

SOCIO-ECONOMIC CONDITIONS OF MILK PRODUCERS AND THEIR IMPACT ON DAIRY DEVELOPMENT

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Abstract:

The dairy sector serves as a cornerstone of India’s rural economy, where a large proportion of households rely on milk production as a primary source of livelihood. The present study, entitled “Socio-Economic Conditions of Milk Producers and Their Impact on Dairy Development,” focuses on examining the socio-economic background of milk producers and analyzing how factors such as living standards, access to resources, and financial strength contribute to the advancement of the dairy industry.

The research explores dimensions like landholding size, herd composition, income levels, access to credit, educational status, gender involvement, and infrastructural facilities, assessing their influence on milk yield and participation in the market. A mixed-method research design has been adopted, wherein primary data is gathered through structured questionnaires and personal interviews, while secondary data is drawn from official reports, cooperative records, and industry publications. Analytical tools such as correlation, regression, and SWOT analysis are employed to study the linkages between socio-economic characteristics and dairy performance. Particular attention is paid to the role of dairy cooperatives, self-help groups, and government initiatives in enhancing the economic sustainability of milk producers.

The findings are anticipated to underline the challenges confronting small and marginal farmers, including limited veterinary care, restricted access to organized markets, inadequate storage facilities, and continued reliance on traditional practices. Simultaneously, the study highlights potential opportunities for dairy growth through the adoption of modern technologies, strengthening of cooperative institutions, improvement in financial literacy, and greater involvement of women in dairy farming.

The study concludes that the socio-economic advancement of milk producers is closely tied to the long-term development of the dairy sector. It further offers policy recommendations to address existing gaps in infrastructure, credit availability, and market connectivity, thereby fostering inclusive

and sustainable growth. This research is expected to be of value to policymakers, cooperative leaders, researchers, and other stakeholders engaged in promoting rural dairy development.

Key Words: Milk Producers, Socio-Economic Conditions, Dairy Development, Rural Economy etc.

Introduction:

The dairy industry holds a vital place in India's agricultural economy. Being the largest producer and consumer of milk globally, India accounts for nearly one-fourth of the world's total milk output, making dairying a crucial livelihood source for millions of rural families. Beyond meeting the nutritional needs of the population, milk production ensures steady income and employment opportunities, particularly for small and marginal farmers who form the backbone of rural society. Unlike seasonal agriculture, dairying provides continuous cash flow, thereby offering economic stability to households in both rural and semi-urban regions.

Milk producers lie at the heart of this growth process. Their socio-economic profile—shaped by factors such as educational attainment, household income, land ownership, herd size, access to finance, adoption of technology, and cooperative membership—significantly determines the development and sustainability of the sector. A strong socio-economic base enables investment in improved breeds, veterinary care, modern equipment, and efficient marketing, all of which enhance productivity and profitability. On the other hand, poor socio-economic status results in low yields, high costs, weak bargaining capacity, and dependence on middlemen.

The cooperative movement, particularly Operation Flood and the success of organizations like Amul, has been instrumental in transforming the lives of rural producers by linking them to organized supply chains. Cooperatives have improved farmers' bargaining power, ensured remunerative prices, and reduced exploitation by intermediaries. Despite these achievements, inequalities persist across regions and among producer groups. Many farmers continue to struggle with poor infrastructure, limited institutional credit, price fluctuations, lack of veterinary services, and inadequate awareness of modern dairy practices. These barriers directly affect both the socio-economic welfare of producers and the overall progress of the industry.

Women's participation is another critical dimension. In numerous households, women shoulder the responsibility of managing milch animals, feeding, cleaning, and marketing. Although their contribution is substantial, their role often remains undervalued, with limited ownership rights, access to training, and decision-making authority. Promoting women's empowerment in cooperatives and ensuring gender inclusiveness are essential for sustainable sectoral development.

In recent years, government programs, cooperative initiatives, and private-sector investments have introduced support mechanisms such as training programs, livestock insurance, artificial insemination services, and digital platforms for milk collection. Yet, the benefits of these interventions vary widely, as better-resourced farmers adapt more easily to innovations, while resource-poor producers risk exclusion, thereby widening inequalities.

