

2. THE HISTORY OF AMUL, THE DAIRY COOPERATIVE MOVEMENT, AND OPERATION FLOOD

The present Indian dairy cooperative system has its origin in events that took place in Kaira district in preindependence India. Before the establishment of a dairy cooperative in Kaira district (part of present-day Gujarat), the rural milk economy operated as a subsystem within the total agricultural economy, and in most villages of the district it constituted an auxiliary source of income for the farmer.¹ Dairying was constrained by inadequate marketing channels and by the absence of modern inputs such as balanced cattle feed, artificial insemination, and scientific animal husbandry practices. A large proportion of the dairy animals in the area consisted of buffalo because buffalo milk brought a better price than cow milk. This is explained by the practice of determining the price of milk on the basis of fat content--buffalo milk is high in fat. The rural milk economy was also constrained by an inability to exploit the seasonal peaks in the production of milk. The flush season for milk is the winter months, but inadequate facilities for conversion to milk powder or other products prevented the conservation of surplus milk. Farmers were compelled to consume surplus milk or convert it into ghee (a form of butter), the sale of which brought a lower return.

Singh and Kelley contend that before 1976 the dairy industry in Kaira was an exploitive market in which traders were able to influence the price to their own advantage.² They further state that manufacturers of dairy products also took advantage of the weak bargaining position of producers by fixing a low purchase price for milk. Similar assertions are made by Baviskar.³ However, no evidence to prove these allegations is cited by these authors.

In 1946, the Bombay Milk Scheme, a government agency, awarded Polson, a private manufacturer in Anand, the monopoly right to collect milk from 14 villages in Kaira district. Polson also received the right to process the milk and dispatch it to Bombay.⁴ The scheme's decision met with protests from other private manufacturers, small milk merchants, and rural producers. Resistance to the government's resolution emerged. Led by T. K. Patel, a local social worker, the farmers decided to organize a producers' cooperative and to establish independent access to the urban market in Bombay. The Kaira District Cooperative Milk Producers' Union, Ltd. (KDCMPU) was registered on December 4, 1946.

Following the establishment of KDCMPU, the Government of Bombay agreed to purchase a part of its milk from the union. Substantial financial assistance and the provision of equipment by the Government

of Bombay and the Bombay Milk Scheme allowed KDCMPU to increase fluid milk sales in Bombay. From 1946 to 1951, however, the policies of KDCMPU were directed toward obtaining monopoly rights over the sale of milk to the Bombay Milk Scheme. As a result of effective political lobbying by the union leadership, these rights were obtained in 1952.⁵ Subsequently, state and national political leaders, like Morarji Desai and Dinker Rao Desai, supported the activities of KDCMPU and were helpful in soliciting further support from the Government of India. KDCMPU was also patronized by Sardar Patel, the deputy prime minister of India.

Despite the political influence commanded by KDCMPU, it was unable to prevent the Bombay Milk Scheme from establishing the Aarey Milk Colony for the city's privately owned buffalo, and thus securing for itself a captive supply of locally produced milk.⁶ The union was thus confronted with seasonal surpluses. To absorb the growing surplus of milk, KDCMPU was forced to diversify its products.

The manufacturing arm of the dairy industry in the mid-1950s was oligopolistic, with a few firms controlling a major share of the market. Most were subsidiaries of, or operated in collaboration with, foreign firms and imported their products from countries with a comparative cost advantage in the manufacture of dairy products.⁷ Prices of these products were low and KDCMPU could not easily break into the market. Effective political lobbying by KDCMPU leaders resulted in import quotas for dairy products. The resulting fall in supply, accompanied by a rising demand due to population growth, rising incomes, and changing tastes, led to an increase in the prices of manufactured dairy products.

