

RESEARCH PAPER

# Production Traits of Non-descript Goats and Socio-economic Characteristics in Bundelkhand Region of Uttar Pradesh

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## ABSTRACT

Goat rearing is one of the major and traditional rural employment sources for the downtrodden sector dwelling in small villages. The most crucial element in securing a big profit in a short amount of time is starting a goat farming farm, though. India features an abundance of livestock and poultry, which are essential for enhancing the socio-economic status of the rural people. The study was conducted in Jalaun and Hamirpur district of Bundelkhand region over the year 2023-24. Data was systematically collected from 120 farmers by personal interview through pre tested questionnaire and analyzed. The results of the study area revealed that the average flock size of small, medium and large category in Jalaun and Hamirpur district was found as 3.5, 9.5, 22.85 and 3.41, 10.65, 23.06 respectively. The results of this study brought out that in both districts, goat rearers of small category tend to had lower education levels, less experienced in goat rearing, had smaller family sizes, and a higher representation of OBCs. Larger category of goat rearers, on the other hand, were characterized by higher education levels, more experienced, larger flock sizes, and a greater likelihood of belonging to the General caste.

## HIGHLIGHTS

- In India, Bundelkhandi goats form about 70 % of the total goat population.
- The majority of goat keepers in both districts are self-starters, which indicates that a trend of individuals entering goat rearing independently rather than inheriting the business.
- The sector was heavily male-dominated, and joint families are slightly more prevalent.
- Sale of manure is not reported there by any of the goat rearers, so the they should make efforts to sale it and generate more returns for them.

**Keywords:** Goat farming, Goat rearers, Flock size, Proportional allocation, Bundelkhandi goat

Of all animal husbandry enterprises, small marginal farmers and landless labourers, goats are an integral part of rural India's symbiotic system of crop and livestock production and make up a vast part of the cattle wealth of the country. Goat rearing is one of the major and traditional rural employment sources for the downtrodden sector dwelling in small

villages. Goat farming means raising and breeding domestic goats primarily for their meat, milk, fiber,

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and skin. The most crucial element in securing a big profit in a short amount of time is starting a goat farming farm, though. India features an abundance of livestock and poultry, which are essential for enhancing the socio-economic status of the rural people. It offers farmers a year-round alternative source of income and acts as insurance against crop failure. For 40% of rural residents living below the poverty line, it offers a stable source of income (Shivakumara *et al.* 2019). Our nation possesses a vast array of goat genetic resources, comprising 34 officially recognized breeds, as well as numerous unclassified goats that demonstrate significant production capabilities and remain to be properly characterized (Basavraj Inamdar *et al.* 2021). Hence, the present investigation was undertaken to study the management practices and socio-economic factors affecting the farming of Bundelkhandi goat in two districts of its native tracts in Uttar Pradesh. viz., Jalaun and Hamirpur.

## MATERIALS AND METHODS

From two districts in Uttar Pradesh, viz., Jalaun and Hamirpur, two blocks were selected randomly, and from each block 4 villages were selected randomly, and from each village a proportional allocation procedure was adopted to collect a sample of 120 goat farmers for the present investigation. The goat rearers were classified into the small, medium, and large categories based on their flock size (1-6, 7-12, >12), Singh *et al.* (2009). Data were collected by personal interview through a pretested questionnaire. The baseline information about age, education status, family members, number of goats owned, training attended, production traits, location of goat farms, water sources, rearing experiences, availability of breeds, feeding system, management, access of market information, mode and frequency of live goat sale, and price pattern was collected. The data collected were tabulated, and statistical parameters like percentage were used for logical conclusions.

## RESULTS AND DISCUSSION

### Socio-economic profile of goat rearers

It is revealed from table 1 that in Jalaun district, overall, most of the goat rearers (43.33 per cent) were illiterate, followed by higher secondary level