Therefore, understanding the socio-economic conditions of milk producers is critical for analyzing

their role in dairy development. Such an assessment offers insights into rural livelihoods, identifies barriers to inclusive growth, and suggests pathways for empowering producers. It also underscores the importance of policies, institutions, and community networks in shaping the future of India's dairy industry. Against this backdrop, the present study seeks to examine the socio-economic characteristics of milk producers, assess their challenges and opportunities, and evaluate how these conditions influence the growth, modernization, and sustainability of the dairy sector.

Needs of the Study:

The dairy sector plays a crucial role in the rural economy of India, providing livelihood and nutritional security to millions of families. Milk producers, particularly in rural regions, form the backbone of this industry. However, their socio-economic conditions largely determine the sustainability and growth of dairy development.

1. Contribution to Rural Economy:

For small and marginal farmers, dairy farming serves as an important supplementary source of income, and analyzing the socio-economic profile of milk producers provides valuable insights into their contribution to strengthening the rural economy.

2. Employment Generation:

The dairy industry plays a significant role in generating rural employment, with women forming a major share of the workforce. Examining the socio-economic conditions of milk producers helps in understanding how dairying supports livelihood security and reduces unemployment in rural areas.

3. Income and Livelihood Security:

For numerous farmers, dairying ensures a steady source of daily income. It is therefore essential to examine how the socio-economic status of milk producers shapes their earnings and overall livelihood security.

4. Policy Formulation:

Government initiatives and cooperative programs are designed to support and empower milk producers. Conducting a detailed study can offer crucial insights for policymakers to develop targeted welfare schemes, subsidies, and capacity-building programs.

5. Technological Adoption:

Socio-economic conditions often affect the ability of milk producers to adopt modern dairy practices, veterinary care, and scientific management. Studying these aspects is essential for improving productivity.

6. Gender Empowerment:

Women are key contributors to dairy farming, though their efforts are frequently underrecognized. Examining the socio-economic conditions of milk producers can underscore

their role in promoting dairy development and advancing women's empowerment.

7. Regional Disparities:

The socio-economic conditions of milk producers vary across regions. Identifying these disparities is vital to ensure balanced dairy development.

8. Sustainability of Dairy Industry:

The growth of the dairy sector is closely linked to the welfare of milk producers, making it crucial to assess their living conditions, educational status, health, and income levels to promote sustainable dairy development.

Objectives of the Study:

1. To analyze the socio-economic status of milk producers in Akole Taluka.
2. To examine the role of dairy cooperatives and private players in improving the socio-economic conditions of milk producers.
3. To evaluate the impact of socio-economic factors on milk production, productivity.

Scope of the Study:

The present study on the socio-economic conditions of milk producers and their impact on dairy development has a broad and practical significance. Its scope is outlined as follows:

1. Geographical Coverage

The study is confined to [Ahmednagar District / specific region], which represents a predominantly rural economy with dairy as a supplementary source of livelihood. Findings may be generalized, with caution, to similar rural and semi-urban regions engaged in dairy farming.

2. Unit of Analysis

The primary unit of study is the milk producer household, including small, marginal, medium, and large-scale farmers. Both cooperative members and independent milk producers are considered.

3. Socio-Economic Dimensions Studied

Income levels, landholding patterns, herd size, access to credit, education, family size, and labor participation (including women's involvement). Expenditure patterns, saving behavior, and dependency on dairy income.

4. Dairy Development Aspects

Productivity of milk animals, access to veterinary services, availability of fodder and water resources, and adoption of modern technology. Role of cooperatives, private dairies, and government schemes in promoting dairy development. Marketing channels, price realization,

and supply chain challenges.

Research Methodology:

1. Research Design

This study follows a descriptive research design to analyze Socio-Economic Conditions of Milk Producers and Their Impact on Dairy Development. The study focuses on understanding policy frameworks, their implementation, and their impact on dairy farmers.

