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Constraints faced by milk producers in dairy farming in Bhilwara district

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Abstract
A study was conducted to identify the constraints faced by milk producer households in Bhilwara district of Rajasthan with a sample of 60 households. The data were analyzed by Garrett's ranking technique. The findings of study indicated that the foremost constraints faced by milk producer households under different groups were lack of knowledge about recommended quantity of feed and fodder with Garrett score of 61.04 in feeding constraint, repeat breeding of milch animals with a Garrett score of 54.45 in breeding constraint, lack of scientific housing (with Garrett score of 60.68) in health management constraint, milk cooperative societies located at distant places (with Garrett score of 60.02) in milk marketing constraints, unavailability of animal insurance facility with a Garrett score of 57.41 in infrastructural constraint and poor conception rate of artificial insemination with Garrett score of 56.74 in technical constraint in study area.

Keywords: Constraints, dairy farming, knowledge

Introduction
In India, dairy occupies an important place in agriculture economy. Dairying is a supplementary and complementary enterprise to crop farming and highly integrated with the crop production sector. It has been considered as part of the mixed crop livestock farming system in India for centuries. It is the backbone of the farmers and landless labourers in rural areas. Today, Rajasthan have second position in milk production. Since crop farming by erratic rainfall and limited area under irrigation, dairying has received special emphasis in solving the problem of poverty and un-employment in the Rajasthan in general and in the district of Bhilwara in particular. Thus, dairying activities with crop production are more helpful for milk producer households of Bhilwara district to increase their income and employment because of poor productivity of crops and low availability of per capita arable land. The milk producer households had to depend on limited resource available. Still milk producer households face a lot of constraints in dairying with respect to infrastructure, breeding, feeding, milk production, health management and marketing of milk. Keeping this in view, the present study was conducted to identify the dairying constraints perceived by milk producer households in Bhilwara district of Rajasthan.

Research Methodology
The Bhilwara district of Rajasthan has been purposively selected for the present study. Two tehsils were selected from Bhilwara district and four villages *viz.*, Buchhkhera, Devriya, Aameser and Padli were selected from two thesis of district. Thereafter, 15 households were selected from each village. Thus, total 60 milk producer households were considered to study the constraints in dairying. The selected respondents were interviewed personally in order to get relevant information with the help of structure interview schedule. The detailed information required for the study was collected from each of selected households for the year 2017-18. Then, the data collected were tabulated and analyzed by using Garrett ranking technique to interpret the results. By using this technique, the order of the merit given by the respondents was transformed into ranks using the following formula.

$$\text{Per cent position} = 100\,[(R_{ij} - 0.5)]/N_j$$

Where
R_{ij} - Rank given for the ith factor by the jth individual
N_j - Number of factor ranked by the jth individual.

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The per cent position was converted into scores by referring to the Garrett's score in table given by Garrett and Woodworth (1969) [2]. Then for each factor the scores of the individual household were added together and divided by the total number of households for whom scores was added. These mean scores for all the factors was arranged in descending order and the most influencing factors were identified through the ranks assigned.

Results and Discussion
Feeding constraints: The six constraints faced by dairy households in the feeding of animals are presented in Table 1 in the order of significance. The table clearly shows that lack of knowledge about recommended quantity of feed and fodder was very serious constraint and ranked as first with the highest Garrett score of 61.04, lack of sufficient pasture land for grazing the animal ranked second most serious constraint (Garrett score of 58.27) and the least serious constraint was lack of knowledge about mineral mixture (with the least Garrett score of 43.64). Other constraints were high cost of green fodder, dry fodder and concentrates, unavailability of cattle feed and fodder seed and inadequate knowledge about proper/ scientific feeding of dairy animals with Garrett score of 56.74, 56.36 and 44.22, ranked as third, fourth and fifth, respectively.

Table 1: Feeding constraints

S. No.	Constraints	Garrett's score	Garrett's Rank
1.	High cost of green fodder, dry fodder and concentrates	56.74	III
2.	Unavailability of cattle feed and fodder seed	56.36	IV
3.	Lack of knowledge about recommended quantity of feed and fodder	61.04	I
4.	Inadequate knowledge about proper/ scientific feeding of dairy animals	44.22	V
5.	Lack of sufficient pasture land for grazing the animal	58.27	II
6.	Lack of knowledge about mineral mixture	43.64	VI

Breeding constraints
The details of four constraints faced by dairy households in breeding of animals are given in Table 2. The overall analysis of milk producer households revealed that first and foremost constraints in breeding were repeat breeding in milch animals with a Garrett score of 54.45. Similarly finding was also reported by Tailor *et al.* (2012) [9] and Narayan *et al.* (2014). This might be due to inadequate knowledge about feeding of milch animals.

