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Study of relationship between socio-economic profile and perceived training needs of dairy farmers in Jammu district of Jammu and Kashmir, India

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Abstract

The study was conducted in Jammu district of Jammu and Kashmir state to assess the relationship between socio-economic profile and perceived training needs of dairy farmers. Ex-post-facto research design and, multistage random sampling plan was followed for the selection of 120 ultimate respondents. Data was collected from the respondents belonging to Marh, Akhnoor, Bhisnah and R.S. Pura blocks with the help of a structured interview schedule containing selected dependent and independent variables, through personal interview technique. The study reveals that majority of the respondents were middle aged with poor education. They had medium herd size, marginal land holdings and medium mass media exposure and extension contact. However, they belonged to medium income group but had poor social participation. Only 45 percent of the respondents had undertaken training programmes regarding animal husbandry. Further correlation analysis reveals that age and experience had a significant and positive correlation, while mass media exposure, extension contact, education and social participation had a significant and negative correlation with perceived training needs of dairy farmers.

Keywords: Relationship, socio-economic profile, perceived training needs, dairy farmers

1. Introduction

India is the second largest country in the world in terms of population having 1.21 billion human population (GOI, 2011) ^[1] out of which, 68.84 per cent comes under rural ambit. 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 (Ahuja and Redmond, 2001) ^[2]. Training is a process by which the desire, knowledge, skill and ideas are inculcated, fostered and reinforced in an organism (Lynton and Pareek, 1990) ^[3]. In the process of transfer of technology, training of farmers, farm leaders and rural youth plays an important role. Farmer's training is a non-formal process of education which educates the farmers in a group on some specific topic at a particular place Shrivastva *et al.*, (1996) ^[4]. So, by providing suitable need based training to the farmers we can improve their skills, leading to better adoption of new technologies. Moreover, the main problem of developing countries like India is not the lack of natural resources rather it is the under-developed human resource. So, training helps in acquiring the necessary skills among the livestock farmers, which in turn improves the productivity. Therefore, it becomes imperative to surface the required training needs among livestock owners.

2. Materials and Methods

The study was conducted in Jammu district of Jammu and Kashmir state to assess the relationship between socio-economic profile and perceived training needs of dairy farmers. Ex-post-facto research design and, multistage random sampling plan was followed for the selection of ultimate respondents. The district was selected purposefully due to abundance of dairy farmers. It comprises of 10 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. At least 15 livestock owners were selected from each of the 8 villages constituting a total sample size of 120 dairy farmers. Data were coded, classified, tabulated and analyzed 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, percentage, mean, standard deviation and Pearson product moment correlation coefficient (r) were worked out for meaningful interpretation. For relationship between socio-economic profiles of the respondents with perceived training needs, Pearson product moment correlation coefficient (r) were computed and tested for their statistical significance.

Pearson product moment correlation coefficient

$$r_{xy} = \frac{[N \sum XY - (\sum X)(\sum Y)] + [N \sum X^2 - (\sum X)^2] [N \sum Y^2 - (\sum Y)^2]}{[N \sum XY - (\sum X)(\sum Y)]}$$

Where, X and Y = original scores in variables X and Y

Where,

N = number of paired scores

$\sum XY$ = each X multiplied by its corresponding Y, then summed

$\sum X$ = sum of X scores

$(\sum X)^2$ = each X squared and then summed

$\sum Y$ = sum of Y scores

$(\sum Y)^2$ = each Y squared and then summed

3. Results and Discussion

3.1 Socio-Economic Profile of dairy farmers

The results regarding socio-economic profile of the respondents are presented in Table 1. The analysis of Table 1 reflected that the majority (66.66%) of the respondents belonged to middle age group (35-55 years), (18.33%) were from young age group (20-34 years), whereas, old (56-70 years) constituted about (14.16%). Similar results were seen by Raval and Chandawat (2011) [5] who reported that the majority of the dairy farmers (52%) in Matar taluk of Gujarat belonged to middle age group. Similarly, Hamadani (2008) [6] also reported in a study on adoption pattern of improved dairy farming practices in Jammu district that majority of the respondents were middle aged.

