Original Research

Dairy Production Constraints in Kolar and Chikkaballapur Districts of Karnataka

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Abstract

India owns the largest livestock population in the world. Dairy farming is one of the important activities of the rural population of our country. This study was undertaken to assess the production constraints in dairying using semi structured interview schedule through exploratory method, involving 120 sample dairy farmers in two districts of Karnataka, viz. Kolar and Chikkaballapur. The study revealed that majority of the farmers are engaged in dairying from the last 25 years and it is an important subsidiary occupation for most of the respondents. Majority possess <4 dairy animals and also possess good information on dairying and most of them buy feed for their animals from the market. Study also revealed that majority of them sell their animals more frequently (every half yearly) and it was observed that lack of feed and fodder and high cost of production were the reason for the same. Unavailability of green fodder throughout the year, high cost of feed and fodder, poor conception rate through artificial insemination and poor knowledge about feeding and healthcare were the major constraints perceived by the dairy farmers. Animal husbandry income is negatively correlated with dairy production constraints while different categories of constraints are positively correlated with each other. Suitable extension and feeding strategies are required to combat the constraints so that it leads to better production.

Key words: Constraints, Dairy Production, Karnataka

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Introduction

Livestock sector has been playing an important role in Indian economy and plays a vital role in providing animal protein rich nutritive food, to the general public and in supplementing family incomes and

generating gainful employment in the rural sector, particularly for the landless, small, marginal farmers and women. Distribution of livestock wealth in India is more egalitarian, compared to land. Hence, from the equity and livelihood perspectives, it is considered as an important component in poverty alleviation.

In India, dairying has been a source of livelihood to innumerable people and it provides gainful employment and ameliorates the socio-economic condition of millions of small, marginal lands less and women cattle owners scattered over large geographical area. Milk production in India is dominated by small, marginal farmers and landless labourers who in aggregate, own about 70 per cent of the national milch animal herd and are dispersed throughout the rural areas. In recent decades the dairy sector has emerged as an important source of rural employment and income in the country. Kolar and Chikkaballapur districts have the highest number of crossbred cattle and farmers here are mainly dependent on dairy activity due to inadequate rainfall. Hence, this study was taken up with an objective to assess the constraints faced by the dairy farmers in the study area.

Materials and Methods

The exploratory research design was adopted for the study to formulate a problem for more precise investigation and to develop working hypothesis from an operational point of view. Kolar and Chikkaballapur districts were selected purposively for the study since these two districts have good network of PMPCS under Kolar and Chikkaballapur District Milk Producers Co-operative Union Limited (KOMUL)and majority of the farmers in these districts depend upon animal husbandry, especially dairying due to lack of irrigation facility for agricultural activities. KOMUL is Karnataka's second highest Milk Producing milk union in the state. Two taluks viz; Kolar and Malur from Kolar district and two taluks viz; Chintamani and Gudibande from Chikkaballapur district were purposively selected for the study. These taluks were selected as they were the highest and the lowest milk producing taluks in these districts, respectively. The main tool used for primary data collection was semi structured interview schedule. The interview schedule was developed in consultation with experts in the field of veterinary extension and livestock production management. Interview schedule was prepared in local language and also in English. It was pre-tested in the study area before going for actual data collection from the respondents. After pre-testing the schedule was refined for final data collection and the dairy farmers were personally interviewed in order to collect the data. A total of 120 dairy farmers were randomly selected and data were collected using semi structured interview schedule. The data that was obtained was subjected to statistical tools like frequency, percentage, correlation and the constraints in dairy production were analyzed and inferences were drawn. MS Excel 2010 and SPSS 20.0 software package were used for analysis.

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Results and Discussion

The data presented in the Table 1 revealed that majority (80.00%) of the respondents had agriculture as their major occupation, while 81.67 per cent had animal husbandry as their major subsidiary occupation. The results are in conformity with the findings of Naik *et al.* (2013). This may be due to the continuation of ancestral traditional occupation of agriculture along with livestock rearing.

