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CONSTRAINTS FACED BY DAIRY HOUSEHOLDS IN BUNDELKHAND INDIA: A GARRETT RANKING APPROACH

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ABSTRACT

Dairying is vital in growing economies like India for providing nutrition support, lowering rural poverty and inequities, assuring food security for millions of rural households, and increasing economic growth, particularly in rural areas. The present study was conducted in Bundelkhand region during 2018-2021 to find out the constraints perceived by dairy farmers of the region. The study was conducted purposively in Bundelkhand region, which comprises of Uttar Pradesh (7 districts) and Madhya Pradesh (6 districts). Two districts from each state viz. Lalitpur and Banda from Uttar Pradesh, whereas, Datia and Damoh from Madhya Pradesh were selected. Then, two blocks from each district were selected randomly. Two villages from each block and 20 respondents from each village were randomly selected; thus, making the total sample size of 320 respondents for the study. Limited expenditure on food items with the highest mean score of 73.46 was the major constraints and ranked first among all the food and nutritional constraints. Shortage of doctors/ medical personnel in the locality with the highest mean score of 72.19 was the major constraints and ranked first among all the health constraints. Lack of interaction with Sarpanch/ Agricultural officers/ Veterinary officers with the highest mean score of 76.21 was the major constraints and ranked first among all the social constraints.

Keywords : Constraints; Livelihood; Dairy; Security; Houeholds.

Introduction

The majority of the people in India make out their survival directly or indirectly from farm related economic activities because agriculture is an important part of everyday life in Indian sub-continent, not only for its employ about 70 percent of the labor force of the country, but also for it provide food to the population, raw materials for the industries, wood for fuel and shelter, herbs for medicines, and above all means of sustenance and livelihoods. Agriculture sector in developing economies like India is a major source of livelihood in both farm and non-farm sectors and sustainability in agriculture sector means boosting up the rural livelihood system. Livelihood refers to adequate stock and flow of food and cash to an individual to meet their fundamental needs and livelihood security means secured ownership of, access to, resources and income earning activities, including reserves and assets to offset risk, ease shocks and meet contingencies. Lack of market for milk and live animals happened to be the major constraint among goat farmers. The incidence of diseases in goats and sheep, in absence of proper prevention, farmers' awareness about the market was also low and they did not have easy access to institutional finance (Kumar and Upadhyay, 2009). Oni *et al*. (2010) revealed that about 70 percent respondents kept farming records yet the outcome was not impressive. Thirty percent believe the availability of water, 29 percent believe infrastructure, and 18 percent believe markets will improve their production level.

Lal *et al.* (2016) reported that the most severe constraint perceived by dairy farmers after calamity was 'lack of knowledge regarding the preparedness of natural calamity for livestock protection'. This was due to the fact that despite being flooded affected region, sparse effort was put in capacity building of the farmers. Gunaseelan and Singh (2018) revealed that marketing (71.02%) was the main significant constraint followed by socio-economic (62.63%), management (62.04%), technological (60.33%) and institutional (58.99%) constraints as perceived by commercial goat farmers. The country has to step up efforts for increasing milk production and other dairy products owing to growing demand for them (Rangnekar, 2006). Constraints imply the problems faced by farmers while achieving livelihood security. If these constraints are identified, they are helpful to bridge the gap between dairy technology and its adoption by dairy farmers (Rathod *et al.*, 2009). Keeping the above facts in view, the present study has been undertaken with the objective to identify the major constraints faced by households so that the findings could be used to achieve secure livelihood in the Bundelkhand region of India.

Material and Methods

The ex-post facto research design of social research was used for the present study. The study was conducted purposively in Bundelkhand region, which comprises of Uttar Pradesh (7 districts) and Madhya Pradesh (6 districts). Two districts from each state viz. Lalitpur and Banda from

Uttar Pradesh, whereas, Datia and Damoh from Madhya Pradesh were selected. Then, two blocks from each district were selected randomly. Two villages from each block were randomly selected. Table 1. Showed that selection of respondents is a crucial task, hence due care was taken while selecting the respondents. From each selected village a list of dairy farmers based on land holding was prepared and respondents were selected based on proportionate stratified random sampling method. From each village 20 dairy farmers were selected proportionately from the prepared list. Thus, a total of 320 dairy farmers was selected for the study.

