

Participation of the Rural Poor in Dairy Cooperatives Case Studies from Gujarat

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1. Introduction

The dairy cooperatives of Gujarat have played an important role in the expansion of milk and dairy production in India. The expansion of the dairy cooperative network in India was by far the most important factor in the remarkable increase in milk production in India. Milk production increase from about 20 million tonnes in 1950s, when India was an importer of milk and milk products, to over 74 million tonnes in 1998-99, when India became the largest producer of milk in the world. In 1996, about nine million milk producers in India were affiliated to milk cooperatives and supplied milk through 70,000 village cooperatives (Kurien 1997). It is noteworthy that about 6000 village dairy cooperatives are cooperative societies in which only women are members. Over 300,000 women have been organised through these cooperatives (Candler and Kumar 1998). The establishment of dairy cooperatives in Gujarat and other parts of India involved organising cooperative action at a scale unprecedented in Indian history. The magnitude of this initiative and the change brought about by these cooperatives justifies the term “White Revolution” given to it.¹

The dairy cooperative movement in India started in Gujarat; it began with a modest attempt to organise twenty villages in Kheda district to produce and supply milk to the city of Bombay. This model of cooperatives was later expanded in Kheda district to form the Anand Milk Union, now famous by its brand name, Amul. The National Dairy Development Board launched the first phase of Operation Flood in 1970 in order to try and replicate this model in other parts of the country; the third phase of Operation Flood came to an end in 1996.

Village cooperatives in the Amul model are linked to markets through district-level cooperatives. The establishment of cooperatives brought about remarkable increase in milk production in Gujarat. Between 1977-78 and 1991-92, the production

¹ Also see Jha (1984) and Mascarenhas (1988). It must also be mentioned that several scholars – Doornbos et. al. (1990), Bavisser and Terhal (1990), George (1985, 1994) and Bavisser (1999) among others – have argued that Operation Flood was not the most important factor behind the expansion of milk production in India and that the success of public policy in promoting dairy cooperatives has largely been exaggerated. It must be stated in this context that while some of the shortcomings of Operation Flood pointed out by these scholars are indeed true, it seems rather far-fetched to undermine the importance of dairy cooperatives, Operation Flood and public policy in general in the expansion of milk production. The role of public policy in development of dairy sector in India must be emphasised particularly in the present context when the support to dairy cooperatives by international funding agencies like the World Bank is being withdrawn and the dairy sector is being opened up to the multinational corporations.

of milk in Gujarat increased from about 2 million tonnes to about 3.6 million tonnes (an average growth of about 4.3 per cent per annum).²

The cooperatives have developed modern systems of veterinary care and artificial insemination and provide these services to a large number of milk producers at very low prices. The district cooperatives have trained veterinary surgeons equipped with a van and medicines stationed in different centres to cater to the needs of the members of the cooperatives.

It is also noteworthy that within the organised sector, the cooperatives have a dominant market share in urban milk supply in India, and have maintained it even in the face of competition from the private sector. The model of cooperatives in the dairy sector later expanded into other sectors, namely, the production and marketing of oilseeds, providing agricultural inputs and credit to farmers, and lately, the production and marketing of cotton, fruits and salt.

Dairy cooperatives have also brought about various other benefits. For example, as noted by Kurien (1997), the dairy cooperatives introduced modern systems of sanitation and health care in some villages. As economically viable institutions, these cooperatives also often support other tasks of rural development. The villages studied in this paper regularly spend part of their profits to support village schools and childcare centres and invest in other types of public infrastructure.

While all these are remarkable achievements, there have also been certain shortcomings of the so-called “White Revolution”. It is important to identify these and find ways of overcoming them.

The most important shortcoming is that important sections of the rural poor have not been able to participate as equal participants in dairy cooperatives. In Gujarat, dairy cooperatives are dominated by Patels, members of a caste of large landowners in rural Gujarat. On the other hand, large sections of landless and scheduled caste households have not benefited from the cooperatives.³

² In a study of four villages in Junagadh district, Shiyani (1996) found that the milk production of the cattle owned by households associated with dairy cooperatives was significantly higher than milk production of other cattle in the villages. The study also found that members of cooperatives allocated the inputs better than independent producers.