In the next few years, it became more profitable for KDCMPU to manufacture dairy products. Moreover, in the 1950s KDCMPU began to obtain milk powder provided as food aid. This was inexpensive and became a regular input into its production process. The union continued to expand its plant capacity with financial aid from the Bombay Milk Scheme and the Government of Bombay. International agencies such as the Oxford Committee for Famine Relief (OXFAM), the United Nations Children's Fund (UNICEF), and the World Food Programme (WFP) also provided aid to KDCMPU to expand its machinery and to establish feed mix plants, artificial insemination, and veterinary services.

The division of the State of Bombay in 1960 into the states of Maharashtra (including Bombay) and Gujarat (including Anand) severed the political link between KDCMPU and the Bombay Milk Scheme. The latter ceased to be a major source of external capital for the union. It was replaced by the Government of India, which hoped that an expansion of the dairy product industry would help to promote economic growth and domestic ownership of resources and perceived KDCMPU to be the only major Indian firm in the industry.⁸

The Government of India created the National Dairy Development Board (NDDB) in 1964 to guide and coordinate the development of the dairy industry. Its official aim was to replicate KDCMPU's pattern of cooperative dairying throughout India under a comprehensive program of dairy development known as Operation Flood. To build up its own capabilities, the NDDB borrowed personnel from KDCMPU; for example, Dr. V. Kurien, who was its general manager, was appointed chairman of the NDDB. The Indian Dairy Corporation (IDC) was set up in 1970 to complement the activities of the NDDB. The IDC, also headed by Kurien, was to control the receipt and sales of donated dairy commodities. Together, the IDC and NDDB were given, and still have, the responsibility for overall coordination and implementation of Operation Flood.

Operation Flood was designed by national planners to create a "flood" of milk by helping rural producers to organize village dairy cooperatives on the pattern of Anand,⁹ thereby gaining access to and control over a network of milk-processing facilities, and finally the urban market.¹⁰ Large-scale food aid (mainly skim-milk powder) from the European Economic Community (EEC) and loans from the World Bank's International Development Association (IDA) have made the two phases of Operation Flood the largest dairy development scheme in the world. It is also the largest single recipient of EEC aid to developing countries. The magnitude of this operation and its implications for future rural development strategy in India have prompted widespread questioning of the organizational framework and the institutions comprising the dairy cooperative movement.

Operation Flood I was launched in 1970 and financed by donations of surplus dairy commodities from the EEC channeled through the World Food Programme. By the end of the first phase in 1981, the EEC had provided aid to the value of U.S. \$150 million. The main objective of Operation Flood I was to meet most of the demand for fluid milk in the four metropolitan cities of Bombay, Calcutta, Madras, and New Delhi by supplying milk from 18 rural milksheds--comprising 12,000 village cooperatives organized into 27 district unions--in 10 states. The target was to form village cooperatives representing one million milk-producing households owning over 1.9 million milk animals.

In 1979, before the completion of phase I, Operation Flood II was launched. Based, as before, on EEC-donated dairy surplus commodities and an IDA loan, Operation Flood II is a similarly ambitious program involving a total investment of Rs 4.9 billion. The objective is to extend the dairy cooperative structure to serve approximately 10 million rural milk-producing households by organizing 40,000 village cooperatives and 155 district unions in 18 states and union territories. In the event, there were many delays and some increases in the planned coverage, with some of the goals of Operation Flood II incorporated into phase III, which is being planned.

The present policy of Operation Flood is based on the replication of the "Anand Pattern" of cooperative dairying.¹¹ The pattern is a

representative model of the institutional framework of the Anand Milk Producers Union, Ltd. (AMUL). This dairy cooperative in Anand consists of three tiers. The first is the Village Milk Producer's Cooperatives, each of which is a member of one of the Cooperative Milk Producers' Unions, which form the second tier. The third tier, added in the second phase of Operation Flood, is a State Cooperative Milk Marketing Federation through which the unions can undertake joint marketing programs.¹² This too was based on the earlier experience of Gujarat.¹³

Under the maintained hypothesis that AMUL has been locally successful, the policy of replicating AMUL raises at least three questions regarding the structure and organization of the dairy cooperative movement. First, given the unique political, social, and geographical conditions that surrounded AMUL's origins and eventual success, can the Anand Pattern be replicated in areas where those conditions are largely absent or noticeably less favorable? Second, does Operation Flood faithfully replicate the original model of cooperative dairying in Anand? At the heart of this question is the extent to which the original cooperative concept is preserved and developed by the present organizational structure. Third, is Anand necessarily the ideal model for fostering the expansion of dairy development in India? The essence of this question is the search (or lack of one) for alternatives to the cooperative structure.

