Social Difference and Water Resource Management

Insights from Kutch, India[1]

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1 Contrasting Approaches in Water Resources Management

The water security of vast populations on the globe will be a pressing problem for planners in the twenty-first century. The growing problem of water scarcity has profound impacts on food security, regional conflicts and economic and social well-being. It is widely acknowledged that future wars and conflicts in the world may well be over water (Ohlsson 1995). Water supplies on the globe seem unlimited, but in reality only 3 per cent is fresh of which about two-thirds are locked in icecaps (Ohlsson 1995: 5). All in all only 0.3 per cent of this fresh water is available for human consumption, making water a finite resource that needs to be used optimally and judiciously (Postel 1994). Nonetheless, water scarcity is not felt universally by all. There is tremendous global, regional and local inequality in the access to, and control over, water. For example, an average Austrian consumes about 210 litres of water and a villager in Merka, Kutch, only about 10 (Mehta *et al.* 1997). With global consumption levels spiralling, there are growing debates over the best water management strategies to meet the survival and development needs of a country. There is tremendous polarisation in the debates on water resources management strategies. Two driving views, or narratives, dominate the debate (see Table 1).

The narrative of 'Big is Beautiful' dominates international debates on water resources management. According to this view the large dam is the panacea for water scarcity. International dam-builders and their supporters assert that the social and environmental costs of these large schemes are peripheral when compared with the massive benefits of hydropower and irrigation (Biswas and El-Habr 1993). Hence, they advocate the need for

[1] Some of the findings presented in this paper are the result of a commissioned study undertaken for the Overseas Development Institute, London, which provided funding for fieldwork in Kutch. I am grateful to to Ashvin Shah for comments on an earlier work and to IDS members for their support and suggestions. I thank numerous government officials in Kutch district for providing government data and the Sanghvi family for its friendship. Most of all, I thank the people of Merka for their cooperation, warmth and hospitality.

[2] The name of the village has been changed for purposes of confidentiality.

IDS Bulletin Vol 28 No 4 1997

Table 1: Two Polarised Narratives in Water Resources Management

'BIG IS BEAUTIFUL'	'SMALL IS BEAUTIFUL'
Extra-basin transfer of water	Developing techniquing using local options
Large dam as the panacea	Water harvesting; watershed management
Top-down	Bottom-up
Centralised, bureaucratically organised large-scale irrigation systems	Decentralised models based on community participation
Known to beget inequalities	Egalitarian
Unforeseen environmental impacts (waterlogging, salinity)	Eco-friendly; acquifer recharging; ecological regeneration of biomass and wastelands

top-down, centrally organised hydroelectric and irrigation systems based on the principle of extra-basin transfer of water.

The 'Small is Beautiful' narrative, put forth by a growing world-wide constituency, comprising a coalition of academics, scientists and engineers, has mobilised protest against large-scale water projects. This constitutency has played an important role in highlighting the problems of involuntary resettlement and environmental damage due to large dams (Goldsmith and Hildyard 1992; McCully 1996) and the unequal benefits of canal irrigation (Bose 1987). It also points to the advantages of small-scale projects based on the principles of water harvesting and watershed management, which are eco-friendly and lead to the recharging of the acquifer. Even though this constitutency clearly deserves much support for its role in illuminating the dark side to large dams, it is yet to come up with specific and differentiated recommendations for the types of projects which should replace those it is lobbying against. It also tends to gloss over location-specific ground realities and to discrepancies arising due to social difference.