Table 1: Distribution of respondents based on important economic activities

Characteristics	Category	Respondents	
		F	%
Main occupation	Agriculture	96	80
	Animal husbandry	21	17.5
	Others	3	2.5
Subsidiary occupation	Agriculture	22	18.33
	Animal husbandry	98	81.67
	Others	0	0
Dairy animal possession	<4	93	77.5
	04-Aug	25	20.83
	>8	2	1.67
Involved in dairying (Years)	Last 25	81	67.5
	25-50	31	25.83
	>50	8	6.67
Reasons for involving in dairy activity	Traditional/ Ancestral	21	17.5
	Employment	69	57.5
	Alternative commercial activity	37	30.83
	Main source of income	41	34.17
	For farmyard manure	24	20
Feed for animals	Own production	2	1.67
	Purchase	92	76.67
	Own + Purchase	25	20.83
Sale of animals	Frequently	97	80.83
	Occasionally	19	15.83
	Rarely	4	3.33
Reasons for animal sale	Low production	44	36.67
	High cost of production	67	55.83
	Higher price for animals	19	15.83
	Lack of feed and fodder	56	46.66
	Repeat breeding	15	12.5
	Mastitis	23	19.17

Majority (67.50%) of the respondents engaged in dairying since last 25 years and only few (06.67%) of them involved in this activity for more than 50 years. The reasons for involvement in dairying by the respondents were explored and majority (57.50%) of them revealed that they are involved in dairying for employment followed main source of income (34.17%), as an alternative commercial activity (30.83%), some (20.00%) of them for farmyard manure and only 17.50 per cent of the respondents involved in

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dairying as a traditional/ancestral activity. The reasons could be attributed to the fact that the study area receives very scarce rainfall which will not help in agriculture so dairying is the best option for the livelihood as it provides regular employment and sustainable income. Majority (77.50%) of the respondents possessed dairy animals of less than 4 number whereas 20.83 per cent of them possessed 4-8 number of dairy animals and only two of the respondents had a commercial dairy farms with more than 8 animals in their farms. This may be attributed to the fact that the dairy farming involves regular and continuous management and it is a labour oriented activity hence the farmers are going with lesser number of animals so that they can manage by their family members without any financial burden towards management.

With respect to the source of feed for dairy animals most (76.67%) of the respondents purchased feed from market while only two of the respondents were preparing the feed for their animals at their farms. These results might be due to the fact that preparation of feed requires pooling of ingredients and the farmers lack the technical knowledge about the ingredients and proportion of ingredients to be used in preparation of fodder hence they go for purchase of readymade feed from the milk producers' cooperative societies and market. The data (Table 1) also revealed that majority (80.83%) of the dairy farmers sold their animals more frequently whereas few (3.33%) of the respondents rarely sold their animals. The reasons for sale of animals were also explored and revealed that high cost of production (55.83%) followed by lack of feed and fodder (46.66%) and low productivity of animals (36.67%). This is due to the fact that farmers could not manage more animals due to shortage of feed and fodder.

Constraints Perceived by Dairy Farmers in Milk Production in Kolar and Chikkaballapur Districts

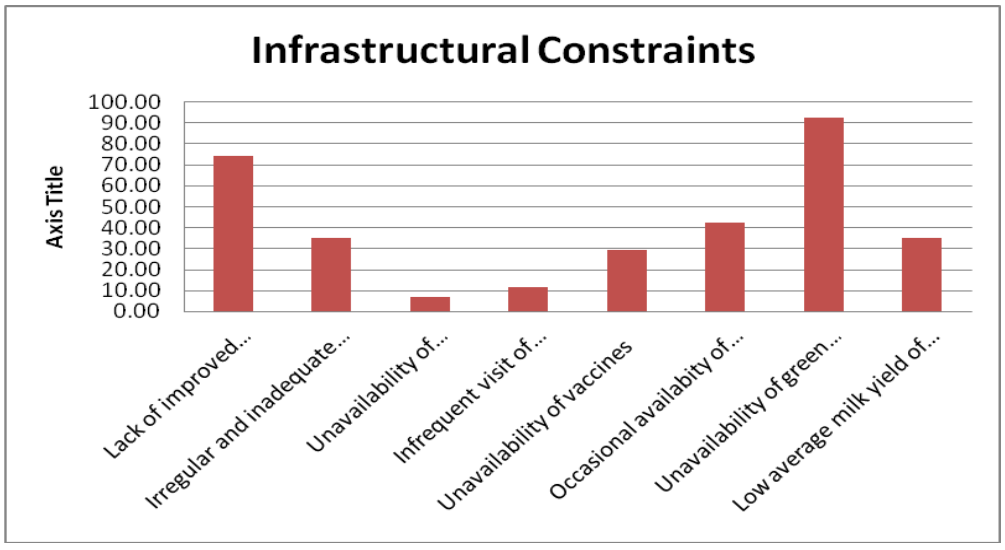

Fig.1: Infrastructural constraints perceived by dairy farmers

It is evident from Fig.1, that major infrastructural constraints expressed by dairy farmers were unavailability of green fodder throughout the year (92.50%) followed by lack of improved equipment (59.17%),

