



International Journal of Research in Agronomy

E-ISSN: 2618-0618
P-ISSN: 2618-060X
© Agronomy
NAAS Rating (2025): 5.20
www.agronomyjournals.com
2025; SP-8(11): 353-356
Received: 05-09-2025
Accepted: 07-10-2025

Ashish B Mahera
Assistant Professor & Head,
Department of Marketing
Management, International
Agribusiness Management
Institute, Anand Agricultural
University, Anand, Gujarat, India

RS Pundir
Principal & Dean, International
Agribusiness Management
Institute, Anand Agricultural
University, Anand, Gujarat, India

Corresponding Author:
Ashish B Mahera
Assistant Professor & Head,
Department of Marketing
Management, International
Agribusiness Management
Institute, Anand Agricultural
University, Anand, Gujarat, India

An insight into the prevailing healthcare, housing and other management problems faced by dairy farmers: A case from middle Gujarat

Ashish B Mahera and RS Pundir

DOI: <https://www.doi.org/10.33545/2618060X.2025.v8.i11Se.4282>

Abstract

Livestock rearing remains crucial to the livelihood of rural populations and nutritional security. Management practices affect the productivity and profitability of dairy farming. The current research was conducted in the Middle Gujarat region to determine the significant problems encountered by dairy farmers in the areas of healthcare, housing, and overall management. A sample size of 320 respondents was used from four districts: Kheda, Anand, Panchmahals, and Mahisagar. A structured interview schedule was used to collect data, and the Henry Garrett ranking was used for the study. The results revealed that the most urgent health problem was mastitis, followed by a lack of knowledge about deworming and vaccination, ecto-parasite problems, and the cost of veterinary services. The most significant issues were in the housing areas, including the high cost of construction, the lack of own capital, and high interest rates on loans. The primary management issues were low milk prices, low fat levels in milk, low productivity, poor adaptation of animals to the local environment, labour shortages and a subsequent deterioration in access to grazing land. The study highlights the necessity of specific interventions, such as training farmers in preventive healthcare, promoting low-cost housing designs, and facilitating access to institutional credit. These limitations need to be addressed to improve the productivity, profitability, and sustainability of dairy farming in the area in the long run.

Keywords: Healthcare, housing, management, dairy farming, vaccination, deworming

Introduction

For most rural residents, dairy animal husbandry has long been a significant source of income and a key contributor to nutritional stability. Breeding, feeding, housing, and health-care management are the four main facets of animal husbandry practices that have a significant impact on the productivity of dairy animals (Yankam & Bhanotra, 2018; Meena *et al.*, 2016; Yadav *et al.*, 2014) ^[11, 2, 10]. Dairy farmers, on the other hand, frequently work with limited resources, which leads to several limitations in both production and marketing, ultimately decreasing animal productivity (Singh *et al.*, 2017) ^[9]. Dairy farmers often face issues in health care management, such as inadequate disease knowledge (Pata *et al.*, 2018; Singh *et al.*, 2017) ^[4, 9], high cost of veterinary medicine (Patel & Sabapara, 2023; Singh *et al.*, 2017) ^[6, 9], the problem of mastitis (Patel & Sabapara, 2023; Pata *et al.*, 2018; Singh *et al.*, 2017) ^[6, 4, 9], etc. For Housing management, farmers face problems such as a lack of their own capital, insufficient space, and limited access to credit facilities (Patel & Sabapara, 2023; Singh *et al.*, 2017) ^[6, 9]. These kinds of problems in dairy farming lead to a reduction in the overall profitability of dairy farming. Therefore, it is advisable to identify the problems in dairy farming and address them to make the industry a viable enterprise. The present study was conducted to identify the healthcare, housing, and other management problems faced by dairy farmers in Middle Gujarat.

Materials and Methods

Sampling Design

This study was conducted in Middle Gujarat to analyse healthcare, housing and other management problems among dairy farmers. A multistage random sampling technique was employed to select 320 respondents. Four districts, namely Kheda, Anand, Panchmahals, and

Mahisagar, were selected, with two talukas from each district, resulting in a total of eight talukas. From each taluka, four villages with significant populations of milch animals were identified, resulting in a total of 32 villages. Ten farmers were randomly selected from each village, forming a total sample of 320 respondents.

Problems faced by the farmers

Dairy farmers face numerous challenges in healthcare, housing, and other management areas. These problems were studied to see the pertinent problems in the study area. Henry Garrett's ranking technique was employed to examine the problems faced by farmers.