Table 2: Breeding constraints

S. No.	Constraints	Garrett's score	Garrett's Rank
1.	Poor knowledge about delivery of animals	49.05	III
2.	Repeat breeding in dairy animals	54.45	I
3.	Lack of knowledge about pregnancy diagnosis of animals	48.40	IV
4.	Poor knowledge about heat detection of animals	50.92	II

The milk producer also ranked that poor knowledge about heat detection of animals (with Garrett score of 50.92), poor knowledge about delivery of animals (with Garrett score of 49.05), and lack of knowledge about pregnancy diagnosis of animals (with Garrett score of 48.40) as the second, third and fourth constraints in breeding of dairy animals.

Health management constraints: There are six constraints faced by milk producer households in health management of dairy animals and presented in Table 3 with their scores as well as ranks. Lack of scientific housing (with Garrett score of 60.68) was ranked as first and serious constraint in health management. Similar finding was also reported by Tailor *et al.* (2012) [9]. Milk producer households could not afford to made vast amount of investment which was needed in constructing the scientific housing for dairy animals. Lack of knowledge about vaccination against contagious diseases (with Garrett score of 56.83), inadequate knowledge about deworming and dehorning of animals (with Garrett score of 54.80), inadequate knowledge about cleaning of cattle sheds (with Garrett score of 50.21) and lack of knowledge about isolation of sick animals (with Garrett score of 49.74) were ranked as second, third, fourth and fifth constraints, respectively. The inadequate knowledge about these practices might be due to illiteracy. The inadequate knowledge about cleaning/grooming of animals (with Garrett score of 42.88) was observed as least serious constraint.

Table 3: Health management constraints

S. No.	Constraints	Garrett's score	Garrett's Rank
1.	Inadequate knowledge about cleaning/ grooming of animals	42.88	VI
2.	Inadequate knowledge about cleaning of cattle sheds	50.21	IV
3.	Inadequate knowledge about deworming and dehorning of animals	54.80	III
4.	Lack of scientific housing	60.68	I
5.	Lack of knowledge about vaccination against contagious disease	56.83	II
6.	Lack of knowledge about isolation of sick animals	49.74	V

Milk Marketing Constraints: The constraints faced by milk producer households in marketing of milk are depicted in Table 4 with their scores as well as ranks. The analysis revealed that milk cooperative societies located at distant places (with Garrett score of 60.02) was the first and major constraint in milk marketing in the study area. Irregular payment made by milk vendors (with Garrett score of 49.63), irregular payment made by milk vendors (with Garrett score of 49.31) and unavailability of sufficient quantity of milk for selling (with Garrett score of 47.28) were ranked as second, third and fourth constraints, respectively.

Table 4: Milk marketing constraints

S. No.	Constraints	Garrett's score	Garrett's Rank
1.	Milk cooperative societies located at distant places	60.02	I
2.	Irregular payment made by milk vendors	49.31	III
3.	Low price of milk offered by milk vendors	49.63	II
4.	Unavailability of sufficient quantity of milk for selling	47.28	IV

Infrastructural constraints: The infrastructural constraints faced by milk producer households are presented in Table 5. The overall analysis of milk producer households revealed that first and foremost constraint in infrastructural was unavailability of animal insurance facility with a Garrett score of 57.41. The milk producer also ranked that lack of marketing infrastructure (with Garrett score of 52.36) and lack of number of veterinary hospitals (with Garrett score of 53.18) as the second and third constraints, respectively.

Table 5: Infrastructural constraints

S. No.	Constraints	Garrett's score	Garrett's Rank
1.	Unavailability of animal insurance facility	57.41	I
2.	Lack of marketing infrastructural facility	52.36	III
3.	Lack of number of veterinary hospitals	53.18	II

Technical constraints in artificial insemination (AI)

Technical constraints in artificial inseminations of milch animals faced by milk producer households are presented in Table 6. The overall analysis revealed that the poor conception rate of artificial insemination was the most serious constraints with highest Garrett score of 56.74 and poor knowledge about artificial insemination to veterinary staff was least serious constraint with lowest Garrett score of 48.45. Unavailability of semen at artificial insemination centre (with Garrett score of 54.55) and lack of number of artificial insemination centers (with Garrett score of 50.04) were ranked as second and third constraints, respectively.

Table 6: Technical constraints in artificial insemination

S. No.	Constraints	Garrett's score	Garrett's Rank
1.	Poor conception rate of artificial insemination	56.74	I
2.	Unavailability of semen at artificial insemination centre	54.55	II
3.	Lack of number of artificial insemination centers	50.04	III
4.	Poor knowledge about artificial insemination to veterinary staff	48.45	IV

Conclusion

Thus, it was concluded from the foregoing analysis of study that the foremost constraints faced by milk producer households under different groups were as lack of knowledge about recommended quantity of feed and fodder in feeding constraint, repeat breeding of milch animals in breeding constraint, lack of scientific housing in health management constraint, milk cooperative societies located at distant places in milk marketing constraint, unavailability of animal insurance facility in infrastructural constraint and poor conception rate of artificial insemination in technical constraint in study area.

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