RESEARCH PAPER

Problems faced by dairy farmers in Punjab : A study of Sri Muktsar Sahib and Mansa districts

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Abstract : Punjab is an agriculture dominant state as major occupation here is agriculture. But due to some reasons from the past decade it did not seem to be available occupation. People started deviating from agriculture and even governments are asking for diversification and to adopt other subsidiary occupations. Dairy farming is one of such occupation which support agriculture income and even as an independent entrepreneurship it is profitable occupation. But dairy farmers are also facing many problems and with this objective present study was conducted in two districts of Punjab state. From eighteen randomly selected villages of Sri Muktsar Sahib and Mansa, 320 respondents were interviewed with the help of a structured interview schedule. It was found that non-availability of insurance of animals was the major problem and even they were not aware about the existing various dairy development schemes. Distant location of veterinary hospitals, lack of organized milk marketing facilities in villages were some of other prominent problems they were facing. Dairy farming can be a viable source to enhance the rural income and can a profitable source of income for rural masses if their problems to be addressed with utmost attention.

Key Words : Problems faced, Dairy farmers

INTRODUCTION

Punjab state has occupied a prime position in India by contributing about 78 per cent of the total wheat and 60 per cent of the total rice to the central pool. Having only 1.53 per cent of the total geographical area of the country, the state produced about 17 per cent of the total wheat and 11 per cent of the total rice in the country (GOI, 2017). To achieve this level of production, Punjab state has been paying a lot in terms of exhausting their natural resources. The over-use of ground water, use of synthetic inputs like fertilizers, pesticides etc. has raised many problems such as depletion of water level at an alarming stage, deterioration of soil fertility, increasing capital investment, stagnant productivity, declining profit margin etc. Due to these problems, the Punjab agriculture has been passing through severe crisis in the recent years. Subsidiary occupation is thus, have an important role and scope to address these problems by supplement significant amount of income to the farming community

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in the Punjab state. Among subsidiary occupation, dairy farming has great scope in Punjab state.

Dairy sector remains the key concern of development plans as it supplements the income of the majority of the rural population. It sustains the livelihood of rural population by generating cash income on daily basis. Dairy development was one of the effective tools in bringing about socio-economic change that provided opportunity for an increase of per capita income in rural areas.Problems of unemployment and under-employment could be solved through dairy farming in rural areas. In our national endeavoured to raise the living standard teeming million of the rural masses and to alleviate them from stark poverty, dairy cattle assumed high propensity (Kaur, 2010).

Majority of state's population live in villages and are involved in agriculture. Rearing of cattle animal is also an additional source of income of the villagers in our country. The supply of milk in some parts of India was higher than the local demand. On the other hand, supply of milk in the rest of the country as well as urban areas was much lower than the demand. In 1965, National Dairy Development Board (NDDB) was set up with the objective of meeting the increasing demand of milk especially in urban areas as well as developing the rural economy through the enhancement of the milk production in the country (Bandyopadhyay, 1996; Kurup, 1991 and Kakaty and Gogai, 2001).

Cattle and buffalo production was an integral form of rural economy and contributes substantially to the family income. Milk contributed 66.8 per cent of the total value of output from livestock (1998-99). In addition to milk and milk products for human consumption, cattle and buffaloes also provided animal power for agricultural operations and rural transport needs. Milk production in 1998-99 was estimated to be 74.7 million tonnes, which was less than 10 per cent of world production. Around 54 per cent of this total milk comes from buffaloes, 42 per cent from cows and only 4 per cent from goats. Large increase in milk production had been due to increase in numbers and change in composition of cattle population mainly due to increase in number of crossbreds (Saini,1989 and Harrison *et al.,* 2009).

But still there are some factors which hampered the development of dairying in Punjab. The major constraints identified were low yield of local cows, inadequate artificial insemination services, poor feeding, lack of extension services, lack of adequate health cover

etc. The sporadic incidences of the out brake of some contagious diseases in the state demanded the strengthening of veterinary institution and better health cover to animals. It was observed that the genetic potential of high yielding animals were not fully exploited by the farmers to as it required to adequate feeding and management of animals right from birth (Gill and Parmar, 1990; Deshpande, 2002 and Singh and Joshi, 2008). The nation's milk supply comes from millions of small producers, inhabited mostly in the rural areas. Considering the importance of dairy farming among rural community in the state of Punjab, it becomes immensely imperative to assess the constraints in dairy farming, so as to facilitate for strategic planning and decision support. So the present study aimed to access the problems faced by dairy farmers in Punjab state.

