

SCENARIO OF LIVESTOCK EXTENSION SYSTEM, ITS ORGANIZATION AND REGULATION

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ABSTRACT

With the changing global scenario and changing pattern of the agriculture extension professionals need to brace up with the new challenges. Among agriculture and allied sectors livestock sector is facing new challenges in terms of the production, adaptation, stress and other factors. Present study was conducted in the two districts of the Jammu and Kashmir namely Srinagar and Ganderbal. The respondents of the study were middle level extension officers (Veterinarians) and the lower level extension functionaries (Para-Veterinarians). From each district 15 veterinarians and 15 Para-Veterinarians were chosen for the study that made a total of 60 respondents for the present study. Data was collected through an unstructured questionnaire from middle and low level livestock extension professionals. The educational qualification of the Veterinarians was found to be adequate while as of para-veterinarians was not impressive. Majority of the professionals were having extension contacts with state veterinary hospitals (98.33%), information flow through the animal husbandry department was found to be fare (48.33%), and information flow between the VAS centres and centre departments was found to be monthly by majority (65.00%). The basic amenities were found to be adequate (56.67%), with majority reported non-availability of computer, internet facilities, audio-visual aids etc. Majority (95.00%) of the extension professionals were satisfied with their job and level was high. Currently the scenario of the livestock extension departments and professionals is not much impressive. The current challenges in the livestock extension professionals can only be solved when there is better collaboration and coordination between the field, research labs and with other extension agencies.

Keywords: livestock extension, infrastructure, job satisfaction, information flow, extension service

INTRODUCTION

Livestock sector is expected to emerge as an engine of agricultural growth in view of rapid growth in demand for animal food products (Saran et al., 2020). Livestock is important in supporting the livelihoods of poor farmers, consumers, traders and laborers throughout the developing world (FAO, 2002). Livestock extension is an important tool in achieving changes in animal production. This system has been created and recreated, adopted and developed over the centuries for the dissemination and application of research results in order to improve animal production and health, including food safety (Khoury, 2011). The developments in livestock sector can help in changing the face of rural India as it is demand driven, inclusive and pro-poor (Shubeena, 2019) and this change is possible when the agencies providing the livestock extension services are sound and competent. Most of the livestock producers being small and marginal farmers,

their capacity to mobilize resources required to absorb the latest technologies developed by research institutions are limited. Absence of an effective extension machinery for this purpose compounds the problem. India's huge livestock resources are poorest in the world when it comes to productivity because this sector has remained under-invested and neglected by the financial and extension institutions (Chander et al., 2010). Veterinary extension Services focus on controlling animal disease programmes (vaccination programmes, diagnosis of diseases and veterinary quarantine, amongst others), without giving veterinary extension the attention it requires (Khoury, 2011). There is a huge gap between the availability and requirement of major stake holders in livestock extension like less availability of the field veterinarians and Para veterinarians (Rao, 2015). The lacunas are many but the remedies are not effective. In order to take the effective steps and policy changes the current scenario of the livestock extension department must be known. This

calls for an urgent need of the studies that can bring out the current scenario and its bottle necks so that the future strategy can be developed accordingly.

OBJECTIVE

To understand the scenario of livestock extension system, its organization, regulation and operation in Kashmir valley

METHODOLOGY

The study was conducted in the two districts of the Kashmir Valley namely Srinagar and Ganderbal. A Random sampling method was adopted for choosing the respondents

of the study i.e., middle level field Extension functionaries (Veterinary Assistant Surgeons) and low level field Extension functionaries (Para-Veterinarians). 15 Veterinary extension officers and 15 para veterinarians were chosen from each district. A total of 60 field veterinary extension functionaries (Veterinarians and para-veterinarians) were selected for the study. The data was collected through survey with the help of the well-structured interview schedule that was designed in consultation with the experts. The respondents of the study were interviewed at their respective places of posting based on various parameters of the study. Descriptive statistics like frequency and percentage along with the chi square test was used for data analysis.

