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Constraint analysis of mixed dairy farming perceived by the field veterinarians in Jammu district of Jammu and Kashmir

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Abstract

Mixed dairy farming system is an option to improve productivity among small-scale farmers. It has been seen that if properly managed, mixed dairy farming system can be a powerful tool for poverty reduction and socio-economic empowerment of the rural population. The study was conducted in Jammu district of Jammu and Kashmir state to assess the constraints perceived by the field veterinarians in different areas of mixed dairy farming. Lists of field veterinarians working in Jammu district were prepared, and thirty field veterinarians working in Jammu district were selected randomly as respondents by simple lottery method. Data were collected through well structured questionnaire after proper testing of schedule and using appropriate scales. The field veterinarians were given fifty statements in total for the perception rating regarding the constraints in mixed dairy farming. Respondents were asked to rate them on three point continuum i.e. very serious (score = 3), serious (score = 2) and somewhat serious (score = 1), based on seriousness of the perceived constraint. The constraints were then ranked based upon their mean percent score. The study reveals that Constraints like, lack of knowledge about balanced ration, lack of interest of young generation in animal husbandry related work, and poor knowledge of farmers about marketing strategies were perceived as most serious constraints by the field veterinarians in mixed dairy farming system. On the other hand, items like, high burden of work, considering mixed dairy farming an unprofitable enterprise, perception of animals causing diseases and elders as decision makers not allowing adoption of new technologies, were perceived as least serious constraints.

Keywords: Constraint analysis, mixed dairy farming, field veterinarians

1. Introduction

Mixed dairy farming system constitutes the dominant land use system in the developing countries Iiyama *et al.*, (2007) ^[5]. In this farming system, livestock and crops are produced within coordinated framework. It is the largest category of livestock systems in the world in terms of animal numbers, productivity and the number of people it services Thornton *et al.*, (2002) ^[10]. Among the different forms of livestock farming, dairying is considered as a "treasure" of the Indian rural economy. It provides nutrition, draft animal power, organic manure, supplementary employment, cash income, and a 'cushion' for 'drought proofing' Patel (1993) ^[8]. The livestock revolution is stretching the capacity of existing production, but it is also exacerbating environmental problems. Therefore, while it is necessary to satisfy consumer demand, improve nutrition and direct income growth opportunities to those who need them most, it is also necessary to alleviate environmental stress. At the same time, ways need to be found to preserve the natural resource base. Within this framework, mixed dairy farming system represents a key solution for enhancing livestock production and safe guarding the environment through prudent and efficient resource use Dikshit and Birthal (2013) ^[2]. Major constraint in mixed farming in India is low productivity, which is a common problem to both crops, animal and dairy production. Equally important are the transportation problem and lack of marketing facilities in both crop and milk marketing Subhadra *et al.*, (2009) ^[9]. Dikshit and Birthal (2013) ^[2] identified that high feed cost, inadequate price for milk, disease outbreak; high cost of farm inputs, adulteration in seeds/fertilizers/insecticides etc. were some of the serious constraints pointed out by the farmers. Ghosh and Chand (2001) ^[3]. Identified technical, economic, socio-psychological and infrastructural constraints that hindered the adoption of recommended dairy husbandry technologies in India. Nevertheless, livestock sector offers great potential for providing full and part time employment, and has played great role in the success of poverty alleviation efforts.

Many constraints exist in mixed dairy farming system simultaneously in several stages of development from one area to another depending upon time, place and other sets of conditions. Keeping this in mind, the present investigation was planned to identify the constraints as perceived by the field veterinarians in different areas of mixed dairy farming in Jammu district of Jammu and Kashmir state.

2. Materials and Methods

The present study was conducted in Jammu district of Jammu and Kashmir state situated 74° 24' and 75° 18' East longitude and 32° 50' and 33° 30' North latitude. Ex-post-facto research design was followed in the present study for assessment of constraints perceived by the field veterinarians in different areas of mixed dairy farming. Lists of field veterinarians working in Jammu district were prepared, and thirty field veterinarians working in Jammu district were selected randomly as respondents by simple lottery method. Data were collected through well structured questionnaire after proper testing of schedule and using appropriate scales. Initially a total of 160 items were collected. The constraints so collected were then subjected to critical analysis by the scientists and the researcher in keeping with the informal criterion suggested by (Edwards, 1957). Based on this certain items were deleted. Finally 50 items for field veterinarians were selected. A questionnaire containing the relevant constraint statement was presented to the field veterinarians. Data were coded, classified, tabulated and analyzed using the software; Statistical Package for the Social Science (SPSS 16.0). The presentation of data was done to give pertinent, valid and reliable answer to the specific objectives. Frequencies, percentage, mean, standard deviation and mean percent score (MPS) were worked out for meaningful interpretation. Respondents were asked to rate them on three point continuum i.e. very serious (score = 3), serious (score = 2) and somewhat serious (score = 1), based on seriousness of the

perceived constraint. The constraints were then ranked based upon their mean percent score which was calculated using the formula; MPS = Obtained score/ Maximum possible score.