(31.67 per cent) and primary level (16.67 per cent) and only 1 goat rearer (1.67 per cent) was graduated. This finding is related to the study of Tanwar *et al.* (2008), in which he studied that the majority of goat farmers, i.e., 71.66 per cent were illiterate, which indicates that more efforts are needed to educate the goat rearers. Further in Hamirpur district, overall majority of goat rearers (65 per cent) were educated up to the higher secondary level, followed by illiterate (15 per cent) and primary level (11.67 per cent) and 5.00 per cent were educated up to secondary level and only 3.33 per cent were graduates. It was found that in Jalaun district, overall, most of the goat rearers, i.e., 28.33 per cent were in the age group of 30-40 years, followed by the age group of 20-30 years with 26.67 per cent. Further in Hamirpur district, overall, most of the goat rearers, i.e., 30 per cent were in the age group of 40-50 years, followed by age group of 50-60 and 20-30 years with 25 per cent and 23.33 per cent. The same result has been found in the study of Dixit *et al.* 2015. In Jalaun district, the overall majority, i.e., 96.67 per cent of respondents, were male. In Hamirpur district, all of the respondents were male. Overall, in the Jalaun district, the maximum number of goat rearers belonged to the other backward class category, i.e., 46.67 per cent followed by the general category of 28.33 per cent goat rearers. In Hamirpur district, overall, many of the goat rearers belonged to other backward class categories, i.e., 27 (45 per cent) followed by the general category (31.67 per cent). These findings are almost related to the study of Deshpande *et al.* (2010), in which he reported that 31.38 per cent of goat keeping was most widely done by the general category. The details relating to experience in goat rearing are presented in Table 1, which revealed that amongst the overall majority of the goat rearers of Jalaun district, 24 (40 per cent) goat rearers had experience of 10-20 years. In Hamirpur district, the table revealed that amongst the overall, most of goat rearers, 20 (33.33 per cent) were having experience less than 10 years. The overall most of the sampled goat rearers in Jalaun district i.e. 23 (38.33 per cent) goat rearers, had land less than 1 ha (marginal farmer), and this result is relatable with the study of Dhuppe *et al.* (2009), followed by 13 (21.67 per cent) goat rearers who were landless. 12 (20 per cent) of the goat rearers had 1-2 ha (small farmer) of land. In Hamirpur district, most of the sampled goat rearers i.e. 18

