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Assessment of constraints faced by commercial dairy farmers in Buldana district of Maharashtra

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ABSTRACT

The present study entitled “Constraints Faced by Commercial Dairy Farmers in Buldana District of Maharashtra” was conducted in thirteen purposively selected blocks of Buldana district from October 2024 to January 2025. A total of 65 commercial dairy farmers having a herd size of ten or more milch animals were randomly selected, and data were collected through personal interviews using a structured and pre-tested interview schedule. The constraints faced by the respondents were categorized into four groups, namely economic, technical, marketing and general constraints. The study revealed that commercial dairy farmers faced several constraints in managing their dairy enterprises. The major economic constraints included high cost of concentrate feed (84.62%), high cost of crossbred cows/improved buffaloes (73.85%) and high cost of veterinary medicines (66.15%). Among technical constraints, highly expensive consultancy services of private veterinary practitioners (78.46%) emerged as the most prominent constraint, followed by lack of veterinary facilities and veterinary literature in villages. Marketing constraints were mainly related to non-remunerative prices for milk (75.36%), poor marketing outlets (13.85%) and difficulty in storing milk during the summer season (7.69%). Among general constraints, lack of knowledge about silage preparation (73.85%) was the most prominent, followed by poor irrigation facilities for growing fodder crops (20.00%) and non-availability of improved fodder seeds (9.23%). The findings indicate that high input costs, expensive veterinary services, inadequate milk price realization and insufficient knowledge of fodder conservation practices significantly constrain commercial dairy farming. Strengthening affordable veterinary services, improving access to quality feed and fodder, promoting silage preparation, and providing better milk marketing and financial support could help improve the productivity and profitability of commercial dairy enterprises in Buldana district.

Keywords: Commercial dairy farming, Constraints, Dairy farmers, Milk marketing, Veterinary services, Buldana district

Introduction

The Indian economy has historically been based on agriculture and allied sectors, among which dairy farming plays a vital role in providing income, employment, and nutritional security to rural households. Dairy farming is an important part of India's agricultural economy, with Agricultural Gross Value Added (GVA) rising from approximately 24.38% in 2014–15 to 31% in 2023–24 at current prices, and the livestock sector contributing nearly one-third of the total value from agriculture and allied activities while maintaining around 5.5% share in total GVA. India ranks first globally in milk production, contributing nearly 25% of the world's total milk output. However, milk productivity per animal remains low because of poor feeding, breeding, and management practices⁵.

Dairy farmers face economic, technical, institutional, and marketing constraints, including feed and fodder shortages, low animal productivity, lack of improved breeds, inadequate veterinary services, poor infrastructure, and limited access to training^{5,2}. These challenges collectively reduce efficiency, limit adoption of modern practices, and impede the overall growth and profitability of dairy farms.

Dairy farmers also face multiple constraints such as high cost of feed and fodder, inadequate veterinary services, poor marketing facilities, and limited access to training and credit, which collectively hinder adoption of improved technologies and affect farm profitability^{5,4,2}. Although such studies exist in different regions, information specific to the constraints of commercial dairy farmers in Buldana district is limited.

Therefore, the present study was undertaken to identify the major constraints faced by them in Buldana district.

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Materials and Methods

The present study was conducted in thirteen purposively selected blocks of Buldana district, Maharashtra. From each selected block, five commercial dairy farms having a herd size of ten or more milch animals were selected using a simple random sampling technique. Thus, a total sample size of 65 commercial dairy farms was obtained for the study.

Data were collected through a structured and pre-tested interview schedule during the period from 1 October 2024 to 10 January 2025. Personal interviews were conducted with the selected respondents. The purpose of the study was clearly explained to the respondents before data collection to ensure accurate and reliable responses.

Constraints were operationally defined as the problems or difficulties perceived by dairy farmers in adopting improved dairy farming practices. Based on pre-testing of the schedule, the constraints were categorized into four groups, namely economic, technical, marketing, and general constraints. The frequency and percentage of responses for each constraint were calculated to determine the magnitude and severity of constraints faced by the respondents.