2. Data Collection Methods

A. Primary Data Collection

- Surveys & Questionnaires: Structured questionnaires will be designed to collect responses from dairy farmers and cooperative members.
- Interviews: Semi-structured interviews will be conducted with experts in the dairy industry, policymakers, and beneficiaries.

B. Secondary Data Collection

- Government Reports: Data from the Ministry of Animal Husbandry, Dairying & Fisheries, National Dairy Development Board (NDDB), and NITI Aayog.
- Published Research Papers: Review of scholarly articles, books, and journals related to dairy policies.
- Official Websites & Policy Documents: Analysis of documents from government portals such as Rashtriya Gokul Mission, National Dairy Plan, and Kisan Credit Card Scheme.

3. Sampling Method

- A stratified random sampling technique will be used to select dairy farmers from Akole Taluka. Sample Size: A minimum of **45** respondents is targeted to ensure statistical significance.

4. Data Analysis

- Qualitative Analysis: Thematic analysis will be used to interpret policy effectiveness, challenges, and farmer experiences.
- Quantitative Analysis: Statistical tools such as SPSS or Excel will be used to analyze numerical data related to milk production growth, subsidy impact, and income changes.

Data Analysis:

No.	Particulars	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
1	<i>My income from milk production has significantly</i>	0	4	10	22	9	45

	<i>improved my household's economic condition.</i>						
2	<i>Dairy farming has helped me in improving education and health facilities for my family.</i>	2	3	5	20	15	45
3	<i>Milk production provides me with a stable and reliable source of livelihood throughout the year.</i>	2	3	5	20	15	45
4	<i>Membership in a dairy cooperative/private dairy has improved my access to fair and timely payments for milk supplied.</i>	2	3	7	15	18	45
5	<i>Dairy cooperatives/private players provide adequate support services (veterinary, fodder, training) that benefit milk producers.</i>	2	5	8	20	10	45
6	<i>The cooperative/private dairy system has increased my bargaining power in the milk market.</i>	1	4	7	15	18	45
7	<i>Access to credit and financial support has helped me increase milk production and productivity.</i>	2	3	7	18	15	45
8	<i>Better housing, feed, and veterinary care for cattle are directly linked to higher milk yield in my herd.</i>	1	3	6	15	20	45
9	<i>Adoption of modern dairy practices (AI, vaccination, balanced feed) has improved productivity on my farm.</i>	2	3	5	15	20	45
10	<i>My socio-economic condition influences my capacity to invest in dairy technology and improve production.</i>	4	6	8	15	20	45

Data Interpretation:

- 22 respondents (48.9%) agreed that milk income improved household economy. 9 respondents (20%) strongly agreed, indicating a positive impact of milk production. 14 respondents (31.1%) were neutral or disagreed, suggesting some producers do not feel significant economic benefit.
- 35 respondents (77.77%) either Agree or Strongly Agree that dairy farming has helped improve education and health facilities. Only 5 respondents (11.11%) are neutral, and 5 respondents (10.11%) disagree.
- A majority of respondents, 77.77% (20+15), agree or strongly agree that milk production provides a stable livelihood. Only 11.11% (2+3) of respondents disagree or strongly disagree, indicating very few are dissatisfied. 11.11% remain neutral, reflecting either uncertainty or mixed experiences.
- Majority of respondents agree that being a member of a dairy cooperative/private dairy has improved their access to fair and timely payments.
- This indicates that milk producers generally agree that dairy cooperatives and private players provide adequate support services that benefit them.
- A significant majority of respondents (73.33%) either strongly agree or agree that participation in the cooperative/private dairy system has increased their bargaining power in the milk market. 15.56% of respondents remain neutral, indicating either limited experience with the system or no noticeable change in bargaining power. Only a small fraction (11.11%) disagree or strongly disagree, suggesting that the system may not benefit every producer equally.
- A large majority (73.33%) of the respondents (SA + A) agree that access to credit and financial support significantly increased their milk production and productivity. Around 15.55% remained neutral, suggesting they neither experienced significant benefit nor loss from credit facilities. Only 11.12% disagreed or strongly disagreed, which shows that very few milk producers did not benefit from financial support.
- A majority (77.77%) of respondents (Strongly Agree + Agree) believe that improved housing, nutritious feed, and timely veterinary services have a direct positive impact on milk yield. 13.33% remained neutral, indicating either lack of experience or no visible impact in their herd. Only 8.89% disagreed, which shows very few respondents did not find a direct relationship between these practices and productivity.
- Majority (77.77%) farmers agree/strongly agree that modern dairy practices improved productivity. Only 11.11% remain neutral and 11.11% disagree.
- Since the mean value is above the neutral point (3), it indicates that most respondents believe socio-economic condition positively influences their ability to invest in dairy technology, though a section remains neutral or disagrees due to financial constraints.