RESULTS AND DISCUSSION

Personal characteristics of the veterinary extension professionals

Table 1: Socio-economic parameters of the respondents of the study area (n=60)

Particulates	Veterinarians	Para-vets	Overall	P value (Chi square)
a Age (years)				
Low (20-34)	11 (36.66)	11(36.66)	22 (36.66)	130
Middle (35-49)	14 (46.66)	13 (43.33)	27 (45.00)	
Old (40-60)	05 (16.66)	06 (20.00)	11 (18.33)	
b Gender				
Female	03 (10.00)	1 (3.33)	4 (6.67)	0.076
Male	27 (90.00)	29 (96.66)	56 (93.33)	
c Qualification				
10 th	0 (0.00)	11 (36.67)	11(18.33)	<0.001
12 th	0 (0.00)	05(16.67)	05 (8.33)	
Graduation	0 (0.00)	08 (26.67)	08(13.33)	
Master’s degree	0 (0.00)	05 (16.67)	05(8.33)	
BVSc.	15(50.00)	01(3.33)	16 (26.67)	
MVSc	13(43.33)	0 (0.00)	13 (21.67)	
PhD	02 (6.67)	0 (0.00)	02 (3.33)	
d Years in the government service				
1-10	13(43.33)	12(40.00)	25(41.67)	0.144
11-20	11(36.67)	10(33.33)	21(35.00)	
21-30	04(13.33)	05(16.67)	09(15.00)	
31-40	02(6.67)	03(10.00)	05(8.33)	

(Figures in parenthesis indicate the percentage) (P value statistical significant at level of P<0.05)

The results in Table 1 disclose that respondents of the study were mainly middle level and lower level extension functionaries i.e., Veterinarians and para-veterinarians. The majority of the field level extension functionaries were in middle age group of 35-49 years (45%). The results were also defended by the results of Idrisa *et al.* (2008), Ogunbameru (2008) and Olorunfemi (2018) who believed that individuals best suited for extension service delivery are

the ones in middle age. This turns to be a great asset for the extension work as this age group is having both enthusiasm of the young and experience of the old. People in this age group are generally more eager to serve the society in the best way and are more empathic towards their community. Major extension service providers were found to be males and proportion of the female extension workers was found to be very low (6.66%). This result is consistent with the

reports of Ajayi, (2013) and Olorunfemi (2019) who in their study found that there are more males in extension services than females. This low percentage of female professionals in the field can be attributed to the fact that majority of the females prefer to work in offices and are less motivated for the field level work. The education qualification of the majority (50%) of the middle level extension functionaries (veterinarians) was Bachelor of Veterinary Sciences (B.V.Sc) that is the minimum qualification for the post of veterinary assistant surgeons. 43.33 percent and 6.67 percent were having Masters and Doctorate degree in veterinary sciences. Good number of the professionals were having the expertise (Masters) in some of the veterinary subjects that can be taken as a positive point towards the delivery of efficient services and more understanding of the field level livestock problems. This finding are in consistent with Fabusoro, (2008) and Olorunfemi, (2019) who reported that extension agents are having good qualifications deeming them good for the

assigned jobs. Majority (36.66%) of para-vets (mostly senior ones) were having qualification up to 10th class which is the minimum qualification for the job of para-vet followed by the 26.67 percent with graduate level qualification and 3.33 percent with Masters. It was seen that the young para-vets who were also newly recruited are having higher qualifications above the 12th level. No para-vet in recent few years of the recruitment was having qualification less than graduation. The new generation of both low and middle level extension professionals are coming with high qualifications therefore more useful in delivery of efficient services. Majority of the respondents were found to be engaged in service for 1-10 years (41.67%). No significant association was found between the age, gender and years in service between veterinarians and para-vets while as the qualification varied significantly between the two. Majority of the respondents were found to be engaged in service for 1-10 years (41.67%).

Contact with other extension service providing agencies

Table 2: Contact of livestock extension professionals with the other extension service providing agencies (n=60)

Extension contacts	Veterinarians	Para-veterinarians	Overall	P value (Chi square)
a. Contact with Krishi Vigyan Kendra's (KVK's)				
No	18 (60.00)	26(86.67)	44(73.33)	0.005
Yes	12(40.00)	04(13.33)	16(26.67)	
b. Contact with research institutes				
No	16 (53.33)	26(86.67)	42 (70.00)	0.010
Yes	14(46.67)	04(13.33)	18 (30.00)	
c. Banks				
No	22 (73.33)	27 (90.00)	49 (81.67)	0.095
Yes	08(26.67)	03 (10.00)	11(18.33)	
d. Dairy Cooperatives				
No	19 (63.33)	26 (86.67)	45 (75.00)	0.065
Yes	11(36.67)	04 (13.33)	15 (25.00)	
e. Private veterinarians				
No	23 (76.67)	26 (86.67)	49(81.67)	0.197
Yes	07 (23.33)	04(13.33)	11(18.33)	
f. Non -Government Organization (NGO)				
No	27(90.00)	29(96.67)	56 (93.33)	0.554
Yes	03 (10.00)	01(3.33)	04(6.67)	
g. Entrepreneurship Development Institute (EDI)				
No	22 (73.33)	29 (96.67)	51 (85.00)	0.011
Yes	08 (26.67)	001 (3.33)	09 (15.00)	
h. Animal Husbandry department				
No	0 (0.00)	01 (3.33)	01 (1.67)	1.00
Yes	30 (100.00)	29 (96.67)	59 (98.33)	

