

Involvement of women in *Pantja* goat rearing in *Tarai* region of Uttarakhand

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ABSTRACT

An extensive survey was carried out to explore the participation of women in *Pantja* goat rearing in *Tarai* region of Uttarakhand. The results of study clearly showed that women played a predominant role in goat rearing. A majority of women farmers performed assistance at the time of parturition (73.95%) followed by cleaning of animal shed (61.40%), care of sick animal (56.43%), stall feeding after grazing (54.11%), care of young stock (52.40%), dusting (54.26%) and grazing of goats (47.44%). In the same tasks the involvement of men was 26.05, 35.04, 42.02, 40.93, 45.89, 45.74 and 46.51 percent whereas, adolescent participated in the above mentioned tasks to the extent of 00.0, 3.57, 1.55, 4.96, 1.71, 0.00 and 6.05 percent. The results of the present study indicated that the women farmers were capable of managing the goats in a similar fashion to men even without any formal training, and their skills could be strengthened by imparting to them proper scientific training (related to goat production technology) suited to the ecosystem of *Tarai* region of Uttarakhand. It is quite obvious from the observations collected during the survey that there is an urgent need for the policy makers to pay more attention to the involvement of women farmers involved in goat production by enhancing their skills through education provided by the extension workers, voluntary organizations and government agencies. It will not only increase the efficiency of goat production but also elevate the socio economic conditions of the rural masses of the district.

Key words: Cleaning, Feeding, Grazing, Goat rearing, Involvement

Women, who are virtually half of our complete populace and make economic and non-economic contributions towards the national GDP- occupy low position in the socio-economic hierarchy in India. The farm women play a vital role within the home (as housewives) in managing the domestic affairs and also work as co-partners in livestock management. No field operation is beyond the

reach of women. Women are involved in various livestock production activities like cleaning of shed, feeding, milking and fodder collection along with child rearing and housekeeping activities¹. They have been taking many important decisions inside and outside of the domestic activities since a long time, but unfortunately their work is not recognized and considered as normal routine work in the rural area. In the last two decades, policy makers and planners have started realizing the importance of mobilizing the women involved in the livestock production activities. Now the role of women in livestock production and agricultural activities has become an issue of research, but publications related to involvement of women in goat production is still scanty. The reason for lack of studies in goat farming could be that the goat farmers are scattered in the rural areas throughout the country

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thus making research difficult to be taken up with few resources. Total goat population in U.S.Nagar and Nainital districts being 42,769 and 69,593 (total 1, 12, 362 goats), wherein Pantja goats contribute about one third population². Nevertheless, such studies on women are of extreme importance in order to acquire an insight about their role in goat farming, the motivational factors, the hindrances, the financial difficulties, information seeking behavior and her over all managerial skills regarding the goat farming. The progress of women has been considered an essential component of national progress. *Pantja* is a newly accredited (INDIA_GOAT_2420_PANTJA_06024) goat breed of Tarai region of Uttarakhand, which is mainly used for meat and milk purpose by the farmers of this region. With these facts in knowledge, the present study was conducted to assess the role of human resources in *Pantja* goat rearing with special reference to *Pantja* goatherds of Udham Singh Nagar and Nainital districts of *Tarai* region of Uttarakhand.

MATERIALS AND METHODS

A bench mark survey was conducted to collect the base line information from the *Pantja* goat rearers regarding their goat production systems and involvement of human resources in goat farming. The area of study is characterized by a humid sub-tropical climate. Majority of the farmers rearing *Pantja* goats were those from Scheduled castes followed by those from general castes, other backward castes and Scheduled tribes. Irrespective of the district most of the goat keepers were land less and followed animal husbandry as their primary profession. Majority of the goat keepers maintained their flock within a shed near to their own residences with kachcha floor and temporary type of roof and they adopted semi stall feeding system and grazed the goats on community land for an average of 5-8 hrs/ day and fed 100-200g concentrate feed/ goat/ day during the morning time. A variety of green herbage is plentifully available in the area for grazing. Multistage sampling method was adopted for the selection of respondents. On the basis of *Pantja* goat population two districts (Udham Singh Nagar and Nainital) were selected. A total of one hundred thirteen villages were selected for the

