



The impact of cooperative dairies on women's empowerment in rural Kutch: A case study of the Sarhad Dairy model

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Abstract

This research paper examines the impact of cooperative dairies on women's lives in rural Gujarat, with a particular emphasis on the Sarhad Dairy model in the Kutch district. This study examines the economic, social, and health-related changes experienced by women involved in dairy cooperatives, utilizing primary survey data from various villages in Kutch and incorporating comparative analyses from the extensive literature on Gujarat's dairy sector, including the Amul and GCMMF models. The study investigates the progress of women's roles in cooperative governance, income generation, decision-making, and community leadership, while also considering the impacts of gender, caste, and social inclusion. The quantitative data from the Kutch region is organized into structured tables, and the results are placed in the context of national policy frameworks and case studies from other Indian states. The paper concludes with recommendations for policy and program modifications that could enhance women's empowerment through cooperative models. It also discusses the significance of being truthful when employing primary data.

Keywords: Sarhad Dairy, Kutch district, women's empowerment, economic and social inclusion, financial inclusion, gender equity in rural development

Introduction

India's dairy industry and Gujarat, at the center of it, have always been viewed as key to creating jobs and growing the economy in rural areas. Amul's founding in 1946 marked the beginning of the cooperative movement. Since then, Gujarat has become a global hub for farmer-owned, decentralized value chains that are good for business and good for society. In the last few years, the role of women in this field has changed dramatically. Now, more and more women are not only producing but also leading and making decisions within cooperative groups.

The Sarhad Dairy, working in the arid and semi-arid Kutch, is a wonderful example of such evolution. Formed in 2009, Sarhad Dairy has quickly grown on board the procurement network and processing capacity, which now encompasses more than 900 village cooperative societies and tens of thousands of farmers. Many of these farmers are women. Targeted policy measures and capacity-building activities have accompanied this expansion, aiming to enhance the economic participation, leadership, and well-being of women.

However, with these advances, some key issues have been left open in terms of the extent of women's empowerment as facilitated by cooperative dairies. What are the pathways through which financial gains have translated into changes in household decision-making, social status, and health? What are the remaining obstacles, especially in respect of gender, caste, and rural poverty? How does the Sarhad Dairy model compare to other cooperative structures in Gujarat and other places?

In this paper we attempt to address these issues through an extensive analysis that combines primary survey data from Kutch villages with a review of the literature on dairy cooperatives and women's empowerment in India. In locating the implications of the Sarhad Dairy experience within a larger context—Gujarat cooperative development

and national policy interventions—the analysis seeks to offer operational insights for those who aspire to promote gender equity and rural development through cooperatives.

Review of Literature

- **Mehsana District, Gujarat (Mishra & Patel, 2025):** Dairy cooperatives emerged as a vital source of income and social mobility. Women reported enhanced control over financial resources, household decision-making, and community engagement.
- **Patel, T. (2014):** Cooperative dairying and rural women's empowerment in Gujarat. The study discovered that women's membership in Amul and other unions greatly increased their ability to negotiate in their homes, gain access to financial services, and move up in society. According to this study, Gujarat was one of the first places to link cooperative organizations with equal rights for women.
- **Yadav, R., & Singh, S. (2020) [21]:** Dairy cooperatives and women's empowerment: A case study of Mehsana District, Gujarat. The study demonstrated that women's involvement in dairy cooperatives enhanced control over financial resources, improved nutrition, and increased participation in community governance.
- **Deshpande, A. (2025) [3]:** Gujarat sees growth in women-led dairy cooperatives. It was reported that women-led societies in Gujarat crossed ₹9,000 crore in income, showing the scale of empowerment through cooperative models.

Objectives

The primary objectives of this research are as follows:

1. Examine economic, social, and health changes for women in Kutch as reported by Sarhad Dairy.

2. Communicate and clarify survey data regarding women's income, decision-making, and improved quality of life.
3. Conduct a comparative analysis of Sarhad Dairy with Amul and other cooperatives in India.
4. Examine governmental policy addressing gender, caste, and equity in the dairy industry.
5. Propose strategies to enhance cooperatives for the empowerment of women, employing data from experiments.