Garrett Ranking Technique

As per this method, respondents were asked to assign the rank of all problems, and the outcomes of such ranking were converted into a score value with the help of the following formula:

$$\text{Percent Position} = \frac{100 (R_{ij} - 0.5)}{N_j}$$

Where,

R_{ij} = Rank given for the i^{th} variable by the j^{th} respondent

N_j = Number of variables ranked by the j^{th} respondent

With the help of Garrett's Table, the percent position estimated was converted into scores. Then, for each factor, the scores of each individual were added, and the total value of scores and the mean value of scores were calculated. The factor with the highest mean value was considered the most critical factor (Garret & Woodworth, 1969) [1].

Results and Discussion

Healthcare, Housing, and other Management Problems faced by Dairy Farmers were studied in Middle Gujarat, involving a total of 320 dairy farmers, to meet the stipulated objective.

1. Problems Faced by Farmers in Healthcare Management

Effective and timely healthcare management is crucial for maintaining animal productivity and minimising economic losses. However, farmers face several challenges in the overall management of their livestock's healthcare. Healthcare-related problems are given in Table 1 as reported by the surveyed farmers.

Table 1: Problems faced by farmers in healthcare management (n=320)

Healthcare Problems Faced by Farmers	Garrett Mean Score	Rank
High incidence of Mastitis	75.87	1
Lack of awareness of deworming of milch animals	63.77	2
Lack of awareness about vaccination against the disease	56.33	3
High incidence of diseases caused by ecto-parasites	53.99	4
High cost of veterinary service	49.14	5
High incidence of diseases	48.05	6
Poor awareness of diseases and their control	44.83	7
Unavailability of timely veterinary services	34.52	8
Isolation of sick animals	23.50	9

Source: Field survey

The most critical healthcare problem reported by surveyed farmers was the high incidence of mastitis, which was ranked as the top concern. Mastitis, an inflammatory condition of the udder commonly caused by bacterial infection, significantly reduces milk yield and quality. It was found that mastitis was particularly prevalent in high-yielding crossbred cows and buffaloes under poor hygiene and milking conditions. Mastitis is one of the leading diseases affecting dairy cattle, primarily due to a lack of awareness about clean milking practices and irregular screening for subclinical cases, resulting in significant economic losses. Similar results were reported by Patel & Sabapara (2023) [6]; Pata *et al.* (2018) [4]; Singh *et al.* (2017) [9], and Patel *et al.* (2013) [5].

The second major problem was the lack of awareness regarding the deworming of milch animals. Regular deworming is crucial in preventing parasitic infections, which can significantly impact animal health and productivity. However, many farmers were unaware of the importance of regular deworming. Generally, deworming is done before and after the monsoon in animals. Even though there were many cases of calf mortality reported because of worm infestation. Similar results were reported by Meena *et al.* (2020) [3], who identified deworming as a significant issue among milk producers.

The third and fourth ranked problems were a lack of knowledge about vaccination and a high incidence of diseases caused by ecto-parasites, respectively. These findings suggest that although the government implements vaccination programs for diseases like FMD and HS, farmers may not be fully informed about their

importance or schedules. Additionally, ecto-parasites like ticks and lice are commonly found in dirty sheds and on poorly groomed animals, leading to anaemia, skin diseases, and transmission of blood-borne pathogens. Primarily, crossbred animals experienced numerous problems due to ectoparasites, which led to protozoan diseases. Even indigenous animals were infested by ectoparasites, such as lice and mites. Many agencies were conducting extension activities; however, there is still scope for improvement in the awareness of deworming and vaccination among farmers. Similar findings were reported by Patel & Sabapara (2023) [6] and Pata *et al.* (2018) [4].

The fifth problem reported by the farmers was the high cost of veterinary services. It was observed that cooperative dairies in the study area were providing both normal and emergency veterinary services. However, the price was nominal compared to the actual cost of the treatment, as the farmers were members of cooperatives, and veterinary services for the animals were available at a very low rate. Private veterinarians and non-veterinarians were observed charging higher fees for animal treatment compared to cooperative dairy veterinary services.

The high incidence of diseases ranked sixth, while poor knowledge of diseases and their control ranked seventh. This suggests that while disease occurrence is a concern, a significant issue is the limited understanding among farmers about disease symptoms, transmission, and management. It was observed that crossbred cows experienced more disease problems, including those caused by heat stress, ectoparasites, protozoan and other diseases.

The eighth-ranked issue was the unavailability of timely veterinary services. Farmers often face challenges and delays in accessing veterinary services, particularly during the monsoon season when field health issues are more prevalent. Otherwise, it was observed that the milk cooperatives had an excellent network of veterinary services, and the government also had its veterinary machinery working in the field. Lastly, isolation of sick animals ranked ninth. Many farmers reported that they had less space in their cattle sheds, making it impossible to isolate the animals.

