



A Study on Socio-economic Condition of Sheep Rearers of District Uttarkashi, Uttarakhand

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Authors' contributions

This work was carried out in collaboration between both authors. Author SR designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Author SK reviewed managed the analyses of the study. Both authors read and approved the final manuscript.

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ABSTRACT

Background: Uttarakhand is a hilly state and a very little land is under cultivation but animal husbandry appears to be a good source of livelihood for farmers and sheep rearing is one of the major components of animal husbandry in Uttarakhand which help farmers to run their life. Sheep rearing is much prevailing in hilly regions of the state.

Aim: To study the socio-economic condition of the Sheep rearers.

Methodology: A study was conducted in the Uttarkashi district of Uttarakhand. A total of 80 rearers were selected randomly from the Bhatwari block of Uttarkashi, Uttarakhand and a pre structured questionnaire was used to collect the data from the rearers. Respondents were classified into three categories on the basis of the number of sheep viz. small (having less than 50 sheep), medium (between 50-100 sheep), and large (more than 100 sheep).

Result: The Study showed that small rearers have 46.86 average number of sheep whereas medium size rearers have 73.88 and large rearers have 258.52 average number of sheep. Out of which number of Rams were lowest. Most of the rearers were from 35-50 years of age group. 48.74 % of rearers had completed their primary education and 14.11% of rearers were illiterate. The

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majority of rearers (i.e., 68.75) were engaged with two occupations. On an average 57.48 % of rearers were OBCs (Other backward class) and 29.99 % were from the tribal community (i.e., Bhotiya). The average income of small, medium, and large farm group was ₹53,440, ₹89,627, and ₹1,96,802 respectively.

Conclusion: It was concluded that there is a need to eradicate the lack of awareness about the new technologies and educate the rearers about more efficient ways of sheep rearing. With this women participation and youth should also be encouraged to involve in sheep rearing.

Keywords: Animal husbandry; livelihood; sheep rearing; socio-economic.

1. INTRODUCTION

Animal Husbandry plays a very crucial role in the rural economy [1-7]. It has a significant contribution to our country's GDP. As per the 20th livestock census, India has one of the largest livestock population. Particularly, in Sheep population India ranks third in the world and it is increased by 14.1% over the 19th census and it is the highest increase among all other livestock [8]. Sheep is one such animal which can adapt itself in any conditions and it is very suitable to rear in the mountainous regions too. Sheep can climb in mountain easily and can bear the cold temperature of the place and also contribute in multiple ways to help the rearer. Sheep is used for meat, milk, wool and in many a place Ram (Male sheep) is used to carry the load. Sheep can turn a low investment into high profits. Unlike other many animals, Sheep do not need costly buildings [9-16]. Sheep is a good resource to convert waste into a beneficial product, as it can easily digest a variety of plants including weed also and convert this waste into products like wool, milk, and meat. The Indigenous breed of sheep reared by the Uttarakhand rearers is Gaddi which is majorly used for wool and meat.

In Uttarakhand, sheep is reared with traditional practices still many rearers use to rear their sheep in forest area and travel along with them and spend their most of the life in forest area and most of them are less educated and do not give much importance to education and also, they are not aware with latest technology of the sector. Therefore, it is important to highlight their socio-economic conditions to find out the suggestion by scholars, researchers and policymakers to make the activity more profitable for them. Given that, this study was undertaken in the Uttarkashi district of Uttarakhand to identify the socio-economic condition of sheep rearers.

2. MATERIALS AND METHODS

Bhatwari block of Uttarkashi district of Uttarakhand state was selected as the study

area, since this district is having a high population of sheep in Uttarakhand. Seven villages from the district have been selected where sheep rearing is practiced in an extensive system. To find out the socio-economic conditions of the sheep rearers of the study area, a total of 80 sheep farmers were chosen by simple random sampling technique. Based on the number of sheep reared the sheep farmers were classified as small, medium, and large farmers.

Small size farm group - having holding below 50 sheep.

Medium size farm group - having holding 50-100 sheep.

Large size farm group - having holding above 100 sheep.

The structured and pilot-tested questionnaire was used to collect the data, and then collected data were calculated and analyzed by using average and percentage.

The period of the study was: 1st December 2020 – 31st May 2021.

3. RESULTS AND DISCUSSION

It is clear from Table 1 that there was a large gap between the number of sheep in large size of sheep rearers and small size of sheep rearers and number of Rams (i.e., Male sheep) were less in each category of rearers. This was because only one male can mate with 40-50 Ewes (Female sheep) to produce 1-2 Lambs.

The Age composition of the family of rearers is indicated in Table 2 The sample average percentage of males was higher than that of females. It can be seen from the table that age group of 31 to 59 years was more followed by 15-30 years age group. The population of young people was significantly higher than other age group and we can imply that the right education at right time to the young people can encourage

a large number of population towards this profitable agri-business.