Table 1 revealed that majority (64%) of the respondents were illiterate, 10% had completed primary school education, 14% were having middle, 10% had high school and ten plus two while only 1.6% had completed graduation and above. Similarly, Bordolio *et al.* (2005) [7], while conducting a study on socio-economic characteristics of dairy households of Guwahatti Assam and found that 44.57% of dairy farmers were illiterate.

Results of the table 1 clearly depicted that the majority of the respondents (94.16%) were having nuclear type family while only 5.63% had joint type. The results are in consonance with

the findings of Sathyanarayan *et al.* (2010) [8] who reported that the majority of the respondents in rural districts of Bangalore were males and lived in the nuclear family. Data of the table 1 revealed that that 78.33% of the respondents were having medium sized families, while 15.83% and 5.83% belonged to large sized families. The results were in agreement with the findings of Kavitha and Reddy (2007) [9], who also reflected in their study on personal and socio-economic characteristics of farm women of Warangal district of Andhra Pradesh that 23.34% of the respondents had small family (<3 members), (55%) had medium family (4-6 members), (18.33%) of the respondents had large family (6-9 members) and only (3.3%) of the respondents had very large family (>9 members).

The results of the data of table 1 showed that majority (90%) of the respondents undertook animal husbandry and agricultural occupations, (5%) had animal husbandry, agriculture and business whereas, rests (5%) were having animal husbandry, agriculture and service. In Indian context, agriculture and livestock rearing goes hand in hand as agriculture in India is monsoon dependent and failure of crop due to draught looms large, hence, livestock acts as buffer to mitigate the risk of economic crisis due to crop failure. Ali (2007) [10] reported that 70% of the Indian rural households who are land scarce, marginal and small farmers keep livestock to supplement their family income. As per results, majority (60.83%) of the respondents had medium (22-42 years) experience in animal rearing, 25% had low (10-21 years) and (14.16%) had high (43-60 years) animal rearing experience. The results revealed that majority (84.16%) of the respondents had marginal land holding and (15.83%) were having small land holdings. Similar findings were put forth by Raval and Chandawat (2011) [5] while studying the extent of knowledge of improved animal husbandry practices and socio-economic characteristics of dairy farmers of Gujarat. They found that the majority of the dairy farmers had marginal land holdings. The results clearly showed that the majority (68.33%) of the respondents had a medium herd size (3-5 animals), (20%) had small (upto 2 animals) and rest (11.66%) had large herd size (>5 animals). Gani (2012) [11] also reported in her study that majority of the respondents possessed a herd size of 2-4 animals. The results of the table 1 reflected that the majority of the respondents (68.33%) had medium annual income (16336-52564 rupees), (16.67%) had low (11000-16335 rupees) and rest (15%) had a high annual income (52565-80000 rupees). The results are in disagreement to the findings of Balaraju (2013) [12] who conducted a study on training needs of livestock farmers in Davangere district of Karnataka and found that the majority of the livestock owners were having a low annual income.

Findings of the table 1 revealed that the majority (56.66%) of the respondents had medium mass media exposure, (28.33%) had low and (15%) had high mass media exposure respectively. The reason behind the present finding may be the possession of T.Vs and radios by the respondents which help in easy access to information. Suresh (2004) [13] in his study on entrepreneurial behaviour of milk producers in Chittoor district of Andhra Pradesh, reported that majority of the dairy farmers had medium level of information seeking behaviour, followed by high and low level with (68.75%), (17.08%) and (14.17%), respectively. Mass media is an important tool for the dissemination of information which ultimately helps in increasing the production. It is evident from the table 1 that most (73.33%) of the respondents had a

medium extension contact, (15.00%) had low and (11.66%) had a high extension contact respectively. The results are in concurrence with the findings of Anitha (2004) [14], who reported in rural districts of Bangalore that (17.5%) of the entrepreneurs had high extension participation whereas (44.20%) of them had medium and (38.30%) had low participation respectively. Table 1 showed that the majority (97.5%) of the respondents had low social participation while only (2.5%) had high social participation. The findings are in consonance with the results of Sharma (2011) who also reported that the majority of the dairy farmers of Samba

district of J and K had low social participation and extension contact. The results were in line with the findings of Shafiq (2012) [15] who also reported that most of the dairy farmers in Jammu district had a poor social participation. Majority of the respondents (55%) had not participated in any training event, whereas, (45%) of the respondents had undertaken training programmes regarding animal husbandry. Similar findings were revealed by Hamadani (2008) [6] while conducting a study on adoption pattern of improved dairy farming practices in Jammu district who found that none of the respondents had received any training related to animal husbandry.