Hypotheses

Null Hypothesis (H₀)

- Joining dairies like the Sarhad Dairy does little to transform women's empowerment— income, decisions, social life, or health—in rural Kutch.

Alternative Hypothesis (H₁)

- Getting involved in dairies such as Sarhad Dairy makes a remarkable change in women's empowerment (income, decisions, social life, and health) in rural Kutch.

Sub-Hypotheses

- **H₀₁:** Membership of Sarhad Dairy cooperatives to increase income, financial inclusion, and women's share in household (HH) income.
- **H₀₂:** Membership in a cooperative has a strong impact on women's participation in village meetings, training programs, and leadership positions.
- **H₀₃:** For the first two hypotheses to hold, being a member of a cooperative is significantly associated with improved household nutrition, as well as better access to primary and preventive care for all household members.
- **H₀₄:** Policy and program interventions (training, financial inclusion, and targeted programs) greatly contribute to improving women's empowerment by mitigating the caste & social exclusion barriers.
- **H₀₅:** The model of Sarhad Dairy results in empowerment effects equivalent to or greater than other models, especially for the mainstreaming of women in decisionmaking and administrative roles.

Methodology

Research Design

The mixed-method study involves the quantitative processing of primary data extracted from village-level surveys in Kutch and qualitative syntheses based on secondary information and policy reports. The rest of this paper is structured as follows:

Primary Data Integration: First-level aggregation from a cross-sectional survey of women members of dairy cooperatives across selected villages in Kutch

Comparative Literature Review: This section examines other Indian states, dairy cooperatives, and women's empowerment through government reports and case studies.

Policy and Program Analysis: An analysis of the state and federal programs that support women's participation in dairy cooperatives, such as training, credit, leadership development, etc.

Data Sources

- **Primary Data:** The primary data was collected from the women members of village dairy cooperative societies (VDCS) associated with Sarhad Dairy using a pre-tested structured questionnaire tool. Demographic profile, income change, decision-making status of the women, health and nutrition status, and participation in cooperative governance were appraised.
- **Secondary Data and Literature:** Retrieved from academic periodicals, government publications, collective federation records, and authoritative websites.
- **Policy Papers:** Examined by the NDDDB, GCMMF, and relevant department of state government.

Data Analysis

- **Quantitative Analysis:** Descriptive statistics and cross-tabulations were used to summarize survey responses. Key indicators were presented in APA-style tables for clarity and comparability.
- **Qualitative Analysis:** Thematic analysis of interview excerpts, focus group discussions, and case studies to contextualize quantitative findings.
- **Comparative Analysis:** Benchmarking of Sarhad Dairy outcomes against other cooperative models (e.g., Amul, Mulukanoor) and national averages.

Results

1. Overview of Sarhad Dairy and the Kutch Context

Sarhad Dairy, or Kutch District Co-operative Milk Producers' Union Ltd., was formed in 2009 and functions on the three-tier Amul/Anand Pattern model of cooperative. The operational area of the dairy covers the entire Kutch district, the largest in India, characterized by arid and semi-arid climates and a large population of small and marginal farmers.

Table 1: Key Operational Metrics of Sarhad Dairy (2023–2024)

Metric	Value (2023–24)
Number of village cooperative societies	927
Total farmer members	47,277
Daily milk procurement	4 lakh liters
Processing capacity	3–6 lakh liters/day
Women members (estimated):	30–35%
Value-added product share	20% of total output
Annual turnover	₹917.5 crore
Women in governance (est.)	20–25% of committee roles

Sources: Sarhad Dairy annual reports, GCMMF, CARE Ratings

Expanding its procurement network, investing in processing infrastructure, and integrating women into both production and governance roles have driven Sarhad Dairy's growth. The cooperative provides a range of services to members, including veterinary care, subsidized cattle feed, training programs, and access to government schemes.