**Table 1:** Socio-economic profile of goat rearers in Jalaun and Hamirpur district of Uttar Pradesh, 2023-24

Socio-economic Characteristic		Small		Medium		Large		Overall	
		Jalaun	Hamirpur	Jalaun	Hamirpur	Jalaun	Hamirpur	Jalaun	Hamirpur
Education level	Illiterate	8 (50.00)	3 (17.65)	16 (53.33)	4 (15.38)	2 (14.29)	2 (11.76)	26 (43.33)	9 (15)
	Primary (1 <sup>st</sup> to 5 <sup>th</sup> Standard)	4 (25.00)	1 (5.88)	6 (20)	4 (15.38)	0 (0)	2 (11.76)	10 (16.67)	7 (11.67)
	Secondary (6 <sup>th</sup> to 8 <sup>th</sup> Standard)	2 (12.5)	2 (11.76)	2 (6.67)	0 (0)	0 (0)	1 (5.88)	4 (6.67)	3 (5.00)
	Higher secondary (9 <sup>th</sup> to 12 <sup>th</sup> Standard)	2 (12.5)	10 (58.82)	5 (16.67)	18 (69.23)	12 (85.71)	11 (64.71)	19 (31.67)	39 (65)
	Graduate and above	0 (0)	1 (5.88)	1 (3.33)	0 (0)	0 (0)	1 (5.88)	1 (1.67)	2 (3.33)
	Total	16 (100)	17 (100)	30 (100)	26 (100)	14 (100)	17 (100)	60 (100)	60 (100)
Age (Years)	20-30	6 (37.5)	7 (41.18)	6 (20.00)	5 (19.23)	4 (28.57)	2 (11.76)	16 (26.67)	14 (23.33)
	30-40	3 (18.75)	4 (23.53)	14 (46.67)	5 (19.23)	0 (0)	4 (23.53)	17 (28.33)	13 (21.67)
	40-50	3 (18.75)	4 (23.53)	2 (6.67)	8 (30.77)	3 (21.43)	6 (35.29)	8 (13.33)	18 (30.00)
	50-60	4 (25)	2 (11.76)	6 (20)	8 (30.77)	4 (28.57)	5 (29.41)	14 (23.33)	15 (25)
	>60	0 (0)	0 (12.5)	2 (6.67)	0 (0)	3 (21.43)	0 (0)	5 (8.33)	0 (0)
	Total	16 (100)	17 (100)	30 (100)	26 (100)	14 (100)	17 (100)	60 (100)	60 (100)
Education level	Illiterate	8 (50.00)	3 (17.65)	16 (53.33)	4 (15.38)	2 (14.29)	2 (11.76)	26 (43.33)	9 (15)
	Primary (1 <sup>st</sup> to 5 <sup>th</sup> Standard)	4 (25.00)	1 (5.88)	6 (20)	4 (15.38)	0 (0)	2 (11.76)	10 (16.67)	7 (11.67)
	Secondary (6 <sup>th</sup> to 8 <sup>th</sup> Standard)	2 (12.5)	2 (11.76)	2 (6.67)	0 (0)	0 (0)	1 (5.88)	4 (6.67)	3 (5.00)
	Higher secondary (9 <sup>th</sup> to 12 <sup>th</sup> Standard)	2 (12.5)	10 (58.82)	5 (16.67)	18 (69.23)	12 (85.71)	11 (64.71)	19 (31.67)	39 (65)
	Graduate and above	0 (0)	1 (5.88)	1 (3.33)	0 (0)	0 (0)	1 (5.88)	1 (1.67)	2 (3.33)
	Total	16 (100)	17 (100)	30 (100)	26 (100)	14 (100)	17 (100)	60 (100)	60 (100)
Age (Years)	20-30	6 (37.5)	7 (41.18)	6 (20.00)	5 (19.23)	4 (28.57)	2 (11.76)	16 (26.67)	14 (23.33)
	30-40	3 (18.75)	4 (23.53)	14 (46.67)	5 (19.23)	0 (0)	4 (23.53)	17 (28.33)	13 (21.67)
	40-50	3 (18.75)	4 (23.53)	2 (6.67)	8 (30.77)	3 (21.43)	6 (35.29)	8 (13.33)	18 (30.00)
	50-60	4 (25)	2 (11.76)	6 (20)	8 (30.77)	4 (28.57)	5 (29.41)	14 (23.33)	15 (25)
	>60	0 (0)	0 (12.5)	2 (6.67)	0 (0)	3 (21.43)	0 (0)	5 (8.33)	0 (0)
	Total	16 (100)	17 (100)	30 (100)	26 (100)	14 (100)	17 (100)	60 (100)	60 (100)
Sex	Male	16 (100)	17 (100)	28 (93.33)	26 (100)	14 (100)	17 (100)	58 (96.67)	60 (100)
	Female	0 (0)	0 (0)	2 (6.67)	0 (0)	0 (0)	0 (0)	2 (3.33)	0 (0.00)
	Total	16 (100)	17 (100)	30 (100)	26 (100)	14 (100)	17 (100)	60 (100)	60 (100)
Social Status (Caste)	General	1 (6.25)	7 (41.18)	7 (23.33)	9 (34.62)	9 (64.29)	3 (17.65)	17 (28.33)	19 (31.67)
	Other Backward Class	12 (75)	6 (35.29)	11 (36.67)	11 (42.31)	5 (35.71)	10 (58.82)	28 (46.67)	27 (45)
	Scheduled Caste	3 (18.75)	4 (23.53)	12 (40)	6 (23.08)	0 (0)	4 (23.53)	15 (25)	14 (23.33)
	Scheduled Tribes	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	Total	16 (100)	17 (100)	30 (100)	26 (100)	14 (100)	17 (100)	60 (100)	60 (100)
Experience in Goat Farming (Years)	0-10	4 (25.00)	8 (47.06)	10 (33.33)	9 (34.62)	7 (50)	3 (17.65)	21 (35)	20 (33.33)
	10-20	7 (43.75)	6 (35.29)	13 (43.33)	5 (19.23)	4 (28.57)	3 (17.65)	24 (40)	14 (23.33)
	20-30	4 (25)	2 (11.76)	6 (20)	12 (46.15)	1 (7.14)	10 (58.82)	11 (18.33)	24 (40)
	30-40	1 (6.25)	1 (5.88)	1 (3.33)	0 (0)	2 (14.29)	0 (14.29)	4 (6.67)	1 (1.67)
	>40	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (5.88)	1 (0)	1 (1.67)
	Total	16 (100)	17 (100)	30 (100)	26 (100)	14 (100)	17 (100)	60 (100)	60 (100)

