

Socio-Economic Analysis of Goat Rearing Farmers in Mahoba District of Bundelkhand

Sudhir Kumar Rawat¹, Sarju Narayan², Manish Awasthi³ and Sudhakar Dwivedi⁴

¹Krishi Vigyan Kendra, Mohoba, U.P., India

²Brahmanand Mahavidyalaya, Hamirpur, U.P., India

³Bhagwant University, Rajasthan, India

⁴Division of Agril. Economics and ABM, FOA, SKUAST-Jammu, J&K, India

Correspondence author: sudhirkok@gmail.com

Abstract

It is unfortunate that, Indian farmers are dying from hunger and malnutrition even though Indian economy based on agriculture. Out of other remedies goat rearing is a way to fight from poverty and providing nutrition to small and marginal farmers. A study was made to assess competitive advantage of rearing goat in the district of Mahoba between small marginal and large farmers. The aim of this study was to find out the socio-economic characteristics and economics of goat keepers in mahoba of Bundelkhand. The study was carried out in mahoba district during 2012. 45 per cent of respondents had average family size of 3 to 5 persons, 35 per cent respondents had average family size of 1 to 3 persons and 20 per cent had family size of 5 to 10 persons. 33 per cent and 24 per cent respectively had intermediate and high school level of education. 8 per cent respondents were illiterate. Agriculture was the main occupation and so as the source of income too. Most of the farmers had more than fifteen years of farming experience. The socio-economic characteristics of the respondents were found to be significantly related to dairy management practices. The capital investment per goat was highest on large farms (₹ 772.01/year), followed by marginal farms (₹ 763.17/year) and small goat keepers (₹ 733.36/year). The margin of profit on large farms was highest. The overall return over cost A (paid out expenses and depreciation) was ₹ 3186.21, over cost B (cost A + interest on fixed capital) was ₹ 3093.65 and over cost C (cost B + input value of family labour) was ₹ 1635.32.

Keywords:

Goat rearing is a good source of capital storage, income and employment generation and house hold nutrition. Goat contributes milk, meat, fiber, skins and manure to the subsistence of small holders and landless rural poor. Majority of the households in rural areas are below poverty line and most of them belong to landless agricultural labors, marginal, small farmers and rural craftsman. The incidence of poverty and unemployment is relatively more acute in rain fed farming areas. In such areas goat rearing enterprise could be adopted and expanded

by the rural poor with low land base. The capital investment is relatively low, land requirement is small, reproductive rates are higher due to shorter breeding interval and high prolificacy. Goat Rearing can be managed by spare family labour and do not require any serious housing facilities and management skills. Goat farming suits the small, marginal and large farmers equally well since it provides continuous income throughout the year even in the face of natural vagaries of drought. Goat is a multi-functional animal and plays a significant

role in the economy and nutrition of landless, small and marginal farmers in the country. Goat rearing is an enterprise which has been practiced by a large section of population in rural areas. Goats can efficiently survive on available shrubs and trees in adverse harsh environment in low fertility lands where no other crop can be grown. (Oberoi *et al.* 1991) reported that in variable cost, expenditure on labour was the major component of cost and was 81 % under goat farming. Keeping this in view the present study was undertaken to evaluate the economic performance of goat rearing in Mahoba district of Bundelkhand, The results are presented in this study.

Material and Methods

Input and output data of goat enterprise was collected for the present study in the year 2012 by survey method in Mahoba district of Bundelkhand. Multi stage random sampling was used for this study. Jaitpur, Panwari, Kabrai, and Charkhari block of Mahoba were selected. In each of these blocks, 5 villages were randomly selected on the basis of highest availability of goat rearing households. All the households rearing goat from these villages were finally selected for detailed investigation. The households were stratified into marginal (<1), small (1 ha) and large (>2 ha) on the basis of landholding. Thus, 100 goatkeepers were selected having 1120 goats for the study. To ascertain the net returns, the following cost concepts were used:

- Cost A: paid out expenses like feed and fodder cost + hired labour + miscellaneous recurring expenses + depreciation.
- Cost B: Cost A + interest on fixed capital.
- Cost C: Cost B + input value of family labour.

Results and Discussion

Socio-Economic Household Characteristics

Personal and socio-economic household characteristic of the goat keepers are presented in Table 1. The highest frequency of average age of household heads was 25-35 year (38%) followed by 35-40 years (24%), 18-25 years (22%) and more than 50 years (16%). The highest frequency of average family size 3-5 persons

(45%) followed by 1-3 persons (35%) and 5-10 persons (20%) persons. Similar findings were revealed by these findings are close to Wani *et al.* 1993. The level of education of the respondents ranged from primary school to Post Graduate. The majority 33% of the household had intermediate, while 24 %, 18%, 12% and 5% had high school, primary school, graduation, and post graduation level education, respectively. 8 per cent respondents were illiterate (Table 1). Similar findings were observed by Mohan, *et al.* (2012).