³ In a study of a village cooperative in Kheda district, Patel (1988) found that over 75 per cent of the households that owned land were members of the cooperatives while only about 11 per cent of the landless labourer households were members. In a study of another cooperative in Kheda district, Bavisker (1988) found that 88 per cent of the big landowners (households that owned more than 5.71 acres of land each) produced milk; the corresponding proportion for landless households was only 30 per cent. Also see Verhagen (1990), George (1994) and Rajaram (1996).

In this paper I present case studies of cooperatives in two villages studied as part of project on “Rural Household Income Strategies for Poverty Alleviation and Interactions with the Local Institutional Environment” by the Food and Agriculture Organisation of the United Nations. The paper attempts to identify the sections of rural poor that do not participate in cooperatives and examine the obstacles to participation by these households. The two cooperatives studied in the paper are the Piparia Women’s Milk Cooperative Dairy in Kheda district and Malan Milk Producer’s Cooperative Dairy in Banaskantha district.

Kheda in southern Gujarat has a sub-humid climate. Annual normal rainfall in Kheda is about 832 mm. Banaskantha, on the other hand, is in the dry agro-climatic zone of north Gujarat and has an annual normal rainfall of about 758 mm. Kheda has relatively well-developed systems of surface and groundwater irrigation. In 1991-92, over 52 per cent of the gross cropped area in Kheda was irrigated; the corresponding figures for Banaskantha and Gujarat as a whole were only 33 and 27.6 per cent respectively. Irrigated crops like rice and sugarcane are the main crops in Kheda; other major crops grown in the district are wheat and *bajra*. The cropping pattern in Banaskantha is dominated by the cultivation of unirrigated crops or crops requiring less irrigation like wheat, coarse grains, pulses and oilseeds (Gandhi 1999).

The rest of this paper is organised as follows: Section 2 describes the sources of data used in the paper. Section 3 and 4 discuss and analyse exclusion of different sections of the rural poor from the Piparia Women’s Milk Cooperative Dairy and Malan Milk Producer’s Cooperative Dairy. Section 5 discusses two general factors that are barriers to the participation of poor households in these cooperatives. Section 6 is a concluding section and discusses some policy implications of the findings.

2. Sources of Data

The paper is based on secondary as well as primary data collected from Piparia and Malan villages. The secondary data were collected from the offices of the two cooperatives and the panchayats in the two villages. These were collected by a research team from the Indian Institute of Management, Ahmedabad that was working on the FAO project during 1998-99 and by me in July 1999.

The primary data were collected by means of interviews of the office-bearers of the cooperatives and case studies of about 40 households in the two villages. The

households selected for the case studies covered different castes and communities and different socio-economic strata in the villages. Members of these households were interviewed and asked detailed questions on socio-economic conditions in their households, the extent and nature of their participation in dairy cooperatives, and if applicable, the reasons for not participating. In addition, a village questionnaire was canvassed among informants belonging to different castes and socio-economic groups. Through this questionnaire, information was collected on the pattern of ownership of cattle, land holdings and participation in the dairy cooperatives in the village and on castes, communities and settlements. The information generated provided illustrative data on the ownership of cattle, participation in cooperatives and other basic socio-economic matters such as the ownership of land.

3. Piparia Women's Milk Cooperative Dairy

Piparia is a village of about 135 households in Matar taluka in Kheda. Piparia Women's Milk Cooperative Dairy was started in 1996. In July 1999, there were 148 members of the cooperative. All members are women and the Dairy is entirely managed by them. The Dairy buys milk in the village twice daily and sells it to Amul. A total of about 300 litres of milk were collected daily in the Dairy in July 1999. Twice a day a truck from Amul comes to take away the milk to Khetraj, about 30 kms from Piparia, where Amul has a cheese processing plant. The Dairy does not have a building of its own and is housed in part of a temple building.

Being a part of the integrated cooperative network in the district, the Dairy also sells cattle-feed and provides veterinary and artificial insemination services. The veterinary services, which are provided by Amul, are easily available and are available at very low prices (Rs. 25 per visit, including the cost of medicines). In 1997, the Dairy had a gross income of Rs. 877,349 from the sale of milk and Rs. 188,562 from the sale of cattle-feed.

