

A study on impact of dairy farming vocational trainings on adoption of dairy entrepreneurship in south-western districts of Punjab

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ABSTRACT

Total 866 dairy farmers who have successfully completed dairy farming vocational training programmes from KVK, Bathinda, Mansa and Sangrur during the year 2011, 2012 and 2013 were selected for the collection of data. The information filled in a questionnaire from the trained farmers by visiting and discussing with them personally was analyzed for their adoption percentage to dairy entrepreneurship. The farmers were categorized in seven categories i.e. domestic (1-2 animals), marginal (3-5 animals), small (5-10 animals), medium (10-20 animals), large (20-100 animals), commercial (above 100 animals) and others who have not adopted this entrepreneurship. This study reveals 24.71% farmers this vocation as domestic, 16.85% as marginal, 11.54% as small, 07.04% as medium, 04.15% as large, and 01.96% as commercial while 16.97% were adopted dairy farming. It is also concluded that dairy training plays a significant role in bringing improvement in the socio-economic status of the farmers.

Key words: Dairying, Entrepreneurship, Management, Adoption, Feeding, Production

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INTRODUCTION

Punjab is one of the smallest states in Indian Union with a total area of 50,362 Sq. Kms., which is 1.53% of the Indian landmass. Punjab is the fifth largest milk producing state in India, producing around 256.18 lakh litres per day (LLPD) with highest per capita consumption of milk 944 gm per day (Government of Punjab Annual Plan 2013-14). However, milk production per animal stands sharply lower in comparison to the developed countries and this comes despite the country being among top milk producers of the world.

Our major challenge is to meet the increasing demand of milk resulting from the almost inevitable expansion of population, and presumably, growth of income. Punjab has a large market of dairy products due to the increasing demand for variety of milk products. But the unique feature of Punjab dairy industry is that milk production is predominantly in the hand of small and marginal dairy farmers in a mixed farming system.

To overcome the problems faced by dairy farmers, Institutions like Punjab Agricultural University, Guru Angad Dev Veterinary and Animal Science University,

Department of Animal Husbandry, Punjab Livestock Development Board, Dairy Development Department, MILKFED, Progressive Dairy Farmers Associations etc. are striving hard to develop low cost production and processing technologies to increase the productivity of our animals on one hand to enhance the quality of milk and its value added products on the other. Constant efforts are being made to develop strategic recommended management technologies, which are suited to our system of dairying and are also simple, low cost and easily adoptable by the majority of the farmers. Proper guidance of trainees in adopting learnt knowledge and skill is also as important as training itself (Keshava, 2002). It is equally important that these technologies should reach to end-users through proper dissemination at field level. With this objective, Krishi Vigyan Kendra's in Punjab are playing a significant role in popularizing dairying among rural youth, ex-service men, labourers, farmers and farm women through their production oriented need based vocational training programmes in dairy farming.

Rare work has been carried out to study the impact of

Table 1. Selection of trained dairy farmers for collection of data in south-western districts of Punjab

Name of the district	Total no. of trainees	No. of trainees adopted dairy entrepreneurship	Adoption (Per cent)
Bathinda	575	406	70.61
Mansa	88	56	63.63
Sangrur	203	112	55.17
Total	866	574	66.28

Table 2. District-wise reason for starting of dairy farms adopted by trainees in south-western districts of Punjab in per cent

Reason for starting of dairy farm	Bathinda	Mansa	Sangrur	Overall
Inherited tradition	08.86 (51)	02.27 (02)	06.89 (14)	07.73 (67)
Additional income	75.00 (431)	79.54 (70)	79.80 (162)	76.55 (663)
Self employment	08.86 (51)	02.27 (02)	6.09 (03)	6.46 (56)
Availability of loan with subsidy	07.30 (42)	15.90 (14)	11.82 (24)	9.23 (80)

Figures in parenthesis indicate the number of dairy farmers

these vocational training programmes on adoption of dairy entrepreneurship in Punjab. Therefore, the present work has been designed to study the impact of these vocational training programmes in response to educate and trained the farming community to adopt dairy entrepreneurship as a subsidiary occupation through Krishi Vigyan Kendra's.

MATERIAL AND METHODS

To undertake this work, three Krishi Vigyan Kendra's of Bathinda, Mansa and Sangrur districts were selected. Total 866 dairy farmers who have successfully completed dairy farming vocational training programmes organized during the year 2011, 2012 and 2013 at these KVK's were selected for the collection of data. Total 575 trained farmers were selected from the district Bathinda, 88 from Mansa whereas 203 trained farmers were selected from District Sangrur.

The information was collected in a questionnaire from the trained farmers by visiting and discussing with them personally was analyzed for their adoption percentage to this dairy entrepreneurship. The farmers were categorized in seven categories i.e.

domestic (1-2 animals), marginal (3-5 animals), small (5-10 animals), medium (10-20 animals), large (20-100 animals), commercial (above 100 animals) and others who have not adopted this entrepreneurship. The frequencies of each response/constraint were worked out and expressed in percentage. The detail of selection of trained dairy farmers, reason for starting dairy farms and adoption of dairy entrepreneurship along with various recommended technologies for collection of data are given in Table-1 to Table-4: The data were analysed as per standard statistical methods.

