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Original Research

# Analysis of Constraints Faced by Dairy Farmers of Western Plain Zone of Punjab

**Tegdeep Singh Brar[1], Y. S. Jadoun[2]*, Rajesh Kasrija[3] and Parminder Singh[4]**

[1]M.V.Sc. Scholar, Department of Veterinary & Animal Husbandry Extension Education, Guru Angad Dev Veterinary and Animal Sciences University (GADVASU), Ludhiana, Punjab, INDIA
[2]Assistant Professor, Department of Veterinary & Animal Husbandry Extension Education, Guru Angad Dev Veterinary and Animal Sciences University (GADVASU), Ludhiana, Punjab, INDIA
[3]Associate Professor, Department of Veterinary & Animal Husbandry Extension Education, Guru Angad Dev Veterinary and Animal Sciences University (GADVASU), Ludhiana, Punjab, INDIA
[4]Associate Director, KVK, Mohali, Punjab, INDIA

*Corresponding Author: ysvet1203@gmail.com

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## Abstract

*The present study was carried out to find out constraints faced by the dairy farmers involved in dairy farming. The study was conducted in Ferozepur and Tarn Taran districts of western plain zone of Punjab in the six selected village clusters. Total sample size of 150 dairy farmers was selected for the study. Garrett's ranking technique was used to prioritize the different constraints in terms of their mean score. The study revealed that "lack of knowledge about schemes of A.H department (65.94)", "lack of knowledge about value addition of milk and its products (67.36)", "low economic gain from dairy enterprise (69.77)", "difficulty in marketing of milk and milk products (63.42)", "lack of know about mobile applications related to dairy farming practices" (69.51) were perceived as major constraints by dairy farmers. Hence, there is a need to resolve these constraints immediately for betterment and improving the socio-economic status of dairy farmers.*

**Keywords:** Constraints, Dairy Farmers, Dairy Farming Practices, Western Plain Zone

## Introduction

India is the world leader in milk production but its potential is not fully explored to the extent. Dairying is most important component of economic and social life of the rural masses in Punjab. Among all the possible livestock enterprises dairy farming is most popular and successful enterprise. Dairy sector contributes significantly in spawning employment opportunities and supplementing the income of small and marginal farmers. In recent years, the dairy sector has emerged as a most significant source of rural employment and income in the country. Dairy development has important role not only in generating employment and augmenting livelihood opportunities of rural people but also improving the nutritional security of the people. The average milk yield in Punjab increased by 50.14 per cent between years 2012 and 2019. The state now has the highest per capita milk availability in the country at 1,181 gram per day against the national average of 374 gram (20$^{th}$ Livestock census, 2019). In spite of the outstanding growth in milk production during the past few decades, productivity of dairy animals continues to remain very low and dairy farmers face different challenges in infrastructural, technical, economic, marketing and communicational constraints which are a major concern hampering further development of the dairy industry.

Constraints imply the problems or difficulties faced by dairy farmers while adopting animal husbandry practices in their dairy enterprise. If these constraints are identified, they are helpful to bridge the gap between dairy technology and its adoption by dairy farmers. By evaluating these constraints faced by dairy farmers, the production & productivity of dairy animal can be improved. Hence, the present study was carried out with an objective to explore various constraints perceived by dairy farmers in access of good dairy farming practices in western plain zone (WPZ) of Punjab.

## Materials and Methods

The present study was conducted in western plain zone (WPZ) of Punjab from which, Ferozepur and Tarn Taran district were selected purposively based on the maximum number of dairy animals, well developed infrastructure for dairy development and availability of potential dairy farmers.

**Table 1:** List of selected villages and respondents

| Districts | Blocks | Villages | Respondents |
|---|---|---|---|
| Ferozepur | 1. Ferozepur | Ajitnagar | 25 |
| | | Asal | |
| | | Rakhri, | |
| | | Nathuwala | |
| | 2. Zira | Ratoulbet | 25 |
| | | Mansoor Deva | |
| | | Botiawala | |
| | | Santu wala | |
| | 3. Guruharsahai | Chugga | 25 |
| | | Kahan Singh Wala | |
| | | Bagguwala | |
| | | Sher Mohammad | |
| Tarn Taran | 4. Patti | Surwind, | 25 |
| | | Booh Havellia | |
| | | Aladeenpur | |
| | | Thathian Khurd | |
| | 5. Tarn taran | Narangabad | 25 |
| | | Jodhpur | |
| | | Bakipur | |
| | | Usma | |
| | 6. Khadoor sahib | Khauspur | 25 |
| | | Kakh | |
| | | Jhandar | |
| | | Govindwal Sahib | |

From each district 3 blocks were selected and out of 2 selected districts total 6 blocks were identified randomly and

from each block cluster of 4 villages were selected. Potential dairy farmers in these village clusters were identified with help of Veterinary officer's, extension officers and key informants & representative sample of 25 farmers was randomly selected from four villages in each block giving a total sample size of 150 respondents for the study (Table 1). To analyse various constraints faced by dairy farmers, a structured interview schedule was developed under sub-heads namely; infrastructural, technical, economic marketing and communicational constraints. The data were collected by face-to-face interview using pre-tested structured schedule. Garrett's ranking technique was used to prioritize the different sets of constraints in terms of their mean score.