Table 3 revealed the age composition of rearers. The sample average percentage of males was much higher than women. Participation of women in sheep rearing in the study area was very less. Also, the rearers of 35 to 50 years of age group were more followed by the age group of above 50 years. The participation of 18-25 years age group people in sheep rearing was

comparatively less than the old age people. Being a productive age group, the involvement of 18-25 years age group people should be more as they have ability to work more actively and efficiently.

We can observe from Table 4 that the majority of sheep rearers were OBC followed by ST (Scheduled tribes) and the tribe in the study area used to engage in this occupation was Bhotiya.

Table 1. Average size of Sheep per farm in different size of farm groups

		Total no. of Respondents=80			
		S+M+L=29+24+27=80			
S.No.	Particular	Different size of farm groups			Sample average
		Small	Medium	Large	
1.	Total number of sheep rearers	29	24	27	26.67
2.	Average number of sheep per farm	46.86 (100)	73.88 (100)	258.52 (100)	126.42 (100)
3.	Average number of ram per farm	2.21 (4.71)	2.38 (3.22)	11.85 (4.58)	5.48 (4.33)
4.	Average number of ewe per farm	17.10 (36.49)	28.33 (38.34)	95.19 (36.87)	46.87 (37.07)
5.	Average number of lamb per farm	27.55 (58.80)	43.17 (58.44)	151.48 (58.55)	74.07 (58.60)

NOTE: Figures in parenthesis are percentages in respective column totals

Table 2. Description of age and sex composition of families in different size of farm groups

		Total no. of Respondents=80			
		S+M+L=29+24+27=80			
S.no.	Particular	Different size of farm group			Sample average
		Small	Medium	Large	
1	Average size of farm families	5.52 (100)	5.96 (100)	7.04 (100)	6.17 (100)
2	Sex composition				
	Male	3.10 (56.51)	3.42 (57.38)	3.81 (54.11)	3.44 (55.75)
	Female	2.42 (43.90)	2.54 (42.62)	3.26 (45.89)	2.74 (44.25)
3.	Age composition				
	Below 15 years	1.00 (18.11)	0.75 (12.58)	1.26 (17.89)	1.00 (16.20)
	15-30 years	1.89 (34.23)	2.02 (33.90)	2.09 (29.69)	2 (32.41)
	31-59 years	2.15 (38.94)	2.42 (40.60)	2.54 (36.07)	2.37 (38.41)
	60 years and above	0.48 (8.71)	0.79 (13.26)	1.15 (16.34)	0.80 (13.14)

NOTE: Figures in parenthesis are percentages in respective column totals

Table 3. Description of age and sex composition in different size of farm groups

		Total no. of Respondents=80			
		S+M+L=29+24+27=80			
S.no.	Particular	Different size of farm group			Sample average
		Small	Medium	Large	
1	Total number of sheep rearers	29	24	27	26.67
2	Sex composition				
	Male	24 (82.75)	22 (91.66)	27 (100)	24.33 (91.22)
	Female	5 (17.24)	2 (8.33)	0 (0)	2.33 (8.73)
3.	Age composition				
	18- 25 years	1 (3.44)	0 (00)	2 (7.40)	1.00 (3.75)
	25-35 years	7 (24.13)	5 (20.83)	4 (14.81)	5.33 (19.98)
	35-50 years	16 (55.17)	10 (41.66)	13 (48.14)	13 (48.74)
	50 years and above	5 (10.34)	9 (37.50)	8 (29.62)	7.33 (27.48)

NOTE: Figures in parenthesis are percentages in respective column totals

Table 4. Description of caste of sheep rearers in different size of farm groups

		Total no. of Respondents=80			
		S+M+L=29+24+27=80			
S.no.	Particular	Different size of farm group			Sample average
		Small	Medium	Large	
1.	Total number of sheep rearers	29 (100)	24 (100)	27 (100)	26.67 (100)
2	General	0 (0.00)	1 (4.16)	2 (7.40)	1 (3.74)
3	OBC	20 (68.96)	15 (62.50)	11 (40.74)	15.33 (57.48)
4	SC	2 (6.89)	5 (20.83)	0 (0.00)	2.33 (8.73)
5	ST	7 (24.15)	3 (12.51)	14 (51.86)	8 (29.99)

NOTE: Figures in parenthesis are percentages in respective column totals.

Table 5 revealed the educational status of different size of farms groups. Literacy percentage was highest in small farm groups 90.56 % followed by medium size farm 86.73 % and large size farms 81.53%. The sample average literacy for different size of farms group was 85.89 %.

From the table, it can be inferred that illiteracy percentage was highest in large-size farm group 18.47% followed by medium-size farms 13.27 % and was lowest in small size farms 9.44% Sample average illiteracy was 14.11 % for different size of farms groups.