Land Ownership Status (Hectares)	Landless	3 (18.75)	3 (17.65)	9 (30)	1 (3.85)	1 (7.14)	1 (5.88)	13 (21.67)	5 (8.33)
	Marginal farmer (<1ha)	9 (56.25)	5 (29.41)	7 (23.33)	7 (26.92)	7 (50)	4 (23.53)	23 (38.33)	16 (26.67)
	Small farmer (1-2ha)	1 (6.25)	5 (29.41)	9 (30)	7 (26.92)	2 (14.29)	6 (35.29)	12 (20)	18 (30)
	Semi-medium (2-4ha)	2 (12.5)	3 (17.65)	2 (6.67)	9 (34.62)	4 (28.57)	5 (29.41)	8 (13.33)	17 (28.33)
	Medium farmer (4-10ha)	1 (6.25)	1 (5.88)	3 (10)	2 (7.69)	0 (0)	1 (5.88)	4 (6.67)	4 (6.67)
	Large farmer (>10 ha)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	Total	16 (100)	17 (100)	30 (100)	26 (100)	14 (100)	17 (100)	60 (100)	60 (100)
Family Type	Joint	10 (62.5)	11 (64.71)	14 (46.67)	16 (61.54)	8 (57.14)	6 (35.29)	32 (53.33)	33 (55)
	Nuclear	6 (37.5)	6 (35.29)	16 (53.33)	10 (38.46)	6 (42.86)	11 (64.71)	28 (46.67)	27 (45)
	Total	16 (100)	17 (100)	30 (100)	26 (100)	14 (100)	17 (100)	60 (100)	60 (100)
Family Size	2-4	4 (25)	4 (23.53)	2 (6.67)	7 (26.92)	2 (14.29)	5 (29.41)	8 (13.33)	16 (26.67)
	4-6	7 (43.75)	6 (35.29)	18 (60)	7 (26.92)	9 (64.29)	7 (41.18)	34 (56.67)	20 (33.33)
	6-8	2 (12.5)	6 (35.29)	6 (20)	9 (34.62)	3 (21.43)	5 (29.41)	11 (18.33)	20 (33.33)
	>8	3 (18.75)	1 (5.88)	4 (13.33)	3 (11.54)	0 (0)	0 (0)	7 (11.67)	4 (6.67)
	Total	16 (100)	17 (100)	30 (100)	26 (100)	14 (100)	17 (100)	60 (100)	60 (100)
<b>Average flock size</b>		3.5	3.41	9.5	10.65	22.85	23.06	11.02	12.12

Figures in parenthesis indicate percentages to respective farm size category totals.

(30 percent), had land of 1-2 ha (small farmers), followed by 17 (28.33 per cent) farmers having land between 2-4 ha (semi-medium) and 16 (26.67 per cent) goat rearers having land less than 1 ha (marginal farmers). 5 (8.33 per cent) goat rearers were landless. In Jalaun district, from the sampled goat rearers, the majority, i.e., 32 (53.33 per cent) were having joint families and remaining 28 (46.67 per cent) goat rearers were having nuclear families. While in the case of Hamirpur district, the overall family type was joint with 33 goat rearers (55 per cent). The overall Jalaun's goat rearers, their family size between 4 to 6 members was the highest with 34 (56.67 per cent) goat rearers, followed by 11 (18.33 per cent) goat rearers having a family size between 6 to 8 members and 8 (13.33 per cent) goat rearers having family size between 2 to 4 members. In scenario of Hamirpur district, 33.33 per cent of goat rearers had a family size of 4-6 and 6-8. Urgessa et al. (2012) indicated in his study that the average household size of sampled respondents was 6.2 members. The results of the study area revealed that the average flock size of the small, medium, and large categories in the Jalaun and Hamirpur districts was found as 3.5, 9.5, 22.85 and 3.41, 10.65, 23.06 respectively.

### Distribution of goats

Table 2 revealed that the females' overall total average number was 7.43 out of which 1.91 were in age group of 0-6 months, 1.06 in 7-12 months, 3.11 were in-milking does and 1.33 dry does. The overall total average number of males were 3.83 in which 2.06 were found to be in the age group of 0-6 months, 0.86 in the age group of 7-12 months, and 0.43 bucks for breeding purposes. In Hamirpur district, females' overall total average number was 8.01, of which 2.32 were in the age group of 0-6 months, 1.13 in the age group of 7-12 months, 2.77 were in-milk does, and 1.82 were dry does. The overall total average number of males were 4.08 in which 1.87 were in the age group of 0-6 months, 1.28 in the age group of 7-12 months, and 0.93 bucks for breeding purposes.

