RESEARCH ARTICLE

# Socio-Economic Status of Sheep and Goat Farmers in Different Rearing Systems in Telangana State

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## Abstract

The study was conducted in six districts of Telangana, representing south, central and north agro-climatic zones. It covered 24 mandals, with 20 farmers (10 sheep and 10 goat farmers) purposively selected per mandal. Farmers included 5 extensive, 4 semi-intensive, and 1 intensive farmer for each species. In total, 480 farmers (240 sheep and 240 goat farmers) were surveyed. The statistical data revealed that majority of sheep and goat farmers (56.45 %) were middle-aged, illiterate (26.04 %) and belonged to backward class (54.30 %). Most respondents were from medium-sized families (73.95 %), with the majority (58.34 %) living in nuclear families. Majority of farmers (58.12 %) reported a medium annual income (Rs. 75,000 to Rs. 150,000). Additionally, 43.95 % were members of at least one organization, which was equal to the percentage of farmers without any organizational membership. Furthermore, 35.62 % were small farmers, and half of the respondents (50.00 %) had extension contacts with Gopala mitra, Para veterinarians, or Veterinary assistant surgeons.

**Key words:** Sheep and goat farmers, Socio-economic status, Telangana

*Ind J Vet Sci and Biotech* (2026): 10.48165/ijvsbt.22.3.21

## Introduction

Agriculture and livestock are integral to the farming system, functioning in a closely interconnected and mutually supportive manner. In India, where mixed farming is widely practiced, livestock significantly enhances agricultural productivity, while crop cultivation supplies essential feed and fodder for animals. This interdependent relationship improves soil fertility, increases farm output, stabilizes income, and promotes sustainability, making it a cornerstone of rural livelihoods and food security. Sheep and goats possess an important mechanism for coping with drought due to their greater flexibility and mobility compared to crops and large ruminants in the arid and semi-arid regions of southern and western India. The primary forage sources in these areas include rangelands, common grazing lands, and post-harvest crop fields or residues (Dixit and Singh, 2014). In southern India, sheep and goat populations have been consistently increasing, driven primarily by the rising number of keepers, particularly small and marginal farmers who adopt extensive mixed rearing systems. These systems, characterized by small herd and flock sizes, play a crucial role in the agricultural landscape of the region. This study was focused on the socio-economic status of sheep and goat farmers in different rearing systems in Telangana State.

## Materials and Methods

The study was conducted across six districts of Telangana, representing the north, central, and southern agro-climatic zones. In each district, four mandals were selected, totalling 24 mandals for the study. From each mandal, 20 farmers (10 goat farmers and 10 sheep farmers) were chosen randomly. The selection included five extensive, four semi-intensive, and one intensive farmer, each of sheep and goat, per mandal. In total, 480 farmers (240 sheep farmers and 240 goat farmers) participated in the study. Data was collected using a pre-tested questionnaire, and the selection of

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**How to cite this article:** Anitha, T., Sarat Chandra, A., Madhuri, S. B., Venkateswarlu, M., & Srinivasa Reddy, M. (2026). Socio-Economic Status of Sheep and Goat Farmers in Different Rearing Systems in Telangana State. Ind J Vet Sci and Biotech, 22(3), 110-114.

**Source of support:** Nil

**Conflict of interest:** None

**Submitted** 26/02/2026 **Accepted** 19/03/2026 **Published** 10/05/2026

mandals and farmers was facilitated by the Telangana State Animal Husbandry Department. The collected data was systematically tabulated and analysed using appropriate statistical methods to derive meaningful conclusions.

## Results and Discussion

Age plays a crucial role in the adoption of improved farming practices. Distribution of farmers according to their age is represented in Table 1. The study found that most sheep and goat farmers (56.45%) belonged to the middle-aged group (36-50 years), followed by 30.02% in the young age group (below 35 years), while only 13.33% fell into the old age category (above 50 years). Similar trends were reported by Rao (2010) and Dhaka *et al*. (2011), while Deshpande *et al*. (2010) and Singaravadivelan *et al*. (2019) found the majority to be in the older age group.

Literacy significantly influences the adoption of new technologies in sheep and goat farming (Table 2). The study found that 26.04% of farmers were illiterate, followed by 23.33% with intermediate education, 16.87% with secondary education, 12.50% with primary education, and 12.70% with graduate or higher education. The high illiteracy rate may be due to the generational nature of farming and the migratory production system limiting educational opportunities. Higher education could enhance technology adoption, improving income and profitability. Thus, government efforts to improve education for farmers are crucial for their socio-economic development. These findings aligned with studies by Suresh *et al*. (2008) and Rao (2010), while Rajapandi (2005) reported higher literacy among farmers.