(Figures in parenthesis indicate the percentage) (P value statistical significant at level of $P < 0.05$)

Importance of profound comprehension linkages between research and extension has been widely recognised in order to improve the process of agricultural technology

design and delivery (Kumar, 2016). The study revealed that extension contacts of professionals were very low. It can be seen in Table 2 that highest contact was with state animal

husbandry department (98.33%) because it was the main agency to which majority of livestock extension professionals are concerned with. It was followed by research institutes (30%) to whom sometimes farmers are referred for doing the diagnostic tests of some complex pathological conditions, etc. and also model trainings are organized for field extension agencies by these research institutes. There are very less contact of the extension professionals with other extension related agencies like private vets (18.33%) who are very few in the state, Entrepreneurship Development Institute (EDI) (15%) and Non -Government Organizations (NGO) (6.67%) that can be a reason for less sharing of the knowledge and can be a

reason for less know how of the farmers about these agencies. The least contact with the Non -Government Organizations (NGO) may be attributed to least presence of such agencies related to animal husbandry at the ground level. There was no significant association between the veterinarians and para-veterinarian in case of contact with banks, dairy cooperatives, private veterinarians, Non -Government Organizations (NGO), Entrepreneurship Development Institute (EDI) and Animal Husbandry department while a contact with Krishi Vigyan Kendra (KVK) and research institutes was varying significantly between the two.

Information flow through the animal husbandry department

Table 3: Information flow through the animal husbandry department

(n=60)

Information flow through the department	Veterinarians	Para-veterinarians	Overall	P value (Chi square)
a Efficiency of information flow				
Good	06(20.00)	10(33.33)	16 (26.67)	0.498
Fair	16 (53.33)	13 (43.33)	29 (48.33)	
Poor	08(26.67)	07 (23.33)	15(25.00)	
b Frequency of the information flow				
Never	03 (10.00)	04 (13.33)	07 (11.67)	0.241
Three Monthly	03 (10.00)	03 (10.00)	06 (10.00)	
Monthly	18 (60.00)	21(70.00)	39 (65.00)	
Fortnightly	02(6.67)	02 (6.67)	04 (6.67)	
Weekly	04(13.33)	0 (0.00)	04 (6.67)	

(Figures in parenthesis indicate the percentage) (P value statistical significant at level of P<0.05)

The results in the Table 3 shows that majority of the respondents (48.33%) perceived information flow through the livestock departments as fair followed by 26.67 percent and 25 percent who perceived it to be good and poor respectively. Similar results were reported by Ravikumar, *et al.* (2007), Channappagouda and Sasidhar (2018) in their respective studies that services provided that also includes the information flow by the animal husbandry department is average. Majority of respondents (61.67%) said that there is monthly flow of the information from the ground departments (district livestock hospitals and village level dispensaries) to the higher ones (central and block veterinary offices) and vice versa. There are regular monthly meetings of the field veterinarians at the district headquarters where the reports and monthly information is shared with the officials. A low majority (11.67%) revealed that there is no information flow through the extension departments. Extension education performed by state departments of animal husbandry need to be analysed so as to ascertain a paradigm for livestock extension services (Chander, 2010).

The reason for the less frequent information flow can be due to the absence of the proper procedure to update information from professionals working in far flung areas especially from the para-vets. The majority of paravets are not able to transfer updated information to higher departments. Monthly meetings at district headquarters are mostly held in between the veterinarians and for para-vets there is no such formal procedure for continuous information channel that results in the break in efficient flow of the information. No significant association was found between the veterinarians and para-veterinarians in case of efficiency of information flow and its frequency.

