RESEARCH NOTE

Impact Evaluation of Training Programmes on Dairy Farming in Punjab State

Manoj Sharma[1], Gurdeep Singh[2] and Keshava[3]

1. Dy. Director (Training), KVK, Kapurthala (Punjab), 2. Asstt. Prof. (Ext. Edu), KVK, Mansa (Punjab),
3. Sr. Scientist (Agril. Ext.), ZPD, Zone-I (ICAR), PAU, Ludhiana-141004 (Punjab)
Corresponding author e-mail: drmanojsh1@gmail.com

ABSTRACT

Dairy farming is emerging in a big way in the recent years. Although production of milk has increased, productivity is still not up to the mark. KVK, Kapurthala has helped increase the knowledge, inculcate skills and improve socio-economic status of the rural poor. It was found that the average herd size with dairy farmers increased from 7.68 to 9.21 after the training. Knowledge level of trainees in breed characteristics, disease management, feed management etc. also increased. Number of trainees having knowledge about feed preparation technology increased from 6.67 to 100.00 per cent. Average knowledge score of the trainees increased from 3.64 to 6.39. The acquired knowledge farmers actually applied at their farms, which resulted in enhancement of their daily income. It was noticed that none of the trainees used Urea Molasses Mineral Block (UMMB) licks before the training, while after training percentage of trainees using UMMB licks was 18.75 per cent. Hence, besides gain in knowledge there was adoption of demonstrated technologies among the dairy farmers. Because of improved management at dairy farms, the average milk production per animal per day increased from 6.76 l to 6.93 l. The average reduction in cost of management of disease per animal per year was approximately Rs. 708.22. Increase in net profit per animal per year was Rs. 2607.82. Thus, it can be concluded that specialized training courses in dairy farming are proving to be beneficial to the dairy farmers by enhancing their socio-economic status.

Key words : *Impact; Training; Dairy farming; Kapurthala;*

India is the largest producer of milk in the world, but productivity of livestock in India is still dismally low. To enhance the productivity of animals, breed improvement and better management practices are required. Conducting of specialized training courses for the benefit of dairy farmers can enhance the productivity of animals. The Farm Science Centres known as 'Krishi Vigyan Kendras' are functioning in almost all the districts across the country for imparting vocational training to different category of farmers. One of the main aims of KVKs is to develop entrepreneurship amongst the rural people especially the farmers, farmwomen and rural youth in different areas of agriculture, dairying, fisheries, bee-keeping and home science for enhancing productivity, increasing income and employment for the welfare of human beings. KVK, Kapurthala conducts various need-based and skill-oriented training programmes for different target groups to enhance production and productivity in their mixed farming systems of crop and dairy husbandry. "Learning by Doing" approach is used to impart the skills. Proper follow up activities are undertaken after these trainings. To be fruitful, the training programmes should be designed based on actual training needs and socio-economic profile of potential trainees. Proper guidance of trainees in adopting learnt knowledge and skill is also as important as training itself (*Keshava, 2002*).

A study was carried out to examine the overall impact of training programmes conducted by KVK Kapurthala in the field of dairy husbandry with the specific objective to find out the changes in knowledge of the trainees, to investigate the changes in dairy management practices adopted by them, and to probe the economic benefits gained by them.

METHODOLOGY

The study was conducted during the month of September and October 2009. The dairy farmers who

attended specialized vocational training programmes on dairy farming during the years 2006-07, 2007-08 and 2008-09 formed the population of the study. In all, 179 dairy farmers attended the vocational training of 10 to 15 days duration during these years. Out of these, 60 farmers were selected for the study through systematic random sampling method.

Data for the study were collected through interview, focussed group discussion and observation methods. The semi-structured interview schedule was developed to know the changes in knowledge of trainee farmers about different aspect of dairy farming before and after the training. Similarly, change in type, breed and number of animals before and after training was also studied. To assess the gain in knowledge, knowledge score of the trainees during pre test were compared with their current knowledge scores. Change in dairy management practices was ascertained through focussed group discussion and observations at farmer's field. Economic benefits gained by trainees due to decreased management cost and increased milk production were calculated on prevalent cost basis. The data thus obtained were analysed using frequencies and percentages to interpret them.