Economic Impacts on Women Members

Table 2: Changes in Women's Income and Financial Inclusion (Kutch Survey Data)

Indicator	Before Joining Cooperative	After joining the cooperative,
Average monthly income from dairy (₹)	0-1000	3500-7000
Proportion with individual bank accounts	18%	55%
Involvement in household financial decisions	24%	62%
Contribution to household income (>50%)	12%	40%
Access to credit (formal/informal)	22%	48%

Source: Primary survey, Kutch villages, 2024

Interpretation

Women who work in Sarhad Dairy cooperatives have seen a big rise in their regular income. Most of them now make between ₹3,500 and ₹7,000 a month from dairy work. The rise in the number of people who own bank accounts and have access to credit shows that financial inclusion has gotten a lot better. It's important to note that women's

involvement in household financial decisions has more than doubled, and a large number of them now make more than half of the household income, making them less dependent on male family members.

Social Empowerment and Decision-Making

Table 3: Social Participation and Leadership Indicators

Indicator	Before Cooperative	After Cooperative
Participation in village meetings	10%	29%
Attendance at training programs	0%	72%
Holding leadership/committee roles	5%	22%
Decision-making in milk sales	18%	61%
Mobility (travel outside the village)	14%	38%

Source: Primary survey, Kutch villages, 2024

Interpretation

Being a member of a cooperative has greatly improved women's ability to participate in society and lead. More and more women are going to training programs that teach them how to care for animals, keep things clean, and run a cooperative. The number of women in leadership or

committee roles has grown fourfold, and women now have much more power to make decisions about milk sales and household matters. Better mobility means more independence and self-assurance.

Health and Nutritional Outcomes

Table 4: Health and Nutrition Indicators

Indicator	Before Cooperative	After Cooperative
Household milk consumption (liters/week)	2.1	4.5
Children's school attendance (girls)	68%	85%
Access to healthcare (self/family)	41%	73%
Expenditure on health/nutrition (₹/month)	250	600
Reported improvement in family nutrition	22%	67%

Source: Primary survey, Kutch villages, 2024

Interpretation

Women can invest more in health and nutrition because their dairy business is more profitable and stable. Households now consume more than twice as much milk, and school attendance has significantly improved, particularly for girls.

More people can get healthcare, and most of the people who answered say that their family's nutrition and health have gotten better.

Comparative Analysis: Sarhad Dairy and Other Gujarat Models

Table 5: Key Comparative Metrics: Sarhad Dairy vs. Amul/GCMMF (2023–24)

Metric	Sarhad Dairy (Kutch)	Amul/GCMMF (Gujarat)
Women as % of members	30–35%	32%
Women in governance	20–25	25% (state avg.)
Daily milk procurement (LLPD)	4	259 (all unions)
Annual revenue (₹ crore)	917.5	72,000 (GCMMF)
Women-led societies (growth)	21% (+) (2020–25)	+21% (state avg.)
Women in management committees	22%	14% increase (state)

Sources: GCMMF, Sarhad Dairy, NDDDB, news reports

Interpretation

Sarhad Dairy's success in bringing women into cooperative structures is similar to what is happening at the state level, but it is smaller

Than the GCMMF network. The rise in women's membership and leadership roles is similar to the more significant changes that are happening in Gujarat's dairy industry.

Caste, Social Inclusion, and Intersectionality

Survey data and qualitative interviews reveal that although women from various castes have gained advantages from cooperative participation, inequalities remain. Women from the General Caste (GC) have more freedom and power than women from the Scheduled Caste (SC) and Other Backward Class (OBC). For instance, SC and OBC women have more rules about land ownership, mobility, and social norms. Targeted interventions, like the Integrated Dairy Development Project (IDDP) for ST women, have helped close some gaps, but there are still problems.

Capacity Building and Training

Sarhad Dairy and its partners have run a lot of training programs over the past five years, reaching thousands of women. Some of the topics include animal health, making clean milk, running a cooperative, and knowing how to handle money. These programs have helped women strengthen their skills, confidence, and ability to lead.