MATERIAL AND METHODS

The present study was conducted in the Punjab state and from the western zone of the state two districts namely Sri Muktsar Sahib and Mansa were selected on the basis of literacy among the six district of the western zone, literacy rate was the highest in Sri Muktsar Sahib (76.49 %), while it was the lowest in Mansa district (58.08 %). Three-stage random sampling technique was used to draw a representative sample of the study. At first stage, three blocks from each district were selected. At second stage, three villages were selected randomly from each selected block. Then, three villages were selected randomly from each selected block and at final stage 20 respondents were interviewed personally with the help of a structured interview schedule. Thus, total sample size comprised of 320 respondents.

E-Garrett ranking technique:

E-Garrett ranking technique was applied to extract the most brewing problems faced by the dairy farmers while production and marketing of milk in the study area. The responses of the respondents with respect to different problems were quantify into score and score I was assigned to most important problem and II, III, IV, V, VI and so on to the next important problems, respectively. The E-Garret ranking technique was used to quantify the most important problems reported by the respondents. The value of mean score on the basis the rank assigned by the respondents in favour of particular problems was worked out. Highest is the value of mean score, most important is the problem. E-Garrett's formula

for converting ranks into per cent is given by:

$$\text{Per cent position} = \frac{100 \times (R_{ij} - 0.5)}{N_j}$$

where,

R_{ij} = Rank given for i^{th} problem by j^{th} individual

N_j = Number of ranked assigned by j^{th} individual

With the help of E Garrett's Table, the percentage position estimated is converted into scores. Then for each factor, the scores of each individual are added and then the total value of scores and mean values of score is calculated.

RESULTS AND DISCUSSION

All the problems were classified into three categories namely, problems related to milk production *i.e.* rearing of dairy animals, institutional and marketing problems. The severity of the problem was ranked from I (most severe) to XIV (least severe).The different problems and their respective ranks was assigned by the sample respondents with respect to rearing of dairy animals for milk production have been depicted in Table 1. By applying E-Garrett's Ranking technique and taking into account the ranks assigned by the respondents the total scores and mean scores were worked out. The results revealed that the total score (25375) and mean score (70.49) worked out to be the highest with respect to the problem 'No claim provided to farmer due to sudden death of animal' and hence, this problem was emerged as the most important problem as reported by the sample households in the study area. About 39 per cent of the total respondent's assigned rank I to this problem.

As reported by the farmers, scarcity of labour was the next most important problem. Dairy farming is very labour intensive enterprise and requires full engagement of labour for performing various operations of cattle tending in dairy farming. This problem was ranked at II rank and mean score calculated to be 63.67 in favour of this problem.

The severity of the problems like poor quality of bull at village level, problems of disposal of old/disabled/unproductive/dead animal, High

Table 1: Problems faced by the sample dairy farmers with respect to rearing of dairy animals (n=360)

Sr No.	Problem	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total score	Mean score	Rank
1.	No claim provided to farmer due to sudden death of animal	39.44	18.06	0.00	14.44	0.00	13.06	7.78	0.00	0.00	7.22	0.00	0.00	0.00	0.00	25375	70.49	I
2.	Labour problems	7.22	27.50	0.00	7.78	12.78	30.28	14.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22921	63.67	II
3.	Poor quality of bull at village level	11.11	25.00	12.78	1.94	7.22	0.00	19.17	0.00	8.33	6.67	7.78	0.00	0.00	0.00	22257	61.83	III
4.	Problems of disposal of old/disabled/unproductive/dead animal	0.00	7.78	26.94	12.78	0.00	0.00	18.33	8.33	25.83	0.00	0.00	0.00	0.00	0.00	20748	57.63	IV
5.	High mortality in male buffaloes and cow calves	14.44	5.00	0.00	24.17	0.00	7.22	0.00	6.67	42.50	0.00	0.00	0.00	0.00	0.00	20744	57.62	V
6.	Low productivity in local cows	0.00	7.78	11.39	7.22	6.67	25.56	6.67	34.72	0.00	0.00	0.00	0.00	0.00	0.00	20383	56.62	VI
7.	Non-availability of good breed cattle for breeding purpose	6.67	7.22	0.00	5.67	33.06	9.44	1.67	12.78	11.11	0.00	11.39	0.00	0.00	0.00	20264	56.29	VII
8.	Repeat breeding in buffaloes	9.44	1.67	15.00	25.00	25.83	0.00	0.00	0.00	0.00	0.28	0.00	0.00	6.67	16.11	19816	55.04	VIII
9.	Relative low conception rate through AI	0.00	0.00	16.11	0.00	14.44	0.00	31.94	19.17	0.00	11.11	0.00	0.00	0.00	7.22	18418	51.16	IX
10.	Lack of availability of green fodder round the year	11.39	0.00	17.78	0.00	0.00	0.00	0.00	0.00	7.78	29.72	0.00	7.78	6.67	18.89	16156	44.88	X
11.	High cost of feed and fodder	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26.94	55.00	11.39	0.00	6.67	12999	36.11	XI
12.	Problem of heat detection	0.00	0.00	0.00	0.00	0.00	14.44	0.00	18.33	0.00	0.28	18.89	5.67	30.00	11.39	12869	35.75	XII
13.	Inadequate knowledge of balance feeding	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.94	0.00	55.00	38.06	0.00	10923	30.34	XIII
14.	Improper housing facilities leading to infection	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.72	11.94	6.67	18.89	18.33	39.44	9580	26.61	XIV