Table 1 : Summary of study area (n=320)

Sl. No.	Village	Marginal (<1 ha)	Small (1-2 ha)	Semi-medium (2-4 ha)	Medium (4-10 ha)	Large (>10 ha)	Total
1.	Bandrela	5	6	4	3	2	20
2.	Shahpur	4	5	5	4	2	20
3.	Simariya	5	4	5	4	2	20
4.	Gona	5	5	4	3	3	20
5.	Gazipur	5	6	4	3	2	20
6.	Narauli	3	6	5	3	3	20
7.	Baheri	4	5	5	4	2	20
8.	Masani	5	4	5	4	2	20
9.	Sundarpura	6	4	5	4	1	20
10.	Tigra	4	5	6	3	2	20
11.	Benda	5	4	5	4	2	20
12.	Alapur	4	5	3	5	3	20
13.	Bhimpura	5	4	6	3	2	20
14.	Bijori	5	5	4	4	2	20
15.	Bansi	5	5	6	3	1	20
16.	Pipra	6	3	5	4	2	20
Total		76	76	77	58	33	**320**

Garrett Ranking Method (1969) used to assess the constraints in achieving livelihood security through dairy farming.

- At first, respondents asked to rank the appropriate factors.

- The orders of merit thus given by respondents converted into per cent position by using the following formula:

$$\%\text{Position} = \frac{100(\text{Rij} - 0.50)}{\text{Nj}}$$

R_{ij} refers rank given for the ith factor by j^{th} individual and N_j refers numbers of factors ranked by the jth individual.

- The percent position for each rank thus obtained, converted into scores by referring the table given by Garrett and Woodworth (1969).

- The mean scores calculated for each factor and the appropriate ranks given accordingly.

Results and Discussion

Food and nutritional constraints perceived by the farmers

Results depicted in the Table 2 revealed that "limited expenditure on food items" with the highest mean score of 73.46 was the major constraint and ranked first among all the food and nutritional constraints followed by lack of knowledge regarding balanced diet, unavailability of nutritious food in village/locality, insufficient availability of food, inaccessible to Public Distribution System (PDS). This might be due to their limited resources and income hindering them to spend more on food items.

Economic constraints perceived by the farmers

A perusal of Table 3 showed that "insufficient loan from financial agencies" with the highest mean score of 76.13 was the major constraint and ranked first among economic constraints followed by complicated procedures of getting a loan and delay in getting a loan, inadequate income generation from primary activity, high charges for treatment of animals by veterinarians, higher input cost of technology, lack of own capital. Cumbersome loan process and low assets holding capacity among farmers could be the reason. Arunkumar (2004) in his study on profile of SHGs and their contribution for livestock development in Karnataka reported the problems faced by the members were lack of timely support from banks/other organization was the major problem, inadequate number of organizations linked up, unequal distribution of work among members, non introduction of agriculture based income generating activities (IGA), non availability of information about IGA, and difficulty in getting external loans.

Health constraints perceived by the farmers

Table 4 depicted that "shortage of doctors/ medical personal in the locality" with the highest mean score of 72.19 was the major constraint and ranked first among health constraints followed by high cost of treatment, inadequate medical facilities in the village/ locality, unavailability and inaccessibility to medical stores, unavailability of clean and safe drinking water. The reason could be that Poor medical facilities and unavailability of hospitals and better health care system in the locality. The incidence of diseases in goats and sheep, in absence of proper prevention, farmers' awareness about the market was also low and they did not have easy access to institutional finance (Kumar and Upadhyay, 2009).