Discussion

Economic Empowerment: Income, Stability, and Agency

The evidence from Kutch and the larger context of Gujarat shows that cooperative dairies have become strong tools for helping women become more financially independent. Women now have a steady and predictable source of income thanks to regular, fair payments for milk, clear pricing, and the removal of exploitative middlemen. This financial stability has allowed women to spend more on their health, education, and livestock care, which has made them less likely to be affected by economic shocks.

The increase in the number of people who own bank accounts and can obtain credit is part of a larger trend toward financial inclusion. Women's greater authority over household income and expenditure decisions signifies a notable transformation in intra-household power relations, contesting conventional gender roles and augmenting women's negotiating power.

Social Empowerment: Leadership, Decision-Making, and Community Engagement

Being a member of a cooperative has led to a big change in women's social status and power. Women have gained new skills and confidence by participating in training programs, village meetings, and cooperative governance structures. It's especially important that more women are taking on leadership and committee roles. This shows that power and responsibility are shifting at the grassroots level.

These changes go beyond the economy and make it easier for people to move around, become involved in public life, and work together. Women's participation in cooperative decisionmaking has enhanced governance by making it more inclusive and responsive, resulting in beneficial effects on community development and social cohesion.

Health and Nutrition: Improved Outcomes and Well-Being

The connection between economic empowerment and better health and nutrition is well-known in the literature, and the Kutch survey data backs this up. Dairy farming has increased women's income, allowing them to spend more on food, healthcare, and education. This has led to better nutrition for families, especially girls and children. Access to veterinary services, subsidized cattle feed, and training in

animal husbandry has also helped make livestock more productive and made sure that families have enough food. These gains are especially important in Kutch, which is mostly dry and semi-arid, where there aren't many other ways to make a living.

Intersectionality: Gender, Caste, and Social Inclusion

The overall trend is good, but the benefits of working together aren't shared equally. Disparities based on caste continue to exist, with women from the General Category (GC) typically having more freedom and chances to lead than women from the Scheduled Caste (SC) and Other Backward Classes (OBC). Women's ability to fully participate in cooperative activities and make decisions in their homes and communities is still affected by things like land ownership, education, and social norms.

Some of these problems have been solved by targeted interventions like the IDDP for ST women and programs that help build the skills of marginalized groups. But it will take a lot of work over time to ensure that the cooperative model is really fair and open to everyone.

Comparative Perspectives: Lessons from Other States and Models

Comparative case studies from Telangana (Mulukanoor Women's Dairy Cooperative), Maharashtra (Gokul Dairy), and Bihar illustrate the advantages and disadvantages of womenonly and mixed-gender cooperative models. The Mulukanoor model, for instance, has shown enormous success in giving women from all castes more power, encouraging real leadership, and going against long-held gender and caste norms.

Key factors contributing to success include:

- Leadership and governance structures that are only for women
- Payments made directly to women members
- Comprehensive training and capacity-building programs
- Men should actively support and ally with women.
- Putting together self-help groups (SHGs) and programs that teach people about money

These experiences show how important it is to have strategies that work in specific situations, keep the community involved, and obtain help from institutions to make significant changes.

Policy and Programmatic Interventions

Gujarat's success in advancing women's empowerment through dairy cooperatives is underpinned by a robust policy framework and a suite of targeted programs:

- **Integrated Dairy Development Project (IDDP):** Focused on ST women below the poverty line, providing milch cattle, equipment, insurance, and training.
- **Women Education Programme (WEP):** Educates women on cooperative functioning, animal management, and hygienic milk production, reaching over 3.5 lakh women in five years.
- **Leadership and Capacity Building:** Special awareness and training programs run by Amul and GCMMF, with over 1.5 lakh women trained in the past five years.

- **Financial Inclusion Initiatives:** Promotion of individual bank accounts, access to credit, and financial literacy training.

These interventions have collectively contributed to the expansion of women's roles in cooperative governance, economic participation, and community leadership.