Table 1 shows the participation of different caste-groups in the Piparia dairy. Membership in the cooperatives is open to individuals, and households, and often more than one individual from the same household are members of the cooperative. As shown in Table 1, upper caste households, which comprise 32 per cent of all households in the village, account for 42 per cent of the members in the dairy. On the other hand, scheduled caste, scheduled tribe and other backward caste households,

which together comprise 68 per cent of all households, account for only 58 per cent members in the dairy. It is clear that even in terms of membership, the upper castes have more than proportional representation while other castes are under-represented.

Membership in cooperatives, however, is a very limited and even a misleading indicator of participation. About 97 of the 148 members of the Dairy – most of them from scheduled or backward castes and scheduled tribes -- do not supply milk to the Dairy. These include households that do not have cattle any more as well as cattle-owning households that do not supply milk to the dairy. The participation in practice of scheduled castes, scheduled tribes and other backward castes, therefore, is much less than their representation in the membership.

Table 1. *Participation of different caste groups in Piparia Women's Milk Cooperative Dairy and caste-wise composition of households in Piparia*

Caste group	Membership in dairy*		Households in the village**	
	Number of persons	Per cent	Number	Per cent
Scheduled castes	4	2.7	15	11.1
Scheduled tribes	29	19.6	29	21.5
Other backward castes	53	35.8	47	34.8
Upper caste Hindus	62	41.9	44	32.6
All	148	100.0	135	100.0

Notes: The membership in the cooperatives is individual-based. Some households have more than one member in the cooperative.

Source: Based on information collected by the country team, India.

* Collected from Piparia Women's Milk Cooperative

** Collected from Gram Panchayat, Piparia

Land relations in Piparia, as in most parts of Gujarat, are inextricably related to caste structure. These two – caste structure and land relations -- together are the most important determinants of participation of different sections of village society in the Piparia dairy. The ownership of cattle varies greatly across castes. The Piparia dairy was initiated by a group of Patel households and they continue to dominate its affairs. These households are the largest landowners and biggest employers of labour in the village. About 39 households belonging to the Patel caste own the most and the best cattle in the village. Patel households that are active in the cooperative have more than one member in the dairy from each household.⁴

⁴ A group of Patel households does not participate in the dairy cooperative because of political rivalry with other Patel families.

By contrast, a large number of poor households belonging to the scheduled castes and tribes and some backward castes – including many who are formally represented in the membership of the cooperative -- do not possess any milch cattle. A case in point is that of households belonging to the Senva and Vaghri castes, which are among the poorest in the village. Almost all these households are landless and work as manual workers.⁵ Only 2 out of 14 households belonging to the Senva scheduled caste and 2 out of 16 households belonging to the Vaghri scheduled tribe own cattle. A few households among other castes, including small landowners from the Thakur and Rathod castes and agricultural labourers from the Chauhan caste, own one or two heads of cattle each.⁶

A scheduled tribe community that does own cattle in significant numbers is the community of Rabari households. Animal husbandry and selling milk is the traditional occupation of the Rabari caste and it continues to be their main occupation. Most of the households have no land and some members of the households also work as manual agricultural workers. At least one woman from almost each of these households is a member of the Piparia dairy. These members supply milk regularly to the Piparia dairy.

Caste barriers, however, do not limit only the ownership of cattle. Some of the cattle-owning households belonging to the scheduled castes and backward castes do not supply milk to the Piparia dairy. Instead, these households supply milk to a cooperative dairy in Koshiyal, a neighbouring village. The major complaint of these households in respect of the Piparia dairy was that there were frequent irregularities in the measurement of fat and the pricing of milk in the Dairy. Under the regulations of

⁵ Most houses in the settlement of Vaghri households are constructed of mud and thatch. In the monsoon, when I visited the villages, their settlement was flooded and many houses had been damaged. There is no electricity in the settlement. The primary occupation of these households is manual labour. They work primarily on low-wage seasonal agricultural labour contracts. Work is typically given on such contracts to migrant workers from tribal areas of northern Gujarat. These migrant workers, who come from a distance of about 300 kilometres away, are an important source of cheap labour for the landlords in the village.