2 The Neglect of Social Difference

Hence, I argue, that both the narratives have flaws. Both types of scheme tend to be led by technocentric, engineering-dominated and often androcentric perspectives. Until very recently both were also supply-dominated. They focused on building new projects or expanding existing ones to meet increasing demands, rather than on changing the demand structure of water users. Of central importance to the concerns of this article, both narratives also maintain an aggregated view of the 'community'. The 'Big is Beautiful' club tends to exaggerate the purported benefits of the project and inflate the actual number of beneficiaries.[3] The emphasis tends to be on engineering feats and superlatives rather than on people. By contrast, the 'Small is Beautiful' club does focus on the 'community' as espoused in the recent 'Guidelines for Watershed Development' of the Ministry of Rural Development in India (Government of India 1994). Nonetheless, practitioners, state agencies and the literature tend to portray the community as unified. There often seems to be a rather naïve assumption that just because a project is small, it is bound to be successful and egalitarian. The principles of democracy, equity and participation are espoused, forgetting that existing power and social relations within the community are based on different axioms, as convincingly demonstrated by Mosse (1995) in work on tanks in South India. These axioms, this article argues, must

[3] See, for example, the debates on the Sardar Sarovar Project in western India (Morse 1992; Ram 1993).

form the basis of any future water interventions.

A unified notion of the 'community' is also propagated in the arguments of common property theorists. While theorists such as Berkes (1989), Bromley and Cernea (1989) and Ostrom (1990) have enhanced our understanding of the role of local institutions in natural resource management by highlighting that people in local communities are perfectly capable of cooperating with each other and that institutions have evolved to govern access to and control over natural resources, they have underplayed the power dimension. As Agarwal (1994) argues, local politics, local hierarchies and the frailities of human behaviour are often ignored. Hence the 'community' tends to be glorified and institutions are viewed ahistorically. They are not seen as a dynamic interplay between formal and informal networks, embedded in the community's social and power relations (cf. Leach *et al.* 1997).

Due to these conceptual fallacies, it is little wonder that even micro-level water schemes, run by non-governmental organisations (NGOs) or the state, frequently fail on social grounds. They often fail as they do not understand the socio-economic dynamics of the communities they are designed to serve. Hence, this article argues that any kind of water or ecological intervention will build on and feed into existing social and power relations. Social difference can hinder the smooth functioning of water schemes, be they small or large. By social difference I refer to asymmetries arising due to variables such as class, gender, caste, historical legacies, power, occupation and political rivalries. I will substantitate this argument by focusing on social difference and water resources management in Kutch.

3 Water Scarcity in Kutch

Kutch district is located in a crescent-shaped peninsula in the state of Gujarat in western India. It has an arid to semi-arid climate and an area of 45,612 square kilometres. It is, in effect, an island, bound by the sea in the South and West and by salt marshlands or Ranns in the East and the North. Kutch has a population of 1.2 million and has nine ***talukas*** or administrative sub-districts (Figure 1). 15 per cent of the area of Kutch is cultivable. Rainfed agriculture and animal husbandry are the chief occupations, although settled agriculture did not have the same importance in the past as it has today.

Apart from its very heterogenous social and ethnic composition, the region has nine ecological zones (Gujarat Ecology Commission 1994). Rainfall is erratic and variable. The average rainfall is 388 mm ranging from 440 in the Mundra area to 338 in Lakhpat (Raju 1985: 10). It only rains a few days per year (15 days on average) and there are no perennial rivers. Kutch is considered to be a drought-prone district, as droughts take place every two to three years.