2. Problems Faced by Farmers in Housing Management

Housing is one of the vital criteria in livestock production. It provides rest and comfort to the animals by offering a safe and comfortable environment. Many dairy farmers, particularly small and marginal farmers, face challenges related to housing. A perusal of Table 2 reveals the farmers' perceptions of housing-related problems in the study area.

Table 2: Problems faced by farmers in housing management (n=140)

Healthcare Problems Faced by Farmers	Garrett Mean Score	Rank
High construction cost	67.55	1
Lack of own capital	59.39	2
High interest rate	50.41	3
Lack of adequate space	43.17	4
Lack of credit facility	29.48	5

Source: Field survey

The first problem identified was the high construction cost of the animal shed. Constructing proper cattle sheds incurs a considerable investment. Most farmers were unable to afford such infrastructure due to the rising costs of building materials and labour; furthermore, most dairy farmers had fewer financial resources, as they were small and marginal categories of farmers. Similar issues have been reported by earlier authors,

such as Sabapara (2016) ^[7], Pata *et al.* (2018) ^[4], and Patel & Sabapara (2023) ^[6].

The lack of own capital was the second-ranked problem. Many dairy farmers had very little personal savings to invest in shed construction. So, the farmers rely heavily on external sources, which were not always readily accessible or cost-effective. High interest rate on loans was the third-ranked problem. Even when farmers manage to access loans through banks or private sources, the cost of borrowing is often high. The lack of adequate space for housing animals was the fourth most significant problem. With fewer landholding sizes, farmers usually struggle to allocate sufficient space for proper housing. This leads to overcrowding, poor ventilation, and increased risk of disease transmission among animals. Finally, lack of access to formal credit facilities was the fifth-ranked issue. It was found that despite several schemes and subsidies promoted by the central and state governments, lengthy procedures, lack of documentation, and limited banking availability restrict the farmers' ability to benefit from institutional finance. This problem is particularly observed amongst small and marginal farmers. Overall, the dairy farmers in the study area were facing challenges related to housing infrastructure and financial access. There is a clear need for policy interventions to provide low-cost housing models, promote credit awareness, and facilitate easier access to low-interest institutional loans.

3. Problems Faced by Farmers in the General Management of Dairy Farming

In addition to the problems discussed above, farmers also faced other general management issues. It involved a wide range of factors, including animal husbandry practices, milk production, labour management, and the adaptability of livestock to local conditions. The results of general management problems, as reported by dairy farmers, are given in Table 3.

Table 3: Problems faced by farmers in general management (n=320)

General management problems faced by farmers	Garrett Mean Score	Rank
Low milk prices	70.41	1
Low-fat content in milk	56.35	2
Low milk production by milch animals	49.02	3
Low suitability of the animal to the local environment	48.98	4
Longer dry period for milch animals	48.37	5
Labour problem	42.57	6
Availability of grazing land near the village	36.31	7

Source: Field survey

The first general management problem found was the low milk prices. Despite high production costs, farmers often receive low prices for their milk. Farmers in the study area mainly raised crossbred cows, and indigenous cows reported this issue. The lower price was due to the low fat and solid-not-fat (SNF) content of the cow's milk. Even the buffalo owner reported that they were receiving a lower price compared to selling milk directly to consumers. Low fat content in milk ranked as the second problem. This problem was mainly reported in crossbred and indigenous cows. Similar results were reported by Satashia & Pundir (2021) ^[8], highlighting low milk prices as the major problem faced by the respondents. Fat and SNF content directly affect the price paid to the farmer, particularly in cooperative and private dairy systems where payment is made based on fat and SNF content of milk. However, poor feeding practices, inadequate nutrition, and the genetic makeup of animals are significant factors contributing to low milk fat content.