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occasional availability of semen at the AI centre (42.50%), low average milk yield of the milch animals (35.00%), irregular and inadequate supply of cattle feed (35.00%), unavailability of vaccines (29.17%), infrequent visit of veterinary staff (11.67%). Only 7.50 per cent of the respondents had expressed unavailability of emergency veterinary services as their constraint. Unavailability of green fodder throughout the year was the main constraint in the study area which might be attributed to irregular rainfall, lack of suitable land for growing fodder, unavailability of fodder seeds/slips and unavailability of water for growing green fodder. These findings are in line with findings of Rathod *et al.* (2009) and Prasad *et al.* (2019) who reported that major problems identified in villages related to dairy farming were lack of knowledge about modern technologies, unavailability of veterinarian/para-veterinarian and unavailability of veterinary hospital/dispensary.

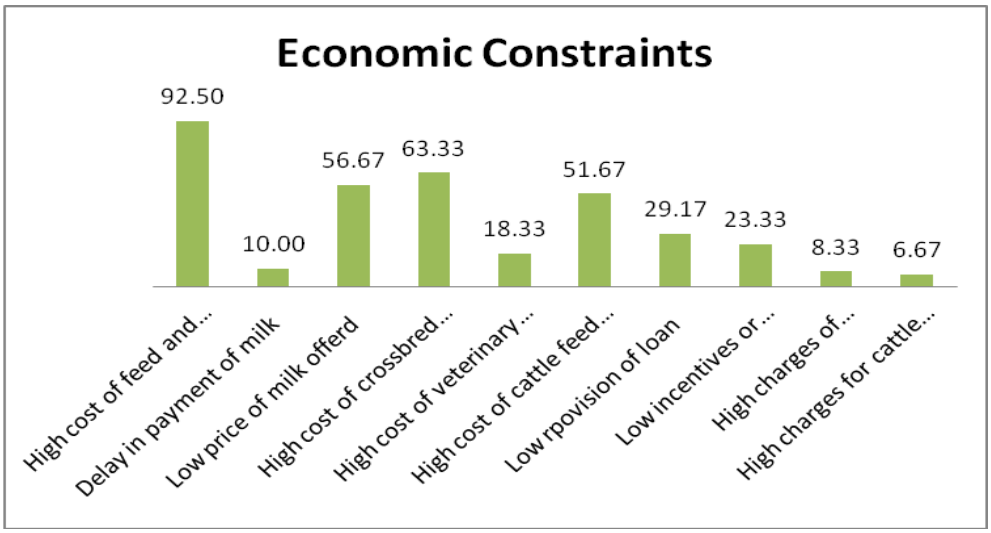

Fig. 2: Economic constraints perceived by dairy farmers

The major economic constraints expressed by dairy farmers (Fig. 2) were: high cost of feed and fodder (92.50%), followed by high cost of cross-bred cow (63.33%), low price of milk offered (56.67%), high cost of cattle feed and mineral mixture (51.67%), low provision of loan in society or government. for purchasing cattle (29.17%), low incentives or bonus for supplying milk (23.33%), high cost of veterinary medicines (18.33%), delay in payment of milk (10.00%), high charges of emergency veterinary services (8.33%), whereas, 6.67 per cent of the respondents opined as high charges for cattle insurance as their main constraint. Due to high cost of animals, feed and fodder etc. the production cost increase hence they feel low price for the milk and income from the dairying and these results were in line with results of Manoharan *et al*. (2003), Sarker and Ghosh (2010) and and Minhaj *et al*. (2019), who reported that high cost of supplement feed or mineral mixture was perceived as most serious constraint followed by high cost of dry fodder and non-availability of pasture.

