P-ISSN: 2618-0723
E-ISSN: 2618-0731

NAAS Rating: 5.04
www.extensionjournal.com

International Journal of Agriculture Extension and Social Development

Volume 8; Issue 4; April 2025; Page No. 564-567

Received: 05-02-2025
Accepted: 09-03-2025

Indexed Journal
Peer Reviewed Journal

Exploring constraints in the adoption of dairy management practices by dairy farmers: A study in Uttarakhand

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DOI: https://www.doi.org/10.33545/26180723.2025.v8.i4h.1828

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Abstract

Dairy farming stands as a cornerstone of India's agricultural landscape, contributing significantly to the nation's economy and providing livelihoods to millions of rural households. However, despite its pivotal role, the adoption of modern dairy management practices remains a challenge for many Indian dairy farmers. In this context, understanding the constraints impeding the uptake of efficient dairy management practices is crucial for enhancing productivity, production efficiency and sustainability within dairy farming sector. This study was carried in purposively selected two districts of Kumaon Division of Uttarakhand state. Further, two blocks from each district were chosen purposively based on the highest number of dairy cooperative societies, and two villages were selected from each block. Thirty (30) dairy farmers were selected from each selected village through purposive sampling method applying criteria of possession of 2 or more dairy animals. Thus, total sample size for the present study was two hundred forty (n=240). The descriptive research design was followed for the study. The study found that major constraints faced by dairy farmers were: non-availability of vaccines (89.58 percent) under infrastructure constraints, low price of milk offered (79.17 percent) under financial constraints, lack of training facilities in dairy sector (100%) under technical constraints and inadequate information about government schemes related to dairy enterprise (88.33) under miscellaneous constraints. These findings will illuminate the blindspots in understanding the major factors affecting adoption of advanced dairy farming practices; and will be helpful to the dairy professionals, dairy cooperative societies and extension workers and policy advocates in formulating appropriate strategies for promotion of dairy farming.

Keywords: Constraints, dairy farming, dairy management practices, Kumaon division, dairy cooperative societies

Introduction

India is a global leader in milk production, boasting of a large livestock population and playing a vital role in rural livelihoods. However, despite its prominence, India's dairy sector has yet to fully realize its full potential. One of the key factors hindering the growth is the limited adoption of improved dairy management practices among farmers. This necessitates a closer look at the constraints faced by Indian dairy farmers in implementing these practices. Gamit *et al* (2021) [4] observed that animal husbandry has been an integral component of subsistence agriculture in rural India. In India, most of livestock belong to small farming community and carrying out traditional dairy practices. Karki and Ansari (2023) [6] reiterated that dairy farming plays a significant role in the rural economy by way of supplementing the income of rural households, particularly the marginal, small farmers and landless.

Dairy farming has been and continues to be a very important activity that is significant not only economic point of view but also nutritional importance too as a substitute food for the world's expending population. Dairy farming has been viewed as a lifeline in rural Uttarakhand region, where people have been doing dairy farming traditionally for their security of livelihood (Adhikari, *et al.*, 2020) [1]. This activity of setting up small-scale dairy and milk collection centers in Uttarakhand is a significant initiative that provides employment opportunities to the marginal and landless farmers across the state besides enhancing milk production and availability of milk (Department of Animal Husbandry, 2013) [14].

Uttarakhand is an agro-ecology rich state with a large number of fodder plants, vast forest area, grazing land and grass species, it also supports a large number of livestock population (Sati, 2016) [12]. Animals are reared by dairy farmers for various purposes – milk, meat and farm power; and they have high potential to develop and contribute in dairy farming. Due to these factors, the state has huge potential to produce milk; however, the more important question is why Uttarakhand dairy farmers still only contribute 1.12 percent to the dairy business, and the annual average income of dairy farmers in the state is 13,560/- only (ULDB, 2001) [15]. This is because farmers do not adopt improved dairy management practices at the desired level (Rajpoot *et al.*, 2018) [10].

While considerable research has been conducted on various aspects of dairy farming in India, there still exists a notable research gap concerning the constraints faced by dairy farmers in adopting modern management practices. Several factors contribute to the need for further research in this area. Karki *et al* (2023) [6] observed that among all the constraints faced by the farmers, technical constraints i.e. lack of advanced and updated knowledge and its adoption was the major constraints observed.