Table 1: Distribution of the respondents according to their Socio-economic characteristics

Sr. No.	Characteristics category	Number of respondents	
		Frequency	Percentage
1.Age (Years)			
i	Young (20-34)	22	18.33
ii	Medium (35-55)	80	66.66
iii	Old (56-70)	17	14.16
2.Education			
i	Illiterate	77	64.00
ii	Primary	12	10.00
iii	Middle	17	14.00
iv	High & 10+2	12	10.00
v	Graduate and above	2	1.60
3.Family Type			
i	Nuclear	113	94.16
ii	Joint	7	5.63
4.Family Size			
i	Small (2-3)	19	15.83
ii	Medium (4-8)	94	78.33
iii	Large (9-20)	7	5.83
5.Occupation			
i	Animal husbandry	0	0.00
ii	Animal husbandry and agriculture	108	90.00
iii	Animal husbandry, agriculture and business	6	5.00
iv	Animal husbandry, agriculture and service	6	5.00
6.Experience (years)			
i	Low (10-21)	30	25.00
ii	Medium (22-42)	73	60.83
iii	High (43-60)	17	14.16
7.Land holding			
i	Landless	0	0.00
ii	Marginal (Less than 2.5 acres)	101	84.16
iii	Small (2.5-5 acres)	19	15.83
iv	Semi-medium (5-10 acres)	0	0.00
v	Medium (10-25 acres)	0	0.00
vi	Large (more than 25 acres)	0	0.00
8.Herd size			
i	Small (up to 2 animals)	24	20.00
ii	Medium (3-5 animals)	82	68.33
iii	Large (>5 animals)	14	11.66
9.Annual Income (rupees)			
i	Low (11000-16335)	20	16.67
ii	Medium (16336-52564)	82	68.33
iii	High (52565-80000)	18	15.00
10.Mass Media Exposure			
i	Low (1-2.14)	34	28.33
ii	Medium (2.15 - 5.5)	68	56.66
iii	High (5.6-9)	18	15.00
11.Extension Contact			
i	Low(17-20.26)	18	15.00
ii	Medium(20.27-28.05)	88	73.33
iii	High(28.06-31)	14	11.66
12.Social Participation			
i	Low ≤1	117	97.50
ii	High >1	3	2.50
13.Participation in training			
i	Participated	54	45.00
ii	Not participated	66	55.00

3.2 Relationship between Socio-Economic Profile and Perceived Training Needs of Dairy Farmers

The statistical analysis of data contained in Table 2 revealed that age was positively and significantly correlated with general management ($r = 0.248$), feeding ($r = 0.250$) and marketing and finance ($r = 0.244$), breeding ($r = 0.103$), health-care ($r = 0.036$) and preparation and preservation of milk and meat products ($r = 0.119$). This may be due to the fact that the respondents of old age group differ in knowledge acquisition behaviour in comparison to the young respondents. Further the young age group respondents in general have higher curiosity levels; better formal education and higher mass media exposure, latest information about farm innovations, preventive measures and progressiveness which in turn decreases the needs of dairy farmers regarding various dairy farming trainings. These findings are in line with those of Singh and Gadora (2002) ^[16] who also indicated that age, experience and herd size were having a significant and positive relationship with training needs of cattle owners. Patil *et al.* (2009) ^[17] also reported that variables like age, family size and land holding were found to be positively but non-significantly correlated with the training needs of dairy farmers of Nagpur district.

