

Constraints being perceived by pantja goat keepers in *Tarai* region of Uttarakhand

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ABSTRACT

The present study was conducted to collect the base line information from the Pantja goat rearers regarding to constraints being perceived by goat keepers in goat rearing of Udham Singh Nagar and Nainital districts of *Tarai* region of the Uttarakhand. A total 645 respondents were interviewed from one hundred thirteen villages with the help of the structured interview schedule to understand the constraints faced by the goat rearers. The results of present study revealed that the lack of credit and insurance facilities were the foremost serious constraints faced by goat rearers followed by lack of veterinary services, inadequate availability of quality breeding buck, lack of organized market of goats, shortage of feed and fodder and poor knowledge of scientific goat rearing practices. It may be concluded that the socio-economic condition of goat rearers can be improved by facilitate long term credit facility on minimum interest rates and insurance of goats and also providing scientific guidance about goat rearing, which will not only generate income for their livelihood but also contribute much to the nutritional and health security.

Keywords: Constraints, Goat keepers, Knowledge, Respondents, Rank based quotient

India is one of the largest goats owing country in the world with 148.88 million goats¹ and playing a significant role in livelihood and nutritional security as well providing supplementary income to people below the poverty line in rural and semi urban areas and regarded as “ATM” means any time money and any time milk. Production of Indian goats is relatively lower than many other developing countries. Average meat yield of an goat in India is very low (10 kg) as compared to Sri Lanka (20 kg) and Pakistan (17 kg)² mainly because of low quality germplasm, unbalance feeding and faulty management practices. According to 19th livestock census, Uttarakhand possesses 13, 65, 322 goats which is 1.01% of the country's goat population. About 3/4th population of

the state lies below the poverty line (on the basis of consumption expenditure), whereas about 1/5th are medium and 1/25 are rich. Goats and sheep serve as the mainstay of the livelihood of the poor people of the state since they are responsible for rearing about 94% of the goat and 85% of the sheep population of the state³. Constraints in present study referred to all those factors which may be social-personal, institutional and input and economical that singly or in conjugation with each other hinders or restricts the adoption of improved goat production technologies by the goat keepers. To identify the constraints in goat farming and to suggest suitable policy measures to overcome the hurdles faced by goat keepers of the region. Keeping in view above, a study was conducted to identify the constraints being perceived by Pantja goatherds in *Tarai* region of Uttarakhand in goat production so that suitable intervention policies would be suggested.

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MATERIALS AND METHODS

The area of study is characterized with a humid sub-tropical climate. The winters are severe and summers are hot and humid with an average rainfall of more than 1200 mm. The maximum temperature may go up to 44°C in summer and minimum up to 0°C in winter with relative humidity ranging between 15 to 95%. The region has a number of large rivers and rivulets. A bench mark survey was conducted to collect the base line information from the goat rearers regarding to identify the constraints in goat farming and to suggest suitable policy measures to overcome the hurdles faced by goat keepers in Udham Singh Nagar and Nainital districts of the Uttarakhand during a period of two year (April, 2015 to March, 2017). Multistage sampling method was adopted for the selection of respondents. Four clusters viz. Bhimtal, Tilpuri, Bara and Kunda were selected from two districts (Udham Singh Nagar and Nainital). Total one hundred thirteen villages were surveyed. A list of goat rearing families of the selected villages was prepared with the help of village Pradhan and Patvari and mostly all goat rearers were selected for survey from each village. Thus 645 selected respondents were interviewed through personal interview techniques with the help of a structured interview schedule covering constraints which prevents the adoption of improved goat rearing practices by the respondents. Interview schedule was with the help of experts and literature on constraints related goat rearing practices viz. shortage of feed and fodder, inadequate availability of quality breeding buck, lack of veterinary service, lack of organized market of goats, poor knowledge of scientific goat rearing and lack of credit and insurance facilities were considered for present study. Each respondent was asked to rank the constraints without having interaction with the other farmers. Thus, each respondent had his own independent opinion regarding the seriousness of the constraints he faced. On the basis of ranks provided by the goatherds, rank based quotient (RBQ) for each constraint was calculated at district level on basis of the formula⁴.

$$RBQ = \sum_{i=1}^n \frac{f_i(n+1-i)}{N} \times 100$$

Where, f_i = the frequency of farmers for the i^{th} rank of the constraint

N = the numbers of farmers

n = the number of ranks

Similarly, the RBQ values at districts level and the pooled RBQ values of the two districts viz. Udham Singh Nagar and Nainital were calculated using weighted average of district level values. On rank based quotient (RBQ) values the researcher easily identified the most serious constraint at district level. The constraint having the highest RBQ value may be indicated as most serious constraint.

RESULTS AND DISCUSSION

Socio-economic characteristics 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 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 percent 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. More than 60 percent 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. Present findings are in agreement with same as above⁵.

Production profile of Pantja goat

Pantja is a registered goat breed of *Tarai* region of Uttarakhand, which is mainly reared for meat purpose by the farmers of this region. These goats are recognized for similarity with deer in their morphological characteristics and are commonly found in hot and humid climate (*Tarai* region) of Uttarakhand and adjoining district of Uttar Pradesh. The overall least-squares mean for body weight at birth, 3, 6, 9 and 12 months of age were found to be 1.89 ± 0.02 , 9.49 ± 0.20 , 13.09 ± 0.18 , 16.38 ± 0.19 and 18.84 ± 0.22 kg, respectively. Similar results have also been reported by^{6,7}.