The study revealed that the goat keepers were mainly from male domain 62% whereas only 38% were female. Similar findings were observed by Rangnekar (1994). The respondents were 91 percent of the household heads were married and 9% were un married. Similar findings were observed by Raghavan and Raja (2012). The respondents were engaged in different occupations such as agriculture farmer 47%, housewife 21 %, labour 16%, business 9% and Job 7% (Table 1). Thus, for most of the respondents Goat rearing is only taken as a secondary or side occupation for generating additional income for the family. In this study it was observed that the availability of market, concentrate feeds, labour and breeds provided an opportunity for farmer and housewife. This corresponded to the finding of Tanwar *et al.* (2008). Goat keeping experience of the households ranged from less than 5 years (19%) to more than 15 years (49%).

The most important income sources of the respondents included agriculture 52%, Goat keeping 25%, business 14% and salary 9% (Table 1). Similar findings were observed by Prabu *et al.* (2011). The respondents indicated that 52% and 25% of the income from agriculture and Goat keeping was mainly used for purchasing food items, and covering education and health expenses. The average land-holding size of household heads was 42%, 35% and 23% is small, marginal and large family, respectively. Nakade (1971) reported that the socioeconomic factors like age, education, size of land-holding and social participation had significant effect on the increase of dairy milk Production. Urban and peri urban Goat keeping contributes to overall development through income and employment generation, food security, asset accumulation, poverty alleviation and improving human nutrition and health.

Table 1: Socio-economic characteristics of the Goat keepers

Socio-economic characteristics	Frequency	Percentage
Age		
18 - 25	22	22
25 - 35	38	38
35 - 50	24	24
Above - 50	16	16
Family size		
1 - 3	35	35
3 - 5	45	45
5-10	20	20
Literacy		
Un literate	08	08
Primary school	18	18
High school	24	24
Intermediate	33	33
Graduation	12	12
post Graduation	05	05
Gender		
Male	62	62
Female	38	38
Marital Status		
Married	91	91
Unmarried	09	09
keeper's occupation		
Business	09	09
Civil job	07	07
Agriculture farmer	47	47
Housewife	21	21
labour	16	16
Main sources of income		
Goat keeping	25	25
Salary	09	09
Business	14	14
Agriculture	52	52
Experience in dairy farming		
Less than 5 years	19	19
Six to 15years	32	32
More than 15years	49	49
Land holding		
Small (<1)	42	42
Marginal (1 ha)	35	35
Large (>2 ha)	23	23

Number of goat in selected household

The highest number of goat per household was under small Goat keeper (11.52) followed by those under large farms (11.50) and marginal farms (11.40). On an average the number of goat per household was 11.20 (Table 1).

Capital investment

The capital investment on goat increased with the increase in the size or flocks (Table 2). The investment on goat, goat shed, equipment and other structure was 84.71, 10.14, 3.39 and 1.79 % respectively. The investment was highest on small farms (₹ 1773.64), followed by marginal farms (₹ 1761.71) and large goat keepers (₹ 1650.88) and investment was per goat on ₹ 733.36, ₹ 763.17 and ₹ 772.09 respectively. Similar findings were observed by Rustagi and Agarwal (2000).

Expenditure

Total expenditure incurred on goat rearing was classified into variable and fixed costs. Cost of goat, building and cost of equipments are grouped under fixed investment (Aruna, 2003). The variable cost included the expenditure on fodder and feed, labour utilized (paid and unpaid) and other miscellaneous expenditure including the repairs of goat shed, equipment, medicine, salt etc. Variable cost included feed cost, labour cost and health coverage charges (Dastagiri *et al.* 1988). The fixed cost included the depreciation of building and equipment, and the interest on fixed capital. The pattern of expenditure on the goat enterprise per year is presented in Table 3. In the variable cost, labour was the major component of cost followed by expenditure on miscellaneous items, feed and fodder. In the fixed cost, the major component was the interest on the capital investment. The depreciation of goat was not estimated because of high salvage value.

The depreciation on fixed capital and interest on investment were grouped as fixed cost as that of study by Balister and Singh, (1995). Income from goat enterprise the income from sale of milk, meat, manure and stock acceleration accounted for 19.20, 49.02, 1.88 and 29.90% respectively. Gross return was obtained by adding the returns from sale of kids, adults, manure, value of unsold kids and penning

charges collected Kumar, (2007). The gross income was highest on small farms (₹ 6001.35), followed by marginal farms (₹ 5821.31) and large goat keepers

(₹ 5450.55) and per goat income ₹ 295.48 ₹ 340.52 and ₹ 428.62 on small, marginal and large animal respectively Table 4.