⁶ Most of the cattle owned by households belonging to scheduled and backward castes are procured through an arrangement under which a household takes a milch calf from a cattle-owning (usually Patel) household for tending. When the calf grows up, the household that gave the calf and the household that tended it have an equal share in the value of the calf. Either one of them can buy the grown up cattle by paying the other household its share in the value of the cattle. There are several aspects related to this arrangement that can be the subject of further detailed enquiry. For example, one needs to find out empirically how many of the households that tend another's calf are actually able to buy it when it grows up. Similarly, it needs to be seen how productive and healthy the cattle tended under this arrangement are as compared to other cattle. The final bargaining on the price also needs to be studied. While these remain questions of interest, it is clear that this arrangement does not enable very many poor households to own cattle.

Amul and other district cooperatives in Gujarat, milk is priced on the basis of the fat content of the milk supplied to the dairy. Every village dairy has an electronic lactometer to measure the fat content of the milk and a price list for different levels of fat content. Measuring fat involves taking a small sample from the milk supplied by the producer and testing it in the lactometer, a procedure that takes a few seconds for every sample. However, instead of measuring the fat content at the time of delivery, the Piparia dairy measured it only after all the milk had been collected. The sellers were informed of the fat content and the price when they next came to supply the milk. Most scheduled caste residents of Piparia who sold milk to the Koshiyal Dairy complained of malpractices in the measurement of fat content in Piparia dairy. Several of these respondents argued that the Piparia dairy reported lower fat content than the Koshiyal dairy for the milk of the same cattle.

The dairy in Koshiyal is an older and financially a larger and more stable enterprise than the Piparia dairy. Unlike in the Piparia dairy, fat is measured in the Koshiyal dairy in front of the seller as soon as the milk is deposited and the seller is given a receipt that records the fat content and the amount of milk sold. Koshiyal dairy also has a better instrument for measurement of fat.

The dominant caste in Koshiyal village, in contrast to Piparia, is Thakur. Most of these are peasant households that own small to medium landholdings. The Thakurs, apart from, of course, the Patels, have been actively involved in the affairs of Koshiyal dairy. Being numerically large in relation to the population of Patels in the village, they are able to exert considerable influence in the matters pertaining to the dairy. A majority of the members of the managing committee of the Koshiyal dairy are from the Thakur caste. The Piparia dairy, on the other hand, is dominated by a group of Patel households with no other caste challenging that dominance.

4. Malan Milk Producers' Cooperative Dairy

Malan is a large village, with a population of about 8000 persons. The Malan Milk Producers' Cooperative Dairy was established in 1968 and is linked to Banaskantha District Cooperative Milk Dairy (Banas Dairy). The Malan dairy buys milk from local producers and sells it to Banas Dairy. As of 1997, there were 1065 members in the cooperative of which 861 were men and 204 were women. Of these, between 700 and 800 members supply a total of about 5000 litres of milk to the Dairy everyday. The Dairy has three milk collection centres in the village. Apart from trading in milk, the dairy also sells cattle-feed and *ghee*. The Dairy also acts as a guarantor for the members who take loans for buying cattle. A van equipped with veterinary supplies and medicine has been permanently stationed in Malan by the Banas Dairy for providing services to Malan and neighbouring villages. These services – including the vet's visit and the medicines -- are available at Rs. 60 per visit.

To become a member of the Malan dairy, a person has to own at least one head of milch cattle and supply milk to the Dairy regularly for an initial period of 90 days. Like the Piparia dairy, the Malan dairy is also dominated by certain castes. Table 2 shows that over 46 per cent of the members of the Malan dairy came from upper caste Hindu households, which constituted 20 per cent of all households in the village. The most important of these (41.7 per cent) belonged to the Patel caste. These households also own most of the land in the village. On the other hand, only 5.4 per cent of the members of the Malan dairy belonged to scheduled castes, which also constituted about 20 per cent of all the households in the village.