Table 3 illustrates the social distribution of farmers. The study found that 54.30% of farmers belonged to the Backward Class, 22.84% to the Open Category, 14.68% to the Scheduled Caste, and 8.15% to the Scheduled Tribes. This highlights sheep and goat farming as a key livelihood for economically disadvantaged groups. While participation across all categories indicates its widespread appeal,

**Table 1:** Distribution of farmers according to age

| Category | Sheep | | | Goat | | | Average N=480(%) |
|---|---|---|---|---|---|---|---|
| | Extensive N=120(%) | Semi-Intensive N=96(%) | Intensive N=24(%) | Extensive N=120(%) | Semi-Intensive N=96(%) | Intensive N=24(%) | |
| Young age (< 35 yrs) | 29(24.17) | 33 (34.37) | 06 (25.00) | 35 (29.16) | 33 (34.37) | 09 (37.50) | 145(30.20) |
| Middle age (36-50 yrs) | 70 (58.33) | 53 (55.20) | 15 (62.50) | 66 (55.00) | 54 (56.25) | 13 (54.16) | 271(56.45) |
| Old age (>60 yrs) | 21 (17.50) | 10 (10.40) | 03 (12.50) | 19 (15.83) | 09 (09.37) | 02 (08.33) | 64 (13.33) |

**Table 2:** Distribution of farmers based on education

| Sr No | Category | Sheep | | | Goat | | | Average N=480 (%) |
|---|---|---|---|---|---|---|---|---|
| | | Extensive N=120 (%) | Semi-Intensive N=96(%) | Intensive N=24 (%) | Extensive N=120 (%) | Semi-Intensive N=96(%) | Intensive N=24 (%) | |
| 1 | Illiterate | 75(62.50) | 00 | 00 | 50(41.66) | 00 | 00 | 125(26.04) |
| 2 | Can read &write | 20(16.66) | 05(05.20) | 00 | 10(08.33) | 06(06.25) | 00 | 41(08.54) |
| 3 | Primary level (up to 7$^{th}$ Class) | 11(09.16) | 04(04.16) | 00 | 30(25.00) | 14(14.58) | 01(04.16) | 60(12.50) |
| 4 | Secondary level (up to 10$^{th}$ Class) | 06(05.00) | 23(23.95) | 05(20.83) | 22(18.33) | 24(25.00) | 01(04.16) | 81(16.87) |
| 5 | Intermediate level | 07(05.83) | 44(45.83) | 09(37.50) | 07(05.83) | 36(37.50) | 09(37.50) | 112(23.33) |
| 6 | Graduation & Above | 01(00.83) | 20(20.83) | 10(41.66) | 01(00.83) | 16(16.66) | 13(54.16) | 61(12.70) |

**Table 3:** Distribution of farmers based on social status

| Category | Sheep | | | Goat | | | Average N=480 (%) |
|---|---|---|---|---|---|---|---|
| | Extensive N=120 (%) | Semi-Intensive N=96 (%) | Intensive N=24 (%) | Extensive N=120 (%) | Semi-Intensive N=96(%) | Intensive N=24 (%) | |
| Open category | 05 (04.16) | 20(20.83) | 12 (50.00) | 07 (05.83) | 10 (10.41) | 11 (45.83) | 65 (22.84) |
| Backward class | 80 (66.66) | 56 (58.33) | 08 (33.33) | 76 (63.33) | 60 (62.50) | 10 (41.66) | 290(54.30) |
| Scheduled caste | 20 (16.66) | 15 (15.60) | 03 (12.50) | 22 (18.33) | 16 (16.66) | 02 (08.33) | 78 (14.68) |
| Scheduled tribe | 15 (12.50) | 05 (05.21) | 01 (04.16) | 15 (12.50) | 10 (10.41) | 01(04.16) | 47 (08.15) |

variations in social composition exist across different regions. These findings aligned with studies by Kumar (2003) and Sharma *et al*. (2007), though Deshpande *et al*. (2010) and Bhagat *et al*. (2023) reported a higher presence of Scheduled Tribe farmers in some areas.