In view of the increasing demand for the milk and milk products, we need to increase the milk production per animal and also per capita milk availability so as to meet the requirement of ever-increasing population. Many problems/ constraints exist at different stages of milk production under field conditions. The identification of these constraints may help in bridging the adoption gap between dairy farmers and dairy management techniques (Rathod *et al.*, 2014) [11]. The present study was undertaken with the objective to identify the major constrains faced by dairy farmers in adopting dairy management practices.

Materials and Methods

The present study was carried out Kumaon division of Uttarakhand which was selected purposively. Two districts (namely, Nainital and U. S. Nagar districts) were selected following purposive sampling. These districts were selected based on the highest milk production in various district across the state. Two blocks (Haldwani and Ramnagar) from Nainital district and two blocks (Khatima and Rudarpur) from U. S. Nagar were selected purposively on the basis of maximum number of dairy cooperatives societies. Two villages (Naripur and Chorgaliya) from Haldwani block and two villages (Bhaguwa Bangar and Puchhdi) from Ramnagar block of Nainital district were selected; and two villages (Uchi mahuwa and Sarpur) from Khatima block and two villages (Narayanpur and Indarpur) from Rudarpur block of U. S. Nagar district were selected through random sampling. Thirty dairy farmers from each village were selected through purposive sampling, based on the criteria of possession of 2 or more than 2 mulch animals.

The study utilized descriptive research design. The main purpose of descriptive research design is to collect information about a particular target group and describe the existing scenario for further analysis.

Measures

Constraints faced by dairy farmer in adopting dairy management practices

The focus of the study was to identify the constraints faced by dairy farmers in adopting dairy management practices. Thus, a list of various constraints identified on the basis of a comprehensive review of literature was prepared, and it was included for the study related to dairy management practices. The review yielded 22 constraints which were grouped under four categories – Infrastructure constraints, Financial constraints, Technical constraints and miscellaneous constraints.

Tools and Techniques of Data Collection: Data was collected by a pre-tested structured interview schedule. The questions included were related to different constraints faced by the dairy farmers while adopting dairy management practices.

Statistical Tools Used for Data Analysis

The collected data was classified, tabulated, analyzed and interpreted with the help of statistical tools such as frequency, percentage, etc.

Results & Discussion

Constraints faced by dairy farmers in adopting dairy management practices

Constraints refer to the difficulties or problems faced by dairy farmers while adopting day to day dairy farming practices in the dairy enterprise. Here, the constraints studied were categorized under four categories such as infrastructural, financial, technical and miscellaneous constraints. The results obtained in respect of each of the constraints are presented in Tble-1.

a) **Infrastructural Constraints:** Results presented in Table 1 revealed that major constraints faced by respondents were non-availability of medicines (89.58%) followed by non-availability of emergency veterinary services by 75.83 percent respondents. The other constraints reported by the respondents were non-availability of green fodder throughout the year (66.66%), irregular and inadequate supply of cattle feeds (62.50%), non-availability of cattle feed and fodder seed on credit (51.67%) and shortage of milk preservation facility (20.83).

b) **Financial Constraints:** The results given in Table 1 revealed that 79.17 percent of respondents expressed low price of milk offered as the major constraint, followed by high cost of high yielding breeds of animals by 77.50 percent and high cost of concentrate and other feeds, and high cost of medicines faced by 62.50 percent respondents. The other financial constraints experienced were lack of loan facility (59.17%), high charges for emergency veterinary services (50%) and high charges for cattle insurance (41.67%).

c) **Technical Constraints:** The data in Table 1 indicate that all the respondents (100%) reported lack of training facilities in dairy sector as a major constraints followed by inadequate knowledge of diseases through prevention and control (69.58%), non-availability of veterinary hospitals (62.50), lack of knowledge about feeding and health care (55.83%), unavailability of labour (40%) and non-availability of artificial insemination facilities and timely veterinary services (34.58).

d) **Miscellaneous Constraints:** Table 1 reveals that most of the respondents (88.33%) reported main constraints like inadequate information about government schemes related to dairy enterprise followed by poor rapport with extension agencies (47.08%) and lack of cooperation and coordination among family members (15%).