Education was negatively and significantly correlated with general management ($r = -0.427$), feeding ($r = -0.460$), marketing and finance ($r = -0.424$), breeding ($r = -0.110$), Health-care ($r = -0.078$) and preparation and preservation of milk and meat products ($r = -0.019$). The negative association of education with training needs of respondents towards scientific animal husbandry practices is due to fact that highly educated farmers having latest information about farm innovations, preventive measures and market situations etc. due to their more readability and gain of current information from various farm publications. Respondents with higher formal education have increased capabilities of deciphering the complex animal husbandry information. Further the respondents with higher education status scored higher in mass media exposure, social participation etc. which could have played a role to make better-farm decisions, having know-how of alternative arrangements and thus educated farmer need less intensity of training. Similar findings were reported by Sharma *et al.* (2011) ^[18] who found that education, caste, socio-economic status, herd size, extension contact and mass media exposure had a negative and significant correlation with the perceived training needs of buffalo owners of Haryana.

Family type was positively and non-significantly correlated with breeding ($r = 0.183$), health-care ($r = 0.166$), preparation and preservation of milk and meat products ($r = 0.055$), marketing and finance ($r = 0.156$), general management ($r = 0.096$) and feeding ($r = 0.089$). Family size had a positive and non-significant correlation with breeding ($r = 0.166$), health-care ($r = 0.112$), preparation and preservation of milk and meat products ($r = 0.030$), marketing and finance ($r = 0.140$), general-management ($r = 0.095$) and feeding ($r = 0.036$). These findings are in line with those of Patil *et al.* (2009) ^[17] who reported that variables like age, family size and land holding were found to be positively but non-significantly correlated with the training needs of dairy farmers of Nagpur district.

Occupation was positively and non-significantly correlated with health-care ($r = 0.021$), general-management ($r = 0.327$), feeding ($r = 0.0347$), preparation and preservation of milk and meat products ($r = 0.268$), marketing and finance ($r = 0.334$)

and breeding ($r = 0.049$). It is conjectured here that the respondents engaged in diversified occupation activities could have higher mobility, diverse social interaction, different attitudinal sets, etc thus less information about dairy farmers which in turn increases the needs of dairy farmers regarding various dairy farming trainings. On the contrary, Gacche *et al.* (1992) ^[19] indicated that age, length of service and field work orientation had a significant relationship with training needs.

Experience had a positive and significant relationship with general-management ($r = 0.298$), feeding ($r = 0.259$) and marketing and finance ($r = 0.267$), breeding ($r = 0.076$), health-care ($r = 0.055$) and preparation and preservation of milk and meat products ($r = 0.130$). This may be due to the fact that respondents might have less experience in scientific dairy farming aids in increasing the farmers' training needs. The results are in consonance with the findings of Singh and Gadora (2002) ^[16] who also indicated that age, experience and herd size were having significant and positive relationship with training needs of cattle owners.

Land holding was negatively and non-significantly correlated with feeding ($r = -0.216$), general-management ($r = -0.128$), breeding ($r = -0.003$), health-care ($r = -0.155$), preservation and preparation of livestock products ($r = -0.42$) and marketing and finance ($r = -0.34$). The data of the result revealed that farmers having larger land holdings perceive lesser needs of trainings. This may be because, the farmers having larger land size are presume to have good contact or better rapport with various extension agencies and thereby fell less training needs as compare to their other counterpart. These findings are contrary with those of Patil *et al.* (2009) ^[17] who reported that variables like land holding, age, family size were found to be positively but non-significantly correlated with the training needs of dairy farmers of Nagpur district.

Herd size was positively but non-significantly correlated with general management ($r = 0.159$), feeding ($r = 0.077$), breeding ($r = 0.006$), health-care ($r = 0.100$), preparation and preservation of milk and meat products ($r = 0.088$) and marketing and finance ($r = 0.002$). These findings are contrary to the results of Sharma (2005) ^[18] who found that education, caste, socio-economic status, herd size, extension contact and mass media exposure had a negative and significant correlation with the perceived training needs of buffalo owners of Haryana.

Annual income was negatively but non-significantly correlated with general management ($r = -0.064$), feeding ($r = -0.115$), breeding ($r = -0.022$), health-care ($r = -0.016$), preparation and preservation of milk and meat products ($r = -0.141$) and marketing and finance ($r = -0.177$). The negative relationship of annual income with perceived training needs may be attributed to the fact that higher income means better profitability which is achieved due to efficient, effective and proper management, marketing abilities etc. and thereby reducing the training needs as their economy from dairy increases. The results are in opposition to Singh and Gadora (2001) ^[16] who reported that income and social-participation did not play any significant role in influencing the training needs of cattle owners.