The distribution of farmers based on family type (Table 4) showed that 58.34% of sheep and goat farmers belonged to nuclear families, while 41.66% were in joint families, indicating a shift towards smaller family structures. Table 5 presents the family size distribution, where73.95% had medium-sized families (4-6 members), 14.79% had small families (1-3 members), and 11.25% had large families (more than 6 members). Medium-sized families appeared most effective in managing livestock farming. These findings aligned with Kandasamy *et al*. (2006) and Porwal *et al*. (2006), while Rao (2010) and Dhara *et al*. (2016) reported a higher prevalence of nuclear families.

Landholding significantly influenced sheep and goat farming. Table 6 presents the distribution of farmers based on land ownership, revealing that 35.62% were small farmers, 29.16% marginal, 20.20% large, and 15.00% landless. Small farmers relied on goat rearing for additional income and financial security. These findings aligned with Anthra (1995) and Rajapandi (2005), while Deshpande *et al*. (2010) and Mallikarjuna *et al*. (2021) reported a higher prevalence of landless farmers.

Distribution of farmers according to their annual income is detailed in Table 7. The study found that 58.12% of sheep and goat farmers had a medium income, 30.41% a high income, and 11.45% a low income. Income was mainly from agriculture and livestock, but rain-fed farming, small flock sizes, and market reliance limited earnings. These findings aligned with Khadda *et al*. (2012) and Rajanna *et al*. (2012), while Wadkar *et al*. (2009) and Debraj *et al*. (2011) reported lower income levels.

**Table 4:** Distribution of farmers based on family type

| Category | Sheep | | | Goat | | | Average N=480 (%) |
|---|---|---|---|---|---|---|---|
| | Extensive N=120 (%) | Semi-Intensive N=96(%) | Intensive N=24 (%) | Extensive N=120 (%) | Semi-Intensive N=96(%) | Intensive N=24 (%) | |
| Joint family | 65 (54.16) | 33 (34.37) | 07 (29.16) | 51 (42.50) | 35 (36.45) | 09 (37.50) | 200 (41.66) |
| Nuclear family | 55 (45.83) | 63 (65.62) | 17 (70.83) | 69 (57.50) | 61 (63.54) | 15 (62.50) | 280 (58.34) |

**Table 5:** Distribution of farmers based on family size

| Family size (Members/ family) | Sheep | | | Goat | | | Average N=480 (%) |
|---|---|---|---|---|---|---|---|
| | Extensive N=120 (%) | Semi-Intensive N=96(%) | Intensive N=24 (%) | Extensive N=12 0(%) | Semi-Intensive N=96(%) | Intensive N=24 (%) | |
| Small size (1-3) | 20 (16.66) | 13 (13.54) | 05 (20.83) | 18 (15.00) | 11 (11.45) | 04 (16.66) | 71 (14.79) |
| Medium size (4-6) | 82 (68.33) | 73 (76.04) | 17 (70.83) | 92 (76.66) | 76 (79.16) | 15 (62.50) | 355(73.95) |
| Large size (> 6) | 18 (15.00) | 10 (10.41) | 02 (08.33) | 10 (08.33) | 09 (09.37) | 05 (20.83) | 54 (11.25) |

**Table 6:** Distribution of farmers based on land holding

| Category | Sheep | | | Goat | | | Average N=480 (%) |
|---|---|---|---|---|---|---|---|
| | Extensive N=120 (%) | Semi- Intensive N=96(%) | Intensive N=24 (%) | Extensive N=120 (%) | Semi-Intensive N=96(%) | Intensive N=24 (%) | |
| Landless | 21(17.50) | 10 (10.41) | 00 | 32 (26.66) | 08(08.33) | 01(04.16) | 72(15.00) |
| Marginal (up to 2.5 acres dry or 1.25 acres wet) | 42 (35.00) | 25 (26.04) | 03(12.50) | 40 (33.33) | 26(27.08) | 04 (16.66) | 140(29.16) |
| Small (2.5 to 5.0 dry or 2.5 acres wet) | 42 (35.00) | 32(33.33) | 10 (41.66) | 35 (29.16) | 45(46.87) | 07 (29.16) | 171(35.62) |
| Large (> 5 acres) | 15 (12.50) | 29 (30.20) | 11(45.83) | 13 (10.83) | 17(17.70) | 12 (50.00) | 97(20.20) |