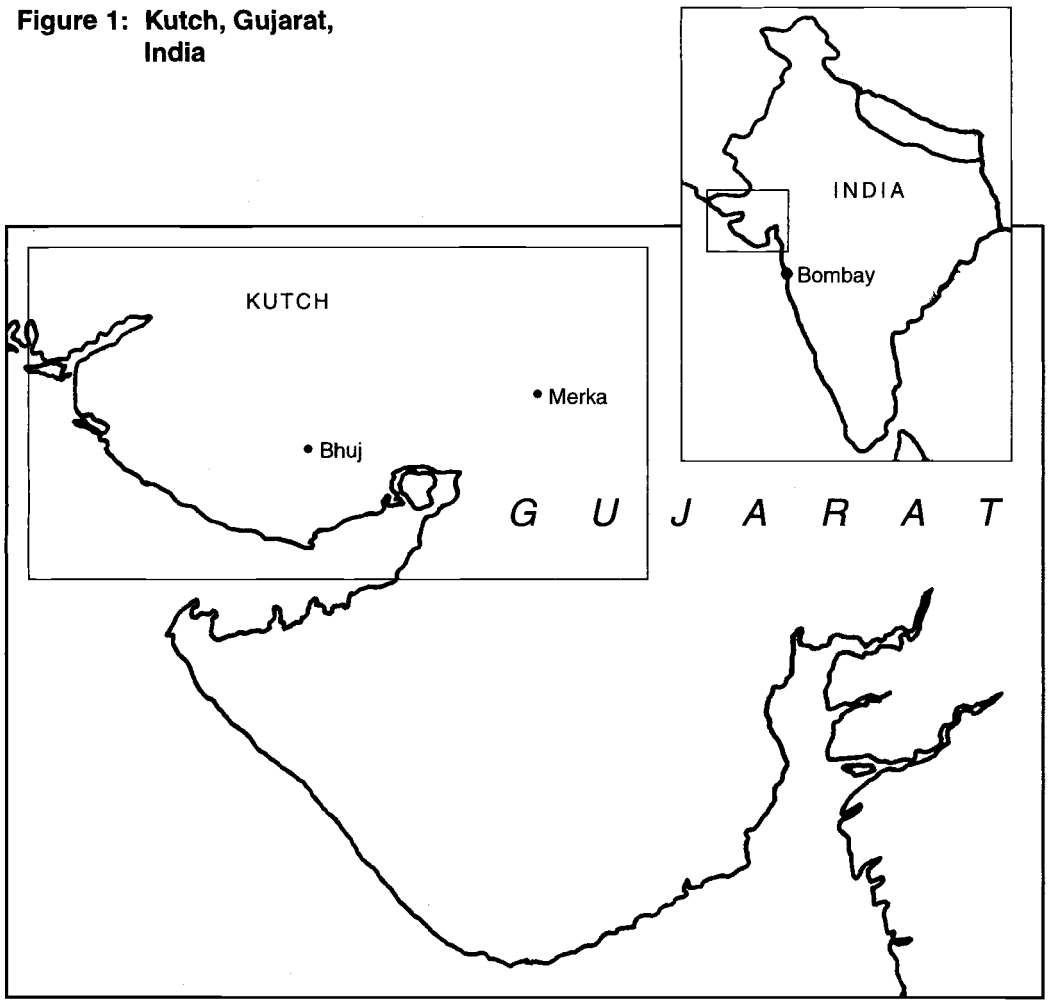
No major dam is possible in Kutch due to its topography although there are 16 medium-sized schemes and 160 minor-sized schemes. The sites for new dams are limited and many existing schemes work well under their potential capacity due to a high rate of siltation (15–70 per cent).[4] 11 per cent of the net cultivated area is irrigated and most of it is via ground-water sources. Over-exploitation of the acquifer, 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 8 per cent of the total precipitation is recharged to groundwater against the normal of 20 per cent (Gujarat Ecology Commission 1994: 14ff).

Water, or the lack of it, is an intrinsic part of everyday life in Kutch. Due to the area's unique topography and geography, it is imperative that every drop of water is harnessed and managed effectively. Nonetheless, until very recently, watershed management and water harvesting schemes were not really prioritised in state-led water management interventions.[5] There is the widespread belief that, due to the harsh climate, erratic water supply, declining groundwater sources and frequent droughts, the only way to solve the water problem in Kutch is by securing water from exogenous sources. Kutch's

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

[5] The efforts of NGOs in this area are striking. For example, Jan Vikas Ecology Cell in Bhuj and Vivekanand Research Training Institute (VRTI) in Mandvi.