Table 2: Number of Goat in Selected Household

Category	Blocks				Total
	Jaitpur	Panwari	Kabrai	Charkhari	
Small	125 (13)	112(10)	106(8)	118(9)	461(40)
Marginal	106(12)	89(5)	78(7)	92(8)	365(32)
Large	80(10)	73(4)	65(6)	76(8)	294(28)
Total	311(35)	274(19)	249(21)	286(25)	1120(100)

Table 3: Investment Pattern on Goat Enterprise/Household A Year (₹)

Particulars	Category			
	Small	Marginal	Large	Overall
Variable Cost				
Feed &Fodder	180	112	90	127
Labour	530	540	525	231.66
Misc.	58	64	41	54.33
Total	768	716	656	713.33
Fixed Cost				
Building Dep.	52.89	41.28	58.42	50.86
Equipment Dep.	7.48	9.26	4.81	7.18
Interest On Fixed Capital @ 12% P.A.	99.40	91.98	86.30	92.56
Total cost				
Total Feed Cost	159.77	142.52	149.53	150.60
Variable Cost	927.77	858.52	805.53	863.94
Cost/Goat	218.92	290.85	334.39	267.71

Figures in parentheses indicate percentage.

Table 4: Yearly expenditure on Goat Enterprise/household (in ₹)

Category	Investment					Investment/ Goat
	Goat	Goat Shed	Other Structure	Tool & Equipment	Total	
Small	1525.24 (86)	173.68 (9.79)	12.47 (0.47)	62.25 (3.51)	1773.64 (100)	733.36
Marginal	1488.85 (84.51)	154.23 (8.77)	42.51 (2.41)	76.12 (4.32)	1761.71 (100)	763.17
Large	1378.67 (83.51)	195.82 (11.86)	24.66 (2.28)	38.73 (2.35)	1650.88 (100)	772.09
Average	1464.42 (84.71)	174.57 (10.14)	26.54 (1.79)	59.03 (3.39)	1728.74 (100)	731.69

Figures in parentheses indicate percentage.

Profit margin

The overall return over cost A was ₹ 3186.21, over cost B ₹ 3093.65 and over cost C ₹ 1635.32. Taking cost A into account, a small goat keeper could earn about ₹ 1837.44/month. The net incomes on marginal and

large farms were ₹ 1807.73 and ₹ 1755.26 respectively. The net income was much higher on small Goat keeper as compared to marginal and large farms (Table 5). In general, the margin on large farms was much higher than small Goat keeper and marginal farms.

Table 5: Gross income from goat enterprise (per household per year; in ₹)

Category	Income from milk	Income from sale of goat	Income from manure	Stock acceleration	Total gross Income	Gross Income per goat
Small	1262.54 (21.04)	2710.28 (45.16)	120.27 (2.00)	1908.26 (31.80)	6001.35 (100)	520.95
Marginal	1096.41 (18.83)	2824.67 (48.53)	108.40 (1.86)	1791.83 (30.78)	5821.31 (100)	506.20
large	957.32 (17.56)	2932.06 (53.79)	95.76 (1.76)	1465.41 (26.89)	5450.55 (100)	478.11
Overall	1105.42 (19.20)	2822.33 (49.02)	108.14 (1.88)	1721.83 (29.90)	5757.73 (100)	514.08

Figures in parentheses indicate percentage

The net income from goat enterprise in the study area has been presented in Table 6. The goat rearing was found to be a very assured way of income under natural grazing conditions for the rural poor who

survive on pan-time employment as agriculture labourer. Technological improvisation in different faces for multi commodity agriculture is essential for the maximum economic gain to the farmers.

Table 6: Net income from goat enterprise household a year (₹)

Category	Cost A	Cost B	Cost C	Gross income	Margin over			Net income/ ₹ of Cost C
					Cost A	Cost B	Cost C	
Small	828.37	927.77	2407.77	4163.91	3335.54	3236.14	1756.14	0.72
Marginal	766.54	858.52	2388.52	4013.58	3247.04	3155.06	1625.06	0.68
large	719.23	805.53	2170.53	3695.29	2976.06	2889.76	1524.76	0.70
Overall	771.38	863.94	2333.27	3957.59	3186.21	3093.65	1635.32	0.70

Figures in parentheses indicate percentage

Conclusion

Goat has been described as a poor man's cow (or mini-cow) because of its immense contribution to the poor man's economy. They not only supply nutritious and easily digestible milk to their children but also regular source of additional income for poor and landless or marginal farmers. Being small-sized animals, goats can easily be managed by women and children. Feeding, milking and care of goats do not require much equipment and hard work. Capital investment and feeding costs are also quite low.

Returns on capital of up to 50% and recovery of 70% of retail price are possible in goat farming. In rural areas especially in Mahoba district goat farming plays a vital role in providing gainful employment.

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