Table 6 showed the occupational status of different sizes of farm groups. The percentage of

rearers involved only in one occupation was more in large size farm group i.e., 37.04 % followed by medium size farm group 4.17%, and 0 % in case of small size farms. The sample average for primary occupation was 13.75%. Rearers involved in two occupations in small, medium and large size of farm groups were 72.41%,79.17% and 55.56% respectively and the sample average for secondary occupation was 68.75% among the different sizes of farm groups. The percentage of people involved in three occupations was highest in small-size farm groups 27.59% followed by medium-size farm groups 16.67% and lowest in large-size farm groups 7.41%. The sample average for tertiary occupation was 17.50 % in different size of farms group.

Table 5. Detail description of literacy in family of different size of farm groups

		Total no. of Respondents=80 S+M+L=29+24+27=80			
S.No.	Particulars	Size of farm group			Sample average
		Small	Medium	Large	
1.	Average size of farm families	5.52	5.96	7.04	6.17
2.	Educational status				
	Primary	1.86 (33.69)	1.50 (25.16)	2.04 (28.98)	1.80 (29.18)
	High school	1.76 (31.88)	1.79 (30.03)	1.81 (25.71)	1.78 (28.87)
	Intermediate	0.83 (15.03)	1.67 (28.02)	1.48 (21.02)	1.32 (21.41)
	Graduation and above	0.55 (9.96)	0.21 (3.52)	0.41 (5.82)	0.39 (6.43)
3.	Total literacy	5.00 (90.56)	5.17 (86.73)	5.74 (81.53)	5.30 (85.89)
4.	Total illiteracy	0.52 (9.44)	0.79 (13.27)	1.30 (18.47)	0.87 (14.11)

Note: Figures in parenthesis represent percentage of respective column

Table 6. Detail description of occupational distribution in different size of farm groups

		Total no. of Respondents=80 S+M+L=29+24+27=80			
S.no.	Particulars	Size of farm group			Total Sample
		Small	Medium	Large	
1.	Size of farms groups	29 (100)	24 (100)	27 (100)	80 (100)
2.	One occupation (primary occupation)	0 (0)	1 (4.17)	10 (37.04)	11 (13.75)
3.	Two occupation (secondary occupation)	21 (72.41)	19 (79.17)	15 (55.56)	55 (68.75)
4.	Three occupation (tertiary occupation)	8 (27.59)	4 (16.67)	2 (7.41)	14 (17.50)

NOTE: Figures in the parenthesis indicates percentage to the column total

Table 7. Description of average family income in different farm groups

		Total no. of Respondents=80 S+M+L=29+24+27=80		
S.no.	Particulars	Income of different Size of farm group (₹/annum)		
		Small	Medium	Large
1.	From Primary occupation	26,900	76,530	1,90,240
2.	From Secondary occupation	16,650	9,520	4,400
3.	From Tertiary occupation	9,890	3,577	2,162
4.	Total Average Income	53,440	89,627	1,96,802

Table 7 revealed the family income of different farm groups. The total average income in small and medium size farm groups was ₹53,440 and ₹89,627 respectively. Even in large-size of farm

group the total average income was only ₹1,96,802. Sheep rearing, being a profitable source of income, rearers were earning very low and living a backward life in the study area.

Table 8. Detail description of place for rearing sheep chosen by different size of farm groups

S.no.	Particulars	Size of farm group			Total
		Small	Medium	Large	Sample
1.	Size of farms groups	29 (100)	24 (100)	27 (100)	80 (100)
2.	Forest	0 (0)	13 (54.16)	24 (88.88)	37 (46.25)
3.	House	18 (62.06)	9 (37.50)	0 (00.00)	27 (33.75)
4.	Owned farm	11 (37.93)	2 (8.33)	3 (11.11)	26 (32.5)

Total no. of Respondents=80
S+M+L=29+24+27=80

NOTE: Figures in the parenthesis indicates percentage to the column total

Table 8 showed the description of place for rearing sheep chosen by rearers. In large-size farm group 46.25% of rearers and nobody was using house to raise their sheep. Also, in medium-size farm group large percentage of rearers (54.16%) were raising their sheep in forest areas while in small size farm group nobody was dependent on the forest instead of that 62.06% of rearers were using house and 37.63% of rearers were raising the sheep in their own farm.