Figure 1: Kutch, Gujarat, India

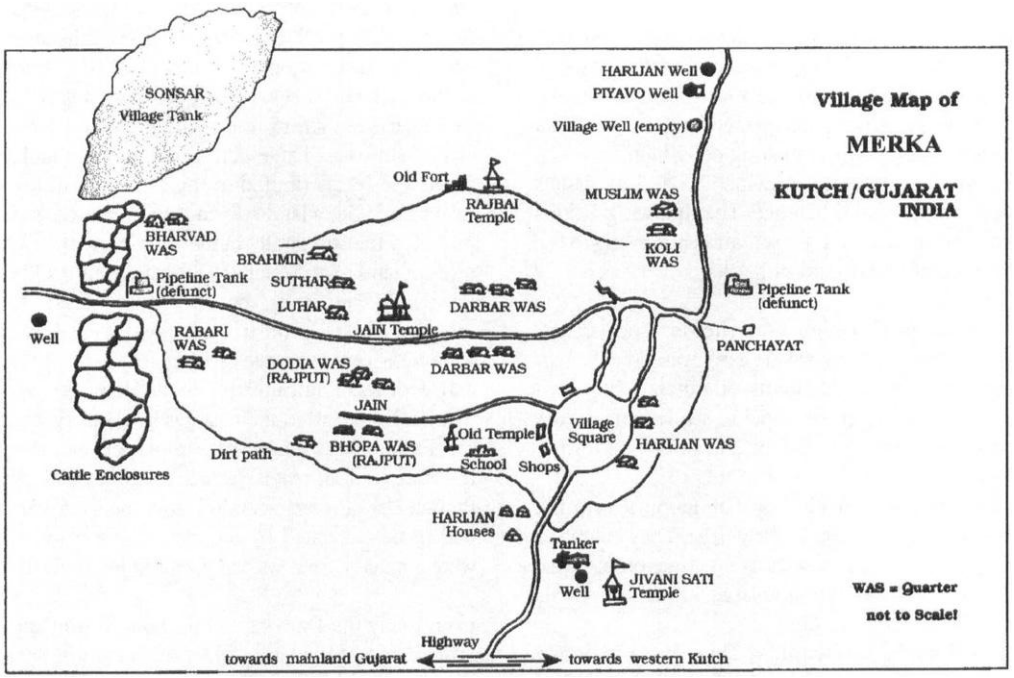


panacea is made out to be the Sardar Sarovar Project (SSP), a large controversial dam under construction on the Narmada river in Gujarat. If completed, the planned 163 metre dam is intended to bring water to 30 million people and irrigate 1.8 million hectares of land (Raj 1991: 11). It will also submerge 37,000 hectares of forest and agricultural land, as well as the homes of at least 250,000 people.[6] I have shown elsewhere that plans to provide water for Kutch have a long and complicated history and that, contrary to decades of promises, Kutch will not benefit significantly from the project (Mehta 1997: 7f). As it stands only 95,000 acres of land will receive irrigated water from the massive canal network which is still to be built, thus benefiting only 2 per cent of Kutch's area (Kutch Development Forum 1993). No work has started as yet on the proposed Kutch Branch Canal (KBC) as the alignment line has not yet been fixed.

In Kutch, the discourse on water resources management is dominated by this one project. Apart from consuming a significant portion of the state's budget – almost one third of the Eighth Five Year Plan (Government of Gujarat 1992: 26f) – the SSP may have also jeopardised the future of several minor

[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.

Figure 2: Village Map of Merka



and medium-sized schemes all over the region. As this large water intervention gets preference over the smaller ones, there is tremendous dependency on the external solution to solve the water crisis, 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 socioeconomic impacts 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? For these issues, let us turn to the case study.

4 The Case of Merka

Fieldwork was conducted in Merka, a village in south-east Kutch in Rapar *taluka*, an area known for its water scarcity. The village is situated in the potential command area of the SSP. It is a medium-sized village with a population of 3,463. 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; or water is chemically not potable.[7] 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 pipeline. Nonetheless, the definition of 'no-source' keeps changing, explaining why many of the policy measures are very short-sighted and *ad hoc* (Hirway and Patel 1994: 54).