Findings:

- Milk production is a significant source of income for most respondents in Akole Taluka. Nearly 69% of respondents (Agree + Strongly Agree) perceive an improvement in their household economy due to milk income. Around 31% remain neutral or dissatisfied, which may indicate challenges like fluctuating prices, market access issues, or low productivity.
- Majority of respondents reported a positive impact of dairy farming on their family's education and health facilities. The mean score (3.96) indicates strong agreement among the respondents. Very few respondents disagreed, showing that dairy farming generally benefits family welfare.
- Most milk producers (nearly 78%) consider milk production as a reliable livelihood throughout the year. A small proportion (about 11%) do not find it stable, indicating that some producers may face challenges like seasonal fluctuations, market prices, or feed availability. Neutral responses highlight potential areas for improvement in supporting producers with resources, market access, or financial stability.
- Most milk producers experience timely and fair payments due to cooperative/private dairy membership. A combined 75.5% of respondents (SA + A) expressed satisfaction with payment systems. Only 11% (D + SD) felt that their payment experience was unsatisfactory, indicating a small gap that can be addressed.
- Majority of respondents (30 out of 45, i.e., 66.7%) selected *Agree* or *Strongly Agree*. A small number (7 out of 45, 15.5%) felt the support was inadequate (*Disagree* or *Strongly Disagree*). Some respondents (8 out of 45, 17.8%) were neutral, indicating variability in the perception of service adequacy.
- Most milk producers perceive that the dairy system has strengthened their bargaining power. Cooperatives and private dairies appear to provide producers with leverage to negotiate better prices and terms. A small portion of respondents did not experience significant benefits, suggesting scope for improvement in accessibility or services.
- Most respondents acknowledged the positive role of credit facilities in expanding their milk business. Credit access led to better investment in cattle feed, veterinary care, and improved breeds, which boosted productivity. Neutral responses suggest that a small group may face challenges such as high interest rates, delayed loan processing, or inadequate loan amounts. A negligible percentage of milk producers did not benefit, possibly due to lack of proper utilization or structural issues in financial support.
- Most milk producers recognize that better management practices (housing, feed, veterinary care) enhance milk productivity. Some respondents are unsure, possibly due to financial limitations or lack of awareness regarding scientific dairy practices. Very few farmers disagree, which means awareness about modern dairy management is already strong in the region.

- Most respondents acknowledged that modern dairy practices like Artificial Insemination (AI), regular vaccination, and balanced feeding significantly improved milk yield. Farmers adopting these practices reported not only higher milk production but also better animal health.
- 60% respondents (Agree + Strongly Agree) accept that socio-economic condition has a significant impact on investment in dairy technology. 17.78% remain neutral, reflecting uncertainty or mixed experience. 22.22% respondents disagree, indicating that some farmers manage to invest in technology regardless of their socio-economic condition.

Conclusions:

