



Perceived Training Needs of Livestock Owners in Jammu District of Jammu and Kashmir, India

Fahad Shahjar¹, S. A. Khandi¹, Rayees Ahmed Bafanda^{1*}, Bharat Bhushan² and Sheikh Umair Minhaj¹

¹*Division of Veterinary and Animal Husbandry Extension Education, Sher-e-Kashmir University of Agricultural Sciences and Technology of Jammu (SKUAST-J), R.S.PURA, Jammu-181102, India.*

²*Sher-e-Kashmir University of Agricultural Sciences and Technology of Jammu (SKUAST-J), Chatha, Jammu-180009, India.*

Authors' contributions

This work was carried out in collaboration between all authors. Author FS designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Author SAK guided the author FS during whole research period. Author RAB wrote the Final manuscript for submission and edited the manuscript after reviewing for final publication. All authors read and approved the final manuscript.

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ABSTRACT

Exploratory study was conducted to assess the perceived training needs of livestock owners in Jammu District of Jammu and Kashmir. Multistage random sampling plan was followed for the selection of ultimate respondents. The data was collected from 120 livestock owners belonging to Marh, Akhnoor, Bhisnah and R.S. Pura blocks with the help of a structured interview schedule using personal interview technique. The findings of the study revealed that most of the farmers placed health-care at top at 1st place as the most needed area in training followed by breeding at 2nd place, feeding of animals at 3rd, general management at 4th marketing and finance at 5th and preparation and preservation of livestock products at last i.e. at 6th place. Most of the respondents (88.33%) perceived care of new born as most needed sub-area in general-management on 1st place with a total score of 346, while as weaning was perceived as least needed. Urea treatment of straw

*Corresponding author: E-mail: rayeesahmed372@gmail.com;

as most needed training area in sub-areas of feeding practices with a total score of 343, while time of feeding was perceived as least needed. Majority of the respondents perceived the identification of infertility problems as most needed sub-area in breeding on rank 1st with a total score of 340, while artificial insemination was perceived as least needed. Zoonotic diseases and their transmission were felt most needed at 1st place with a total score of 353, while first aid treatment was felt as least needed sub-area in health-care. Preparation and preservation of milk and milk products was perceived as most needed while preparation and preservation of meat and meat products was felt as least needed sub-area in the preparation and preservation of livestock products. Banking and insurance was perceived as most needed with a total score of 266 at 1st place while as purchase of livestock and inputs was felt as least needed in the sub-area of marketing and finance.

Keywords: Perceived; training needs; livestock owners.

1. INTRODUCTION

India is the second largest country in the world in terms of population having 1.21 billion human population [1], out of which, 68.84 per cent comes under rural ambit. In India, agriculture is the mainstay for rural people to earn their livelihood and animal husbandry is a subsidiary occupation. As agriculture in India is mostly dependent on monsoons and failure of crop due to drought looms large; animal husbandry plays a prime role in socio-economic development of rural households by buffering the risk of crop failure. It has a significant positive impact on equity in terms of income, employment and poverty reduction in rural areas as distribution of livestock is more egalitarian as compared to land [2]. In this industrialisation era, demand for various livestock based products has increased significantly due to increase in per capita income, urbanisation, preference and increased awareness about nutrition. Animal husbandry sector is likely to emerge as an engine for agricultural growth in the coming decades [3]. India is blessed with a colossal livestock population but the per capita availability of animal protein in India is much lower than that of the world average. Moreover, the basic problem of the developing countries like India is not the scarcity of natural resources but the underdeveloped human resources. Hence, immediate task is to build up the human capital in such countries *i.e.* improving the education, vocational skills and confidence. So, training has been considered as an essential element for appropriate human resource development, which enhances decision making ability of an individual. In livestock sector too, there is a pressing need for efficient human resource development and this may be achieved through training of the livestock farmers on scientific animal husbandry practices.

2. MATERIALS AND METHODS

2.1 Research Design

Ex-post-facto research design was followed in the present study for assessment of perceived training needs of livestock owners in Jammu district of Jammu and Kashmir. Kerlinger [4] defined Ex-post-facto research design as any systematic empirical inquiry in which the dependent variables have not been directly manipulated, because they have already occurred or they are inherently manipulated.