The present study was based on a field survey conducted among commercial dairy farmers and did not involve any experimental procedures, intervention, or invasive handling of animals. Therefore, ethical approval from the Institutional Animal Ethics Committee was not required. However, the study was conducted in accordance with standard guidelines for social science and extension research, ensuring informed consent, confidentiality, and voluntary participation of all respondents.

The collected data were tabulated, computerized, and subjected to statistical analysis. Mean, standard error, frequency, and percentage were calculated using standard statistical procedures as described by *Snedecor et al. (1989)* [1]. The results were interpreted and presented in tabular form for meaningful comparison and discussion.

Results and Discussion

Economic constraints

Economic constraints significantly influence the profitability of dairy enterprises. The present study (Table 1) revealed that high cost of concentrate feed was the most critical constraint, reported by 84.62 per cent of respondents, which corroborates the findings of *Nagrale et al. (2015)* [2] and *Patil et al. (2009)* [3]. However, comparatively lower values reported by *Barman et al. (2024)* [4] indicate possible regional variation in feed cost and availability. High cost of crossbred cow/improved buffalo (73.85%) emerged as the second major constraint, aligning with *Barman et al. (2024)* [4] and partially with *Patil et al. (2009)* [3]. High cost of veterinary medicines (66.15%) was also reported as a significant constraint, supporting earlier findings of *Patil et al. (2009)* [3], suggesting persistence of veterinary expenditure as an economic burden. Relatively fewer respondents reported high investment requirement (24.62%) and difficult loan procedures (15.38%) as constraints. The latter finding contrasts with *Barman et al. (2024)* [4], indicating regional differences in institutional credit accessibility. Overall, input-related costs, particularly feed and livestock purchase, remain the dominant economic constraints affecting dairy farming, emphasizing the need for cost-reduction strategies and improved financial support mechanisms.

Technical constraints

Technical and service-related constraints significantly influence the efficiency of dairy enterprises. The present study (Table 1) revealed that high cost of consultancy services of private veterinary practitioners was the most critical constraint, reported by 78.46 per cent of respondents, which is in close agreement with *Somtiya et al. (2024)* [5] and *Barman et al. (2024)* [4], who also documented high veterinary service costs as a major constraint among farmers. Lack of veterinary facilities in villages was reported by 15.38 per cent of respondents, which is slightly higher than the 12.50 per cent reported by *Dhondge (2024)* [6], indicating that accessibility to veterinary services in rural

areas remains inadequate despite some infrastructural improvements. Lack of availability of veterinary literature (15.38%) and lack of technical knowledge in managing dairy enterprises (10.77%) were also reported, highlighting gaps in extension support and dissemination of scientific information at the grassroots level. Poor conception rate in dairy animals was reported by a small proportion of respondents in the present study, which differs from the observations of *Nagrale et al. (2015)* [2], who identified reproductive inefficiency as a comparatively more prominent constraint among farmers in their study. Overall, the findings indicate that high cost of veterinary services along with inadequate technical knowledge and extension support remain key constraints in dairy farming, emphasizing the need to strengthen public veterinary infrastructure, improve service affordability, and enhance farmer training and advisory systems.

Marketing constraints

Marketing constraints significantly influence the profitability and sustainability of dairy enterprises. The present study (Table 1) revealed that non-remunerative price for milk was the most critical constraint, reported by 75.36 per cent of respondents, which is in close conformity with earlier findings of *Nagrale et al. (2015)* [2], *Somtiya et al. (2024)* [5], *Reddy et al. (2024)* [7], and *Patil et al. (2009)* [3], who also documented low or non-remunerative milk prices as a major constraint among dairy farmers. The relatively higher proportion observed in the present study indicates that price realization continues to be a persistent issue, possibly due to market fluctuations, inadequate organized marketing systems, and the dominance of intermediaries in milk procurement.

Poor marketing outlets for milk were reported by 13.85 per cent of respondents, which is lower than the findings of *Patil et al. (2009)* [3], suggesting that the expansion of dairy cooperatives and organized milk collection systems may have improved marketing access over time. However, the continued presence of this constraint indicates that such facilities are still not uniformly accessible, particularly in remote and underserved regions.