Educational constraints perceived by the farmers

A perusal of Table 5 revealed that "unavailability of higher educational institutes in the locality" with the highest mean score of 77.23 was the major constraint and ranked first among the educational constraints followed by inadequate facilities available at school, shortage of teachers/ teaching personnel, high cost of education by private institutes, unavailability of books and other study material, lack of interest among farmers regarding children's schooling. The education level in the locality was very poor and the majority of the respondents studied up to primary or middle level because of unavailability of higher educational institutes in the locality.

Social constraints perceived by the farmers

Table 6 showed that "lack of interaction with *Sarpanch/ Agricultural officers/ Veterinary officers*" with the highest mean score of 76.21 was the major constraint and ranked first among the social constraints followed by reduced social and cultural interaction, lack of family encouragement, norms and religious values excluded women from participating in certain activities, lack of religious and caste support. Irregular visits by government authorities and officers in the locality make them dependent on other fellow farmers for getting any type of information regarding farming or livestock rearing. Kant *et al.* (2015) found that the most important socio-psychological constraint was in-depth understanding about climate impacts.

Institutional constraints perceived by the farmers

A perusal of Table 7 revealed that "unavailability of money lending institutions" with the highest mean score of 81.05 was the major constraint and ranked first among all the institutional constraints followed by inadequate facilities available at social organization, lack of qualified personnel for institutional management, unstructured way of providing jobs in village institutions, lack of proper institutional maintenance. Very few banks and money lending institutions available in the nearby towns and cities this might be the reason most of the farmers depend on private money lenders. Gunaseelan and Singh (2018) revealed that in respect of institutional constraints, limited veterinary infrastructure and services (68.67%) and lack of training on scientific goat farming (59.79%) were the significant constraints.

Infrastructural constraints perceived by the farmers

From the Table 8 it can be interpreted that "Inadequate availability of education and skill training" with the highest mean score of 74.26 was the major constraint and ranked first among the infrastructural constraints followed by insufficient government incentives, lack of needed assistance, poor communication facilities, lack of improved technology, inadequate availability of raw material. There were no specific skill and training institutes available in the locality that could be the reason majority of them engaged in farming activities. Lack of market for milk and live animals happened to be the major constraint among goat farmers (Kumar and Upadhyay, 2009).

Table 2 : Food and nutritional constraints perceived by the farmers (n=320)

Constraints	Garretts' Mean Score	Rank
Lack of knowledge regarding balanced diet	69.57	II
Unavailability of nutritious food in village/locality	58.62	III
Insufficient availability of food	52.38	IV
Limited expenditure on food items	73.46	I
Inaccessible to Public Distribution System (PDS)	47.39	V

Table 3 : Economic constraints perceived by the farmers (n=320)

Constraints	Garretts' Mean Score	Rank
Insufficient loan from financial agencies	76.13	I
Higher input cost of technology	42.52	V
Inadequate income generation from primary activity	56.27	III
Lack of own capital	39.48	VI
Complicated procedures of getting a loan and delay in getting a loan	68.57	II
High charges for treatment of animals by veterinarians	47.24	IV

Table 4 : Health constraints perceived by the farmers (n=320)

Constraints	Garretts' Mean Score	Rank
Unavailability and inaccessibility to medical stores	58.73	IV
High cost of treatment	68.43	II
Inadequate medical facilities in the village/ locality	61.35	III
Shortage of doctors/ medical personal in the locality	72.19	I
Unavailability of clean and safe drinking water	49.64	V

Table 5 : Educational constraints perceived by the farmers (n=320)

Constraints	Garretts' Mean Score	Rank
Lack of interest among farmers regarding children's schooling	40.76	VI
Unavailability of books and other study material	47.12	V
Shortage of teachers/ teaching personnel	58.34	III
Unavailability of higher educational institutes in the locality	77.23	I
Inadequate facilities available at school	69.56	II
High cost of education by private institutes	52.81	IV

Table 6 : Social constraints perceived by the farmers (n=320)