2.2 Locale of Study

Jammu and Kashmir State consists of three division's viz. Jammu, Kashmir and Ladakh. The state comprises of 22 districts of which Jammu is an important one and most populated with a population of 15,29,958. The total population living in rural areas of Jammu district is 7,64,945 (50%) and majority of this population depends on agriculture and animal husbandry for their livelihood. Population of tribals in Jammu district is 69,193 (Census, 2011). It is located at 32.73 °N and 74.87°E. District Jammu falls in sub-mountainous region, at the foothills of the Himalayas and is approximately 600 kilometres away from the national capital, New Delhi. It is bound by Udhampur district in the north and northeast, Kathua district in the east and southeast, Pakistan (Sialkote) in west and Rajouri district and POK (Bhimber) in the northwest. It spreads over an area of 3097 square kilometres and is one of the most populated districts of the state. Majority of the population, mainly in rural areas, depends on agriculture and livestock activities for their livelihood.

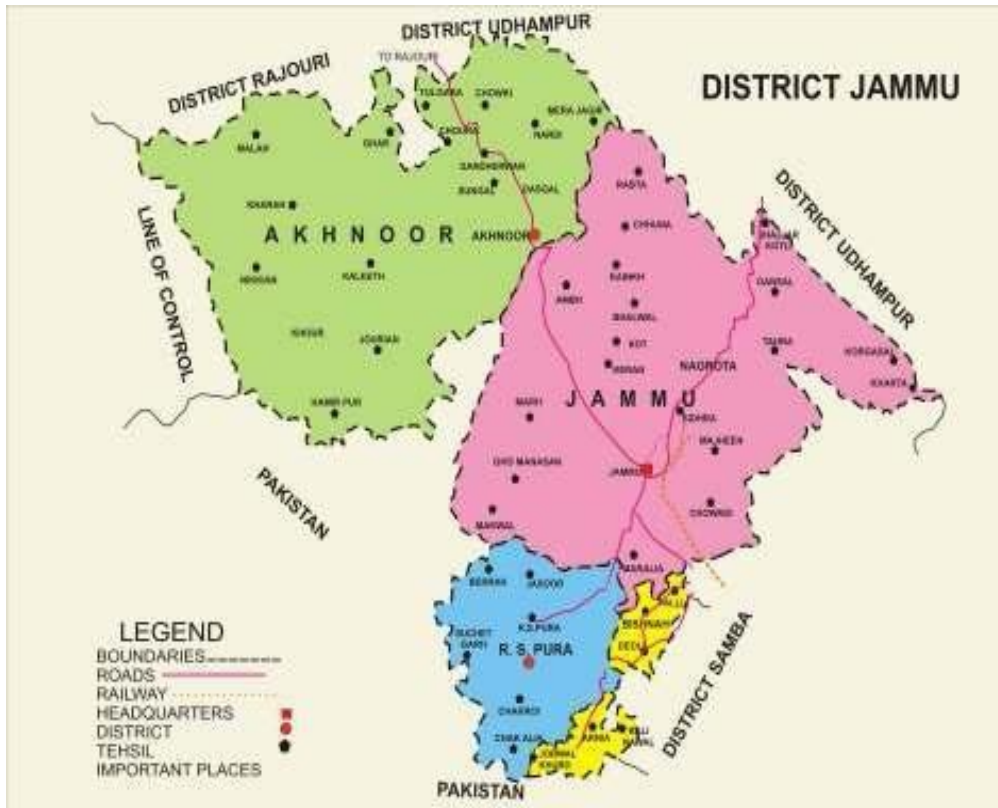


Fig. 1. Map showing Jammu district of Jammu and Kashmir

2.3 Sampling Method

Multistage random sampling plan was followed for the selection of ultimate respondents. Jammu district comprises of twenty blocks and out of these only 4 blocks were selected by simple random method. The blocks selected were Marh, Bishna, Akhnoor and R. S. Pura. A comprehensive list of all the villages in the selected blocks was prepared and 2 villages were selected randomly from each block, constituting a total of 8 villages. A list of livestock owners in each village was prepared and respondents were selected following systematic random sampling method. From each of the 8 selected villages 15 livestock owners were selected constituting a total sample size of at least 120 livestock owners.