**Table 7:** Distribution of farmers based on annual income

| Category | Sheep | | | Goat | | | Average N=480 (%) |
|---|---|---|---|---|---|---|---|
| | Extensive N=120 (%) | Semi-Intensive N=96(%) | Intensive N=24 (%) | Extensive N=120 (%) | Semi-Intensive N=96(%) | Intensive N=24 (%) | |
| Low income (<Rs.75000) | 25 (20.83) | 00 | 00 | 30 (25.00) | 00 | 00 | 55 (11.45) |
| Medium income (Rs.75000-150000) | 77 (64.16) | 60 (62.50) | 01 (04.10) | 68 (56.66) | 71 (73.90) | 02 (08.33) | 279 (58.12) |
| High income (>Rs.150000) | 18 (15.00) | 36 (37.50) | 23 (95.83) | 22 (18.33) | 25 (26.04) | 22 (91.66) | 146 (30.41) |

**Table 8:** Distribution of farmers based on extension contact

| Category | Sheep | | | Goat | | | Average N=480 (%) |
|---|---|---|---|---|---|---|---|
| | Extensive N=120 (%) | Semi-Intensive N=96 (%) | Intensive N=24 (%) | Extensive N=120 (%) | Semi-Intensive N=96 (%) | Intensive N=24 (%) | |
| Gopala mitra | 10 (08.33) | 04 (04.16) | 03 (12.50) | 11 (09.16) | 10 (10.41) | 02 (08.33) | 40 (08.33) |
| Para vet | 18 (15.00) | 08 (08.33) | 06 (25.00) | 17 (14.16) | 12 (12.50) | 05 (20.83) | 66 (13.75) |
| VAS | 22 (18.33) | 32 (33.33) | 10 (41.66) | 30 (25.00) | 32 (33.33) | 08 (33.33) | 134 (27.91) |
| Gopala mitra + Para vet + VAS | 70 (58.33) | 52 (54.16) | 05 (20.83) | 62 (51.66) | 42 (43.75) | 09 (37.50) | 240 (50.00) |

**Table 9:** Distribution of farmers based on social participation

| Category | Sheep | | | Goat | | | Average N=480 (%) |
|---|---|---|---|---|---|---|---|
| | Extensive N=120 (%) | Semi-Intensive N=96(%) | Intensive N=24 (%) | Extensive N=120 (%) | Semi-Intensive N=96(%) | Intensive N=24 (%) | |
| No involvement | 75 (62.50) | 24 (25.00) | 02 (08.33) | 84 (70.00) | 25 (26.04) | 01 (04.16) | 211 (43.95) |
| Membership in one organization | 32 (26.66) | 55 (57.29) | 12 (50.00) | 34 (28.33) | 65 (67.70) | 13 (54.16) | 211 (43.95) |
| Membership in > 1 organization | 12 (10.00) | 14 (14.58) | 04 (16.66) | 02 (01.66) | 04 (16.66) | 05 (20.83) | 41 (08.54) |
| Holding position in organization | 01 (00.83) | 03 (03.12) | 06 (25.00) | 00 | 02 (02.08) | 05 (20.83) | 17 (03.54) |

Table 8 shows the distribution of farmers based on their extension contact. The study found that 50% of respondents had extension contact with multiple technical personnel, including Gopala mitras, Para veterinarians and Veterinary assistant surgeons. Additionally, 27.91% engaged with Veterinary assistant surgeons, while 13.75% and 8.33% had contact with Para veterinarian and Gopala mitras, respectively. These findings aligned with Bates *et al*. (2023), who reported that southern Australian sheep producers sought information from multiple sources for sheep enterprise management.

Table 9 illustrates the distribution of farmers based on social participation. The study found that 43.95% of sheep and goat farmers were members of a single organization, while an equal proportion had no organizational involvement. Additionally, 8.54% held memberships in multiple organizations, and only 3.54% had significant positions. These findings aligned with Wadkar *et al*. (2009), Koli and Koli (2016), Sabapara (2016), and Bhikya *et al*. (2021).

## Conclusion

The present study revealed that sheep and goat farming in Telangana is predominantly practiced by middle-aged farmers belonging to backward classes, with most having medium-sized nuclear families and small landholdings. A considerable proportion of farmers had limited formal education, indicating that traditional knowledge still plays a major role in livestock management. Most respondents earned a medium annual income and relied on livestock as an important supplementary livelihood source. Extension contact with veterinary personnel and para-veterinary staff was moderate, while social participation in organizations was relatively low. These findings highlight the need for strengthened extension services, improved farmer education, and greater institutional support to enhance adoption of scientific management practices and improve the socio-economic status of sheep and goat farmers in Telangana.

## Acknowledgement

The authors acknowledge the cooperation of sheep and goat farmers and the Telangana State Animal Husbandry Department in this study.

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