RESULTS AND DISCUSSION

These training programmes changed many aspects of dairying in Kapurthala district. Such changes have been discussed under sub-heads namely, effect on herd size and type of animals, effect on knowledge level of dairy farmers, effect on dairy management practices and effect on income of dairy farmers

Effect on herd size and type of animals: Dairy farming along with crop husbandry is a common practice in India. However, this is normally subsistence in nature. It is necessary to maintain a particular herd size of quality breeds to make dairying a profitable business. The training programmes on dairy farming focussed on this fact and trained the farmers on economics of different quality breeds and importance of large herd size. It was evident (Table 1) that farmers were convinced with this fact and they changed their animals and increased their herd size. The average herd size of trainee farmers was 7.68 animals before training, which increased to 9.21 animals per farmer after the training. The profitable herd size for diary is considered to be 10 animals.

Likewise, farmers shifted their preference from buffaloes to high yielding cows. The average number of buffaloes with the farmers decreased from 4.64 to 4.36 after the trainings and follow up. On the other hand, number of cows increased from 4.38 to 6.38 per farmers. At the same time, there was a substantial increase in the number of crossbred cows with the farmer, which increased from 4.54 to 7.27 per farmer after the trainings. This shows that the training programmes changed the mindset of farmers and they started keeping good quality animals considering its role in milk production and profitability.

Table 1: Impact of training programmes on herd composition

Indicator	Herd composition		
	Before	After	% change
Av. number of animals	7.68	9.21	19.92
Av. number of buffalo	4.64	4.36	(-)6.03
Av. number of cows	4.38	6.38	45.66
Av.number of crossbreds	4.54	7.27	60.13

Effect on knowledge level of dairy farmers: The scientific knowledge about any enterprise is crucial for success of that enterprise. The data depicted in table 2 clearly indicate that there was considerable difference in knowledge level of dairy farmers during pre test and post training knowledge scores. Percentage of farmers having knowledge about breed characteristics increased by three times and average knowledge score of the trainees also increased from 4.44 to 6.32. Score of trainees in the area of feed management was 6.39 while earlier it was 3.64 only. 6.67 per cent of trainee farmers were having knowledge about feed preparation and management before training while all of them were found to have this knowledge after the training programmes.

Mastitis is a common disease in dairy animals, which affects the production potential and profitability drastically. Data elucidate that number of farmers having knowledge about cause of mastitis increased from 6.67 per cent to 81.67 per cent with increase in average knowledge score from 1.26 to 5.87. None of the trainees was aware about the prevention and control of mastitis before training, while 85.0 per cent of them became knowledgeable about it after training with an average knowledge score of 6.54. Repeat breeding also causes great economic loss to the farmers about which they were ignorant at pre-training stage. Now,

Table 2: Impact of vocational training programmes on knowledge level of trainees

Parameter	Before Training		After Training	
	% Trainees having knowledge	Av. knowledge score (Pre test)	% Trainees having knowledge	Av. Knowledge score
Breed Characteristics	25.00	4.44	75.00	6.32
Feed Preparation and Management	06.67	3.64	100.00	6.39
Cause of Repeat Breeding	Nil	Nil	50.00	6.62
Prevention and Control of Repeat Breeding	Nil	Nil	50.00	5.35
Cause of Mastitis	06.67	1.26	81.67	5.87
Prevention and Control of Mastitis	Nil	Nil	85.00	6.54
Silage Making	08.33	2.98	41.67	4.13
Loaning process and facilities	18.33	3.47	41.67	4.06

Table 3: Change in management practices after training

Indicator	Before Training (%)			After Training (%)		
	Never	Some Times	Always	Never	Some Times	Always
Feed Preparation	93.33	00.00	06.67	38.33	6.67	55.00
Use of MM	81.67	11.67	06.67	0.00	61.67	38.33
Use of UMMB	100.00	00.00	00.00	35.00	50.00	15.00
Silage	100.00	00.00	00.00	100.00	00.00	00.00
Vaccination	10.00	15.00	75.00	00.00	01.67	98.33

Table 4: Change in cost of disease management, feed management and income

Parameter	Before training	After training
Cost of disease Management (Av. Cost /Animal/Year in Rs)	1662.5	954.28
Feed Management (Av. Cost /Animal/Year in Rs)	20033.33	21566.27
Income (Av. Profit/Animal/Year in Rs)	10982.58	13590.4

Table 5: Increase in milk production after vocational training

Parameter	Before Change	After Change	% change
Average number of milch animals	04.45	05.45	22.47
Average milk production available with farmer per day in summer	24.82	37.41	50.73
Average milk production available with farmer per day in winter	36.45	46.00	26.20
Average milk production available with farmer per day during whole year	30.09	37.82	25.69
Average milk production in summer/animal/day	05.57	06.75	21.18
Average milk production in winter/animal/day	08.18	08.43	03.06
Average milk production/animal/day	06.76	06.93	02.51

considerable number of dairy farmers (50.00 %) were having knowledge about its causes, prevention and control. Likewise, knowledge about silage making also increased.