Mean percent score (MPS)

$$\text{MPS} = \frac{\text{Score obtained}}{\text{Maximum possible score}} \times 100$$

3. Results and Discussion

3.1 Constraint perception scores of field veterinarians in different areas of mixed dairy farming

Table 1 describes the general rank of constraints as perceived by the field veterinarians in different areas of mixed dairy farming. The field veterinarians were given 50 statements in total for evaluation of constraints. Table 1 reveals the possible range of constraint perception score was 50 to 150 and the observed range was 68 to 124. The total mean score obtained was 85.6±3.11. The respondents were classified into three categories based on the constraint perception scores in the table 1. It is evident from the table.1 that majority (46.6%) of the veterinarians had medium level of constraint perception scores with a mean score of 87.78±2.16 followed by 36.7% and 16.7% of veterinarians in low and high level of perception score categories with a mean score of 69.36±0.47 and 115.2±3.45 respectively. The medium level of constraint perception scores faced by the field veterinarians dealing with mixed dairy farmers may be due are multiple lines of authority of command where as field veterinarians dealing with agriculture farmers are large population and geographical area for the extension staff to cover. The findings were in agreements with the Girish and Saha (2003)^[4] studied on constraints faced by extension workers and researchers in dissemination of information among dairy and agriculture farmers in Birbhum district of West Bengal.

Table 1: Average constraint perception scores of field veterinarians in different areas of mixed farming

Categories	Score range	Frequency (percent)	Mean score+ S.E
Low	68-80	11(36.7)	69.36±0.47
Medium	81-102	14(46.6)	87.78±2.16
High	103-124	5(16.7)	115.2±3.45
Total	68-124	30(100)	85.6±3.11

3.2 Item wise scores of the constraints perceived by field veterinarians in different areas of mixed dairy farming

The item wise scores along with their ranks of the constraints perceived by field veterinarians in different areas of mixed dairy farming have been depicted in the table 2. As is evident, constraints like, lack of knowledge about balanced ration, lack of interest of young generation in animal husbandry related work, and poor knowledge of farmers about marketing strategies were perceived as most serious constraints by the field veterinarians. Similar findings were also observed by Minhaj *et al.* (2019)^[7] in their study constraints perceived by dairy farmers in the adoption of improved animal husbandry practices in Doda district. On the other hand, constraints like, high burden of work, considering mixed dairy farming an unprofitable enterprise, perception of animals causing diseases, and elders as decision makers not allowing adoption of new technologies, were perceived as least serious constraints. Even field veterinarian's opinion did not seem to vary much from the opinion of farmers. The results were in

partial agreement with the findings of Mandal *et al.* (2005)^[6] and farzana *et al.* (2018)^[1]. Mixed dairy farming system is an option to improve productivity among small-scale farmers. It has been seen that if properly managed, mixed dairy farming system can be a powerful tool for poverty reduction and socio-economic empowerment of the rural population. Animals can also be used as a form of transport, labour and can reduce post-harvest losses from pests by allowing timely removal of crops from the fields. Animal transport can also be used to move crop produce to the market, increasing the chances of selling crops at desired prices. Dairy farmers need to be made aware of improved dairy farming practices by organizing various training programmes. Such programmes help in reaching out to a large number of farmers which can be useful in imparting the necessary knowledge and skills to the farmers. These kinds of approaches may help the farmers to overcome the various constraints faced while practicing mixed dairy farming and thus may help in improving mixed dairy farming practices in Jammu district.