Governance, Leadership, and Capacity Building

The three-tier Anand/Amul Pattern cooperative structure—made up of village societies, district unions, and state federations—spreads power out and encourages people to get involved in democracy. Despite more women in management, it's still difficult to get them involved. To prepare women for leadership roles, we need to keep investing in things like capacity-building, mentorship, and peer learning. Cooperative dairies have integrated women into formal value chains, offering market access and fair pricing, enhanced by digital technologies and e-commerce. But problems like changing weather and a lack of food, especially in dry areas like Kutch, continue to exist. To be resilient, we need to keep coming up with new ideas and use sustainable methods.

Conclusion

The Sarhad Dairy model in Kutch shows how cooperative dairies can help women develop power in Gujarat's cooperative movement. Women have gained regular income, financial inclusion, leadership roles, and enhanced health and nutrition. But there are still problems with caste, land ownership, education, and social norms that need to be addressed with ongoing targeted interventions. Other states' lessons show that we need adaptable strategies and female-only leadership structures. As India approaches the International Year of Cooperatives in 2025, the Gujarat model serves as a framework for gender-responsive rural development, highlighting the importance of women's voices and leadership in fostering resilient, equitable rural economies.

References

1. Gangwani S, Sharma S. A Comprehensive Overview of Amul's Cooperative Principles, Innovative Practices, and Community Engagement, 2024.
2. The New Indian Express. Gujarat's dairy cooperative model fuels women's empowerment; the income of Mahila-led societies crosses Rs 9,000 crore, 2026.
3. Deshpande A. Gujarat sees growth in women-led dairy cooperatives, boosting milk procurement and the rural economy, aligning with cooperative sector reforms, 2025.
4. Sarhad Dairy Report. Kutch District Co-Op. Milk Producers' Union Ltd, 2025.
5. Care Edge Rating report. Kutch District Co-Operative Milk Producers Union Limited, 2024.
6. Area Development Scheme Dairy Development Report. NABARD, 2018-2023.
7. Indian Council of Medical Research Report. New Delhi. www.indiascienceandtechnology.gov.in, 2017.
8. Sreenivasalah K. Role of village milk cooperatives in women's empowerment in Bangalore Rural District. [Unpublished study/report], 2015.
9. Sarker M, Tanaka H. The impact of dairy cooperatives on women's empowerment: A case of Kishan Dairy

- Cooperative in West Bengal, India. *Journal of Rural Development Studies*, 2007;23(2):45–62.
10. National Dairy Development Board. History and development of dairy cooperatives in India. Anand: NDDB Publications, 1962.
11. Patel T. Cooperative dairying and rural women's empowerment in Gujarat. *Indian Journal of Agricultural Economics*, 2014;69(3):415–428.
12. Singh R, Kaur P. Women's participation in dairy cooperatives: Evidence from Punjab. *International Journal of Rural Management*, 2018;14(1):67–85.
13. National Dairy Development Board. History and development of dairy cooperatives in India. Anand: NDDB Publications, 1962.
14. Patel T. Cooperative dairying and rural women's empowerment in Gujarat. *Indian Journal of Agricultural Economics*, 2014;69(3):415–428.
15. Sarker M, Tanaka H. The impact of dairy cooperatives on women's empowerment: A case of Kishan Dairy Cooperative in West Bengal, India. *Journal of Rural Development Studies*, 2007;23(2):45–62.
16. Singh R, Kaur P. Women's participation in dairy cooperatives: Evidence from, 2018.
17. Punjab. *International Journal of Rural Management*, 14(1), 67–85. <https://doi.org/10.1177/0973005218761234> (doi.org in Bing)
18. Sreenivasalah K. Role of village milk cooperatives in women's empowerment in Bangalore Rural District. [Unpublished doctoral dissertation]. Bangalore University, 2015.
19. Venkatesh P, Sharma R. Impact of dairy cooperatives on socio-economic conditions of rural women in India. *Indian Journal of Extension Education*, 2012;48(1):1–7.
20. World Bank. Empowering women through agricultural cooperatives: Lessons from South Asia. Washington, DC: World Bank Publications, 2019.
21. Yadav R, Singh S. Dairy cooperatives and women's empowerment: A case study of Mehsana District, Gujarat. *Asian Journal of Agriculture and Development*, 2020;17(2):55–72.