### Production traits of goat farm in Jalaun district and Hamirpur district

Table 3 revealed that the overall average age at first kidding was 10 months and 9.83 months for Jalaun and Hamirpur district respectively. The overall average birth weight of the kid in both districts was found as 1.78 kg. Further, the overall average adult weight of bucks was found as 22.92 kg and 22.13 kg

**Table 2:** Distribution of goats

Particulars	Numbers							
	Small		Medium		Large		Overall	
	Jalaun	Hamirpur	Jalaun	Hamirpur	Jalaun	Hamirpur	Jalaun	Hamirpur
0-6 months	1.19	0.94	1.67	2.15	3.57	3.94	1.91	2.32
7-12 months	0.63	0.64	1.20	1.04	1.86	1.76	1.06	1.13
Female In-milk does	0.88	0.94	2.27	2.73	5.29	4.65	3.11	2.77
Dry does	0.38	0.47	0.9	1.31	4.86	3.94	1.33	1.82
Total females	3.08	2.94	6.03	7.23	15.57	14.29	7.43	8.01
0-6 months	0.31	0.29	2.23	1.96	2.64	3.00	2.06	1.87
7-12 months	0.00	0.00	0.63	0.65	2.29	3.47	0.86	1.28
Male Bucks (for breed)	0.13	0.12	0.37	0.81	2.36	1.94	0.43	0.93
Total males	0.44	0.41	3.23	3.42	7.29	8.76	3.83	4.08
Total	16	17	30	26	14	17	60	60

**Table 3:** Production traits of goat farms in Jalaun and Hamirpur, 2023-24

Sl. No.	Production traits	Small		Medium		Large		Overall	
		Jalaun (16)	Hamirpur (17)	Jalaun (30)	Hamirpur (26)	Jalaun (14)	Hamirpur (17)	Jalaun (60)	Hamirpur (60)
1	Average age at first kidding (month)	9.63	10	10.13	9.61	10.18	10	10	9.83
2	Average birth weight of kid (kg)	1.44	1.76	1.87	1.84	1.90	1.77	1.78	1.78
3	Average adult weight (Kg)								
	(i) Buck	21.18	21.18	23.07	24.53	26.90	23.94	22.92	22.13
	(ii) Doe	17.94	18.53	19.73	21.5	23.63	21.12	19.38	19.35
4	Interval between two kiddings (months)	6.63	6.92	7.22	7.23	6.00	6.82	6.87	6.97
5	Twinning Rate %	16.67	42.16	41.75	36.71	44.72	56.34	34.39	45.1
6	Mortality rate in kids (%)	27.29	29.67	24.08	26.05	22.67	24.75	24.33	26.82
7	Ratio in kids								
	(i) Male	14.70	15.63	50	45.27	47.95	53.14	45.74	47.72
	(ii) Female	85.3	84.37	50	54.73	52.05	46.86	54.26	52.28
8	Avg. Productive life of adult doe (years)	8	8	8	8	8.00	8	8	8
9	Per lactation milk yield (L)	91.76	91.76	99	97.5	92.72	98.82	96.25	96.03
10	Total milk fed to one kid (L)	61.6	66.35	67.87	67.62	92.72	67.76	67.7	67.23
11	Lactation length (in month)	2.63	3	3.2	3.12	3.09	3.29	3.13	3.15
12	Average saleable age (month)								
	(i) Buckling	12	9.53	10	10.15	12.36	10.94	10.5	10.2
	(ii) Doeling	12	8.82	10	9.69	13.09	10.94	11	9.8
13	Weight at saleable age (kg)								
	(i) Buckling	18.75	17.65	17.57	19.5	26.81	22	17.43	20.65
	(ii) Doeling	15.19	14.76	15.83	17.35	22.90	18.88	15.53	18.05