Table 2: Item wise scores of the constraints perceived by field veterinarians

S. No.	Constraints	Total score	Mean score	MPS	Rank
1	Technologies disseminated to farmers are inappropriate	44	1.47	48.89	36
2	Farmers do not adopt new technologies	53	1.77	58.89	18
3	Farmers have a negative attitude towards adoption of new technology	53	1.77	58.89	18
4	Market conditions are unfavorable for farmers	63	2.10	70.00	7
5	Complexity in new technology/practice is a problem	52	1.73	57.78	22
6	Elders as decision makers not allowing adoption of new technologies	38	1.27	42.22	47
7	Hardships involved in animal keeping are changing perception of farmers	55	1.83	61.11	16
8	Poor knowledge of farmers about marketing strategies	70	2.33	77.78	3
9	Lack of motivation among the farmers	60	2	66.67	9
10	There is lack of organized extension in the state	53	1.77	58.89	18
11	Research is not providing solution to the problems of farmers	55	1.83	61.11	16
12	Input costs are increasing and it is very difficult to achieve profit	65	2.17	72.22	5
13	Non availability of relevant information from reliable resources	66	2.20	73.33	4
14	Transportation facilities to take produce to the market are poor	39	1.30	43.33	45
15	Farmers have poor mass media exposure	56	1.87	62.22	14
16	Considering mixed dairy farming an unprofitable enterprise	33	1.10	36.67	49
17	High burden of work	32	1.07	35.55	50
18	Low genetic potential of local animals	43	1.43	47.78	37
19	Fragmentation of land holdings is a hindrance to mixed dairy farming	56	1.87	62.22	14
20	Non availability of green fodder throughout the year	58	1.93	64.44	12
21	Lack of feedback from the farmers regarding mixed dairy farming	42	1.40	46.67	40
22	Poor economic condition of farmers	43	1.43	47.78	37
23	Involvement of the middle men is a problem	57	1.90	63.33	13
24	High fluctuation in the prices of dairy products is a problem	39	1.30	43.33	45
25	There is low risk taking ability among the farmers	46	1.53	51.11	33
26	Preference to natural service as compared to A.I	42	1.40	46.67	40
27	Inefficient service at A.I centres is a problem	46	1.53	51.11	33
28	Interest of farmers in growing cash crop rather than in fodder crop	50	1.67	55.55	27
29	Ignorance of utility of vaccines as prophylactic measures by the farmers	53	1.77	58.89	18
30	Illiteracy is a hindrance to animal management	50	1.67	55.55	27
31	People are busy in other occupation to meet up family requirements	61	2.03	67.78	8
32	Shifting of cropping patterns has led to difficulties in animal keeping	52	1.73	57.78	22
33	Lack of interest of young generation in animal husbandry related work	79	2.63	87.78	2
34	Non availability of seeds of high yielding varieties of fodder crops	48	1.60	53.33	30
35	Lack of credit facility for dairy farmers	51	1.70	56.67	26
36	Lack of doorstep veterinary health care services	50	1.67	55.55	27
37	Lack of knowledge about balanced ration	83	2.77	92.22	1
38	Non availability of grazing land	65	2.17	72.22	5
39	High cost of animal feed	60	2.00	66.67	9
40	Lack of clean drinking water for animals	45	1.50	50.00	35
41	There is frequent disease occurrence in animals	42	1.40	46.67	40
42	Perception of animals causing diseases	36	1.20	40.00	48
43	Lack of irrigation facilities for fodder crops	52	1.73	57.78	22
44	High yielding breeds of animals are not available	43	1.43	47.78	37
45	Lack of storage facility for dairy products	48	1.60	53.33	30
46	Lack of knowledge regarding care of pregnant animals	41	1.37	45.55	44
47	Repeat breeding problem in animals	52	1.73	57.78	22
48	Abortion problem in animals	47	1.57	52.22	32
49	Growing problem of infertility in animals	59	1.97	65.55	11
50	There is growing problem of mastitis in lactating animals	42	1.40	46.67	40

4. Conclusion

Mixed dairy farming systems have been identified as being sustainable because it promotes the interaction of animals and plants in as natural condition as possible. A clear advantage of this method is that the animals are benefited from the more nutritious green material. The advantages associated with this system have been identified as an improvement in productivity and increased incomes, in addition to a range of benefits that include agronomic, ecological, economic and social sustainability. The findings of study revealed that field veterinarians perceived lack of knowledge about balanced ration and lack of interest of young generation in animal husbandry related work, as most serious constraints in mixed dairy farming system. On the other hand, items like, high

burden of work, considering mixed dairy farming an unprofitable enterprise, perception of animals causing diseases and elders as decision makers not allowing adoption of new technologies, were perceived as least serious constraints. To overcome these constraints there was need of motivating the young generation, streamlining of research and development system; improving feed and fodder supply; streamlining of extension services, dis-incentivizing the urban and peri-urban dairying by way of regulatory and policy measures. Mass media needs to be effectively used as a source of information dissemination about importance of mixed dairy farming system which may help in arousing interest of young generation regarding mixed dairy farming system. The animal husbandry department and other related

departments from universities should organize training programmes for mixed dairy farmers more frequently and in higher numbers thus reaching out to a large number of farmers.

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