2.4 Data Collection

Data were collected through well structured interview schedule, personal interview from the respondents either at their farm or home after proper testing of schedule and using appropriate scales. The final schedule was divided into six

broad areas namely general management, feeding, breeding, health care, preparation and preservation of livestock products and marketing and finance for evaluation of perceived training needs in their respective sections. Responses were obtained in the areas of general management, feeding, breeding, health care, preparation and preservation of livestock products and marketing and finance. Each area of perceived training needs of livestock owners contained 12 statements in general management, 19 in feeding, 10 in breeding, 9 in health care, 3 in preparation and preservation of livestock products and 4 in marketing and finance, and the respondents were asked to rate them on five point continuum i.e. most important, important, somewhat important, less important and least important with their respective scores of 5, 4, 3, 2 and 1, based on importance of perceived training needs. Moreover, training needs in sub areas of the above cited major areas were assessed on three point continuum i.e. most needed, needed and least needed with respective scores of 3, 2 and 1. The perceived training needs were then ranked based upon their total score and total weighted mean score.

2.5 Statistical Analysis

Data were coded, classified, tabulated and analysed using the software; Statistical Package for the Social Science (SPSS 16.0). The presentation of data was done to give pertinent, valid and reliable answer to the specific objectives. Frequencies, score obtained, total score, total weighted mean score and rank were worked out for meaningful interpretation.

3. RESULTS AND DISCUSSION

3.1 Training Needs in Major Areas Perceived by Livestock Owners

The major area wise training needs perceived by livestock owners is revealed in table 1 and it can be deciphered easily that most of the farmers placed health-care at top at 1st place as the most needed area in training followed by breeding at 2nd place, feeding of animals at 3rd, general management at 4th marketing and finance at 5th and preparation and preservation of livestock products at last i.e. at 6th place. The probable reason for this finding could be attributed to the fact that most of the livestock owners had some bitter experiences of serious loss of profit as well as animals due to disease outbreaks in the herd. The respondents were affright of the diseases like mastitis, foot and mouth disease, haemorrhagic septicaemia, black quarter etc, as some of these diseases rapidly spread from one animal to another, thus pose a serious threat to the health of the whole herd. Besides, a livestock owner cannot afford losing the animal to a disease for the animal acts as a source of subsidiary income for him. Also, mastitis lowers both quality as well as quantity of the production in dairy animals. In some cases it can also

render the affected animal unproductive for rest of its life by damaging the udder permanently. So, the livestock owners felt the utmost need for training in health-care area to mitigate the loss of life and property due to disease outbreak. Most of the livestock owners possess indigenous cattle and buffalo having low productivity as well as low genetic worth. Hence, the respondents felt training need in breeding sector as well to enhance the genetic merit of their cattle and buffaloes to optimise production. Scarcity of fodder, less availability of grazing land and high cost of feed may be the reasons for a need of training in feeding area. They were keen to know about scientific rearing of cattle and constructing low cost scientific housing for their animals, as they were concerned with the comfort and safety of their animals to protect them from harsh weather and other calamities. Thus, a need for training in general management and housing was felt. On the other hand, most of the respondent possessed experiential and cultural knowledge about preparation and preservation of livestock products like milk and its products; hence they were not inclined towards such trainings. Moreover, most of the livestock owners being illiterate, were skeptic about banks and other finance related activities though some of the respondents were willing to undergo training in marketing and purchase of livestock products and inputs respectively. The findings are in agreement with the results of Mohan et. Al. [5] who conducted a study on goat farmers in Mathura district of Uttar Pradesh, to assess their training needs. The study revealed that health management was the first area of training that respondents opted for. Similarly, Patil et al. [6] reported that in Nagpur district of Maharashtra, majority (62.67%) of the dairy farmers had perceived training need as most important in health care and disease prevention.