According to Garrett's ranking technique, the respondents were asked to enumerate and assign ranks to different constraints, which were used for prioritization of constraints. Orders of merit as given by the respondents were converted into rank, by using the following formula:

$$\text{Percent position} = \frac{100\ (R_{ij} - 0.50)}{(N_j)}$$

Where,

Rij = Rank given for $i^{th}$ problems by $j^{th}$ individual.
Nj = number of problems ranked by the $j^{th}$ individual.

The percent position of each rank was then converted into scores, by referring to the table, as given by Garrett. The scores of individual respondents for a particular problem were added and divided by the total number of respondents. The mean scores for all the constraints were arranged in descending order and thus, rank were assigned to prioritize the constraints.

## Results and Discussion

The important constraints as faced by the dairy farmers of western plain zone (WPZ) of Punjab were ranked and discussed under the categories of infrastructural, technical, economic, marketing and communicational constraints. These constraints were calculated and ranked on the basis of their mean score obtained through Garret's ranking technique.

### Infrastructural Constraints

The data presented in table 2, revealed that under infrastructural constraints 'lack of knowledge about schemes of A.H department' (mean score: 65.94), 'lack of storage and preservation facility of milk and milk by products' (mean score: 62.81) and 'lack of space for modern dairy farm' (mean score: 60.16) were perceived as more severe and ranked $1^{st}$, $2^{nd}$ and $3^{rd}$. These results were in line with findings of Rathod *et al.* (2009) and Prasad *et al.* (2019) who reported that majority of the respondents were not aware of schemes of A.H. department and lack of storage facility for milk and milk by products.

**Table 2:** Infrastructural constraints perceived by dairy farmers (n=150)

| S. No. | Infrastructural Constraints | Mean score | Rank |
|---|---|---|---|
| 1 | Non availability of advanced dairy equipment's in the research locale | 59.39 | IV |
| 2 | Lack of space for modern dairy farm | 60.16 | III |
| 3 | Facility of veterinary services | 39.48 | VIII |
| 4 | Lack of training institute in the research locale | 46.29 | VII |
| 5 | Cost of veterinary medicine is very high | 48.03 | VI |
| 6 | Absence of milk testing facilities in study area | 56.98 | V |
| 7 | Lack of water resources at farm for routine operations | 39.09 | IX |
| 8 | Lack of storage and preservation facility for milk and milk by-products | 62.81 | II |
| 9 | Lack of knowledge about schemes of A.H department | 65.94 | I |

The other constraints such as 'non-availability of advanced dairy equipment's in the research locale' (mean score: 59.39), 'absence of milk testing facilities in study area' (mean score: 56.98), 'cost of veterinary medicine is very high' (mean score: 48.03), 'Lack of training institute in the research locale' (mean score: 46.29), 'facility of veterinary services' (mean score: 39.48) and 'lack of water resources at farm for routine operations' (Mean score: 39.09) were ranked 4th, 5th, 6th, 7th, 8th and 9th, respectively. These findings are in line with the findings of Nachimuthu (2002). From the above findings it can be concluded that lack of training institute in the research locale, lack of knowledge about schemes of A.H department and absence of milk testing facilities in study area were highlighted a major constraint. Therefore, there is a need to provide the basic infrastructural facilities such as; availability of training institute, dairy equipment's facilities, milk testing facilities, milk storage and preservation facilities, disease diagnostic facilities to the dairy farmers in their area so that they can run their dairy enterprise in a smooth and sustainable manner.

**Technical Constraints**

The results presented in the table 3 revealed that, 'lack of knowledge about value addition of milk and milk by products' (mean score: 67.36) was perceived as most important constraint and ranked first. 'Lack of regular technical guidance facilities from experts' (mean score: 62.53); and 'lack of knowledge about scientific housing practices' (mean score: 59.70); were ranked second and third most important constraints faced by dairy farmers. These results were supported by Rao *et al.* (2013) who also reported that non-remunerative price of milk and lack of preservation facilities for milk was main constraints in milking practices.