for Jalaun and Hamirpur district respectively. In the case of does, it was found that the average weight was 19.38 kg and 19.35 kg for Jalaun and Hamirpur district respectively. Another production trait of goats is that the interval between two kiddings of an overall goat was found to be 6.87 months and 6.97 months for Jalaun and Hamirpur district respectively. The overall twinning rate of goats was found to be 34.39 per cent and 45.1 per cent for Jalaun and Hamirpur district respectively. The overall mortality rate of kids was seen as 24.33 per cent and 26.82 per cent for Jalaun and Hamirpur district respectively. In Jalaun, overall ratio of percentage of female kids was 54.26, and for male kids it was 45.74 per cent. In Hamirpur, which overall ratio per cent of female kids constituted as 52.28 and for male kids it was 47.72 per cent. The average productive life of an adult doe in both districts was found to be consistently 8 years in all categories. Per lactation milk yield overall was found to be 96.25 liters per lactation in both districts. The overall total milk fed to one kid was 67.7 liters and 67.23 liters for Jalaun and Hamirpur district respectively. The overall lactation length was found to be 3.13 months and 3.15 months for Jalaun and Hamirpur district respectively. The average saleable age of bucklings overall was found to be 10.5 months and 10.2 months for Jalaun and Hamirpur district respectively. For doelings, overall, it was found to be 11 months and 9.8 months for Jalaun and Hamirpur district respectively. The overall weight at saleable age for bucks was found to be 17.43 kg and 20.65 kg for Jalaun and Hamirpur district respectively. For does, the overall weight at saleable age was found to be 15.53 kg and 18.05 kg for Jalaun and Hamirpur district respectively. All the responses of production traits were taken on the basis of assumption from respondents.

### Location of goat farms

This table 4 revealed that location of goat farms of majority of goat rearers in Jalaun (63.33 per cent) and in Hamirpur (81.67 per cent) has been located in the villages. Fewer farms like 26.67 per cent in Jalaun and 10 per cent in Hamirpur, are located at the periphery of the village. The least common location which is in the agricultural fields having goat farms with 10 per cent of farms in Jalaun and 8.33 per cent of farms in Hamirpur districts.

### Source of water at goat farm

Table 5 shows that overall majority of goat rearers of both districts with 86.67 per cent in Jalaun and 85.00 per cent in Hamirpur, depend on the hand pump as their water source. Smaller percentage of goat rearers use tubewells with 15.00 per cent in Hamirpur and 13.33 per cent in Jalaun.

### Goat rearing experience of goat rearers

In table 6, it is shown that as compared to Jalaun (16.72 years), the overall experience of goat rearing in all categories, goat rearers of Hamirpur was slightly higher with 18.3 years. A smaller percentage of goat rearers with 36.67 per cent in Jalaun and 31.67 per cent in Hamirpur inherited their business.

Availability of breeds of goats in sample goat farms

It is found in the study that in Jalaun district, overall and category wise as well, 100 per cent of goat farms have non-descript breeds while in Hamirpur, 98.33 per cent of farms have non-descript breeds. Only one farm (3.85 per cent) and even that is in medium category have another breed of goat that is Totapari breed.

### Goat feeding system

The scrutiny of the table 7 shows that the overall 100 percent of goat rearers of Hamirpur district were followed grazing while 95 per cent of the farms in Jalaun district followed grazing for feeding to the goats. Only 5 per cent were following grazing and stall fed both. Lahoti *et al.* (2010) conducted his survey in Seed district of Maharashtra and concluded that majority of goat rearers i.e., 60 per cent adopted grazing system. Mule (2011) also reported that in his survey area, out of total 89 goat rearers sampled, 78.65 per cent were following grazing system.

### Distribution of respondents according to management of goats

This table 8, revealed that 50 per cent of the farms were managed by family in Jalaun while in Hamirpur 55 per cent of farms managed by family. Self-management was next common management style in which 40 per cent of farms were managed in Jalaun as compared to Hamirpur (36.67 per cent). Hiring labour for management was least common management method from which it was done by 10

**Table 4:** Location of goat farms

Category	Small		Medium		Large		Overall	
	Jalaun	Hamirpur	Jalaun	Hamirpur	Jalaun	Hamirpur	Jalaun	Hamirpur
In the village	13 (81.25)	14 (82.35)	21 (70)	23 (95.56)	4 (28.57)	12 (70.59)	38 (63.33)	49 (81.67)
At the periphery of village	3 (18.75)	3 (17.65)	9 (30)	3 (4.44)	4 (28.57)	0 (0)	16 (26.67)	6 (10)
In the agricultural fields	4 (28.57)	0 (0)	4 (28.57)	0 (0)	6 (42.86)	5 (29.41)	6 (10)	5 (8.33)
Total	16 (100)	17 (100)	30 (100)	26 (100)	14 (100)	17 (100)	60 (100)	60 (100)

Figures in parenthesis indicate percentages to respective farm size category totals.