CAN THE ANAND PATTERN BE REPLICATED?

Given the unusually favorable circumstances responsible for the success of the AMUL dairy cooperative, several critics point out the limits to the replication of this pattern in areas where successful dairying is contingent upon a similar set of factors. George explains that the question of replication would be simple if AMUL had been the result of official planning based on the provision of standard repeatable inputs.¹⁴ Instead, the AMUL cooperative emerged spontaneously as a movement of dairy farmers who organized themselves in an effort to protect and improve their market position. Thus, George maintains, KDCMPU was the result rather than the cause of successful dairying, since the latter existed before the formation of KDCMPU.

Patel and George also state that the Kaira district has the advantage of geographical proximity to the huge urban milk market in Bombay.¹⁵ Effective links to this market for milk were originally developed in the nineteenth century as a result of the expansion of the railway. Subsequently the district became a major center for the manufacture of dairy products, especially during World War II. According to George, similar market linkages often are not found in other areas of the country, and therefore the replication of Anand's marketing network cannot be expected to be so successful in areas without developed links to an urban market. George, however, may underestimate the gain to be realized by establishing both local and long-distance market links where previously there were few or none.

Several studies have established that AMUL developed in a political climate conducive to its interests. According to Singh and Kelley, George, Patel and Pandey, and Somjee and Somjee, the local leadership of Kaira district was instrumental in mobilizing milk producers in the villages to form and operate a network of cooperative societies.¹⁶ The formation of AMUL in 1946 and its subsequent expansion can be attributed to the efforts of local leaders, most of whom belonged to the dominant Patel caste. After its inception, many local leaders rose to become leaders of the union. Thus the management of the union consisted, and still does consist, primarily of Patels. They have been able to obtain assistance for the union from members of their community who occupy leadership positions at the local, state, and national levels. Singh and Kelley describe their successful lobbying, which resulted in the union's monopoly of milk collection in Anand and financial assistance from the government. Patel and George argue that the absence of a similar political history will detract from the success of other dairy cooperative societies. George is explicit, stating that the average dairy cooperative society cannot hope to achieve AMUL's success without the political protection that was enjoyed by the latter.

George contends that the initial production environment must be favorable for the successful replication of the Anand Pattern. Anand is located in one of the most fertile areas of Gujarat. A majority of the bovine population consists of buffalo. Therefore, George argues, the same success cannot be obtained in areas where local cows are the common dairy animal or where fodder supplies and grazing are inadequate.

The effective organization of demand is also a prerequisite for the replication of the Anand model. George supports this assertion by referring to the market link between the Bombay Milk Scheme and the union. She suggests that it is unlikely that the union would have performed as well in an unregulated market where it would have had to compete with private industry. By providing the union with a quota, the Bombay Milk Scheme protected the union from competition. Similar protective measures have not been implemented in other areas. Nyholm et al. observed that dairy cooperative societies in the Bangalore milkshed area did not achieve higher levels of production, despite substantial demand. They attributed this, in part, to the absence of organized markets. The dairy cooperative societies had to compete with the private trade in meeting the demand for milk in Bangalore. Often the two market systems were integrated, thus negating the cooperative movements' objective of providing an alternative to the traditional system of milk marketing.¹⁷

Attwood and Baviskar support the view that Operation Flood may not be able to successfully replicate the Anand Pattern of dairying because the program is constrained by the absence of inputs that contributed to Anand's success.¹⁸ They contend, however, that the absence of these factors can be ameliorated by administrative support from the government and the presence of a successful model ready to be copied. Others

attribute to Operation Flood a desire to break the traditional dairy trade and claim that this may be harmful to the poor.¹⁹ Some of these points are echoed in the Jha Report, which also emphasizes the diversity of state government commitment and performance in implementing Operation Flood. The same report also speaks of unrealistic expectations:

To hope, that in districts whose milk supply potential had not been fully developed, where the cooperative movement was unknown and where marketing through middlemen and private trade was well entrenched, another Anand could be created in less than a decade was to expect the impossible.²⁰

IS THE ORIGINAL ANAND MODEL BEING REPLICATED?