Table 1: Distribution of the respondents according to infrastructure constraints (n=240)

Sr. No.	Infrastructural Constraints	Frequency	Percentage
1.	Non-availability of medicines in veterinary hospital	215	89.58
2.	Non-availability of emergency veterinary services	182	75.83
3.	Non-availability of green fodder throughout the year	160	66.66
4.	Irregular and inadequate supply of cattle feeds	150	62.50
5.	Non-availability of cattle feed and fodder seed on credit	124	51.67
6.	Shortage of milk preservation facility	50	20.83
Sr. No.	**Financial Constraints**	**Frequency**	**Percentage**
1.	Low price of milk offered	190	79.17
2.	High cost of high yielding breeds of animals	186	77.50
3.	High cost of concentrate and other feeds	150	62.50
4.	High cost of medicines	150	62.50
5.	lack of loan facility	142	59.17
6.	High charges for emergency veterinary services	120	50.00
7.	High charges for cattle insurance	100	41.67
Sr. No.	**Technical Constraints**	**Frequency**	**Percentage**
1.	Lack of training facilities in dairy sector	240	100.00
2.	Inadequate knowledge of diseases through prevention and control	167	69.58
3.	Non-availability of veterinary hospitals	150	62.50
4.	Lack of knowledge about feeding and health care	134	55.83
5.	Unavailability of labour	96	40.00
6.	Non-availability of artificial insemination facilities and timely veterinary services	83	34.58
Sr. No.	**Miscellaneous constraints**	**Frequency**	**Percentage**
1.	Inadequate information about government schemes related to dairy enterprise	212	88.33
2.	Poor rapport to extension agencies	112	47.08
3.	Lack of cooperation and coordination among family members	36	15.00

Discussion

The results obtained clearly revealed that most of the respondents faced serious problem of non-availability of medicines and emergency veterinary services under infrastructure constraints. It may be due to the fact that non-availability of veterinary hospital/ dispensary in study area. The findings of the present study are similar to Kale *et al*. (2011) [3], Tailor *et al*. (2012) [13] and Eqbal *et al*. (2013) [2]. It was reported that majority of the respondents faced various problems under financial constraints such as low price of milk offered, high yielding breeds of animals, concentrate and other feeds, medicines, lack of loan facility, high charges for emergency veterinary services, cattle insurance in dairy farming. Due to unavailability of concentrate feed in milk cooperative society which provided it to them at minimal price and they bought it from market at high cost. These findings are in line with Prasad *et al.* (2017) [8] and Rajpoot *et al.* (2018) [10]. Further, the findings of the study revealed that all the respondents faced various problems under technical constraints such as lack of training facilities in dairy sector as a major constraints followed by inadequate knowledge of diseases, non-availability of veterinary hospitals, lack of knowledge about feeding and health care, unavailability of labour and non-availability of artificial insemination facilities and timely veterinary services might be due to lack of awareness camps, regular technical guidance about scientific feeding, health care and management practices. The findings are supported by Gupta *et al*. (2017) [5]. The data clearly revealed that majority of the respondents faced serious problem under miscellaneous category such as inadequate information about government dairy schemes, poor rapport to extension agencies and lack of cooperation and coordination among family members. It might be fact farmers were hesitated talk to extension agents that leads to poor rapport and new generation were not support and cooperate dairy farming they were migrate to cities for jobs. The findings show similarity with the finding of Adhikari *et al.* (2020) [1].

Conclusion

India's dairy sector is characterized by a diverse array of farmers, ranging from smallholder subsistence farmers to large-scale commercial operations. While dairy farming offers immense potential for income generation and poverty alleviation, numerous socio-economic, infrastructural, financial, and regulatory constraints hinder the transition towards more advanced management practices.