Mass media exposure was negatively and significantly correlated with general-management ($r = -0.334$), feeding ($r = -0.352$), marketing and finance ($r = -0.234$), ($r = -0.003$), health-care ($r = -0.027$) and preparation and preservation of milk and meat products ($r = -0.138$). It can be concluded that mass media is an immensely important tool that has a colossal and illustrious effect on the knowledge of respondents, which in

turn decreases their training needs by increasing knowledge about improved animal husbandry and dairy practices. Similar results were reported by Deepak *et al.* (2004)^[20] who revealed in a study that mass media exposure was negatively and significantly associated with the training needs of respondents in all buffalo rearing practices.

Extension agency contact had a negative and significant relation with general-management ($r = -0.181$), feeding ($r = -0.245$), breeding ($r = -0.014$), health-care ($r = -0.018$), preparation and preservation of milk and meat products ($r = -0.312$) and marketing and finance ($r = -0.294$). The negative and significant association may be because with increase in the extension contact the knowledge and adoption level of respondents also increase as they became fully aware about benefits of improved animal husbandry practices. Thus with the increase of extension communication, the innovativeness and progressiveness of dairy farmers also increases, which in turn decreases the needs of dairy farmers regarding various dairy farming trainings. Similar findings were observed by Singh and Gadora (2002)^[16] who revealed that extension contact had a significant but negative correlation with training needs of cattle owners.

Social-participation had negatively and significantly related with feeding ($r = -0.224$), preparation and preservation of milk

and meat products ($r = -0.331$), marketing and finance ($r = -0.428$), general-management ($r = -0.131$), health-care ($r = -0.069$) and breeding ($r = -0.143$). This may be due to fact that extension flows from opinion leaders to peers, thus with increase of farmer's social participation, various combinations are increased; their interaction, communication and linkage with outsiders' increases which may help them in acquiring accurate information regarding scientific animal husbandry practices and ultimately reduce their training needs. The results are not in line with the findings of Patil *et al.* (2009)^[17] who reported that social participation was significantly and positively correlated with the training needs of dairy farmers of Nagpur district.

Table 2 reflected that participation in training had a negative and significant relation with general-management ($r = -0.183$), feeding ($r = -0.011$), breeding ($r = -0.141$) and health-care ($r = -0.049$), preparation and preservation of milk and meat products ($r = -0.083$) and marketing and finance ($r = -0.057$). The participation in training has positive impact on the knowledge of respondents which increase innovativeness and progressiveness, which in turn decreases their training needs. Similarly, Gacche *et al.* (1992)^[19] also indicated that age, length of service and field work orientation had significant relationship with training needs.

Table 2: Correlation between socio-personal attributes and perceived training needs of dairy farmers.

Variables	General management	Feeding	Breeding	Health-care	Preparation and preservation of milk and meat products	Marketing and finance
Age	0.248*	0.250**	0.103*	0.036*	0.119*	0.244**
Education	-0.427**	-0.460**	-0.118*	-0.078*	-0.019*	-0.424**
Family type	0.096	0.089	0.183	0.166	0.055	0.156
Family size	0.095	0.036	0.166	0.112	0.030	0.140
Occupation	0.327	0.0347	0.049	0.021	0.268	0.334
Experience	0.298**	0.259**	0.076*	0.055*	0.130*	0.267**
Land holding	-0.128	-0.216	-0.003	-0.155	-0.42	-0.34
Herd size	-0.159	-0.077	-0.006	-0.100	-0.088	-0.002
Annual income	-0.064	-0.115	-0.022	-0.016	-0.141	-0.177
Mass media exposure	-0.334**	-0.352**	-0.003*	-0.027*	-0.138*	-0.234*
Extension contact	-0.181*	-0.245**	-0.014*	-0.018*	-0.312**	0.294**
Social participation	-0.131*	-0.224*	-0.143*	-0.069*	-0.331**	-0.428**
Participation in training	-0.183*	-0.011*	-0.141*	-0.049*	-0.083*	-0.057*

*Significance at 5% level

** Significance at 1% level

4. Conclusion

Majority of the respondents were middle aged, illiterate and marginal farmers with medium income, mass media exposure and extension contact. There was a significant and negative correlation of perceived training needs seen with education, mass media exposure, extension contact, social-participation and participation in training, while a significant and positive correlation was seen with age and experience.