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 oil seeds 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

[7] Mr Ahuja, personal communication Executive Engineer, Gujarat Water Supply and Sewage Board.

and Rabaris own between 50 and 200 head of livestock, mainly sheep and goats.

As can be seen from the village map (Figure 2) caste determines living space and is the basis of most interactions. Caste relations are also crucial for water resources management practices. 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 and their numerical representation according to the study census are found in Merka.

- **40 Jadeja (Darbar) households**: The Jadejas, also known as Darbars (rulers) were the former rulers and feudal chieftains of Kutch. They consider themselves to be superior to the other caste groups and still assert their authority and former glory.
- **117 Rajput households**: The Rajputs form the bulk of the cultivators in the village. They belong to the warrior caste, and were at one time on par with the Jadejas. In Merka, one large Rajput clan owns most of the irrigated land.
- **65 Rabaris households**: These are wandering pastoralists. They own up to 300 head of cattle and migrate seasonally every year.
- **37 Bharvad households**: These are pastoralists owning fewer animals than the Rabaris.
- **118 Kolis households**: Indigenous peoples or 'scheduled tribes.' Kolis live by and large in the scattered settlements outside 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. Due to the reservation policy of the Indian state, the current headman of Merka is a Harijan. This appointment, however, has not helped to elevate their status.
- **49 others**: Muslim households, Jain shop-keepers; Brahmins, Gadvis, etc.

5 Land and Water Arrangements in Historical Perspective

Land rights and water rights, as will be shown, are inextricably linked. Debates over land tenure are crucial to the water question as they have a strong bearing on who will ultimately benefit, should the waters of the Narmada ever reach Kutch. When Kutch was a princely state, the Jadejas and Rajputs owned 60 per cent of the land in Merka (Village Administration Officer, personal communication). After the integration of Kutch with the Indian union 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). Nonetheless, the landed in Merka succeeded in holding on to their land 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 considered improper, or to contravene prevailing social norms. 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.

Even today the Darbars and Rajputs control about 50 per cent of the land in Merka. 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 their former glory may have declined, the Jadeja Darbars still continue to have *de facto* control of the village wastelands. Contrary to the letter of the law, it is universally accepted in the village that wasteland is controlled by the Darbars. They also 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. Land-grabbing of wastelands 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.

Very little land is in the hands of the pastoralists. 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 been corrected by 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.

Water arrangements in Merka are also marked by sharp differentiations. Sources of water comprise rainwater collection in numerous tanks around the village, *virdas* or holes in river-beds or tanks and the use of groundwater via wells. The traditional sources were tanks which were used for bathing and for providing drinking water for livestock and human populations. 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. 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 bears their name; their Gods are not venerated in shrines by the tank; their ancestors have not emerged as mythical figures.

Traditional forms of tank management include tasks such as desilting and the strengthening of the tank's foundation. This takes place just before the advent of the rains on the eleventh day of the Hindu Jeth month. 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.

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 annas[8] the crop is worth. The *Talati* or administrative officer, who is invariably not a farmer and is rarely present in the village, makes the estimates. 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's 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. Many of them get washed away after the first rains. 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 still wields immense authority in the village and continues to veto tanks that would benefit Rajputs or members of the rival Congress party. 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.

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. The participation of the community in earlier initiatives was not equal; nonetheless there is today a dramatic decline in local initiatives. This dependence is likely to increase. Indeed, the expectations created by talk about the SSP are likely to lead to a further decline in local initiatives.

[8] A rupee used to be made up of 16 annas.

6 Well Irrigation and Drinking Water

Merka has shallow wells which are used for irrigation. They are privately owned and privately managed. 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 to do so, are constantly engaged in well digging or deepening activities. Well ownership goes hand in hand with land ownership. Nobody can prevent the construction of a private well. It is very difficult to enforce the Gujarat-wide groundwater legislation of 1976 due to strong political opposition (VIKSAT nd: 11).