The other constraints includes; 'lack of knowledge about feeding of balanced ration to the animals' (mean score: 55.86); 'lack knowledge about clean milk production' (mean score: 55.02), 'lack knowledge about deworming and vaccination schedule' (mean score: 46.45), 'lack of technical 'know how' about management of dairy units' (mean score: 43.36), and 'unavailability of Artificial Insemination (A.I) centres in the study area' (mean score: 41.68), were ranked as 4th, 5th, 6th, 7th and 8th respectively, on the basis of their mean score among the various technical constraints. These constraints may be attributed because lack of proper technical guidance well in time, low mass media exposure and low extension contact by the respondents, which are in agreement with the findings of Singh *et al.* (2004) and Tiwari *et al.* (2003).

**Table 3:** Technical constraints perceived by dairy farmers (n=150)

| S. No. | Technical Constraints | Mean score | Rank |
|---|---|---|---|
| 1 | Lack of technical 'know how' about management of dairy units | 43.36 | VII |
| 2 | Lack of regular technical guidance facilities from experts | 62.53 | II |
| 3 | Lack of knowledge about feeding of balanced ration to the animals | 55.86 | IV |
| 4 | Lack of knowledge about scientific housing practices | 59.7 | III |
| 5 | Lack knowledge about clean milk production | 55.02 | V |
| 6 | Lack knowledge about deworming and vaccination schedule | 46.45 | VI |
| 7 | Lack of knowledge about value addition of milk and milk by-products | 67.36 | I |
| 8 | Unavailability of Artificial Insemination (A.I) centres in the study area | 41.68 | VIII |

These constraints may be sorted out by organizing animal welfare and awareness camps, regular technical guidance about scientific breeding, feeding, healthcare and management practices through telephone helpline, radio, T.V. and various other social media tools.

**Economic Constraints**

The data presented in table 4 revealed that under economic constraints "low economic gain from dairy enterprise" (mean score: 69.77) was perceived as most severe constraint. Similar result was depicted by Manoharan *et al.* (2003) who reported the low economic gain from dairy enterprise which might be due to high cost of animals, feed and fodder etc. may increase the production cost and hence there was low economic gain from dairying.

**Table 4:** Economic constraints perceived by dairy farmers (n=150)

| S. No. | Economic Constraints | Mean score | Rank |
|---|---|---|---|
| 1 | Lack of credit facilities | 61.17 | II |
| 2 | High-cost land | 50.95 | V |
| 3 | High cost of feed and fodder | 55.05 | III |
| 4 | High-cost elite breeds for dairy animals | 53.15 | IV |
| 5 | Low economic gain from dairy enterprise | 69.77 | I |
| 6 | High cost of transportation | 43.6 | VII |
| 7 | Limited subsidies by government for starting of dairy enterprise | 47.46 | VI |

The other constraints such as 'lack of credit facilities' (mean score: 61.17) and 'high cost of feed and fodder' (mean score: 55.05) were always an issue for farmers when they want to start a dairy enterprise were perceived as 2nd and 3rd most important constraints. The other constraints such as 'high-cost elite breeds for dairy animals' (mean score: 53.15), 'high-cost land' (mean score: 50.95), 'limited subsidies by government for starting of dairy enterprise' (mean score: 47.46) and 'high cost of transportation' (mean score: 43.60) were ranked 4th, 5th, 6th and 7th respectively on the basis of their severity on the basis of their mean score. These findings are in line with Sarker and Ghosh (2010) and Minhaj *et al* (2019), who reported that high cost of feed and mineral mixture was perceived as most serious constraint followed by high cost of fodder and non-availability of pastures.

**Marketing Constraints**

Market plays an important role in diffusion and adoption of new technology. From table 5, it is interpreted that "difficulty in marketing of milk and milk products" (mean score: 63.42) was perceived as most serious constraint by the dairy farmers. Hence it is suggested that there should be improved marketing system, so that milk producers will not face difficulty in marketing of milk and milk products.

**Table 5:** Marketing constraints perceived by dairy farmers

| S. No. | Marketing Constraints | Mean score | Rank |
|---|---|---|---|
| 1 | Difficulty in marketing of milk and milk products | 63.42 | I |
| 2 | Lack of knowledge about marketing strategies | 59.15 | II |
| 3 | Less knowledge about marketing channel of milk and milk products | 50.69 | IV |
| 4 | Interferences of middle man in supply chain management | 48.47 | V |
| 5 | Distress sale due to perishable nature of milk and milk products | 55.25 | III |

The other constraints were 'lack of knowledge about marketing strategies' (mean score: 59.15); and 'distress sale due to perishable nature of milk and milk products' (mean score: 55.25) were found to be the second and third most serious constraints followed by 'less knowledge about marketing channel of milk and milk products' (mean score: 50.69) and 'interferences of middle man in supply chain management' (mean score: 48.47) were ranked as 4th and 5th constraints, respectively on the basis of their mean scores.