The AMUL dairy in Anand was organized as a cooperative to ensure the participation of all rural producers in the process of dairy development. Small farmers, landless laborers, women, and the lower castes were to be the major beneficiaries within a cooperative scheme of dairying. With this in mind, India's dairy planners sought to replicate the original Anand model under Operation Flood. Several studies have questioned the extent to which the ideals of the original cooperative concept have been preserved and developed by the present organizational structure of Operation Flood. Most such arguments appear, however, to overlook the fact that Operation Flood was and is primarily a milk production and marketing strategy.

Somjee and Somjee applaud the dairy cooperatives for cutting across caste barriers and giving the lower castes a chance to participate in the dairy cooperative movement.²¹ According to their study, the lower castes have been the greatest beneficiaries of cooperative dairying. Once allowed equal access to the market through the dairy cooperatives, these underprivileged groups became substantial producers of milk. Similar views are expressed by Apte and Patel.²² The Indian Dairy Corporation reports that over 70 percent of the members of cooperative societies are from the economically backward classes.²³ George has attacked the belief that AMUL is a noncasteist institution and says that the dominance of the Patel community in the management of the cooperative negates the very spirit of cooperation.²⁴ She accuses AMUL of retaining caste affiliations with the Patel community and discouraging lower castes from enrolling in the membership of the cooperatives. George supports these statements by referencing two studies by Bhat and Dogra,²⁵ but there are no data cited in these references to provide firm evidence. Joshi implicitly supports George by claiming that different castes will not cooperate on an equal basis.²⁶ Assertions, without evidence, concerning the failure of dairy cooperatives to reduce inequality of either caste or class are also made by Baviskar and Attwood.²⁷ Jodha recognizes that this may be the result of traditional, inequalitarian village social structures.²⁸ Dorsten suggests that the inability of the dairy cooperatives to advance credit to mem-

bers makes it difficult for them to function as poor men's organizations, a point repeated by George.²⁹

Jul basically accepts these arguments and agrees that the ideal model advocated by Operation Flood has not been replicated.³⁰ He points out that the society secretary and milk tester are sometimes elected through the caste system and that nepotism and other abuses often intrude, but that it would be unrealistic to expect Operation Flood to achieve changes in rural cultural patterns in such a short period.

These arguments point to a major difficulty in evaluating the social consequences of the cooperative movement. If the objective is to establish autonomous farmers' organizations, those organizations are likely to reflect the economic, caste, and sex biases of the community. Where the poor are not organized in this "normal" situation, it is unrealistic to expect that the formation of a new village committee will change the situation. If, on the other hand, the cooperatives are to act as agents of change, providing resources to the poor and new opportunities for power sharing, it is unlikely that they will be autonomous self-sustaining village organizations, because this would conflict with the normal situation. So, if the cooperatives are expected to be reformist, greater support from, and hence control by, government is implied.