4. CONCLUSION

The study revealed that the majority of respondents (38.41%) were from 30-60 years of age group and majority of family members of respondents were male (55.75%). 62.50% of respondents were from OBC group and 29.99% from the tribal community (i.e, Bhotiya). Literacy percentage was highest in small farm groups with 90.56% and the majority of small-size farm group respondents were engaged in two and three occupations with 27.59% and 55.56% respectively. The respondents with higher educational qualification were engaged in more than one source of income and sheep rearing was not their primary occupation. The economic condition of rearers was not good as they were not getting good returns from the business and one of the main reasons can be the lack of extension services and awareness about the new technologies as most of the rearers were still following traditional approach for the rearing. There is the need to spread the awareness about the new methods and technologies. With this, it should also be suggested that there is need to encourage the people, of 18-25 and 25-35-years age group, towards the sheep rearing because the involvement of young people with such type of profit giving enterprise will help in flourishing

the economic conditions of people, especially in rural area. It was also observed that women participation was very less, there is a need to involve more women so that they can become self-reliant. Hence, we can recommend that the awareness campaigns and advanced extension services are requisite factors for encouraging young people and women in the direction of sheep rearing and to ameliorate the socio-economic condition of the study area.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Dhara KC, Moitra NJ, Misra S, Ghosh S, Bose S, Poddar K. Socio-Economic Status of the Sheep and Goat Farmers in Sundarban, West Bengal.2019;9(9): 168-179. DOI:10.5455/ijlr.2019071005041 9.
2. Guruprasad R, Rajeshwari YB, Siddeswara NC, Kumar SN, Rudrappa SM, Sumitra BM. Socio- Economic profile of sheep farmers and flock size of sheep in different agro-climatic zones of Hassan district. International journal of agricultural sciences. 2019;11(3):7853-7856.

3. Manzoor A, Khan HM, Nazir T, Shah A. Socio economics of sheep rearers in Anantnag district of Jammu and Kashmir. *Journal of Entomology and zoology studies*.2020; 8(4): 2400-2406.
4. Punuru PR, Metta M. Socio- economic status, Sheep Husbandry Practices and Morphological Practices and Morphological Patterns of Macherla Sheep, a Lesser-known Sheep Breed of Andhra Pradesh. *Journal of Animal Research*, 2020; 10(5): 827-835. DOI:10.30954/2277-940X.05.2020.22.
5. Reddy PP, Vinoo R, Murlidhar M, Venkatesaiah Ch, Kumar KA, Sudhakar K. Socio-economic Status, Sheep Husbandry Practices and Morphological Patterns of Macherla Sheep, a Lesser-known Sheep Breed of Andhra Pradesh. *Journal of Animal Research*, 2020; 10(5):827-835. DOI: 10.30954/2277-940X.05.2020.22
6. Sankhyan V, Thakur YP. Migratory Sheep Husbandry in Himalayan State of Himachal Pradesh, India: Status and Headway Options for Improvement and Sustainability *International Journal of Livestock Research* .2019;9 (8):71-77.
7. Sati VP, Singh RB. Prospects of Sustainable Livestock Farming in the Uttarakhand Himalaya, India. *Journal of Livestock Science*.2010; 1(1):9-16.
8. Anonymous. 20th Livestock Census. 2019. Accessed 16 October 2019. Available:<https://pib.gov.in/PressReleasePage.aspx?PRID=1588304>
9. Shah AA, Khan HM, Dar PA, Mir MS. Socio-Economic Profile of Sheep Rearing Community in Bandipora District of Jammu and Kashmir. 2017;30(2):307-312.
10. Shirsat SS, Kolhe SR, Nande MP, Khanvilkar AA, Shende TC. Socio Economic Status and Sheep Husbandry Practices of Migratory Shepherds in Western Maharashtra. *International Journal of Pure Applied Bioscience*.2019;7 (2): 105-112.
11. Shivakumara C, Reddy BS, Patil SS. Socio-Economic characteristics and Composition of Sheep and Goat farming under extensive system of Rearing. *Agriculture Science Digest – A Research Journal*. 2020;40(1):105-108. DOI: 10.18805/ag.D-5006.
12. Singaravadivelan A, Kumaravelu N, Vijayakumar P, Shivakumar T. An Economic Analysis of Migratory Sheep Production System in Tamil Nadu, India. *Journal of animal health and production*.2019; 7(2):58-64.
13. Singh DR, Kaul S, Sivaramane N. Migratory Sheep and Goat Production System: The Mainstay of Tribal Hill Economy in Himachal Pradesh. *Agricultural Economics research review*. 2006;19: 387-398.
14. Smitha S, Mathew J, Venkatachalapathy RT. Socio economic profile of farmers and rearing system of Malabari Goats in Central Kerala. *Journal of Veterinary and Animal sciences*.2018;49(1):63-66.
15. Srinivasan G, Roopa K. Socio Economic Status of Sheep Farmers in Western Ghat Region of Virudhunagar District Tamil Nadu, India. *International Journal of Current Microbiology and Applied Sciences*. 2020;9(7):2437-2444.
16. Wodeyar SM, Kadam RN. Sheep rearing in Chikkamgalur District. 2017;6(6):171-176.

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