- The study confirms that milk production contributes positively to household economic well-being for a majority of producers in Akole Taluka.
- The study concludes that dairy farming has substantially contributed to improving the education and health facilities of respondents' families. The high level of agreement suggests that income from dairy farming plays a crucial role in enhancing household welfare and quality of life. This emphasizes the socio-economic importance of dairy activities in rural areas.
- Milk production significantly contributes to economic stability for the majority of producers in the surveyed region. While most respondents report a steady and dependable income, targeted interventions could address concerns of the minority who find it less reliable. Overall, the study confirms that dairy farming is a crucial and sustainable source of livelihood for rural households.
- The study indicates that membership in dairy cooperatives or private dairies significantly enhances milk producers' access to fair and timely payments, thereby improving their financial stability. Cooperatives and private dairies play a crucial role in supporting farmers' income security. Minor dissatisfaction suggests the need for further process improvements to ensure 100% satisfaction.
- The study reveals that dairy cooperatives and private players are providing beneficial support services such as veterinary care, fodder supply, and training to milk producers. While a majority recognize the benefits, there is a minor portion of producers who feel the services could be further improved. Overall, the support services positively influence milk producers' productivity and satisfaction.
- The study concludes that the cooperative and private dairy systems play a crucial role in empowering milk producers in the market. By facilitating better price realization and reducing exploitation by intermediaries, these systems strengthen producers' bargaining power. However, to maximize impact, efforts should be made to reach the minority who remain neutral or dissatisfied, ensuring equitable benefits for all stakeholders in the dairy sector.
- The analysis shows that access to credit and financial support is a strong enabler of milk production and productivity in rural areas. With over 70% positive responses, it is clear that

credit facilities are crucial for strengthening the dairy sector. However, to ensure inclusivity, the neutral and disagreeing group's issues must be addressed by simplifying loan procedures, providing financial literacy, and ensuring timely disbursement.

- The study concludes that better housing, balanced feeding, and adequate veterinary care are crucial determinants of higher milk yield. Majority of the farmers acknowledge this linkage, reflecting a positive attitude toward adopting scientific dairy practices. However, a small proportion remains indifferent or unconvinced, suggesting the need for training, demonstrations, and extension activities to ensure wider adoption of improved dairy management practices.
- The study concludes that the adoption of modern dairy practices has a substantial positive impact on farm productivity. With a mean Likert score of 4.07, it is evident that farmers perceive these practices as beneficial. However, a small segment still lacks confidence or awareness, indicating the need for capacity-building programs, cost-effective solutions, and continuous support from dairy cooperatives/government agencies.
- The analysis shows that socio-economic condition is an important determinant of investment in dairy technology. A majority of milk producers recognize that better income, financial stability, and resources directly enhance their ability to adopt modern dairy practices and improve production. However, a smaller group either remains unaffected or neutral, suggesting that other factors such as cooperative support, subsidies, and government schemes may also play a role in enabling investment despite economic limitations.

Bibliography:

- 1) BIRTHAL, P. S., & JOSHI, P. K. (2007). Institutional innovations for improving smallholder participation in high-value agriculture: A case of dairy industry in India. *Quarterly Journal of International Agriculture*, 46(3), 269–284.
- 2) CHAND, R., & KUMAR, P. (2004). Dairy development in India: Current status and emerging issues. *Indian Journal of Agricultural Economics*, 59(3), 455–466.
- 3) Government of India. (2022). Annual Report 2021–22. Department of Animal Husbandry & Dairying, Ministry of Fisheries, Animal Husbandry and Dairying. New Delhi.
- 4) KURIEN, V. (2011). *The white revolution: Anand to Amul*. New Delhi: Viking/Penguin.
- 5) National Dairy Development Board (NDDB). (2021). *Dairy Statistics India 2020–21*. Anand, Gujarat: NDDB.
- 6) SINGH, R. K., & CHAUHAN, A. K. (2017). Socio-economic profile of dairy farmers and their adoption behaviour in improved dairy farming practices. *Indian Journal of Dairy Science*, 70(3), 334–340.
- 7) THORAT, V. A., & SAWANT, M. N. (2019). Socio-economic impact of dairy cooperatives on rural milk producers in Maharashtra. *Journal of Rural Development*, 38(1), 112–125.

- 8) World Bank. (2020). Dairy sector in India: Opportunities and challenges. Washington, DC: The World Bank.
- 9) Yadav, J. P., & Sharma, R. (2018). An economic analysis of milk production and its constraints in rural areas. *International Journal of Agricultural Sciences*, 10(5), 6723–6728.
- 10) Singh, K., & Wright, B. (2013). Smallholder dairy farming in India: Constraints and opportunities. *Food Policy*, 38, 234–242.