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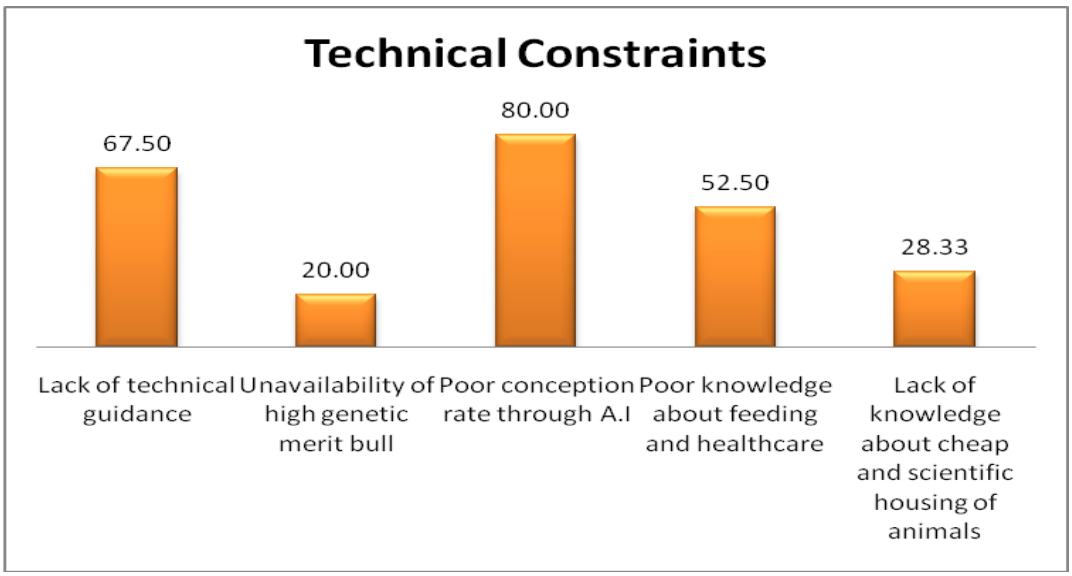

Fig.3: Infrastructural constraints perceived by dairy farmers

The major technical constraints expressed by dairy farmers (Fig. 3) were poor conception rate through artificial insemination (80.00%), followed by lack of technical guidance (67.50%), poor knowledge about feeding and health care (52.50%), lack of knowledge about cheap and scientific housing of animal (28.33%), whereas, only 20.00 per cent of the dairy farmers had expressed unavailability of high genetic merit bull as the constraint. These constraints may be attributing to the reasons like lesser extension and awareness activities related to dairy activities like proper detection of heat in animals and time of insemination, scientific feeding practices etc. among the respondents. These findings are not in consonance with findings of Sarker and Ghosh (2010) and Minhaj *et al*. (2019), who reported that repeat breeding problem in dairy animals was perceived as most serious by the respondents followed by poor conception rate of A.I. and lack of good breeding stock.

Perusal of Table 2 depicts that age of the farmer and dairy animal procession has no significant correlation with the dairy production constraints. Family size is negatively correlated with infrastructural constraints. With more members in the family, there is more availability of human resource for the dairy production. Family labour is readily available to take care of health, breeding and feeding needs and infrastructure. Animal husbandry income is negatively correlated with all categories constraints. As more income is earned from the dairy production the same can be utilized for infrastructural needs, resources become affordable, services will be readily available on payment due to increased income. All categories of constraints are positively related to each other. The production practices are interrelated and constraint in one is linked with problem in other. A technical constraint may lead to infrastructural constraint and an infrastructural constraint may cause an economic constraint and so on.

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Table 2: Correlations between dairy production constraints and socioeconomic parameters

	Infrastructural Constraints	Economic Constraints	Technical Constraints
Age	0.055	0.11	0.049
Family size	-.227*	0.104	-0.06
Dairy Animal Possession	-0.041	0.05	0.009
Animal Husbandry Income	-.379**	-.185*	-.288**
Infrastructural Constraints	1	.357**	.448**
Economic Constraints	.357**	1	.423**
Technical Constraints	.448**	.423**	1

**Correlation is significant at the 0.05 level (2-tailed); **Correlation is significant at the 0.01 level (2-tailed).*

Conclusion

It could be concluded that, the majority respondents had different constraints in which unavailability of green fodder throughout the year, high cost of feed and fodder and poor conception rate through artificial insemination are the prime constraints hence in order to improve dairy production in the study area, there is a need for technical and institutional intervention to alleviate the identified constraints through dissemination of appropriate technologies and extension strategies for better feeding, artificial insemination, improved dairy animals supply and better access to feed and fodder and their conservation for lean periods, which will further improve the milk production and income of the dairy farmers.

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