Based on the study findings, we may conclude that dairying was one of the major activities performed by dairy farmers in Kumaon division of Uttarakhand for their livelihood security in consistent manner. The present study provided a comprehensive view of constraints faced by dairy farmers in Kumaon division of Uttarakhand. Among all the constraints encountered by dairy farmers were unavailability of vaccines, low price of milk offered, lack of training facilities in dairy sector, inadequate or lack of information about government schemes. This study also suggested that efforts are needed for generating mass awareness among dairy farmers on different aspect of improved dairy farming practices as they act as the crucial link for other dairy farmers. Further, it is also highlighted that there is still more work to be done in terms of expanding access to animal feed and fodder, breeding improvements for animals, and knowledge of dairy farmers about dairy related government programmes, schemes and subsidies. Besides, dairy farmers in the Uttarakhand can also increase their profits from dairy with better pricing and reliable veterinary care.

Addressing these constraints requires a comprehensive approach that encompasses policy interventions, institutional reforms, and targeted support mechanisms

tailored to the diverse needs of Indian dairy farmers. By addressing constraints/ challenges hindering the adoption of modern dairy management practices, India can unlock the full potential of its dairy sector, fostering sustainable growth, improving livelihoods, and ensuring food security for millions.

References

1. Adhikari B, Chauhan A, Bhardwaj N, Kameswari VLV. Constraints faced by dairy farmers in hill region of Uttarakhand. Indian J Dairy Sci. 2020;73(5):464-470.
2. Eqbal MS, Singh MK, Khan N. Constraints faced by tribal dairy farmers regarding dairy farming practices in Lohardaga district of Jharkhand. Int J Sci Res. 2013;2(6):247.
3. Kale SM, Adangal SB, Choudhari DM. Constraints faced by the dairy farmers of Wai Tehsil of Satra district. Res J Anim Husbandry Sci. 2011;2(1&2):69-70.
4. Gamit VV, Odedra MD, Ahlawat AR, Prajapati VS, Patel HA, Gamit KC, *et al*. Constraint faced by dairy farmers in different state of India: An overview. J Entomol Zool Stud. 2021;9(1):1901-1906.
5. Gupta BS, Somvanshi SPS, Jain VK, Trivedi HK. Problem faced by dairy farmers of district Ashoknagar grid zone adopting animal management practices. Plant Arch. 2017;17(2):1739-1742.
6. Karki P, Ansari MA. Dairy farmers' knowledge of improved dairy farming practices: A study in Kumaon division of Uttarakhand. Pharm Innov J. 2023;12(1):2944-2948.
7. Karki P, Amardeep, Ansari MA, Kameswari VLV, Adhikari YS. A study on constraints faced by farmers in drip irrigation in Nainital district of Uttarakhand. Pharm Innov J. 2023;12(1):1715-1717.
8. Prasad K, Savale S, Mahantesh MT, Pavan M, Barman D, Abraham J. Socio-economic profile and constraints faced by dairy farmers of Wayanad District, India. Int J Curr Microbio Appl Sci. 2017;6(6):870-874.
9. Rajadurai A, Rajaganapathy V, Ganesan R, Ponnuvel P, Natchimuthu K, Sreekuma D, *et al*. Constraints faced by dairy farmers in Puducherry. Int J Adv Res Biol Sci. 2018;5(2):96-99.
10. Rajpoot JS, Kirad KS, Badaya AK, Chauhan SS. Constraints faced by dairy farmers while adopting animal management practices in Dhar District of Madhya Pradesh, India. Int J Curr Microbio [1] Appl Sci. 2018;7(1):3163-3166.
11. Radhod P, Balra S, Dhanraj G, Madhu R, Chennaveerappa, Ajith MC. Knowledge level of dairy farmers about artificial insemination in Bigar district of Karnataka. Vet Res Int. 2014;2(2):46-50.
12. Sati P. Livestock farming in the Uttarakhand Himalaya, India: use pattern and potentiality. Curr Sci. 2016;111:1955-1960.
13. Tailor R, Meena GL, Sharma L, Sharma FL. Constraints faced by the tribal farmers in dairy farming in Udaipur district. Rajasthan J Ext Edu. 2012;20(1):187-189.
14. Department of Animal Husbandry, Government of India. ahd.uk.gov.in; c2013 [updated 2024 Apr 3; cited 2025 Apr 24]. Available from: https://ahd.uk.gov.in/.
15. Uttarakhand Livestock Development Board uldb.org; c2001 [cited 2025 Apr 24]. Available from: http://www.uldb.org/.