The third-ranked problem was low milk production by milch animals. Productivity depends on several interlinked factors, such as breed, feeding management, healthcare, and housing management. In the study area, indigenous breeds and non-descript animals were still common, which produce lower milk yields. So, mainly, the indigenous animals produced less milk compared to crossbred cows. The fourth problem reported was the low suitability of animals to the local environment. It was observed that exotic and crossbred milch animals, despite their higher milk yield, often face challenges in adapting to the local climate, diseases, parasites and protozoan problems, resulting in stress, health issues, and reduced performance. The situation is particularly relevant in Gujarat's hot and semi-arid regions, where high temperatures and water scarcity are typical. Longer dry period in milch animals was identified as the fifth-ranked problem in the study area. A prolonged dry period, during which animals do not produce milk, results in a reduced

annual yield and lower income. Poor reproductive efficiency, health issues, and nutritional issues can cause this. Buffaloes and indigenous cow farmers reported this issue more in the study area. Labour problems ranked sixth. With increased migration to urban areas, younger generations are losing interest in dairy work. Finding reliable and skilled labour is a big problem. Lastly, the availability of grazing land near villages was ranked seventh. Due to urbanisation and agricultural expansion, there is limited access to free grazing land. It was observed in the study area that although many village panchayats have grazing land, they were not cultivating pasture for the animals to graze. This has forced farmers to depend more on stall feeding.

The following suggestions may be adopted to resolve some problems based on field experience and review of the literature: (1) Mastitis control should be emphasized through practices like teat dipping, proper udder hygiene, and soft bedding to prevent injuries. (2) Ectoparasite control measures should be actively promoted to prevent related infections. (3) Healthcare management practices, including deworming, vaccination, and grooming, should be promoted. This can be achieved through regular training programs, printed guidelines, and mobile applications that offer easy access to best practices.

Conclusion

This study on the problems faced by dairy farmers in healthcare, housing and other management reveals that Mastitis was a significant health problem, especially in crossbred cows and buffaloes. Farmers demonstrated a poor understanding of vaccination and deworming practices, leading to preventable diseases and calf mortality. Other issues included high veterinary costs, limited disease knowledge, frequent disease outbreaks, and delayed veterinary services. Failure to isolate sick animals further increased disease transmission. High construction costs and limited personal capital hindered the development of proper animal housing. Farmers also faced high loan interest rates, space constraints, and poor access to formal credit, making infrastructure improvement difficult. Low milk prices due to low fat and SNF content, poor milk yields, and low adaptability of crossbred and exotic breed animals to local conditions were significant concerns. Prolonged dry periods reduced annual milk output. Labour shortages and reduced village grazing land due to urbanisation added to the challenges faced by dairy farmers.

Acknowledgement

The authors gratefully acknowledge the support extended by Anand Agricultural University and all the dairy farmers for their cooperation in the study.

Conflict of Interest: None

References

1. Garrett HE, Woodworth RS. Statistics in psychology and education. Bombay: Vakils, Feffer and Simons Pvt. Ltd.; 1969.
2. Meena BS, Verma HC, Singh A. Farmers' knowledge on productive and reproductive performances of buffalo under smallholder farming system. *Buffalo Bull.* 2016;35(1):101-8.
3. Meena S, Meena GL, Mordia A. Constraints faced by milk producers in dairy farming in Bhilwara district. *J Pharmacogn Phytochem.* 2020;9(3S):43-5.
4. Pata BA, Odedra MD, Savsani HH, Ahlawat AR, Patbandha TK, Marandi S. Constraints faced by buffalo owners in

Junagadh and Porbandar districts of Gujarat. *J Anim Res.* 2018;8(6):1081-5.

5. Patel NB, Saiyed LH, Rao TKS, Singh RR, Modi RJ, Sabapara GP. Status and constraints of dairying in the tribal households of Narmada valley of Gujarat, India. *Anim Sci Rep.* 2013;7(3):83-9.
6. Patel PC, Sabapara GP. Constraints faced by dairy farmers for adoption of improved dairy husbandry practices in Valsad district of Gujarat. *Indian J Anim Prod Manag.* 2023;37(1):7-11.
7. Sabapara GP. Constraints of dairy farming in coastal areas of Southern Gujarat. *Indian J Anim Prod Manag.* 2016;32(1-2):91-4.
8. Satashia M, Pundir RS. Marketing efficiency of milk marketing channels in middle Gujarat and scope for its improvement. *Indian J Agric Econ.* 2021;76(4):574-604.
9. Singh RR, Chaudhary SS, Patel NB, Singh VK. Constraints in adoption of various dairy animal management practices in the coastal area of South Gujarat. *Indian J Vet Sci Biotechnol.* 2017;12(4):57-9.
10. Yadav ML, Rajput DS, Chand S, Sharma NK. Constraints in livestock management practices perceived by tribal livestock owners of Banswara district of Rajasthan. *Indian Res J Ext Educ.* 2014;14(4):37-41.
11. Yankam SR, Bhanotra A. Health management and clean milk production practices followed by dairy farmers of Nanded district of Maharashtra, India. *Int J Curr Microbiol Appl Sci.* 2018;7(4):3592-8.