Difficulty in storing milk during the summer season was reported by 7.69 per cent of respondents, reflecting inadequate availability of cooling and storage infrastructure at the village level. This may result in spoilage and economic losses during periods of high ambient temperature, especially in areas lacking proper cold chain facilities. Competition from established and large dairy units was perceived as a constraint by only 1.56 per cent of respondents, indicating that it is a relatively less significant issue in the study area, possibly due to the predominance of smallholder dairy systems and localized marketing structures.

Overall, the findings indicate that non-remunerative milk pricing remains the most pressing marketing constraint, followed by limitations in marketing infrastructure and seasonal storage facilities. Strengthening organized milk marketing systems, ensuring fair and stable price mechanisms, and improving rural cold chain infrastructure are essential to enhance the economic viability of dairy farming.

General constraints

Results revealed that among the different general constraints faced by dairy farmers, lack of knowledge about silage preparation was found to be the most prominent constraint (73.85%), followed by poor irrigation facilities for growing fodder crops (20.00%), non-availability of improved fodder seeds (9.23%), distant location of A.I. centres (4.62%) and susceptibility of animals to diseases (3.08%) (Table 1). Lack of knowledge about silage preparation was observed as the dominant constraint, which is in agreement with the findings of *Dhondge (2024)* [6]. Similarly, *Reddy et al. (2024)* [7] also reported comparable constraints related to knowledge on balanced ration among dairy farmers, indicating a consistent pattern of knowledge gap in feeding management practices.

Poor irrigation facilities for fodder cultivation emerged as the second major constraint, while non-availability of improved fodder seeds and distant location of A.I. centres were reported by a relatively small pro

portion of respondents, suggesting comparatively better access to inputs and services in the study area. The findings related to improved accessibility of breeding services are in line with Patil *et al.* (2009) [3], indicating positive changes over time. Susceptibility of animals to diseases was reported by a very small proportion of respondents and is consistent with the observations of Dhondge (2024) [6], suggesting relatively better animal health management practices among the farmers.

Among the constraints faced by dairy farmers, high cost of concentrate feed, high cost of improved animals, non-remunerative milk prices, high veterinary service charges, and lack of knowledge about silage preparation arise as the major problems affecting dairy farming.

Conclusion

The study revealed that commercial dairy farmers in Buldana district faced several economic, technical, marketing and general constraints. High cost of concentrate feed, high cost of crossbred cows/improved buffaloes, high cost of veterinary medicines, expensive consultancy services of private veterinary practitioners, non-remunerative milk prices and lack of knowledge about silage preparation were the major constraints reported by the respondents. These constraints adversely affect the productivity and profitability of commercial dairy enterprises. Therefore, strengthening affordable veterinary services, improving access to quality feed and fodder, promoting scientific silage preparation, enhancing milk marketing facilities and ensuring adequate financial support are essential for improving the productivity, sustainability and profitability of commercial dairy farming in Buldana district.

Table 1. Constraints faced by commercial dairy farmers

Type	Constraints	Frequency	Per cent
Economic	High cost of concentrate	55	84.62
	High cost of crossbreed cow/ improved buffalo	48	73.85
	High cost of veterinary medicines	43	66.15
	High investment	16	24.62
	Difficult loan procedure	10	15.38
	Inadequate finance by the bank for purchasing milch animals	6	9.23
	Total	65	100.00
Technical	Lack of veterinary facilities in the village	10	15.38
	Highly expensive consultancy service of private practitioners	51	78.46
	Lack of availability of veterinary literature in the village	10	15.38
	Lack of technical knowledge to manage the dairy enterprise	7	10.77
	Poor conception rate in dairy animals	2	3.08
	Total	65	100.00
Marketing	Non-remunerative price for milk	49	75.36
	Poor marketing outlet of milk	9	13.85
	Difficulty in storing milk in the summer season	5	7.69
	Competition from established and large units	1	1.56
	Total	65	100.00
General	Distant location of A.I. centres	3	4.62
	Poor irrigation facilities for growing fodder crops	13	20.00
	Lack of knowledge about silage preparation	48	73.85
	Non-availability of improved fodder seeds	6	9.23
	Susceptibility of animals to diseases	2	3.08
	Total	65	100.00

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