Availability of various infrastructure facilities

The extension professionals reported that there is adequate availability of the basic amenities like table, chairs, stationary and electric fans in their respective veterinary centers. Table 4 shows that only 40 percent of the respondents have the adequate presence of the computers in their offices that indicate reports or the record keeping is still done

Table 4: Availability of various infrastructure facilities in state veterinary centers

(n=60)

Infrastructure facilities available	Veterinarians	Para-vets	Overall	P value (Chi square)
A Basic amenities				
Not available	01(1.32)	0(0.00)	01(1.65)	0.550
Not adequate	12(31.58)	13(33.77)	25(41.67)	
Adequate	17(67.11)	17(66.23)	34(56.67)	
B Computer facilities				
Not available	16(53.33)	08(26.67)	24 (40.00)	0.016
Not adequate	09(30.00)	04(13.33)	13 (21.67)	
Adequate	05(16.67)	18(60.00)	23 (38.33)	
C Internet facilities				
Not available	12(40.00)	28(93.33)	40(66.67)	<0.001
Not adequate	12(40.00)	02(6.67)	14(13.33)	
Adequate	06(20.00)	0(0.00)	06(10.00)	
D Audio-Visual aids				
Not available	10(33.33)	27(90.00)	37(61.67)	<0.001
Not adequate	14(46.67)	02(6.67)	16(26.67)	
Adequate	06(10.00)	01(3.33)	07(11.67)	
E Technical literature				
Not available	03(10.00)	13(43.33)	16(26.67)	0.002
Not adequate	17(56.67)	16(53.33)	33(55.00)	
Adequate	10(33.33)	1(3.33)	11(18.33)	
F Protection clothes				
Not available	01(3.33)	01(3.33)	2(3.33)	1.00
Not adequate	18(60.00)	19(63.33)	37(61.67)	
Adequate	11(36.67)	10(33.33)	21(35.00)	
G Availability of medicines and vaccines				
Not available	01(3.33)	0	01(1.67)	0.052
Not adequate	12(40.00)	20(66.67)	32(53.33)	
Adequate	17(56.67)	10(33.33)	27(45.00)	
H Availability of cryocan				
Not available	02(6.67)	01(3.33)	03(5.00)	0.543
Not adequate	03(10.00)	03(10.00)	06(10.00)	
Adequate	25(83.33)	26(86.67)	51(85.00)	
I Availability of labs				
Not available	17(56.67)	11(36.67)	28 (46.67)	0.150
Not adequate	04(13.33)	13(43.33)	17(28.33)	
Adequate	09(30.00)	06(20.00)	15(25.00)	
J Availability of refrigerator				
Not available	25 (83.33)	13 (43.33)	38 (63.33)	0.011
Not adequate	02 (6.67)	04(13.33)	06 (10.00)	
Adequate	03 (13.33)	13 (43.33)	16 (26.67)	

Infrastructure facilities available	Veterinarians	Para-vets	Overall	P value (Chi square)
K Presence of microscope				
Not available	21 (70.00)	13 (43.33)	34 (56.67)	.057
Not adequate	07 (23.33)	07 (23.33)	14 (23.33)	
Adequate	02 (6.67)	10 (33.33)	12 (20.00)	
L. Automatic syringes				
Not available	13(43.33)	29 (96.67)	42 (70.00)	<0.001
Not adequate	10 (33.33)	01(3.33)	11 (18.33)	
Adequate	07 (23.33)	0(0.00)	07 (11.67)	
M Availability of surgical sets				
Not available	07 (23.33)	08 (26.67)	15 (25.00)	0.776
Not adequate	14 (46.67)	14 (46.67)	28 (46.67)	
Adequate	09 (30.00)	08(26.67)	17 (28.33)	
N Animal restraining equipment's				
Not available	05(16.67)	16(53.33)	21 (35.00)	0.004
Not adequate	15(50.00)	06(20.00)	21 (35.00)	
Adequate	10(33.33)	08(26.67)	18(30.00)	
O Transport and staff availability				
Not available	10(33.33)	13 (43.33)	23 (38.33)	0.285
Not adequate	15(50.00)	09 (30.00)	24 (40.00)	
Adequate	05(16.67)	08 (26.67)	13 (21.67)	

(Figures in parenthesis indicate the percentage) (P value statistical significant at level of P<0.05)

manually in these departments. The majority of the respondents (66.67%) do not have availability of the internet facilities. This can show the condition of the state regarding the provision of the information through Information Communication and Technologies (ICT). Lack of internet facilities to the livestock professionals makes them helpless to share daily updated information to the farmers. A majority (61.67 %) of the respondents reported that they don't have audio-visual aids in their centers. Audio-visual aids are main equipment's for any extension profession for the dissemination of information, conducting trainings in campaigns, surveys and the exhibitions. The unavailability of such equipment renders these programmes less effective and less attractive to the people. The majority (55.00%) of the professionals reported there is inadequate availability of the technical literature that otherwise is a powerful tool for giving information to the people. There is not adequate supply of the medicines (61.67%) and protection clothes (53.33%) at the veterinary centers and if medicines are available it is not of good quality that makes it ineffective on the animals and farmers have to purchase medicines from outside markets. Veterinarians have to work with the livestock hence are susceptible to many health hazards during their work. There