Constraints	Garretts' Mean Score	Rank
Lack of religious and caste support	47.19	V
Norms and religious values excluded women from participating in certain activities	55.65	IV
Lack of family encouragement	61.74	III
Reduced social and cultural interaction	68.42	II
Lack of interaction with *Sarpanch/* Agricultural officers/ Veterinary officers	76.21	I

Table 7 : Institutional constraints perceived by the farmers (n=320)

Constraints	Garretts' Mean Score	Rank
Inadequate facilities available at social organization	73.54	II
Lack of proper institutional maintenance	49.67	V
Unavailability of money lending institutions	81.05	I
Unstructured way of providing jobs in village institutions	58.71	IV
Lack of qualified personnel for institutional management	65.27	III

Table 8 : Infrastructural constraints perceived by the farmers (n=320)

Constraints	Garretts' Mean Score	Rank
Lack of needed assistance	58.61	III
Lack of improved technology	48.52	V
Inadequate availability of education and skill training	74.26	I
Insufficient government incentives	65.32	II
Poor communication facilities	52.48	IV
Inadequate availability of raw material	41.74	VI

Conclusion

Limited expenditure on food items with the highest mean score of 73.46 was the major constraints and ranked first among all the food and nutritional constraints. Insufficient loans from financial agencies with the highest mean score of 76.13 was the major constraints and ranked first among all the economic constraints. Shortage of doctors/ medical personnel in the locality with the highest mean score of 72.19 was the major constraints and ranked first among all the health constraints. Unavailability of higher educational institutes in the locality with the highest mean score of 77.23 was the major constraints and ranked first among all the educational constraints. Lack of interaction with *Sarpanch/* Agricultural officers/ Veterinary officers with the highest mean score of 76.21 was the major constraints and ranked first among all the social constraints. Unavailability of money lending institutions with the highest mean score of 81.05 was the major constraints and ranked first among all the institutional constraints. Inadequate availability of education and skill training with the highest mean score of 74.26 was the major constraints and ranked first among all the infrastructural constraints.

References

Arunkumar, T.D. (2004). Profile of SHGs and their contribution for livestock development in Karnataka. *M.Sc. (Agri.) Thesis*, Univ. Agric. Sci., Dharwad.

Garrett, E.H. and Woodworth, R.S. (1969). *Statistics in psychology and education*. Vakils, Feffer and Simons Pvt. Ltd., Bombay, Pp. 329.

Gunaseelan, M. and Singh, B.P. (2018). Constraints Perceived by Farmers in Commercial Goat Farming System in Tamil Nadu, India. *Indian Journal of Extension Education*., 54(4): 189-194.

Kant, K.; Sankhala, G. and Prasad, K. (2015). Constraints perceived by the dairy farmers in adapting to changing climate in Western Dry Region of India. *Indian Journal of Dairy Science*, 68(4): 399-407.

Kumar, S. and Upadhyay, A.D. (2009). Goat farmers' coping strategy for sustainable livelihood security in arid Rajasthan: An empirical analysis. *Agricultural Economics Research Review,* 22: 281-290.

Lal, S.P.; Kadian, K.S.; Kale, R.B. and Shruti (2016). Friedman based analysis of perceived constraints among dairy farmers affected by national calamity in India. *Indian Journal of Dairy Science*, 69(6): 725-727.

Oni, S.A.; Maliwichi, L.L. and Obadire, O.S. (2010). Socio-economic factors affecting smallholder farming and household food security: A case of Thulamela local municipalities in the Vhembe district of Limpopo Province, South Africa. *African J. Agric. Res.,* 5(17): 2289-2296.

Rangnekar, D.V. (2006). Livestock in the livelihoods of the underprivileged communities in India: A review. ILRI, Nairobi, Kenya: 72.

Rathod, P.K.; Landge, S.; Nikam, T.R. and Vajreshwari, S. (2009). Socio-personal profile and constraints of dairy farmers. *Karnataka J Agric Sci*., 24: 619-621.