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. Tradition dictates that young girls and women fetch the water. The exception is amongst the Jadeja Darbars, where due to *ojjal* or the complete segregation of women, men fetch the water. Since the state has begun to provide water to the village by tanker, some of the earlier restrictions on the lower castes have dissolved. Until very recently, Harijans drew water from a separate well and to this day often prefer this source in order to avoid conflicts and fights. In principle, all the groups have the same rights over state-supplied water. Nonetheless, in reality it is the powerful – higher castes and able-bodied men – who enjoy the best access. When piped water was supplied to the village by the government, Darbar men clearly enjoyed the most clout and power and intimidated the women and members of lower castes. There are gory stories in the village of piped water being mixed with human blood due to the some of the battles that ensued in the daily scramble for water.

At present water is supplied to the village 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. 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 and they have got the rights to 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.

7 Water 'Users' and Social Difference

Merka is a multi-caste village still very much influenced by historical and feudal legacies. These, combined with power dynamics and political rivalries, ensure that 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 a need to disaggregate the notion of the 'user'. 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 can be identified:

- Irrigators
- Marginal farmers, the landless and casual labourers
- Pastoralists
- Carriers of water for domestic users of water, by and large women

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; water policies focus on the need for irrigation and the extra-basin transfer of water via large dams. 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 pastoralists are probably the least understood user group. There are no comprehensive policies for pastoralism or common grazing resources. 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 a serious omission.

While women are members of every user group, they also constitute 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 among 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.

8 Conclusion

Local communities are not as happy and egalitarian as they are sometimes made out to be in literature concerning community-based sustainable development. Nonetheless, addressing social difference is a messy business for practitioners and policy-makers alike. As small-scale water schemes lack widespread acceptability, targets such as technical feats and environmental regeneration seem more important than addressing issues concerning equity and social justice. Hence there is the tendency to opt for homogenous communities or to focus on just one user group or caste, which invariably is the most articulate (read: powerful) one. In this way the needs of less articulate groups, such as women or the poor, are forgotten.

How can planners ensure that all the groups participate equally, and that water management schemes do not build on already skewed social and power relations? For one, social difference has to be considered as a 'built-in' cost of a project. Investment in social change should be integral to any ecological intervention. The social feasibility of a future scheme is as important as its technical feasibility. Hence socio-economic surveys should accompany or even precede the geological and geo-hydrological surveys. Another way of ensuring that marginalised groups participate is by according them more power in the context of an intervention and by establishing solidarity with them at the very outset. This entails being aggressively partisan. Through aggressive partisanship, groups which would otherwise be socially excluded due to elite-driven agendas could be explicitly targeted.

Community participation and local management of natural resources are principles enshrined in Agenda 21 and recent global discourses on sustainable development. Within the Indian context, the Centre for Science and Environment calls for the redefinition of the role of the state to reverse its control over natural resources. The authors argue,

> The process of state control over natural resources that started with the period of colonialism must be rolled back. The earlier community control systems that regulated the use of common natural resources were often unjust and needed restructuring. Given the changed socio-economic circumstances and greater pressure on natural resources, new community control systems have to be established that are more highly integrated, scientifically sophisticated, equitable and sustainable (Agarwal and Narain 1985: 394).

While there is no denying the need for new community systems that are equitable and sustainable, several questions and unclarified issues emerge. First, pre-colonial, local institutions and natural management techniques, as shown in the study, have also been differentiated and unjust. Second, it is unclear who will establish these community control sytems and who is to decide what is equitable and sustainable. Finally, regardless of whether the state, an implementing agency or a community is managing natural resources, the process of natural resources management is one of competing claims, exclusion and conflict. If water is going to be a major area of global conflict in the 21st century, perhaps the solving of water problems at the local and regional level is possible only through a continual process of bargaining, negotiation and even conflict. Bringing to the fore deep-seated conflict points, I would argue, is the lesser evil when compared with the perpetuation of systemic social inequality and injustice through apparently community-based schemes. Perhaps exposure of conflict is a necessary prerequisite for true conflict resolution and co-operation.

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