mortality in male buffaloes and cow calves, Low productivity in local cows, non-availability of good breed cattle for breeding purpose, repeat breeding in buffaloes and relative low conception rate through artificial Insemination was moderately high as the mean score estimated to the tune of 61.83, 57.63, 57.62, 56.62, 56.29, 55.04 and 51.16 and ranked at III, IV, V, VI, VII, VIII and IX position. However, the problems like lack of availability of green fodder round the year, high cost of feed and fodder, problem of heat detection, inadequate knowledge of balance feeding and improper housing facilities leading to infection were the least important problems which were ranked from X to XIV position, respectively.

Problems regarding rearing of dairy animals-(E-Garret Ranking approach):

E-Garrett Ranking technique has been employed to find out the most important problem which has been limiting milk production, while rearing of dairy animals. In this regard, the technique was used to quantify the most important problems reported by the respondents. The value of mean score on the basis of the rank assigned by the respondents in favour of particular problem was worked out. Higher the value of mean score, more important is the problem. The responses of the respondents to the different problems were ranked from 1 to 14 according to their severity *i.e.* 1 rank has been given to most important problem and XIV ranks has been given to least important problem. The per cent position of ranks and their respective E-Garrett's Table value is presented in Table 2.

Institutional problems faced by the sample respondents (E-Garret Ranking approach):

The different types of institutional problems and their respective ranks as assigned by the sample respondents have been depicted in Table 3. The results revealed that the total score (21660) and mean score (60.17) worked out to be the highest with respect to the 'Lack of awareness about various dairy development schemes' and hence this problem was emerged as the most important problem. About 19.44 per cent of the total respondents assigned rank 1 to this problem. As reported by the farmers, distant location of veterinary hospitals was the next most important problem. Farmers reported that it is very difficult to access of veterinary services due to distant location of veterinary hospital as it is very difficult to transport animals in case of emergency. This problem was ranked at II rank and mean score calculated to be 58.10 in favour of this problem, respectively.

The severity of the problems like lack of proper insurance facilities, non-availability of veterinary facilities in the village at the time of emergency, lack of extension services (no training camps), non-availability of veterinary doctors and costly veterinary treatment were moderately high as the mean score estimated to the tune of 56.55, 56.38, 53.69, 50.66 and 50.51 and ranked at III, IV, V, VI and VII position. However, the problems like non-availability of artificial insemination centres in the village, inadequate extension and advisory services and absence of credit facilities were the least important problems which were ranked from VIII, IX and X position, respectively.

Table 2: Per cent position of ranks assigned from 1 to 14 and their respective E-Garrett's table value

Rank	Percentage position	E-Garrett's table value
1.	3.57	85
2.	10.71	75
3.	17.86	69
4.	25.00	63
5.	32.14	59
6.	39.29	56
7.	46.43	52
8.	53.57	48
9.	60.71	45
10.	67.86	41
11.	75.00	37
12.	82.14	32
13.	89.29	26
14.	96.43	16

The responses of the respondents with respect to different types of institutional problems were ranked from 1 to 10 according to their severity *i.e.* I rank has been given to most important problem and X ranks has been given to least important problem. The per cent position of ranks and their respective E-Garrett's Table value is presented in Table 4.