has to be adequate supply of protection cloths, gloves, masks and automatic syringes that to some extent can prevent the transfer of the communicable and zoonotic diseases. The results are similar to the findings of Channappagouda and Sasidhar (2017). The availability of the cryocans was found to be adequate (85.00%). The veterinary centers of the state are in the drastic condition with majority facing non availability of necessary facilities like labs (46.67%), microscopes (56.67%), refregirator (63.33%) and automatic syringes (70.00%). Phand, (2021) reported that Indian livestock sector is suffering from poor infrastructure and human resources. Livestock extension professionals work to their best potential in minimum possible facilities. Non-availability of necessary facilities and equipment renders them handicapped and unable to give best performance in the field. The unavailability of the physical facilities are proving demotivating agents to extension professionals. There is an urgent need to fill the gap between the availability and actual requirement of these facilities in livestock health centers for efficient delivery of livestock health services. Availability of the internet facilities, Audio-visual aids, technical literature, automatic syringes and animal restraining equipments was varying significantly between the Veterinarians and para-

veterinarians. Infrastructure is a major concern that arises in every discussion about livestock service delivery. The use of veterinary technical skills is frequently hampered by a lack of

simple diagnostic kits (Punjabi, 2005). Lack of infrastructure facilities at VAS centers were also reported by Jeyaretnam *et al.*, (2000), Rajput (2006) and Moola (2016).

Job satisfaction of the livestock extension professionals

Table 5: Job satisfaction and level of job satisfaction of livestock extension professionals

(n=60)

Job satisfaction of the livestock extension professionals	Veterinarians	Para-vets	Overall	P value (chi square)
A Job satisfaction				
No	02 (6.67)	01 (3.33)	03 (5.00)	0.554
Yes	28 (93.33)	29 (96.67)	57 (95.00)	
B Level of satisfaction				
Low	02 (6.67)	01(3.33)	03 (5.00)	0.524
Moderate	01 (3.33)	01 (3.33)	02 (3.33)	
Average	12 (40.00)	10 (33.33)	22 (36.67)	
High	12 (40.00)	12 (40.00)	24 (40.00)	
Very high	03(10.00)	06 (20.00)	09 (15.00)	

(Figures in parenthesis indicate the percentage) (P value statistical significant at level of $P < 0.05$)

The results in Table 5 divulge that majority of the livestock extension professionals (95.00%) are satisfied with their current job and level of satisfaction is high (40.00%). The level of the job satisfaction is high among the majority of the professionals. The results are in contradiction to the study of Adisa, (2015) on his relevant study on competencies of livestock extension professionals in which professionals were found to have low to very low level of job satisfaction. The state of Jammu and Kashmir has the least presence of the private sector jobs and getting a government job is like luxury in the state. The other reason for the job satisfaction is the satisfaction in veterinarians that they are serving the ones who can't speak about their diseases and this gives an intrinsic motivation to do the job.

CONCLUSION

The findings of the study indicates that livestock extension departments, their contacts, linkages, facilities etc. are not on par with the current need of the livestock owners. There is urgent need to improve the contacts of the livestock extension professionals with other extension agencies that will lead to better understanding and the better solutions to the field problems. The flow of information between the line departments is low which leads to the message breakdown. Due to less information flow there is less awareness and knowledge about the various happenings of the field (Bhabhor *et al.*, 2020). The linkages between the all stake holders of the profession need necessarily to be improved. The research to field linkage is the life line of extension work that needs due consideration and attention. The basic infrastructure facilities that are the urgent need of the present time should be made

available to livestock extension professionals in order to give best delivery of the extension services.

RECOMMENDATION

Improvement of the extension contacts and linkages Furtherance of infrastructure in livestock health centers. Infrastructure facilities at the primary veterinary centers are poor that means the extension professionals are not well equipped to give best service to the farmers.

Intensify the number of female extension professionals. The livestock extension professionals are working with the all types of the communities and tribes. Due to some cultural or the religious taboos they are not freely able to engage in discussions with the women farmers. This factor leads to the less participation and involvement of the women hence render professionals less efficient in diversity competencies. The presence of the female field extension workers can solve this problem

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CONFLICT OF INTEREST

The authors of the paper declare no conflict of interest

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