Table 2. *Participation of different caste groups in Malan Milk Producers' Cooperative Dairy and caste-wise composition of households in Malan*

	Membership in dairy**		Households in the village*	
	Number of persons	Per cent	Number	Per cent
Scheduled castes	58	5.4	259	20.6
Scheduled tribes	0	0.0	40	3.2
Other backward castes	381	37.3	605	48.1
Upper caste Hindus	497	46.7	255	20.3
Muslims	129	12.1	100	7.9
All	1065	100.0	1259	100.0

Source: * Collected from Malan Milk Cooperative Dairy by the FAO project team, India

** Rough figures compiled by author from information provided by selected informants.

Being situated in a relatively dry agro-climatic zone, the most important constraint to the ownership of cattle in Malan is access to fodder. Agricultural land in Malan is either rainfed or irrigated by groundwater. The groundwater table is very low and even groundwater-irrigated land cannot be cultivated the whole year round. As a result, obtaining fodder is much more difficult in Malan than in Piparia.⁷ Access to fodder in Malan is closely linked to access to land, and in turn, to the caste structure of the village. Ownership of land in Malan is highly concentrated and sharecropping, mostly unregistered and insecure, is widely prevalent. Five communities in Malan own most of the livestock in the village.

The first of these, and the largest producers of milk in the village, are the households belonging to the Patel caste. According to various informants, Patels, who constitute about 16 per cent of all households in the village, own over 65 per cent of the village land. As owners of the bulk of cultivated land in the village, they have plenty of fodder and usually own more than one head of milch cattle.

The second group that owns cattle is a community of about 50 households belonging to the Rajput caste. These are small to medium landowners and obtain fodder from their own fields.

The third group that owns livestock comprises about 250 of the 400 households belonging to the Thakur caste (grouped under “other backward castes” in Table 3). These households typically work as sharecroppers on lands owned by Patel households. Under the prevalent sharecropping contracts in the village, the owner of the land provides all the material inputs while the sharecroppers provide all the labour. Sharecroppers also bear the cost of any labour that is hired. Three-fourths of the produce, including the grain and fodder, is taken by the landlord while the sharecropper gets only one-fourth of the produce.⁸ These sharecroppers, because of

⁷ In Piparia, the landless households that own cattle reported that they are able to obtain fodder either from the landowners as part of wages or were able to cut it from the sides of the fields. It is only in the monsoon season (July-August) that obtaining fodder becomes difficult for these landless households. Access to fodder is much more restricted in Malan. It is not possible to obtain fodder from land belonging to other people or from the village common land. Access to fodder is such a severe constraint in Malan that unlike the villages in Kheda, livestock is sheltered in Malan in the fields where fodder is grown and never in the homestead area of the village.

⁸ Most commonly, because of lack of enough funds, the sharecroppers take credit from the landlord for payment of wages of hired labourers. This credit is repaid from the sharecroppers' share in the produce.

being able to keep part of the fodder grown on the fields they cultivated, are able to rear livestock.⁹

The fourth group among cattle-owners are households from a community of about 100 Muslim households. These households own small parcels of land. Some of them also work as sharecroppers.

The fifth group among cattle-owners are households of the Nai caste. The primary occupation of members of these households is to work as barbers. Households belonging to this caste follow common rules decided among the barbers in about 180 villages in the area. By these rules, upper-caste patrons are divided among all barbers and each barber provides services to specific patrons. These services also include certain religious rituals to be performed by a barber. In exchange for these services, the patrons are required to provide a certain amount of grain and fodder to the barbers. It is through this tradition that this community of barbers gains access to fodder and is able to rear livestock.

Apart from these five communities, the rest of the households in the village own almost no milch cattle.¹⁰ Malan also had two private traders of milk and milk products. Private traders rely primarily on milk produced by their own cattle, and a few households occasionally sell milk to these traders. Individuals sell milk to private traders because although they pay a lower price than the cooperative, they pay suppliers on the spot, while the cooperative pays the suppliers once a week. Poor households, including some tribal households from nearby villages, sell milk to private traders when they are in immediate need of money.

5. Widespread Illiteracy and Undemocratic Functioning: Disincentives to Participation in Cooperatives

Two other factors – widespread illiteracy and the lack of democracy in the functioning of the cooperatives – are important barriers to the wider and more active participation of the poor in the dairy cooperatives.

⁹ It may be noted that people belonging to scheduled tribes from the nearby villages also cultivate land on sharecropping contracts in Malan. An important difference in the sharecropping contracts between Patel landlords and tribal sharecroppers in comparison with the sharecropping contracts between Patel landlords and Thakur sharecroppers is that while both get one fourth share in the grain produced, the tribal sharecroppers are not given fodder.