Marketing problems faced by the sample respondents (E-Garret Ranking approach):

The different types of marketing problems and their respective ranks as assigned by the sample respondents are given in Table 5. By applying E-Garrett's Ranking technique and taking into account the ranks assigned by the respondents the total scores and mean scores were worked out to be the highest in favour of 'Lack of organized milk marketing facilities in villages'. Hence, this problem was emerged as the most important problem as reported by the sample households in the study area. About 53 per cent of the total respondent's assigned rank I to this problem. As reported by the farmers, low price of milk was the next most important problem. About one-

Table 3: Ranking of institutional problems faced by the dairy farmers (n=360)

Sr. No.	Problem	Rank										Total score	Mean score	Rank
		I	II	III	IV	V	VI	VII	VII	IX	X			
1.	Lack of awareness about various dairy development schemes	19.44	27.78	4.17	16.94	8.33	6.67	4.44	4.17	-	8.06	21660	60.17	I
2.	Distant location of veterinary hospitals	6.11	23.61	8.33	17.22	19.17	12.50	13.06	-	-	-	20917	58.10	II
3.	Lack of proper insurance facilities	30.00	6.94	-	13.61	10.56	3.89	4.17	12.50	18.33	-	20357	56.55	III
4.	Non-availability of veterinary facilities in the village at the time of emergency	23.61	12.22	17.78	-	16.67	4.17	4.44	-	8.06	13.06	20295	56.38	IV
5.	Lack of extension services (no training camps)	8.61	6.94	8.06	10.83	26.67	12.50	18.06	8.33	-	-	19328	53.69	V
6.	Non-availability of veterinary doctors	12.50	3.89	4.17	10.83	10.00	20.83	16.39	11.67	6.94	2.78	18236	50.66	VI
7.	Costly veterinary treatment	4.17	4.17	27.50	4.17	13.33	-	16.39	21.94	8.33	-	18184	50.51	VII
8.	Non-availability of AI centres in the village	4.17	4.44	22.22	15.56	-	4.17	13.06	8.33	23.89	4.17	17277	47.99	VIII
9.	Inadequate extension and advisory services	4.17	4.44	2.78	-	16.94	4.17	19.17	7.22	41.11	-	15157	42.10	IX
10.	Absence of credit facilities	-	4.17	4.44	13.61	8.33	4.17	11.39	4.17	18.89	30.83	13480	37.44	X

Table 4: Per cent position of ranks assigned from 1 to 10 and their respective E-Garrett's table value

Rank	Percentage position	E-Garrett's table value
I	5.00	82
II	15.00	70
III	25.00	63
IV	35.00	58
V	45.00	52
VI	55.00	47
VII	65.00	42
VIII	75.00	37
IX	85.00	30
X	95.00	18

Table 5: Ranking of marketing problems faced by the dairy farmers (n=360)

Sr. No.	Problem	Rank				Total score	Mean score	Rank
		I	II	III	IV			
1.	Lack of organized milk marketing facilities in villages	53.06	19.44	20.00	7.50	21569	59.91	I
2.	Low price of milk	24.72	74.17	1.11	0.00	21536	59.82	II
3.	Highly perishable in nature	21.11	6.39	52.50	20.00	17020	47.28	III
4.	Costly transportation	1.11	0.00	26.39	72.50	11515	31.99	IV

Table 6: Per cent position of ranks assigned from 1 to 10 and their respective Garrett's table value

Rank	Percentage position	Garrett's table value
1	12.50	72
2	37.50	56
3	62.50	44
4	87.50	27

fourth (24.72%) assigned was ranked at 2nd position. 'Highly perishable in nature' and costly transportation were ranked at III and IV position, respectively.

The responses of the respondents with respect to different types of marketing problems were ranked from 1 to 4 according to their severity *i.e.* 1 rank has been given to most important problem and 4 ranks has been given to least important problem. The per cent position of ranks and their respective Garrett's Table value is presented in Table 6.

Conclusion:

Dairy farming has good scope to augment the income of the farmers. The central and state government recognized that the farmer's income can be enhanced by pushing up dairy farming. This sector has great potential to generate employment opportunities for large number of farmers in the rural area. Indian dairy is a classic example of production by masses rather than mass production. The nation's milk supply comes from millions of small producers, inhabited mostly in the rural areas. Considering the importance of dairy farming among rural community in the state of Punjab, it becomes immensely imperative to assess the constraints in dairy farming, so as to facilitate for strategic planning and decision support. There is no insurance schemes for animals in the state due to sudden death of animal and this problem was emerged as the most important problem as reported by the sample households in the study area. Lack of awareness about various dairy development schemes, distant location of veterinary hospitals, lack of organized milk marketing facilities in villages were some of other prominent problems they were facing. Dairy farming can be a viable source to enhance the rural income and can be a profitable source of income for rural masses if their problems to be addressed with utmost attention.

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