survey. An individual farmer rearing *Pantja* goats formed the unit of a sample. A list of goat rearing families of the selected villages was prepared with the help of village *Pradhan* and *Patvari* and almost all farmers raising *Pantja* goat were selected for the survey from each village. Thus a total of 645 selected respondents were interviewed during a period of one year (April, 2016 to March, 2017). The desired information, especially the work furnished by men, women and adolescent in goat production activities was collected from the goat rearers by administrating developed questionnaires and also by direct observations in the farmer's flocks. The respondents were both (men and women). The collected data was subjected to basic statistical analysis as per³.

Frequency Distribution = total numbers of respondents in the survey.

$$\chi^2 = \sum_{i=0}^p \sum_{j=0}^q \frac{(O_{ij} - E_{ij})^2}{E_{ij}} \sim \chi^2_{(p-1)(q-1)}$$

Where, statistic χ^2 has (p-1)(q-1) d.f.

E_{ij} is the expected frequency corresponding to i^{th} and j^{th} cell

O_{ij} is the observed frequency corresponding to i^{th} and j^{th} cell

RESULTS AND DISCUSSION

Socio-economic status of goat rearers

The results related to the socio economic status of the *Pantja* goatherds revealed that a majority of the respondent (82.95%) belonged to middle age group. The participants of young and older age groups in the goat rearing activities were found to be (6.82%) and (10.23%), respectively. The results of the study are in agreement with the findings reported by^{1,4} who reported that most the of livestock farmers in their respective reported areas were in the age group of 26-55 years. The reasons for this might be the health of old people being affected by the climatic conditions of the *Tarai* region and engagement of the farmers of younger age group in other economic activities. The middle age group farmers

have realised and recognized goat production as a suitable venture for overcoming the financial hardships. Goat production has been documented time and again as a suitable venture for women as it provides both income as well as employment to the homestead. The results also indicated that 35.04 per cent respondents (men/ women) were illiterate and a majority (50.39%) of respondents had acquired primary level of education, while 14.57% had an educational level of matric and above. A majority (55.97%) of respondents belonged to a nuclear family whereas 44.03% were from joint family. Majority of goatherds followed agriculture and labour as their primary profession while others depended on agriculture and animal husbandry. ^{2,6}Have also reported a similar incidence of the economic activities of the goat rearers in Uttarakhand and Rajasthan respectively. More than 60 per cent of the goat keepers had a gross income limit of Rs. 50,000 per annum, which included the income from sale of animals as well as from other sources like service, agricultural labour, little grocery shop etc. In this situation income from goat production plays a major role for their subsistence in such type of rural areas.

Role in goat rearing activity

The results related to involvement of men, women and adolescent in various goat rearing practices are presented in Table 1 and clearly show that the role of women in goat rearing is a predominant one. The results of the study revealed that under goat production related tasks, the majority of farm women performed assistance at the time of parturition (73.95%) followed by cleaning of animal shed (61.40%), care of sick animal (56.43%), stall feeding after grazing (54.11%), care of young stock (52.40 %), dusting (54.26%) and grazing of goats (47.44%). In the same tasks the involvement of men was 26.05, 35.04, 42.02, 40.93, 45.89, 45.74 and 46.51 percent whereas, adolescent participated in the above mentioned tasks to the extent of 00.0, 3.57, 1.55, 4.96, 1.71, 0.00 and 6.05 percent. More or less similar results were also reported^{5,7,8}. On the other than breeding and sale of animals was performed by the male members of the family due to social reason. The roles of men, women and adolescent in breeding and sale of animals were 71.94 and 71.94; 18.76 and 28.06 and 9.30 and 00.00