RESULTS AND DISCUSSION

The perusal of result indicates that 24.17% farmers adopted this business as domestic, 17.91% as marginal, 11.83% as small, 8.52% as medium, 5.22% as large, 2.95% as commercial and 14.78% not adopted this entrepreneur in district Bathinda as compared 34.09% adopted this business as domestic, 12.50% as marginal, 10.22% as small, 04.54% as medium, 02.72% as large and 26.13% not adopted this entrepreneur in district Mansa; and 20.69% adopted this business as domestic, 15.76%

Table 3. District-wise classification of dairy farms adopted by trainees on the basis of farm size and socio-economic parameters of dairy farmers in south-western districts of Punjab (per cent)

Parameters	Bathinda	Mansa	Sangrur	Overall
Farm size (No. of animals)				
Domestic (1-2 animals)	24.17 (139)	34.09 (30)	20.69 (45)	24.71 (214)
Marginal (3-5 animals)	17.91 (103)	12.50 (11)	15.76 (32)	16.85 (146)
Small (5-10 animals)	11.83 (68)	10.22 (09)	11.33 (23)	15.81 (137)
Medium (10-20 animals)	8.52 (49)	04.54 (04)	03.94 (08)	09.81 (85)
Large (20-100 animals)	5.22 (30)	2.72 (02)	01.97 (04)	04.73 (41)
Commercial (above 100 animals)	02.95 (17)	00.00 (00)	00.00 (00)	01.96 (17)
No adoption	14.78 (85)	26.13 (23)	24.13 (49)	16.97 (147)
Age (Years)				
Upto 30	60.00 (345)	42.04 (37)	47.78 (97)	55.31 (479)
31-40	30.08 (173)	50.00 (44)	42.43 (85)	34.87 (302)
>40	09.91 (57)	07.95 (07)	10.34 (21)	09.81 (85)
Educational status				
Upto Matriculation	09.91 (57)	36.36 (32)	26.60 (54)	16.51 (143)
10 + 2	50.08 (288)	39.77 (35)	44.82 (91)	47.80 (414)
Graduate & above	40.00 (230)	23.86 (21)	28.57 (58)	35.68 (309)
Land holding (acres)				
Upto 02	16.00 (92)	20.45 (18)	21.18 (43)	17.66 (153)
02-05	70.08 (403)	60.22 (53)	73.89 (150)	69.97 (606)
> 05	13.91 (80)	19.31 (17)	04.92 (10)	12.35 (107)
Occupation				
Unemployed youth	48.34 (287)	37.50 (33)	44.82 (91)	47.45 (411)
Ex-service man/retired person	06.08 (35)	04.54 (04)	03.94 (08)	05.42 (47)
Farmers/farm women	40.00 (230)	48.86 (43)	41.87 (85)	41.33 (358)
Labourers	04.00 (23)	09.09 (08)	09.35 (19)	05.77 (50)
Total income (Rs./month)				
Upto 10,000	29.91 (172)	50.00 (44)	43.84 (89)	35.21 (305)
10,001 to 15,000	49.91 (287)	39.77 (35)	44.82 (91)	47.69 (413)
> 15,000	20.17 (116)	10.22 (09)	11.33 (23)	17.09 (148)

Figures in parenthesis indicate number of dairy farmers

Table 4. Impact of training programmes on adoption of recommended dairy farming practices in south-western districts of Punjab

Recommended dairy farming practices	Knowledge level before and after training in different districts							
	Bathinda		Mansa		Sangrur		Overall	
	Before	After	Before	After	Before	After	Before	After
1.Housing	264	505	26	63	81	170	371 (42.84)	738 (85.21)
2.Feed and fodder management including use of mineral mixture and salt	287	517	27	62	89	162	403 (46.53)	741 (85.56)
3.Preventive measures and diseases control	230	391	23	40	65	132	318 (36.72)	563 (65.01)
4.Breeding	202	403	16	48	51	101	269 (31.06)	552 (66.39)
5.Calf management	30	460	20	60	55	142	105 (12.12)	662 (76.44)
6.Cow dung disposal	202	506	17	48	40	142	259 (29.90)	696 (80.36)
7.Clean milk production and value addition of milk	144	431	16	48	40	102	200 (23.09)	581 (67.09)

Figures in parenthesis indicate per cent of dairy farmers

as marginal, 11.33% as small, 3.94% as medium, 01.97% as large and 24.13% not adopted this entrepreneur in district Sangrur, respectively.

Overall 76.55 per cent trainees started dairy farming mainly to get additional income, 9.23 per cent trainees started dairy farming mainly due to loan obtained from bank along with subsidy, 7.73 per cent adopted dairy farming due to inherited tradition where as remaining 6.46 per cent trainees took up dairy farming for self employment. Small and medium sized land holders (upto 05 acres) adopted dairy farming with a greater frequency (87.64 per cent) whereas remaining 12.35 per cent adoption of dairy farming was made by large sized land holders (>05 acres). The trainee's having age < 40 years were less interested in dairy farming while those having age upto 40 years were mainly adopted this entrepreneurship. It reveals that on overall basis 47.45 per cent trainees were unemployed youth, 5.77 per cent were labourers, 5.42 per cent were ex-service man/retired person and 41.33 per cent were farmers/farm women who adopted dairy entrepreneurship. The data also reveals that the

trainees having total income rupees >15,000 were less interested in dairy farming while those having total income rupees <15,000 were mainly adopted this occupation.