¹⁰ Some of the households belonging to Tirbhanga scheduled caste own draught camels and some households belonging to Vaghri scheduled tribe own goats. These animals survive mainly on the leaves of the *neem* and other trees.

Illiteracy

Illiteracy is widespread among the scheduled castes and tribes and, in particular, among women in both the villages. According to the Census of 1991, only 4.1 per cent of scheduled tribe women in rural areas of Palanpur taluk were literate. Among scheduled caste women in Palanpur taluk, the proportion of literates was less than 30 per cent.

Widespread illiteracy among these oppressed sections of the population is an important barrier to their active participation in the affairs of the dairies. Illiterate members are not considered for membership of the managing committee. Moreover, illiterate persons often find themselves at a loss to understand the proceedings of general body meetings. Many scheduled caste and scheduled tribe households interviewed for this study reported this to be the reason for their not attending general body meetings.

Lack of democratic functioning

In neither of the two dairies is the managing committee democratically elected. The members to these committees are nominated in thinly-attended general body meetings convened once a year. The general body meeting of Piparia dairy in 1998 was attended by only 35 out of 148 members. The general body meeting of Malan dairy in 1998 was attended by only 93 out of 1065 members. According to a member of the managing committee of Malan dairy, woman members do not attend the general body meetings of the Dairy.

The members are nominated to the managing committee in these meetings without an election being held. As a result, the scheduled castes and tribes are hardly represented in these committees. In both the cooperatives, the posts of the chairperson and the secretary were held by members belonging to the Patel caste. Four of nine members of the managing committee in Piparia and six of eight members in Malan belong to the Patel caste. All the members of the managing committee of the Malan dairy were men.

Certain practices explicitly deny opportunities for active participation by the poor in the running of the cooperative. For example, only those members who

supplied at least 700 litres of milk in the previous year and provided milk continuously for 180 days were eligible to become members of the managing committee of the Malan dairy. In Piparia, agricultural labourers were not selected for the managing committee on the grounds that they were unable to attend the meetings because they had to work in the fields, particularly during periods of peak labour demand.

6. Conclusions

Dairy cooperatives in Gujarat have played an important role in the expansion of milk availability in the State and in India as a whole. The cooperative network connects nine million milk producers in India to the markets. The cooperative movement has also expanded into other activities such as the marketing of oilseeds and the provision of agricultural services and credit.

Scholarly studies have, however, noted that the dairy cooperatives have failed to reach the poorest sections of rural society in Gujarat. In this paper, I have presented case studies of two dairy cooperatives – one in Kheda district and the other in Banaskantha district – that attempt to identify the sections of the village population that do not participate in the cooperatives and the reasons for their non-participation.

The paper argues that inequality in the ownership of land and barriers imposed by the caste system are the most formidable obstacles to participation of poor households in these cooperatives. As elsewhere, land and caste are central to local political and power relations in rural Gujarat. There are various ways in which access to land and a household's position in the caste hierarchy determine the nature and extent of participation in cooperatives. Some of these have been discussed in the context of the two villages studied in this paper. In the absence of adequate public action for fundamental changes in socio-economic relations, the dominance of large land-owning upper caste households in dairy cooperatives has strengthened the inequalities in socio-economic power in village society.

An important feature of rural society that prevents the poor from actively participating in the cooperatives is widespread illiteracy among the people of scheduled castes and tribes and women. Illiteracy is thus an important barrier to democratising the functioning of the cooperatives.

The two case-studies described in the paper indicate that public interventions directed towards breaking caste barriers, removing disparities in ownership of land and providing mass education would help the rural poor in Gujarat a great deal in participating actively in these income-generating institutions.

There are certain practical measures that can be taken in order to introduce greater democracy into the functioning of cooperatives. Cooperatives can be required to hold elections to managing committees in general body meetings that have to have a minimum stipulated attendance. Mandatory representation for people from the scheduled castes and scheduled tribes and for women in managing committees should also be considered. It is noteworthy that similar changes in panchayati raj institutions have had a very positive influence on mass participation in these institutions. One of the objectives of this paper is to try to bring issues such as these into academic and policy debates.

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