**Communicational Constraints**

The data presented in Table 6 indicated that among communicational constraints "lack of know about various mobile applications related to scientific dairy farm practices" (mean score: 69.51) was the most serious constraint faced by the dairy farmers. The other constraints were "very few information of livestock management in daily newspaper/daily Samachar (mean score: 63.48)"; "unavailability of livestock related literature (mean score: 60.00)"; "difficulty in approach to veterinary services (mean score: 48.51)"; "poor market information system (mean score: 48.45)"; "not getting the real time information about government scheme/programs at field level (mean score: 42.90)"; "non-cooperative nature of progressive dairy farmers (mean score: 42.90)"; "ambulatory service facility is not available in the area (mean score: 38.96)" and "internet network problem in the study area (mean score:

29.03)"; were perceived as second, third, fourth, fifth, sixth, seventh, eighth and ninth most important constraints, respectively by the dairy farmers.

**Table 6:** Communicational constraints perceived by dairy farmers (n=150)

| S. No. | Communicational Constraints | Mean score | Rank |
|---|---|---|---|
| 1 | Poor market information system | 48.45 | V |
| 2 | Non-cooperative nature of progressive dairy farmers | 42 | VII |
| 3 | Difficulty in approach to veterinary services | 48.51 | IV |
| 4 | Not getting the real time information about government scheme/programs at field level. | 42.9 | VI |
| 5 | Ambulatory service facility is not available in the area | 38.96 | VIII |
| 6 | Unavailability of livestock related literature | 60 | III |
| 7 | Very few information of livestock management daily newspaper/daily Samachar | 63.48 | II |
| 8 | Lack of knowledge about various mobile applications related to scientific dairy farming practices | 69.51 | I |
| 9 | Internet network problem in the study area | 29.03 | IX |

## Conclusion

It could be concluded from the above study that, for sustainability of dairy farming enterprise, there is a need to resolve constraints faced by dairy farmers through development and implementation of latest dairy based technological interventions, improved animal health services, establishment of training facilities, provide basic input and infrastructural facilities, milk storage and preservation facilities and marketing linkages to the dairy farmers in their area so that they can run their dairy enterprise in a sustainable manner. Animal husbandry department and banks should come forward to provide subsidies and credit facilities to the end users for future growth and development of dairy sector in Punjab.

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## Conflict of Interests

There is no conflict of interest.

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## References

1. 20th Livestock Census (2019). Department of Animal Husbandry, Dairying & Fisheries Ministry of Agriculture & Farmers Welfare Government of India, New Delhi.
2. Garrett H.E. (1979). Statistics in Psychology and Education. Vakilis, Feffer and Simons Ltd., Mumbai.
3. Manoharan, R., Selvakumar, K. N. and Serma, S. P. A. (2003) Constraints in milk production faced by the farmers in Pondicherry union territory. *Indian Journal Animal Research* 37 (1): 68 -70.
4. Minhaj, S. U., Shafkat, A. K., Rayees, A. B., Bharat, B., Farzana, C. and Adil, M. K. (2019) Constraints Perceived by Dairy Farmers in the Adoption of Improved Animal Husbandry Practices in Doda District.

*International Journal of Livestock Research* 9(2): 319-326.

5. Nachimuthu, K. (2002) Socio-economic and technological impact of animal husbandry programs in Pondichery. *Ph.D. Thesis* (Unpublished). NDRI Deemed University, Karnal, Haryana, India.
6. Prasad, N., Suresh, K., Pande, M., Soni, Y. K., Saha, S., Chand, N. and Arya, S. (2019) Socio-Economic Status and Problems Faced by Dairy Farmers of Sardhana Block of Meerut District. *International Journal of Livestock Research*, 9(4): 120-128.
7. Rao, T. K. S., Patel, N. B., Fulsoundar, A. B. and Gamit, V. K. (2013) Constraints limiting the livestock productivity of tribal community in high rain coastal region of India. *Research Journal of Animal Husbandry and Dairy Science*, 4(2): 42-46.
8. Rathod, P., Sariput, L., Nikam, T. R. and Vajreshwari, S. (2009) Socio-personal profile and constraints of dairy farmers, *Karnataka Journal of Agricultural Sciences*, 24 (4): 619-621.
9. Sarker, D. and Ghosh, B. (2010) Constraints of milk production: A study on cooperative and non-cooperative dairy farms in West Bengal. *Agricultural Economics Research Review* 23: 303-314.
10. Singh, P. R., Singh, M. and Jaiswal, R. S. (2004) Constraints and strategies in rural livestock farming in Almora district of hilly Uttaranchal. *Indian Journal of Animal Research* 38 (2): 91-96.
11. Tiwari, R. K., Bisen, J. P. and Sharma, P. N. (2003) A study on constraints and suggestions regarding adoption of improved animal husbandry practices in Chhattisgarh Plains. *Indian Research Journal of Extension Education* 3(1): 22-29.

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