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Perceived training needs assessment of livestock farmers for effective transfer of technology

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Abstract

The study was carried out to find out the perceived training needs of livestock farmers in improved animal husbandry practices in Junagadh District of Gujarat. Perceived training needs was assessed in four areas *viz*., housing management, breeding management, feeding and management practices and health care practices. The data was collected from purposively selected 300 farmers from Junagadh district. Structured interview schedule was developed. Data was collected from respondents through personal contact by using structured interview schedule. The result of the study revealed that 100 per cent farmers expressed their training need in area of construction of low-cost cattle shed, method of heat detection, time of insemination, balance feeding and symptoms of common diseases. Training of farmers to update knowledge and skills and recognizing and encouraging progressive farmers to act as extension agents was received as major suggestion for most effective mode of transfer of technology at field level.

Keywords: Training needs assessment, transfer of technology, livestock farmers, knowledge and skills

Introduction

In livestock sector, transfer of technology is interlinked with farmers at different tiers. It is seen that technology fails at bottom level because of lack of effective mode of transfer of technology from top to bottom and other reasons like lack of knowledge and skills to the human resources come under different tiers of livestock sector. To educate the farmers regarding deworming, vaccination, health and hygiene, nutrition, clean milk production and preventive and control measures for livestock diseases it is need to identify the gap between field and top level in terms of communication of technology (Deka *et al.*, 2020) [1]. It was revealed that to assess the training needs, it was essential to get feedback from farmers for minimizing the gap in transfer of technology from top to bottom (Shyam *et al.*, 2016) [8]. Keeping this view in mind a research study was planned to assess perceived training needs of farmers on various aspects of improved animal husbandry practices like housing management, breeding management, feeding and management practices and health care practices and socio-economic profile of the livestock farmers as well as suggestions for effective mode of transfer of technology at field level.

Methodology

Perceived training needs was assessed in four areas *viz*., housing management, breeding management, feeding and management practices and health care practices which included a total 16 different critical sub-areas in livestock farming. The summation of scores obtained by the respondents over each statement in each sub-area constituted the level of perceived training needs. Data was collected regarding socio-economic profile of the livestock farmers, Perceived training needs and suggestions for effective mode of transfer of technology at field level. The data was collected from purposively selected 300 farmers from Junagadh and adjacent districts. Structured interview schedule was developed. Pre-testing of interview schedule was done. Data was collected from respondents through personal contact by using structured interview schedule. Simple statistical measures like percentage and frequency were used to analyze the data.

Results and Discussion

Socio-economic profile of the livestock farmers

The findings depicted in Table-1 indicates that majority (62.30%) of the farmers were belonged to middle age group followed by 21.70 per cent with old age and 16.00 per cent were from young age group. The data revealed that 49.70, 21.00, 15.00 and 14.30 per cent of the farmers were educated up to primary, secondary, higher secondary, and above level respectively whereas, 14.30 per cent of farmers were illiterate (Sharma *et. al.*, 2020) [7]. From the above table, it can be found that nearly 57.33 of the farmers belonged to medium level of annual income (Rs. 15000-30000) group, whereas 27.67 per cent of farmers family had low level of income (< Rs.15000) and only 15.00 per cent of farmers family had high level of income (> Rs. 30000)

group. It is apparent from the data of table 1 that 24.33 per cent of the respondents were in marginal land holding category followed by 13.00 per cent of farmers were found with medium land holding, 5.00 per cent with large land holding and majority of the farmers (57.67%) were in small land holding category. It indicates that 45 per cent of the farmers used medium sources of information for obtaining information pertaining animal husbandry practices, whereas 28.67 per cent and 26.33 per cent of them used low and high sources of information, respectively. It was found that that more than half (61.00%) of farmers had animal husbandry along with agriculture as major occupation. Only 7.00 per cent of farmers were performing only animal husbandry occupation. Table 1 shows that 55.67 per cent of the farmers had medium herd size followed by 35.00 per cent of farmer had small herd size while 9.33 per cent of them had large herd size. Further table 1 shows more than half of the (50.67%) of the farmers fall under medium level of milk yield category followed by 29.00 per cent low milk yield while 20.33 per cent of them had high milk yield category.

Table 1: Personal and socio-economic characteristics of the respondents (n=300)

