution would mean that the research would encourage unequal social dynamics. Had the research been of a more rapid nature, it would have been impossible to have gained access to the lower castes and marginalised groups.



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