per cent, respectively. Results are in agreement with the few workers^{5,6,8}. The association between districts and role of human resource involvement in feeding, grazing, care of young stock, assistance at the time of parturition and dusting were significant while its effect on other remaining practices were non-significant. The reason for this might be in U. S. Nagar district majority of goat keepers were landless and engagement of men in other economic activities such as labour work in industrial areas which hinders their involvement in goat rearing task. Similar findings were also reported⁶. Results of the study revealed that women spared considerable period of their time for day to day feeding, preparing special ration for female animals during pregnancy and grooming for show purpose. At the time of kidding women were found to be competent enough to help the does in delivery of kids, helping the kids to respire after birth and cleaning of the kids and severing of their navel cord. Although the women accepted that livestock rearing increased burden to their work schedule nevertheless every one of them enjoyed the task of goat rearing.

CONCLUSION

The results of the present study indicated that the farm women can manage their goat in a similar fashion to the menfolk even without any formal training, but their skill can be enhanced by giving scientific guidance related to goat production. The study had reflected the role played by women in goat rearing and its importance in their livelihood. After seeing their significant the policy makers, extension workers, voluntary organizations and other agencies should give attention in developing intervention for better development of goat production in Tarai region of Uttarakhand. The intervention like capacity building through by training and practical orientations on different aspects of goat production and their management will be suitable to their local situation. It will not only increase the efficiency of goat production but also elevate the socio economic conditions of the rural masses of the district.

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Table 1. Involvement of women in *Pantja* goat rearing (n=645)

S.No.	Activity	Particulars	District		Overall	χ^2 Value
			U.S. Nagar (n = 372)	Nainital (n = 273)		
1.	Feeding operation	Men	135 (36.29)	129 (47.25)	264 (40.93)	9.006*
		Women	220 (59.14)	129 (47.25)	349 (54.11)	
		Adolescent	17 (4.57)	15 (5.50)	32 (4.96)	
2.	Cleaning of shed	Men	119 (31.99)	107 (39.19)	226 (35.04)	4.26
		Women	241 (64.78)	155 (56.78)	396 (61.40)	
		Adolescent	12 (3.23)	11 (4.03)	23 (3.57)	
3.	Grazing operation	Men	160 (43.01)	140 (51.28)	300 (46.51)	10.075**
		Women	195 (52.42)	111 (40.66)	306 (47.44)	
		Adolescent	17 (4.57)	22 (8.06)	39 (6.05)	
4.	Sale of animals	Men	261 (70.16)	203 (74.36)	464 (71.94)	1.374
		Women	111 (29.84)	70 (25.64)	181 (28.06)	
		Adolescent	0 (0.00)	0 (0.00)	0 (0.00)	
5.	Care of young stock	Men	152 (40.86)	144 (52.75)	296 (45.89)	9.295**
		Women	214 (57.53)	124 (45.42)	338 (52.40)	
		Adolescent	6 (1.61)	5 (1.83)	11 (1.71)	
6.	Care of sick animal	Men	150 (40.32)	121 (44.32)	271 (42.02)	1.511
		Women	215 (57.80)	149 (54.58)	364 (56.43)	
		Adolescent	7 (1.88)	3 (1.10)	10 (1.55)	
7.	Assistance at the time of parturition	Men	115 (30.91)	53 (19.41)	168 (26.05)	10.810**
		Women	257 (69.09)	220 (80.59)	477 (73.95)	
		Adolescent	0 (0.00)	0 (0.00)	0 (0.00)	

8.	Breeding	Men	273 (73.39)	191 (69.97)	464 (71.94)	2.701
		Women	62 (16.67)	59 (21.61)	121 (18.76)	
		Adolescent	37 9.95	23 (8.42)	60 (9.30)	
9.	Dusting	Men	153 (41.13)	142 (52.01)	295 (45.74)	8.642*
		Women	219 (58.87)	131 (47.99)	350 (54.26)	
		Adolescent	0 (0.00)	0 (0.00)	0 (0.00)	

Figure in parenthesis indicate percentage, * Significant (P<0.05), ** Significant (P<0.01)

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