Table 1. Average scores of Perceived training needs in major areas (n=120)

Training needs in major areas	MI (5)	I (4)	SI (3)	LI (2)	LS (1)	TS	TWMS	Rank
General management	57 (47.5)	57(47.50)	6 (5.00)	0 (0.00)	0 (0.00)	531	4.42	4
Feeding	59 (49.16)	59 (49.16)	2 (1.60)	0 (0.00)	0 (0.00)	537	4.47	3
Breeding	74 (61.66)	46 (38.33)	0 (0.00)	0 (0.00)	0 (0.00)	554	4.61	2
Health care	83 (69.16)	37 (30.83)	0 (0.00)	0 (0.00)	0 (0.00)	563	4.69	1
Preparation of Livestock Products	6 (5.00)	8 (6.66)	70 (58.33)	30 (25.00)	6 (5.00)	338	2.81	6
Marketing and finance	0 (0.00)	16 (13.33)	77 (64.16)	25 (20.83)	2 (1.60)	347	2.89	5

MI= Most Important, I= Important, SI=Some-what Important, LI= Less important, LS=Least important, TS= Total Score, TWMS= Total Weighted Mean Score

3.2 Perceived Training Needs in Sub-areas of General Management

The results in the Table 2 show that most of the respondents (88.33%) perceived care of new born as most needed sub-area in general-management on 1st place with a total score of 346, followed by low cost scientific housing at 2nd place, animal shed sanitation at 3rd, clean milk production at 4th, castration of male animals at 5th, care of pregnant animals at 6th, housing at 7th, dehorning at 8th, record keeping at 9th, manure management at 10th and weaning at 11th place with total score 344, 332, 330, 305, 300, 279, 277, 273, 271 and 226 respectively. Care of a new born animal is very delicate and critical management process as new born animals are very fragile and sensitive to pathogenic attacks besides being prone to environmental stresses and temperature fluctuations. Also, diseases like navel ill, diarrhoea and extreme temperature fluctuations may lead either to hypothermia or heat stress, which can prove fatal for a new born. All these factors can prove deleterious to the health of a new born animal and can pose a serious threat to its life as well. Moreover, aseptic handling of umbilical cord, prompt feeding of colostrums shortly after birth, deworming and ecto-parasite control are must for the successful and scientific rearing of a new born. Most of the respondents were keen to undergo training in these afore-mentioned health-care issues, this may be the reason that most of the livestock owners rated care of a new born as most essential area in managemental practices. The findings are in consonance with the findings of Patil et al. [6] who observed high training need of dairy farmers in care and management of calf. Low cost scientific housing was rated 2nd and the probable reason could be the curiosity of owners in building comfortable and safe houses with a minimum cost of construction to improve the well being of animals for increasing their productivity which in turn increases profit. Animal shed sanitation and clean milk production were ranked 3rd and 4th, respectively. The reason behind this may be due to the increase in aesthetic sense of dairy farmers to provide clean and disease free milk to consumers, which will ultimately increase the demand and thus fetch more profit to the dairy farmer. The respondents also preferred training in care of pregnant animals, housing, dehorning, record keeping, manure management. Whereas, training need in weaning was least needed and the reason could be attributed to the fact that majority of the

respondents reared indigenous animal and these animals require calf for "milk let down", thus, training need in this area was least needed. These findings are in accordance with those of Kumar and Mago [7] who reported in a study on training needs of farm women in Haryana that the farm women were interested in receiving training in care of animals and maintenance of animal sheds, milking and feeding of animals.

3.3 Perceived Training Needs in Sub-areas of Feeding

It is depicted in Table 3 that majority of the respondents felt urea treatment of straw as most needed training area in sub-areas of feeding practices with a total score of 343, followed by nutritional management of breeding problems at 2nd place with a total score of 340, feeding of pregnant animals at 3rd place with a total score of 337, feeding of concentrates at 4th place with a total score of 330, importance of colostrums feeding at 5th place with a total score of 328, feeding of roughages at 6th place with a total score of 316, feeding of new born at 7th place with a total score of 315, training regarding fodder varieties and their cultivation at 8th place with a total score of 303, feeding of mineral mixture and legumes at 9th place with a total score of 300, feeding of balanced feed and its composition at 10th place with a total score of 295, feeding of different age groups at 11th place with a total score of 291, preservation of fodder (silage/ hay preparation) at 12th place with a total score of 281, mineral mixture supplementation at 13th place with a total score of 278, feeding of heifers at 14th place with a total score of 237, feeding of dry stock at 15th place with a total score of 224, frequency of feeding at 16th place with a total score of 206 and time of feeding at 17th place with a total score of 171. From the result it is clear that urea treatment of straw was perceived as most needed area while time of feeding was perceived as least needed. The results are in concurrence with the findings of Rajput et al.[8],[14],[16] who observed in their study on perceived training needs of dairy farmers regarding improved farming practices and its relation with their socio-economic traits in Bundelkhand region that most of the farmers preferred training in 'urea treatment technology' to increase nutritive value of wheat straw and 'preparation of balanced ration' in sub-areas of dairy animal feeding.