**Table 5:** Source of water at goat farm

Category	Small		Medium		Large		Overall	
	Jalaun	Hamirpur	Jalaun	Hamirpur	Jalaun	Hamirpur	Jalaun	Hamirpur
Hand pump	16 (100)	17 (100.00)	30 (100)	26 (100)	6 (42.86)	8 (47.06)	52 (86.67)	51 (85.00)
Tubewell	0 (0)	0 (0)	0 (0)	0 (0)	8 (57.14)	9 (52.94)	8 (13.33)	9 (15.00)
Total	16 (100)	17 (100)	30 (100)	26 (100)	14 (100)	17 (100)	60 (100)	60 (100)

Figures in parenthesis indicate percentages to respective farm size category totals.

**Table 6:** Goat rearing experience of goat rearers

Category	Small		Medium		Large		Overall	
	Jalaun	Hamirpur	Jalaun	Hamirpur	Jalaun	Hamirpur	Jalaun	Hamirpur
Experience in years	18.19	14.76	16.73	18.46	15	21.59	16.72	18.3
Inherited	6 (37.5)	5 (29.41)	12 (40)	8 (30.77)	4 (28.57)	6 (35.29)	22 (36.67)	19 (31.67)
Self - started	10 (62.5)	12 (70.59)	18 (60)	18 (69.23)	10 (71.43)	11 (64.71)	38 (63.33)	41 (68.33)
Total	16 (100)	17 (100)	30 (100)	26 (100)	14 (100)	17 (100)	60 (100)	60 (100)

Figures in parenthesis indicate percentages to respective farm size category totals.

**Table 7:** Goat feeding system

Category	Small		Medium		Large		Overall	
	Jalaun	Hamirpur	Jalaun	Hamirpur	Jalaun	Hamirpur	Jalaun	Hamirpur
Stall fed	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Grazing	16 (100)	17 (100)	27 (90)	26 (100)	14 (100)	17 (100)	57 (95)	60 (100)
Both	0 (0)	0 (0)	3 (10)	0 (0)	0 (0)	0 (0)	3 (5)	0 (0)
Total	16 (100)	17 (100)	30 (100)	26 (100)	14 (100)	17 (100)	60 (100)	60 (100)

Figures in parenthesis indicate percentages to respective farm size category totals.

**Table 8:** Distribution of respondents according to management of goats

Category	Small		Medium		Large		Overall	
	Jalaun	Hamirpur	Jalaun	Hamirpur	Jalaun	Hamirpur	Jalaun	Hamirpur
Self	7 (43.75)	4 (23.53)	15 (50)	7 (26.92)	2 (14.29)	3 (17.65)	24 (40)	14 (36.67)
Family	8 (50)	13 (76.47)	13 (43.33)	18 (69.23)	9 (64.29)	13 (76.47)	30 (50)	44 (55)
Labour	1 (6.25)	0 (0.00)	2 (6.67)	1 (3.85)	3 (21.43)	1 (5.88)	6 (10)	2 (8.33)
Total	16 (100)	17 (100)	30 (100)	26 (100)	14 (100)	17 (100)	60 (100)	60 (100)

Figures in parenthesis indicate percentages to respective farm size category totals.

**Table 9:** Disposal pattern of goat manure by goat rearers

Category	Small		Medium		Large		Overall	
	Jalaun	Hamirpur	Jalaun	Hamirpur	Jalaun	Hamirpur	Jalaun	Hamirpur
Dump at waste heap	3 (18.75)	3 (17.65)	8 (26.67)	1 (3.85)	0 (0)	1 (5.88)	11 (18.33)	5 (8.33)
Sale	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Used at own field	13 (81.25)	14 (82.35)	22 (73.33)	25 (96.15)	14 (100)	16 (94.12)	49 (81.67)	55 (91.67)
Total	16 (100)	17 (100)	30 (100)	26 (100)	14 (100)	17 (100)	60 (100)	60 (100)

Figures in parenthesis indicate percentages to respective farm size category totals.

**Table 10:** Availability of breeding bucks at goat farmers

Category	Small		Medium		Large		Overall	
	Jalaun	Hamirpur	Jalaun	Hamirpur	Jalaun	Hamirpur	Jalaun	Hamirpur
Own buck	2 (12.50)	2 (11.76)	19 (63.33)	14 (53.85)	14 (100)	17 (100)	35 (58.33)	33 (55)
Other farmer's buck	14 (87.50)	15 (88.24)	11 (36.67)	12 (46.15)	0 (0)	0 (0)	25 (41.67)	27 (45)
Total	16 (100)	17 (100)	30 (100)	26 (100)	14 (100)	17 (100)	60 (100)	60 (100)

Figures in parenthesis indicate percentages to respective farm size category totals.

per cent of farms of Jalaun and by 8.33 per cent of farms in Hamirpur district.