5. References

1. Census of India Ministry of Home Affairs, Government of India, 2001. <http://www.census2011.co.in>
2. Ahuja V, Redmond E. Economic and policy issues in livestock service delivery to the poor. Background paper for the FAO project memorandum pro-poor livestock policy initiative, FAO, Rome. 2001.
3. Lynton RP, Pareek U. Training for development. Vistar publication, New Delhi, 1990.
4. Shrivastava KK, Bareth SL, Sarkar JD. Impact of farmers training centre on farmer community. *Agricultural Extension Review*. 1996; 8(5):23-24.
5. Raval RJ, Chandawat MS. Extent of knowledge of improved animal husbandry practices and socio-economical characteristics of dairy farmers of district Kheda, Gujarat. *International Journal of Farm Science*. 2011; 1:129-137
6. Hamdani SA. Adoption pattern of improved dairy farming practices in Jammu district. M.V.Sc. thesis, Sher-e-Kashmir University of Agricultural Sciences and technology, Jammu, 2008.
7. Bordoloi JP, Laskar SK, Haque A, Bola NN. Socio-economic characteristics of daily households of Guwahati in Assam. *Indian Veterinary Journal*. 2005; 82:427-432.
8. Sathyanarayn K, Jagadeeswary V, Murthy C, Ruban W, Sudha G. Socio-economic status of livestock farmers of Narasapura village; A benchmark analysis. *Veterinary World*. 2010. 3:215-218.
9. Kavitha L, Reddy MS. Personal and socio-economic characteristics of farm women. *Journal of Research Acharya NG. Ranga Agricultural University, Hyderabad*. 2007; 35(1):79-83.
10. Ali J. Livestock sector development and implications for

- rural poverty alleviation in India. *Livestock Research Rural Development*. 2007; 19:324-327.
11. Gani A. Gender based issues in dairy farming in Jammu district of Jammu and Kashmir state. M.V.Sc. thesis, Sher-e-Kashmir University of Agricultural Sciences and Technology, Jammu, 2012.
 12. Balaraju BL, Khandker P, Chander M, Kumar HD, Rathod PK. Small ruminant farmers training needs in Karnataka as perceived by farmers and veterinarians. *The Asian Journal of Animal Science*. 2013; 9(1):52-58.
 13. Suresh. Entrepreneurial behaviour of milk producers in Chittoor district of Andhra Pradesh – A critical study. M. V. Sc. thesis, Acharya N. G. Ranga Agricultural University, Hyderabad, 2004.
 14. Anitha B. A study on entrepreneurial behaviour and market participation of farm women in Bangalore rural district of Karnataka. M. Sc. thesis, University of Agricultural Sciences, Bangalore, 2004.
 15. Shafiq S. Training needs of dairy farmers of Jammu District. M.V.Sc. thesis, Sher-e-Kashmir University of Agricultural Sciences and Technology, Jammu, India, 2012.
 16. Singh SP, Gadora AK. Training needs of cattle owners in various improved animal husbandry practices. *Haryana Veterinarian*. 2001; 40:4-9.
 17. Patil AP, Gawande SH, Gobade MR, Nande MP. Training needs of dairy farmers in Nagpur district. *Veterinary World*. 2009; 2:187-190.
 18. Sharma K, Singh SP, Gautam. Personal attributes affecting training needs perception of buffalo farmers. *Indian Research Journal of Extension Education*. 2011; 11:57-61.
 19. Gacche AS, Dakhore KM, Dikle RN. Training needs of livestock supervisors. *Maharashtra Journal of Extension Education*. 1992; 11:37-40
 20. Deepak, Singh SP, Sangwan SS. Knowledge level of rural women about improved feed and fodder practices of buffalo in Haryana. *Harayana Veterinarian*. 2004; 43:34-37.