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Constraints Faced by Livestock Owners Regarding Livestock Farming in Jabalpur Division of Madhya Pradesh, India

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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Short Research Article

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ABSTRACT

A study was conducted to identify the constraints faced by livestock owners in Jabalpur Division of Madhya Pradesh. Through multistage random sampling with a sample size of 240 livestock owners. The data were analyzed by Garrett's technique. The findings of this study indicated that the major constraints faced by livestock owners as per the Garrett's average score were low cost of milk as compare to the production (50.90%), lack of credit facilities for purchase of feeds, fodders and mineral mixture (47.50%), low price of milk provided by cooperative societies (46.88%), high cost of veterinary treatment (46.32%), unavailability of green fodder round the year (45.12%), poor

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conception rate (43.09), non availability of diagnostic facilities (42.54%), lack of A.I. facility (42.48%), unaware of heat symptom (42.00), inaduquate supply of vaccines (41.32%) and non availability of essential medicine (40.94).

Keywords: Constraints; Garrett's ranking technique; livestock owners; livestock farming; India.

1. INTRODUCTION

Livestock is one of the fastest-growing subsectors of agriculture. According to the economic survey 2020-2021, the livestock sector rose at a compound annual growth rate of 8.24 per cent from 2014-15 to 2018-19 (at constant price), whereas agricultural growth in India is decelerating every year (12.89 % in 1975 to 2.10 % in 2017) the share of livestock in total agriculture and allied sector gross value added (at constant price) has increased from 24.32 per cent in 2014-15 to 28.63 per cent in 2018-19 according to the National Accounts statistics (NAS) 2020 projections for sector-wise GVA of agriculture and allied sector. In 2018-19, livestock sector accounted for 4.19 per cent of total GVA (Press Information Bureau, 2021).

Livestock has changed India's rural economy and the development of livestock-based livelihood initiatives plays an important role in job creation, income production, poverty reduction, migration control, and socio-economic development (Upton, 2004). Livestock is a substantial source of income for 22.90 per cent of landless people and 9.60 per cent of marginal and small farmers (Bhanwala, 2018). Livestock is essential to smallholder sustenance in various Indian states (Economic survey, 2021; Press Information Bureau, 2021; Upton, 2004; Bhanwala, 2018; Pali et al., 2013).

Market pressures, technological advancement, increasing availability of feed and fooders, investment in animal health and creation of a marketing network for livestock products have all contributed to greater expansion in the livestock sector over the last two decades (Upadhay et al., 2009). According to Birthal and Negi (2012), the growing demand for animal food products is an opportunity for millions of smallholding farmers, who have sufficient endowment of labour but limited land access, to improve their income and employment in the livestock sector (Birthal & Negi, 2012; Upadhyay et al., 2009).

In India with the growing population, sustainability of agriculture is the need of the hour to meet the food demand. It cannot be discussed in isolation of the issue of livelihood of the rural population. With the increasing share of livestock sector in agriculture, the role of livestock in the livelihood of the landless, marginal and small farmers become imperative. The contribution of livestock towards livelihood security, the assets it has, the livelihood security of the farmers.

2. MATERIALS AND METHODS

A multistage random sampling was designed to collect relevent information from the livestock owners of the Jabalpur Division of Madhya Pradesh. Among the eight district of this division, two districts were selected carrying the highest number of registered farmers in Information Network for Productivity and Animal Health (INAPH) of NDDB and from each districts two blocks were selected and from each blocks three villages were randomly selected and finally from each village twenty livestock owners were randomly selected to make a total sample size of 240 livestock owners. For the purpose of present study any farmer who is rearing at least two milch animal (Large Ruminants) for at least three year were taken as livestock owners. The data was collected through personal interview technique.

Garrett & Woodworth, (1969) was used to assess the constraint faced by livestock owners.

By using this technique, the order of the merit given by the respondents was transformed into ranks using the following formula:

$$Percent\ position\ = \frac{100\ (\mathrm{Rij}\ - 0.05)}{\mathrm{Nj}}$$

Where,

R_{ij} - Rank given for the i_{th} factor by the j_{th} individual

N_j - Number of the factor ranked by the j_{th} individual

The percent position is converted into score by referring to the Table 1 given by Garrett and Woodworth (1969); Vanita et al., (2023). Then for

each factor the scores of the individual respondents were added together and divided by the total number of respondents for whome score were added. These mean score for all the factors were arrangrd in descending order and the most influencing factors were identified through the ranks assinged.

3. RESULTS AND DISCUSSION

The findings related to constraints percieved by the livestock owners are presented in the categories of feeding, breeding, management and health care and marketing constraints, which are as follows.

3.1 Constraints Faced by the Livestock Owners in Livestock Farming

3.1.1 Feeding constraints faced by the livestock owners

A persual of Table 1 showed that Lack of credit facilities for purchase of feeds, fodders and mineral mixture with the highest mean score of 47.26 was the major constraint and ranked first among feeding constraints followed by Unavailability of green fodder round the year, ranked second with a mean score 45.12. Poor quality of available feeds and concentrate ranked third with a mean score 39.89, Inaduquate resources for balanced feeding ranked fourth with a mean score of 39.76 and Inaduquate resources for balanced feeding ranked fifth with a mean score 37.94.

Eqbal et al., (2013) in their study on constraints percieved by tribal dairy farmers regarding dairy farming practices in Lohardaga district of Jharkhand. Revealed that Lack of credit facilities for purchase of feeds, fodders and mineral mixture with mean score of 3.35.