Sr. No.	Characteristics	Frequency	Percentage
1	**Age**		
	Young (Up to 38 years)	48	16.00
	Middle (38 to 55 years)	187	62.30
	Old (Above 55 years)	65	21.70
2	**Education**		
	Illiterate	43	14.30
	Primary (up to 8th std.)	149	49.70
	Secondary (9th to 10th std.)	63	21.00
	Higher secondary and above	45	15.00
3	**Annual income from dairy**		
	Low income (< Rs.15000)	83	27.67
	Medium income (Rs. 15000-30000)	172	57.33
	High income (> Rs. 30000)	45	15.00
4	**Land holding**		
	Marginal (up-to 1.00 ha)	73	24.33
	Small (1.1 to 2.0 ha)	173	57.67
	Medium (2.1 to 3.0 ha)	39	13.00
	Large (above 3.0 ha)	15	5.00
5	**Sources of information**		
	Low (less than 36 score)	86	28.67
	Medium (36 to 50 score)	135	45.00
	High (above 50 score)	79	26.33
6	**Occupation**		
	Agriculture	47	15.70
	Animal Husbandry	21	7.00
	Animal Husbandry + Agriculture	183	61.00
	Animal Husbandry + Agriculture + Agriculture related activities	40	13.30
	Others	9	3.00
7	**Herd size**		
	Small size (Up to 2 no.)	105	35.00
	Medium size (3 to 5 no.)	167	55.67
	Large size (More than 5 no.)	28	9.33
8	**Daily milk production**		
	Low (Upto 6 litre)	87	29.00
	Medium (7 to 10 litre)	152	50.67
	High (More than 10 litre)	61	20.33

Perceived training needs assessment and suggestions for effective mode of transfer of technology at field level

Major perceived training need of farmer related to housing management was construction of low-cost animal shed (100%) followed by proper design/structure of animal shed and construction of scientific animal shed. Patel *et. al.*, 2013 [6] reported that farmers had shown interest in training regarding breeding, feeding, management, fodder production where as they shown less interest in animal health care practices as it is highly technical in nature and require expert advice (Table 2). Cent percent farmers were interested on the training in the area of heat detection and time of insemination related to breeding management. Jiji and Rajkumar (2008) [3] found that the domain of milk and milk products is concerned, the sub area of procurement, storage and quality control of milk ranked first whereas, among the sub areas under dairy cattle production and management, selection of dairy cattle stood first for both knowledge and skill needs. In area of feeding and management majority of the farmers had shown interest in training related to balance feeding (100%). Major area of training need of farmers in area of health care practices was identified as symptoms of common diseases in animals (69%). Kumar *et. al.* (2021) [4] reported that dairy farm women needed foremost training in health care and disease control and under the minor operations most preferred knowledge needed were proper design of cattle shed, selection of breeds, compounding balanced feed preferably using locally available ingredients, vaccination, and banking and insurance.

Table 2: Distribution of the farmers according to perceived assessment of training needs

Sr. No.	Area of training	No. of respondents*	Percentage
A	**Housing management**		
1	Construction of scientific animal shed	116	38.67
2	Proper design/structure of animal shed	215	71.67
3	Construction of low-cost animal shed	300	100.00
B	**Breeding management**		
1	Heat detection	300	100.00
2	Time of insemination	300	100.00
3	Maintenance of records on breeding	78	26.00
4	Maintenance of pure breeds	97	32.33
C	**Feeding and managemental practices**		
1	Balance feeding	300	100.00
2	Care and management of different age groups	196	65.33
3	Feeding colostrum to calf	27	9.00
4	Silage making	37	12.33
5	Clean milk production	243	81.00
D	**Health care practices**		
1	Deworming	127	42.33
2	Vaccination	77	25.67
3	Control of ectoparasites	193	64.33
4	Symptoms of common diseases	207	69.00

*Multiple responses are possible

The suggestions for effective mode of transfer of technology at field level was collected and analyzed. It revealed that 100 per cent farmers were agreed that training of farmers to update knowledge and skills is needed followed by recognizing and encouraging progressive farmers to act as extension agents (68.33%) were some of the major suggestions given by farmers for effective mode of transfer of technology at field level (Table 3). Nery *et.al.* (2024) [5] suggested that institutional and technical actors should strengthen related to cattle farmers to facilitate technology transfer. Dhehibi *et. al.* (2020) [2] recommended that empowering the national extension system through both conventional and non-conventional technologies (ICT, video, mobile phones, etc.), given the cost-effectiveness and their impact on the farmers' adoption decisions.

Table 3: Livestock farmer suggestions for effective mode of transfer of technology at field level

Sr. No.	Suggestions	No. of respondents*	Percentage
1	Door step veterinary services through mobile veterinary unit	116	38.67
2	Animal health camps at field level	76	25.33
3	SMS based advisory service	207	69.00
4	Formation of WhatsApp group	76	25.33
5	Training of farmers to update knowledge and skills	300	100.00
6	Training of extension personnel	64	21.33
7	Create awareness through extension activities like farmers' fair, field day etc.	223	74.33
8	Publication of farm literatures	53	17.67
9	Cooperation of private sector and NGOs	117	39.00
10	Recognizing and encouraging progressive farmers to act as extension agents	205	68.33

*Multiple responses are possible

Conclusion

Almost 100 per cent farmers expressed their training need in area of construction of low-cost cattle shed, method of heat detection, time of insemination, balance feeding and symptoms of common diseases. Training of farmers to update knowledge and skills (100.00%) and recognizing and encouraging progressive farmers to act as extension agents (68.33%) are some of the major suggestions given by farmers for effective mode of transfer of technology at field level while transfer of technology through publication of farm literatures was least preferred.

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