Table 2. Average scores of perceived training needs in sub-areas of general management (n=120)

General Management	MN (3)	N (2)	LN (1)	TS	TWMS	Rank
Housing	39 (32.50)	81 (67.50)	0(0.00)	279	2.32	7
Care of pregnant animals	64 (53.33)	52 (43.33)	4 (3.33)	300	2.50	6
Care of new born	106 (88.33)	14 (11.66)	0 (0.00)	346	2.88	1
Clean milk production	90 (75.00)	30 (25.00)	0 (0.00)	330	2.75	4
Weaning	4 (3.33)	98 (81.66)	18 (15.00)	226	1.88	11
Dehorning	43 (35.83)	71 (59.16)	6 (5.00)	277	2.30	8
Castration	69 (57.50)	47 (39.16)	4 (3.33)	305	2.54	5
low cost scientific housing	104 (86.66)	16 (13.33)	0 (0.00)	344	2.76	2
Animal shed sanitation	98 (81.66)	16 (13.33)	6 (5.00)	332	2.86	3
Manure management	37 (30.83)	77 (64.16)	6 (5.00)	271	2.25	10
	41 (34.16)	71 (59.16)	8 (6.66)	273	2.27	9

MN= most needed, N= needed, LN=least needed, TS= total score, TWMS=total weighted mean score.

Table 3. Average scores of perceived training needs in sub-areas of feeding (n=120)

Feeding	MN (3)	N (2)	LN (1)	TS	TWMS	Rank
Balanced feed and its composition	75 (62.50)	25 (20.83)	20 (16.66)	295	2.45	10
Feeding of new born	75 (62.50)	45 (37.50)	0 (0.00)	315	2.62	7
Feeding of pregnant animal	97 (80.83)	23 (19.16)	0 (0.00)	337	2.80	3
Feeding of dry stock	13 (10.83)	78 (65.00)	29 (24.16)	224	1.86	15
Feeding of Heifers	21 (17.50)	75 (62.50)	24 (20)	237	1.97	14
Feeding of mineral mixture and legumes	62 (51.66)	56 (46.66)	2 (1.66)	300	2.50	9
Time of feeding	8 (6.66)	51 (42.50)	61 (50.83)	171	1.42	17
Frequency of feeding	15 (12.50)	56 (46.66)	49 (40.83)	206	1.71	16
Feeding of different age groups	55 (45.83)	61 (50.83)	4 (3.33)	291	2.42	11
Nutritional management of breeding problems	100(83.33)	20 (16.66)	0 (0.00)	340	2.83	2
Importance of clean feed and drinking water	76 (63.33)	44 (36.66)	0 (0.00)	316	2.63	6
Importance of colostrums feeding	88 (73.33)	32 (26.66)	0 (0.00)	328	2.73	5
Mineral mixture supplementation	82 (68.33)	32 (26.66)	6 (5.00)	316	2.63	6
Urea treatment of straw	103 (85.83)	17 (14.16)	0 (0.00)	343	2.85	1
Fodder varieties & their cultivation	73 (60.83)	37 (30.83)	10 (8.3)	303	2.52	8
Preservation of fodder (silage/ hay preparation)	57 (47.50)	47 (39.16)	16 (13.33)	281	2.34	12
Feeding of concentrates	90 (75.00)	30 (25.00)	0 (0.00)	330	2.75	4
Feeding of roughages	70 (58.33)	18 (15.00)	32 (26.66)	278	2.31	13

MN= most needed, N= needed, LN=least needed, TS= total score, TWMS=total weighted mean score.