The same issue can be seen in the arguments about the role of women. Supporters' claims perhaps lead to unrealistic and inappropriate goals for a producers' cooperative movement. According to Somjee and Somjee, the dairy cooperatives have increased participation by women.³¹ Their study indicates that the social change effected by cooperative dairying has influenced the community by allowing women to assume leadership positions in dairy cooperative societies. The institutional recognition awarded to women, they claim, is unusual but reflects the growing trend of social equality fostered by cooperatives. The contrary, however, is claimed by Singh, Jain, and Chand, who assert, on the basis of a survey in Kaira district, Gujarat, that women are marginal participants in dairy cooperatives.³² Apte claims that the low numbers of women on dairy cooperative society membership rolls reflects an inequity in the distribution of the benefits of cooperative dairying. He attributes the lower participation of women in dairy cooperative societies to a regulation that restricts membership to one person per family. The (apparent) contribution of females to dairying is restricted by this practice.³³ A 1983 study by Mitra also notes that it is usually the men who are registered as members of the cooperative and that this impedes women's access to dairy income.³⁴ Speaking more generally, one commentator states that women are not a significant part of the cooperative structure.³⁵ She also notes, however, that the NDDB is favorably disposed toward increasing the participation of women and that there are some cooperatives where women play an important role both as members and managers.

Cooperatives require their members to exercise control over the working of the society. According to Attwood and Baviskar, part of AMUL's success results from joint and cooperative decisionmaking by the members, thus retaining the original organizational structure of a cooperative. But a similar trend has not been observed for other dairy cooperative societies modeled on the AMUL pattern. Attwood and Baviskar claim that the NDDDB and the IDC, created by the Indian government to "guide and coordinate the accelerated development of the dairy industry," have stifled local initiative by implementing new dairy schemes through a process of centralized planning, and that a highly bureaucratized structure has evolved with the decisionmaking process controlled by the NDDDB.³⁶ Others see this being perpetuated indefinitely because of the control that the NDDDB and IDC have over capital and aid allocations.³⁷ These critics, however, probably underestimate the role of state governments, which, under the Indian constitution, are autonomous agents in agricultural and dairy policy.

Baviskar, in a later paper, comments that with expansion under Operation Flood, the cooperative principles of AMUL have been compromised.³⁸ He claims that AMUL's cooperative structure has not been preserved. Instead of directly influencing policymaking, members now play a subsidiary role to managers and technocrats who have assumed control over the working of the cooperatives. According to Baviskar, the present organizational structure increases the power of the lower levels of the bureaucracy.

The boards of directors of the unions are the major policymaking bodies. Unlike the sugar cooperatives in Maharashtra, these directors are indirectly elected by a nominated representative of each dairy cooperative society. Thus the directors are only indirectly elected by the membership of the village cooperative societies. Baviskar claims that this prevents members from directly influencing policymaking. The lack of contact between directors and producers prevents the directors from understanding the intricacies of the union's operation and increases their reliance on managers and technocrats.³⁹

Most critics, however, fail to mention other important factors that have influenced replication. These factors are well summarized in the Jha Report, which states

...in some States it became necessary to set up a federation in the first instance in order to take up the responsibility of forming cooperatives and unions for implementing the project. This attempt to build up the Cooperative structure from the top rather than the bottom was fraught with difficulties, particularly in States where there was no tradition of a healthy cooperative movement.... Competition from the private sector was also often intense and there were disagreements between IDC and the State Governments on how to proceed. Moreover, ...in some instances (States)...the Anand pattern was accepted, without any genuine commitment to it....⁴⁰

IS ANAND THE IDEAL MODEL FOR DAIRY DEVELOPMENT?

The issues regarding the cooperative nature of the present organizational structure based on the AMUL pattern are commonly followed by questions about the validity of AMUL as the ideal model for dairy development.

George criticizes AMUL for operating as a joint stock company rather than a cooperative society and claims this criticism to be justified by observing the low price paid to the producer. She claims that AMUL allocates only a small share of its profits to producers in the form of dividends and a bonus, retaining a majority of the earnings to build up capital reserves for future investment. Singh and Kelly offer support for George's statements by maintaining that retained earnings could have been used by the dairy cooperative societies to pay a higher price for milk. The price received by producers, George claims, is insufficient to cover the costs of production. But George's argument is unconvincing, since producers would be unlikely to continue to sell milk to AMUL if this were so.⁴¹