Any enterprise needs financial support for its smooth functioning. Many financial institutions are providing help to the dairy farmers in this regard. However, the farmers are not being benefited from this due to unawareness. These training programmes have imparted them knowledge about loaning process and facilities. Considerable number of farmers are now taking advantage of this knowledge in increasing the scale of dairy production

Effect on dairy management practices: One of the objectives of imparting vocational trainings at KVK campus is to impart skills related to different activities of dairying to improve the performance of trainees. The present study probed the transfer of skills also. Data presented in Table 3 depicts changes in dairy management practices of the farmers after attending the training programmes.

The role of balanced feeding in successful dairy farming is well established. The study revealed that 93.33 per cent of trainees never formulated feed at their farms before training but 55.00 % trained farmers started making compound cattle feed at domestic level regularly

after the training. Similarly, 81.67 per cent of the trainees never used mineral mixture and only 6.67 per cent were using it regularly. The percentage of trainees using it on regular basis increased by almost six times i.e. 38.33 per cent after the training. Similarly, the concept of feeding UMMB licks to lactating cows was demonstrated during the training programmes, which was not at all used by the farmers before the training. It was observed that though considerable number of trainees (35.00 %) were reluctant to use this technology, 50 per cent of them used it sometimes and 15.00 per cent started using it regularly. The adoption of UMMB was low due to the fact that before attending training programme at KVK, none of the trainees was aware about the concept of UMMB feeding. Irregular availability of UMMB was also one of the reasons for low or non-adoption of this technology. Besides, since it contains urea, some of the farmers became hesitant to feed it to their animals with the perception that urea is a poison. Adoption of improved and balanced feeding resulted in fewer occurrences of diseases. As a result, the cost of disease management reduced from Rs. 1662/- animal/year to Rs. 954/- animals/year (Table 4).

As far as vaccination of animals was concerned it was found that considerable awareness was there among dairy farmers and 75.0 per cent farmers were getting their animals vaccinated regularly but as per recommendations 100 per cent small as well as large animals should be got vaccinated. Therefore, it was emphasized loudly in the entire training course. On reviewing, it was found that now 98.33 per cent trainees were getting their animals vaccinated regularly after attending the training programmes. Almost similar result was found by *Arora et al., 2006.* Thus, there was good impact of the awareness as well as training imparted by KVK, Kapurthala during the last 3 years.

Effect on income of dairy farmers: The only criterion for adopting any technology is its economic viability. Thus, it was planned to see the impact of training programmes on change in income of dairy farmers. It is evident from the data presented in table 4 that there was a considerable reduction in the cost of disease management. Farmer saved almost Rs. 700 per animal per year on disease management. At the sametime there was an increase in the cost of feed management probably due to preparation of cattle feed at small scale. However, the response of homemade feed was so good that there was an overall increase in milk production from 6.76 litres to 6.93 litres per animal per day (2.51%). Average milk production per farmer increased from 30.09 litres to 37.82 litres with an increase of 25.69 per cent. In fact, the increase in milk production/animal was found to be highest during summer (Table 5).

The increased milk production resulted in increase in income from Rs. 10,982/- to Rs. 13,590/- per animal per year. It can, therefore, be inferred that dairy training programmes carried out by KVK Kapurthala were instrumental in increasing the productivity and profitability of dairy enterprise.

CONCLUSION

The study indicates that systematically planned training programmes and proper follow up action not only increased the knowledge and skill of the beneficiaries, but their production and profit as well. To be fruitful, the training programmes should be designed based on actual training needs and socio-economic profile of potential trainees. The KVKs should plan and organise need based vocational training programmes for entrepreneurship development so that the rural people are benefited. Specialized trainings in various enterprises will help achieve the sustained production and in turn will increase the income and employment in the rural areas.

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