Constraints being perceived by goat keepers

Pooled and district wise RBQ values are presented in Table 1 and 2. The results of the study revealed that the lack of credit and insurance facilities was the foremost serious constraints faced by goat rearers. The pooled RBQ value of this constraint was 69.56. The lack of credit and insurance facilities was ranked first constraint in both U.S. Nagar and Nainital districts with RBQ value 79.15 and 56.49, respectively. Majority of goat keepers in the surveyed area were poor farmers and land less labourers who narrated about the poor financial conditions and hardships in getting adequate loan and insurance facilities to start goat farming. Long term credit facility on minimum interest rates and insurance of goats may help the goat rearers to adopt this occupation on scientific lines. These findings are in agreement with the previous reports^{8,9&10}.

Table 1. Pooled rank based quotient (RBQ) values of different constraints for goat farming being perceived by the respondents

Constraints	Constraint Code	Values	Rank
Shortage of feed and fodder	1	54.82	5
Inadequate availability of quality breeding buck	2	56.82	3
Lack of veterinary service	3	58.21	2
Lack of organized market of goats	4	54.90	4
Poor knowledge of scientific goat rearing	5	45.35	6
Lack of credit and insurance facilities	6	69.56	1

Table 2. District wise RBQ values of different constraints being perceived by the respondents

District			
U.S. Nagar (N=372)		Nainital (N=273)	
Constraint	RBQ	Constraint	RBQ
6	79.15	6	56.49
1	68.78	3	49.88
3	64.32	2	48.23
2	63.13	5	47.20
4	61.25	4	46.24
5	44.00	1	35.81

Lack of veterinary services was the second most serious constraint with pooled RBQ value 58.21 in the study area. This was ranked third and second in U.S. Nagar and Nainital districts with RBQ value 64.32 and 49.88, respectively. Goat keepers reported that usually the veterinary services were not available at door step at the time of emergency and most of the veterinary hospitals were poorly equipped. Due to lack of veterinary facilities most of goats were treated by unqualified persons. The results were in conformity with earlier reports of^{11,12&13}.

Inadequate availability of quality breeding buck was the third serious constraint with pooled RBQ value of 56.82 in the study area. Present finding are in agreement with the reports of various authors^{8,10,12&14}. Study revealed that majority of goat owners did not possess own breeding buck and at the time of estrous they were mated their goats by local non-descript bucks available in the villages. The reason behind this was that the Pantja buckling was castrated at an early age to develop them as weather for obtaining delicious meat. Supplies of elite breeding bucks of Pantja breed to the goat keepers may help to genetically improve the local breeds and maximize the returns from goat husbandry.

Lack of organized market of goats was the fourth serious constraint identified (pooled RBQ value, 54.90) in the study area. The constraint of lack of organized market for goats was ranked fourth in both U.S. Nagar and Nainital districts with RBQ value 61.25 and 46.24, respectively. Goat keepers reported that the middlemen did not provide remunerative prices for the sold kids/ animals. Present findings are in agreement with same as above^{8,12&15}. The result of study indicated that respondents were not aware about the potential benefits of an organized goat market. Efforts should be made to organize the goat keepers and establish goat breeder societies in order to enable the goat rearers to sell the animals/ products without involvement of middleman.

It was observed that the shortage of feed and fodder was fifth most serious constraints faced by goatherds on pooled RBQ basis. The RBQ value of this constraint was 54.82. The constraint of shortage

of feed and fodder was ranked second in U.S. Nagar and sixth in Nainital district with RBQ value of 68.78 and 35.81, respectively. Similar findings have also been reported^{8,9,11,12,15&16}. The severity of the constraint can be gauged from the fact that most of the pastures/ barren land had been put under afforestation. The current trend of earmarking large grazing area for wildlife sanctuaries denies the right of grazing to goats in these areas which has further exaggerated the seriousness of this constraint. It is clear that continuous reduction in grazing area emerged as most serious constraint in study area.

The results indicated that the poor knowledge of scientific goat rearing practices was sixth most serious constraint faced by goat rearers in the study area with pooled RBQ value 45.35. Most of the goat keepers of the surveyed area reported that they did not participate in any training programme related to scientific goat farming. Based on these observations, it was derived that the goat rearers were not aware about scientific rearing practices which was a cause of poor goat production. The socio-economic condition of goat rearers can be improved by providing scientific guidance about goat rearing, which will not only generate income for their livelihood but also contribute much to the nutritional and health security.

CONCLUSION

Based on the present study, it may be concluded that the lack of credit and insurance facilities were the foremost serious constraints faced by goat rearers. So long term credit facility on minimum interest rates and insurance of goats may help the goat rearers to adopt this occupation on scientific lines. The socio-economic condition of goat rearers can be improved by supplies of elite breeding bucks of Pantja breed to the goat keepers to genetically improve the local breeds and providing scientific guidance about goat rearing, which will not only generate income for their livelihood but also contribute much to the nutritional and health security.

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