Bottlenecks in adoption of dairy entrepreneurships encountered by the trainees

The trainees were asked to express their responses on bottlenecks faced by them in adoption of dairy technologies. The data presented in Table-5 show that overall 67 per cent trainees expressed lack of knowledge of scientific dairy farming including construction of shed, bio-gas plant, winter and summer management, feeding and preservation of fodder, incidence of diseases including lack of diseases investigation and monitoring facilities, non availability of artificial insemination facility, clean milk production and value addition of milk. Total 64 per cent trainees show that high cost and poor quality of inputs including costs of animals, constructional material, feed, fodder, mineral mixture, medicines, equipments, machineries etc. are the major bottlenecks in adoption of dairy entrepreneurship where as total 63 per cent trainees

Table 5. Bottlenecks in adoption of dairy entrepreneurship encountered by the trainees (per cent)

Sr. No.	Name of the bottleneck	Bathinda	Mansa	Sangrur	Overall
1.	High cost and poor quality of inputs including costs of animals, constructional material, feed, fodder, mineral mixture, medicines, equipments, machineries etc.	57.04 (328)	70.45 (62)	65.02 (132)	60.27 (522)
2.	Non-availability of loan including rigid procedure for supply of loans.	42.08 (242)	60.22 (53)	55.17 (112)	46.99 (407)
3.	Non-availability of improved cow breeds, buffaloes and breeding bulls.	40.00 (230)	56.81 (50)	53.20 (108)	44.80 (388)
4.	Non-remunerative prices of milk and milk products, oligopsony marketing structure for sale/purchase of animals, feed, fodder, milk and milk products including high cost of transportation.	69.04 (397)	43.18 (38)	46.79 (95)	61.20 (530)
5.	Lack of knowledge of scientific dairy farming including construction of shed, bio -gas plant, winter and summer management, feeding and preservation of fodder; incidence of diseases including lack of diseases investigation and monitoring facilities, non availability of artificial insemination facility, clean milk production and value addition of milk.	64.00 (368)	70.45 (62)	67.98 (138)	65.58 (568)
6.	Lack of availability and higher costs of labours	72.00 (414)	54.54 (48)	62.06 (126)	67.89 (588)

Figures in parenthesis indicate number of dairy farmers

also show about lack of availability and higher costs of labours. About 50 per cent trainees of whole also show that non-availability of improved cow breeds, buffaloes and breeding bulls, loans, non-remunerative prices of milk and milk products, oligopsony marketing structure for sale/purchase of animals, feed, fodder, milk and milk products including high cost of transportation are their major bottlenecks.

The maximum unemployed youth trainees started dairy farming occupation mainly for additional income. Small and medium sized land holders (upto 05 acres) adopted dairy farming with a greater frequency. The trainee's having age upto 40 years were mainly adopted this entrepreneurship. The data also reveals that the trainees having total income rupees <15,000 were more interested in dairy farming.

The higher adoption by dairy keepers in all the practices of management viz., Feed and fodder management including use of mineral mixture and

salt, housing, preventive measures and diseases control and calf management was due to their better knowledge regarding these practices. An in-depth analysis of practices followed under feeding aspect revealed that all the respondents fed green and dry fodder and majority gave concentrate to the milch animals, however, majority did not supply the green fodder and concentrate in required quantity. Similar findings have been reported by Sharma *et al.* (2014), Singh *et al.* (2013) and Talwar (1989) who concluded that the poultry farmers were not following the scientific practices in case of feeding the poultry birds. Use of mineral mixture and salt for animal feeding was not common practice in all categories of farmers as only large dairy keepers were giving it on regular basis to their animals. The adoption percentage regarding the practice of breeds and breeding was found low because the dairy farmers usually possessed local non-descript breeds followed by natural service to their animals with local sire.

On the basis of these findings, it could be concluded that Government should spend special funds to supply money for construction of shed under infra structure development scheme. Farmers must be educated about the marketing facilities, knowledge of scientific feeding as well as preservation of fodder practices and improved technologies for the upgrading of dairy animals. Artificial Insemination (A.I.) must be arranged at door steps to solve the difficulty in bringing the animals to A.I. centres at right time particularly by farm women who usually take care of these milch animals.

To meet the requirement of green fodder, there is urgent need to bring more area under fodder cultivation to maintain/increase the productivity of animals. There is immense need to aware the dairy farmers to use judicious proportion of feed and fodder (legume and non-legume) for better productivity and health maintenance of the animals. In order to increase cattle and buffalo production and productivity, it is essential to provide input services (breeding, feeding and health) at the farmers' door and create awareness among the dairy farmers about the newer technologies through a strong Animal Husbandry extension network system.

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