3.4 Perceived Training Needs in Sub-areas of Breeding

The persual of Table 4 shows that the majority of the respondents perceived the identification of infertility problems as most needed sub-area in breeding on rank 1st with a total score of 340, followed by estrous cycle on rank 2nd with a total score of 331, time of insemination on rank 3rd with a total score of 330, knowledge about high yielding breeds on rank 4th with a total score of 329, identification of heat symptoms on rank 5th with a total score of 325, pregnancy diagnosis on rank 6th with a total score of 319, care of dam

during parturition on rank 7th with a total score of 318, knowledge about post parturient care on rank 8th with a total score of 308 and knowledge about artificial insemination on rank 9th with a total score of 291. A calf for a year' is the general principle in profitable dairy farming and the infertility problem like anoestrous, repeat breeding etc. increases the inter-calving period and cost of treatment for breeding disorders. So, to avoid all these hurdles, identification and early corrections of breeding problems is essential. This may be the reason that majority of the respondents chose identification of infertility problems as most needed training sub-area.

Similarly, adequate knowledge about estrous cycle and time of insemination is immensely critical for carrying successful breeding of animals, which may suggest why most of the respondents felt a need of training in these sub areas of breeding. Moreover, 'knowledge about high yielding breeds' was also needed by most of the livestock owners. This may be attributed to the fact that most of the respondents had indigenous animals which are low producers and help in improving the genetic make-up of indigenous cattle through selective breeding. The results are in line with the findings of Durggarani and Subhadra [9] , [13],[15] who described that majority of the respondents felt training needs in selection of breed, heat detection and time of insemination.

3.5 Perceived Training Needs in Sub-areas of Health-care

Table 5 shows that the majority of the respondents perceived information regarding zoonotic diseases and its transmission as the most needed sub-area in health-care at 1st place with a total score of 353, followed by treatment at 2nd with a total score of 352, knowledge and diagnosis of common diseases at 3rd with a total score of 340, ecto and endo parasite control at 4th with a total score of 330, identification and isolation of sick animals at 5th with a total score of 320, vaccination at 6th with a total score of 317, deworming at 7th with a total score of 316, and first aid treatment at 8th with a total score of 276. The reason may be ignorance of livestock owners about various zoonotic diseases prevalent in the study area and when they were made aware of such diseases, a strong urge among the livestock farmers to know about such diseases was observed. Moreover, a decrease in productivity of an animal due to disease affects the economic well being of the livestock farmer adversely, which may be the reason why most of the livestock owners perceived training in treatment. Vaccination prevents numerous diseases in animals thus reduces the expenditure of a livestock farmer on treatment, this may be the reason which motivated the respondents to perceive training in vaccination. The findings were supported by an observation of [10],[12] who reported that training in zoonotic diseases was most needed. The results are contradictory with the findings of Patil et al. [6] who reported that majority of the respondents expressed that training in zoonotic diseases was

not important. But results are partially in line with the findings of Durggarani and Subhadra [9] who reported in their study that vaccination ranked first followed by deworming (rank II), whereas, symptoms of common diseases ranked first followed by isolation of sick animal (rank II) and control of ecto-parasites (rank III).

3.6 Perceived Training Needs in Sub-areas of Preparation and Preservation of Livestock Products

The perusal of Table 6 shows that the majority of the respondents perceived preparation and preservation of milk and milk products as the most needed sub area in preparation and preservation of livestock products with a total score of 204 , followed by preparation and preservation of meat and meat products with a total score of 140. The reason may be the abundance of vegetarians in the study area who do not consume meat routinely owing to their cultural and religious beliefs. Moreover, most of the respondents had traditional knowledge in making milk products and this could be the reason as to why most of the respondent had rated it as least needed sub area in terms of training need. The results are in consonance with the findings of Balaraju [11], [13] who conducted a study on training needs of livestock farmers in Davangere district of Karnataka and found that the majority of the livestock owners felt training in preparation and preservation of meat and meat products as least needed.

3.7 Perceived Training Needs in Sub-areas of Marketing and Finance

Result of Table 7 revealed that the majority of the respondents perceived banking & insurance as the most needed sub-area in marketing and finance with a total score of 266 at 1st place, followed by sale of livestock & its product with a total score of 246 at 2nd and purchase of livestock & inputs at 3rd with a total score of 245. Thus it is evident that banking and insurance was perceived as most needed while as purchase of livestock and inputs was felt as least needed in the sub-area of marketing and finance. The results are in line with findings of Durggarani and Subhadra [9], [14] who reported that banking and finance ranked first and marketing of livestock ranked second in marketing and finance sub-area of dairy farming.