Others question whether the cooperatives modeled on Anand are competitive with the private trade.⁴² However, Lele suggests that the Anand cooperative established its superiority over the private trade by offering better services to milk producers.⁴³ However, the Institute of Rural Management, Anand (IRMA) observes that private milk traders continue to operate successfully in competition with dairy cooperative societies, particularly in areas that are close to a market.⁴⁴ Private traders also compete among themselves. This competition creates upward pressure on producer prices and narrows the margin of profit for the trader. To increase their purchases, private traders often offer credit to producers.⁴⁵ These loans are repaid by producers accepting lower milk prices from the traders.⁴⁶ Such competition in the credit market should, however, be seen as a component of price competition. But under the Anand pattern, dairy cooperative societies are prohibited from advancing credit on their own account.⁴⁷ In Karnataka, however, it seems that unofficial credit is provided by the leaders of the societies, who thus capture some of the supply for the societies and make a personal profit.⁴⁸ Since the income of a dairy cooperative society depends on the amount of milk delivered, such unofficial loans, the same writers argue, tend to be granted selectively to members who regularly deliver milk to a society and form an important part of the competition with private buyers.

The Jha Report, although recognizing that the formation of dairy cooperative societies is highly desirable, recognizes that it may not be the best strategy, at least initially, in areas where milk production is relatively underdeveloped.⁴⁹ Instead, the report argues that much prior development work is necessary to create the marketable surpluses that will make a cooperative structure profitable.

Some commentators argue that Operation Flood has failed to consider seriously the possibility of upgrading household technologies for making traditional milk products and hence the development of technologies to make small-scale factory processing feasible.⁵⁰ They see such approaches as an antidote to the capital intensity of Operation Flood. Data indicating the optimal economic scale of such enterprises are almost nonexistent. Often, due to ideology and the legacy of Mahatma Gandhi, cottage industries are maintained with government subsidies.

The studies reviewed above purport to answer the three questions raised earlier about the organizational structure of the cooperative movement. Although these studies claim to be empirical, the absence of convincing data to justify their arguments is a major constraint. These questions thus remain open to further analysis.

NOTES

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- ⁵Ibid.
- ⁶Michael Halse, "Producing an Adequate National Diet in India: Issues Relating to Conversion Efficiency and Dairying," Agricultural Systems (No. 4, 1979): 239-278.
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- ⁸Ibid.
- ⁹Katar Singh and V. Mukunda Das, "Impact of Operation Flood I at the Village Level," Institute of Rural Management, Anand, India, 1982 (mimeographed).
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- ¹²Michael Halse, "Increasing the Incomes of Landless Laborers and Small Holders: The Experience of India's Dairy Cooperatives, Parts I and II," Agricultural Administration 15 (1980): 259-272.
- ¹³India, Ministry of Agriculture, Report of the Evaluation Committee on Operation Flood II (New Delhi: MOA, 1985).
- ¹⁴George, "Cooperatives and Indian Dairy Policy."
- ¹⁵A. S. Patel, "Cooperative Dairying and Rural Development: A Case Study of Amul," paper presented at the Symposium on Cooperative and Rural Development, University of Montreal, Quebec, 1983 (mimeographed); and George, "Cooperatives and Indian Dairy Policy."

¹⁶Singh and Kelley, AMUL: An Experiment in Rural Economic Development; George, "Cooperatives and Indian Dairy Policy"; Patel and Pandey, Economic Impact of Kaira District Cooperative Milk Producers Union; and Somjee and Somjee, "Cooperative Dairying and the Profiles of Social Change in India."

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¹⁹Doornbos et al., Operation Flood as a Food Strategy.

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²¹Somjee and Somjee, "Cooperative Dairying and the Profiles of Social Change in India."

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³⁷Doornbos et al., Operation Flood as a Food Strategy.

³⁸Baviskar, "Milk and Sugar."

³⁹Ibid.

⁴⁰India, Ministry of Agriculture, Report of the Evaluation Committee on Operation Flood II, p. 78.

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⁴⁶Nyholm et al., "Socioeconomic Aspects of Dairy Development."

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