Somtiya et al., (2024) in their study on percieved constraints and strategic recomondations by commorcial dairy farmers in jabalpur, Madhya Pradesh, India. Reported that unavailability of green fodders round the year with the highest mean score of 53.18 is the major constraint and ranked first among feeding constraints.

3.1.2 Breeding constraints faced by the livestock owners

The result depicted (Table 1) that poor conception rate with the highest mean score of 43.09 was the major constraint and ranked ranked first among all the breeding constraints. This was followed by lack of A.I. (artificial insemination) facility ranked second with a mean score of 42.48, unaware of heat symptom ranked third with mean score of 42.48 and Lack of of good quality semen was ranked fourth with mean score 34.42.

Somtiya et al., (2024) in their study on percieved constraints and strategic recomondations by commorcial dairy farmers in jabalpur, Madhya Pradesh, India. Reported that low conception rate through artificial insemination with the highest mean score of 105.5.

Eqbal et al., (2013) in their study on constraints percieved by tribal dairy farmers regarding dairy farming practices in Lohardaga district of Jharkhand. Revealed that Lack of A.I. (artificial insemination) facility with mean score of 3.17.

Vanita et al., (2023) in hei study on constraints percieved by the livestock owners of district Mandi in indegenous dairy farming. Reported that low conception rate with the highest mean score of 55.10.

3.1.3 Management and healthcare constraints faced by the livestock owners

In the category of management and healthcare constraints, the Table 1 depicted that high cost of veterinary treatment which was ranked first with mean score of 46.32. followed by non availability of diagnostic facilities ranked second with mean score of 42.54, inaduquate supply of vaccines ranked third with mean score of 41.32, non availability of essential medicine ranked fourth with mean score of 40.94. and ‘Lack of awareness of healthcare’ ranked fifth with mean score of 38.85.

Malik et al., (2017) in their study on constraints about dairy farming in central zone of Panjab by Garrett’s ranking technique. Revealed that treatment cost with the mean score of 60.11.

Eqbal et al., (2013) in their study on constraints percieved by tribal dairy farmers regarding dairy farming practices in Lohardaga district of Jharkhand. Revealed that Non availability of diagnostic facilities with the highest mean score of 3.18.

Pata et al., (2018) in their study on constraints faced by buffalo owners in Junagadh and Porbandar districts of Gujrat. Concluded that unavailability of on time veterinary services for tratment (36.67%) were main constraints.

Table 1. Constraint perceived by livestock owners

S. No.	Constraints	Garrett Score	Rank
(A)	**Constraints in Feeding**		
1.	Unavailability of green fodder round the year	45.12	II
2.	Poor quality of available feeds and concentrate	39.89	III
3.	Inaduquate resources for balanced feeding	37.94	V
4.	Lack information about balanced feeding	39.76	IV
5.	Lack of credit facilities for purchase of feeds, fodders and mineral mixture	47.26	I
(B)	**Constraints in Breeding**		
1.	Poor conception rate	43.09	I
2.	Unaware of heat symptom	42.00	III
3.	Lack of A.I. facility	42.48	II
4.	Lack of of good quality semen	34.42	IV
(C)	**Constraints in management and healthcare**		
1.	High cost of veterinary treatment	46.32	I
2.	Non availability of essential medicine	40.94	IV
3.	Inaduquate supply of vaccines	41.32	III
4.	Non availability of diagnostic facilities	42.54	II
5.	Lack of awareness of healthcare	38.85	V
(D)	**Constraints in marketing**		
1.	Involvement of middlemen	36.99	V
2.	Low price of milk provided by cooperative societies	46.88	II
3.	High transportation cost	40.35	III
4.	Low cost of milk as compare to the production cost	50.90	I

Gopi et al., (2020) in their study on socio-economic profile and constraints of dairy farmers in Cuddalore districts of Tamil Nadu, India. Concluded that high cost of veterinary treatment services with mean score of 60.05 is the major constraints.

3.1.4 Marketing constraints faced by the livestock owners

Among milk marketing constraints, low cost of milk as compare to the production cost, with the highest mean score of 50.90, was the major constraintsand ranked first (Table 1) This was followed by low price of milk provided by cooperative societies ranked second with a mean score of 46.88, high transportation cost with a mean score of 40.35 which was ranked third and Involvement of middlemen was ranked fourth thit mean score of 36.99.

Somtiya et al., (2024) in their study on percieved constraints and strategic recomondations by commorcial dairy farmers in jabalpur, Madhya Pradesh, India. Reported that low cost of milk as compared to the production cost, with the highest mean score of 64.55.

Jain et al., (2023) in their study onconstraints analysis faced by dairy farmers in adoption of improved dairy husbandry practices using Garett ranking technique in Gwalior district of Madhya Pradesh. Revealed that the farmers complained about low price for milk with the highest mean score of 64.81.

Nagrale et al., (2015) in their study onan analysis of constraints faced by dairy farmers in Vidarbha region of Maharashtra. Reported that low price of liquid milk with the highest mean score of 60.77 was major constraint regarding marketing.

4.CONCLUSION

The study reveals that the livestock owners in Jabalpur division of Madhya Pradesh face significant challenges in feeding, breeding, management and health care and milk marketing. The key constraint include the Lack of credit facilities for purchase of feeds, fodders and mineral mixture, Poor conception rate, High cost of veterinary treatment and Low cost of milk as compare to the production cost.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (Chat GPT, COPILOT,etc) and text-to-image generators have been used during writing or editing of manuscripts.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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