Table 4. Average scores of perceived training needs in sub-areas of breeding (n=120)

Breeding	MN(3)	N(2)	LN (1)	TS	TWMS	Rank
Knowledge about high yielding breeds and their selection	89 (74.16)	31 (25.33)	0 (0.00)	329	2.74	4
Estrous cycle	91 (75.83)	29 (24.16)	0 (0.00)	331	2.75	2
Identification of heat symptoms	85 (70.83)	35 (29.16)	0 (0.00)	325	2.70	5
Time of insemination	90 (75.00)	30 (25.00)	0 (0.00)	330	2.75	3
Pregnancy diagnosis	79 (65.83)	41 (34.16)	0 (0.00)	319	2.65	6
Artificial insemination	51 (42.50)	69 (57.50)	0 (0.00)	291	2.42	9
Identification of infertility problems	100 (83.33)	20 (16.66)	0 (0.00)	340	2.83	1
Care of dam during parturition	82 (68.33)	34 (28.33)	4 (3.33)	318	2.65	7
Knowledge about post parturient care	68 (56.66)	52 (43.33)	0 (0.00)	308	2.56	8

MN= most needed, N= needed, LN=least needed, TS= total score, TWMS=total weighted mean score.

Table 5. Average scores of perceived training needs in sub-areas of health-care (n=120)

Health-care	MN (3)	N (2)	LN (1)	TS	TWMS	Rank
Knowledge and diagnosis of common diseases	102 (83.33)	18 (16.66)	0 (0.00)	340	2.83	3
Vaccination	77 (64.16)	43 (35.83)	0 (0.00)	317	2.64	6
Treatment	112 (93.33)	8 (6.66)	0 (0.00)	352	2.93	2
First aid treatment	38 (31.66)	80 (66.66)	2 (1.66)	276	2.30	8
Ecto and endo parasite control	90 (75.00)	30 (25.00)	0 (0.00)	330	2.75	4
Deworming	78 (65.00)	40 (33.33)	2 (1.66)	316	2.63	7
Identification & isolation of sick animals	82 (68.33)	36 (30.00)	2 (1.66)	320	2.66	5
Zoonotic diseases and its transmission	113 (94.16)	7 (5.83)	0 (0.00)	353	2.94	1

MN= most needed, N= needed, LN=least needed, TS= total score, TWMS=total weighted mean score.

Table 6. Average scores of perceived training needs in sub-areas of preparation and preservation of livestock products (n=120)

Preparation and preservation of livestock products	MN (3)	N (2)	LN (1)	TS	TWMS	Rank
Milk and milk products	6 (5.00)	72 (60.00)	42(35.00)	204	1.7	1
Meat and meat products	0 (0.00)	20 (16.66)	100 (83.33)	140	1.16	2

MN= most needed, N= needed, LN=least needed, TS= total score, TWMS=total weighted mean score.

Table 7. Average scores of perceived training needs in sub-areas of marketing and finance (n=120)

Marketing and finance	MN (3)	N (2)	LN (1)	TS	TWMS	Rank
Purchase of livestock & inputs	32(26.66)	61 (50.83)	27 (22.50)	245	2.04	3
Sale of livestock & its product	33 (27.50)	60 (50.00)	27 (22.50)	246	2.05	2
Banking & Insurance	46 (38.33)	54 (45.00)	20 (16.66)	266	2.21	1

MN= most needed, N= needed, LN=least needed, TS= total score, TWMS=total weighted mean score.

4. CONCLUSION

The study clearly depicted that most of the farmers placed “health-care” at the top, as the most needed area in livestock rearing followed by “breeding” and “feeding” of animals while least needed training area was “preparation and preservation of livestock products” The study clearly shows that there is a pressing need for training in livestock sector regarding animal

husbandry practices. Sufficing efforts must be made to encourage livestock owners to seek training programmes in various livestock rearing practices. Trainings regarding livestock rearing should be provided as per felt needs of livestock owners in various sectors of livestock rearing. Thus, adequate training should be provided in the various sectors of animal husbandry to improve the productivity.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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