### Disposal pattern of goat manure by goat rearers

According to table 9, in both districts, the overall most of the goat rearers were used manure on their own fields with 81.67 per cent in Jalaun and 91.76 per cent in Hamirpur district. A smaller part of goat rearers dump manure at waste heaps with 18.33 per cent and 8.33 per cent in Jalaun and Hamirpur respectively. Sale of manure is not reported there by any of the goat rearers.

### Access to market information among goat farmers

In both districts, it was found that all the goat rearers have access to information of the market. Main source of market information in Jalaun district was friends (100 per cent) followed by social media (18.33 per cent). In Hamirpur district, also main source of information was friends (100 per cent) followed by social media (28.33 per cent).

### Mode and frequency of live goat sale

This study revealed that majority of goat rearers in Jalaun (56.67 per cent) and Hamirpur district (55 per cent) sold goats on live weight basis followed by 40 per cent goat rearers in Jalaun and 45 per cent in Hamirpur were selling on both live goat basis and age basis. Only 3.33 per cent goat rearers

found in Jalaun who sold their live goats on age basis. Cash was the mode of payment by buyer in both districts. Overall, a majority of goat rearers in Jalaun (83.33 per cent) and Hamirpur (70 per cent) sell goats on interval of a year followed by 16.67 per cent in Jalaun and 30 per cent in Hamirpur who sell their goats on interval of six months. In both districts, immediate payments were received by all the goat rearers and market type was reported as unregulated.

### Price pattern (Uniformity of prices) of live goats

In our investigation, it was revealed that in Jalaun district, the highest overall average (price of animal) was found to be ₹ 13,966 in month of March-April and the overall lowest animal prices were ₹ 3601.66 in month of June-July. In the scenario of Hamirpur district, it was observed that the highest overall average (price of animal) was found to be ₹ 15,300 in month of March-April while the overall lowest animal prices were found as ₹ 3,270.83 in month of June-July. All these prices reported in both districts by respondents were not uniform rather than variable according to demand.

### CONCLUSION

It is important to comprehend the traits of goat farmers and their degree of knowledge regarding better techniques for raising goats. On the basis of present study in Jalaun and Hamirpur districts,

it is concluded that size of flocks influences its location, with larger flocks more likely to be found outside the villages. No respondents reported selling manure, suggesting that goat manure is not commercialized in these districts and is primarily valued for its use in personal agricultural activities. Goat rearers reported that they feed almost all the yield milk to the kids of goat and very few parts of it they use for their own consumptions. As there was found smaller contribution from milk and manure in source of income so the goat rearers should make efforts to sale it and generate more returns for them. Government should make the attempt to sell the milk of goats specifically at it have much medical values too. The majority of goat keepers in both districts are self-starters, which indicates that a trend of individuals entering goat rearing independently rather than inheriting the business.

## IMPLICATIONS

- ♦ The almost complete absence of specific breeds like Sirohi, Barbari, Jakhrana, and Jamunapari, which are known for their distinctive qualities. These goat rearers must be focused on breed specialization.
- ♦ Goat rearers must be sensitized to maintain records so that they can realize economic worth of goats and the farm. Goat rearers must keep the weighing balance to measure the goat during sell. There should be regulated market for goat selling and purchasing which would help the goat rearers to get their fair price for their animals and get rid from mal practices by intermediaries.
- ♦ It was found that none of the respondents from both districts were aware about scheme running by the government for goat rearing. There didn't applied for any loan and subsidy. None of the respondents were found who had taken training about goat rearing. Hence there is a need to creating awareness among goat rearers so that they can avail with the benefits of scheme like NLM (National Livestock Mission) which is already running in Bundelkhand region.
- ♦ Free of cost training should be provided through extension services to goat rearers about scientific goat management practices and feeding system. By making such little and

impactful efforts, it will help the Bundelkhandi goats making descript like other breeds. For those goat rearers who depend on hired labours for goat management should do management by their families and themselves to curtail the expenditure on hired labour.

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