Indian J Anim Health (2026), 65(1) : 42-48
DOI: https://doi.org/10.36062/ijah.2026.19725

Research Article

Comparative analysis of commercial sheep and goat owners' socio-economic status in lower Gangetic plains of West Bengal

T. C. Dhara[1], R. Tiwari[2*], S. Negi[1], A. Das[3] and T. Dutt[4]

[1]Division of Extension Education, ICAR- Indian Veterinary Research Institute, Izatnagar, Bareilly - 243 122, Uttar Pradesh, India; [2]Joint Director Extension Education, ICAR- Indian Veterinary Research Institute, Izatnagar, Bareilly - 243 122, Uttar Pradesh, India; [3]Agricultural Technology Information Center, ICAR- Indian Veterinary Research Institute, Izatnagar, Bareilly - 243 122, Uttar Pradesh, India; [4]Director & Vice Chancellor, ICAR- Indian Veterinary Research Institute, Izatnagar, Bareilly - 243 122, Uttar Pradesh, India

Abstract

Socio-economic variables such as age, gender, education, family structure, income, and farming experience significantly influence farmers' ability to adopt scientific practices, access services, and participate in development programs. A detailed socio-economic profile can help identify gaps in service delivery and inform policies aimed at promoting sustainable small ruminant production systems. The present study was conducted to assess the socio-economic characteristics of small ruminant farmers in selected districts of West Bengal, with 120 small ruminant farmers having an equal proportion of respondents from goat and sheep, utilizing a multi-stage sampling method. The study analyzed the socioeconomic profile of small ruminant farmers, revealing that most were middle-aged males engaged in agriculture, with intermediate education, small nuclear families, and an average of more than 8 years of farming experience. Formal training and access to credit were limited. About 85 per cent of farmers lacked credit linkage, and 10 per cent relied on non-institutional sources. The findings highlight the need for targeted extension services, particularly for youth and women, and financial literacy initiatives to promote scientific management and entrepreneurship in goat and sheep farming. Strengthening credit access through institutional channels is essential.

Keywords: Commercial small ruminant farmers, Sheep and goat, Socio-economic status, West Bengal

Highlights

- Farmers were mostly middle-aged and moderately educated, showing readiness to adopt better practices.
- Women participate actively in goat farming, offering strong scope for focused extension initiatives.
- Low formal training among farmers signals urgent need for structured and practical livestock skills.
- Small flocks and medium landholdings show scope to raise productivity with improved inputs and care.
- Low social participation and poor credit access show strong need for inclusive schemes supporting livestock farmers effectively.

INTRODUCTION

Livestock rearing supports rural livelihoods in India by providing food, generating income, creating employment, and offering social security in ecologically vulnerable and resource-poor areas (Birthal & Jha, 2005). Small ruminants, particularly goats and sheep, are gaining importance as economically valuable and ecologically efficient species due to their low input requirements, high reproductive rates and resilience in adverse weather conditions (Shivakumara et al., 2016). These traits significantly benefit small and marginal farmers, landless laborers and women, and play a substantial role in reducing poverty and improving household nutrition (Chander & Rathod, 2015). Goats contribute approximately 9% of GDP from livestock (Singh et al., 2023). India has the second- largest population of goats and the third-largest population of sheep (Department of Animal Husbandry & Dairying [DAHD], 2020). Small ruminants are crucial to the rural economy in states such as West Bengal. The region is home to indigenous breeds like the Black Bengal goat and Garole sheep, which are less susceptible to disease and recognized for their high-quality meat and economic profitability (Nandi et al., 2011; Roy et al., 2023). Moreover, the prevalent non-vegetarian dietary habits in the state sustain strong market demand for sheep and goat meat in urban areas like Kolkata (National Family Health Survey [NFHS-5] 2019–21, 2020). However, despite their growing economic importance

*Corresponding Author, E-mail: rtiwarirupasi@gmail.com

in enhancing GDP, alleviating poverty, and improving nutrition, small ruminant farmers generally receive less attention from livestock development policies and programs compared to farmers raising large ruminants and those in the dairy sector (Kumar et al., 2021). Goat and sheep rearers face numerous challenges, including limited access to veterinary services, weak linkages and outreach from institutions providing extension services, insufficient dissemination of science-based rearing practices, and restricted access to institutional credit. Understanding their socio-economic status is vital to identify the structural obstacles they encounter and create inclusive, evidence-based interventions. Factors such as age, gender, educational attainment, family structure, income level, and agricultural experience significantly influence their ability to adopt technical agricultural methods, access services, and participate in development programs (Seetha et al., 2021). Furthermore, exposure to training and credit linkages will be important indicators for their integration into institutional support systems. A detailed socio-economic profile will help identify gaps in service provision and inform policies aimed at sustainable small ruminant production systems. Literature indicates that research often generalizes livestock agriculture without disaggregating by species or socio-economic context, limiting its applicability for specific policymaking towards targeted objectives (Sasidhar & Suvedi, 2018). Data on goat and sheep rearers at the region-specific farmer level remains sparse, particularly in eastern India. Against this backdrop, the current study aims to estimate the socio-economic profile of small ruminant farmers in selected districts of West Bengal. The primary objectives were: (i) to examine the demographic and economic profiles of goat and sheep farmers; and (ii) to assess their access to extension services and credit systems. The expected outcome is to contribute to the development of inclusive and targeted small ruminant development strategies in India.

MATERIALS AND METHODS

To gain a better understanding of the socio-economic status of the small ruminant farmers in the lower Gangetic plains, a multi-stage sampling method was adopted, and West Bengal was purposively selected. This selection was based on West Bengal's notable growth rate of the goat population in the state (41.49%), itsrecognized indigenous and economically important small ruminant breeds, such as Garole sheep and Black Bengal goats, and also high proportion of non-vegetarian population (approximately 98%) in the state which contributes to a strong and consistent demand for small ruminant meat. Four districts were selected purposivelydue to their high concentration of commercial small ruminant farmers: two (Howrah and Hooghly) for goat owners, and the other two (North 24 Pargana and South 24 Pargana) for sheep owners. Subsequently, one block from each district was selected for data collection. After collecting farmers' lists from Block Livestock Development Officers (BLDOs) and Krishi Vigyan Kendras (KVKs), a sampling frame was prepared and clusters were identified, where concentration of commercial small ruminant farmers was higher. From each block, one cluster was randomly selected. Lastly, from each cluster, 30 respondents were selected randomly who had at least 50 small ruminants in their farms, forming a total sample size of 120 (60 goat and 60 sheep owners). The owners of the commercial small ruminant farms were the respondents for the study. Data collection was done from May to October 2023. Empirical data were tabulated and analyzed using suitable statistical methods like mean, median, Chi-square test, Mann–Whitney U test, and independent sample t-test with the assistance of the Statistical Package for Social Sciences (SPSS) - version 26.

RESULTS

Age: The data in Table 1 showed that selected respondents in the present study ranged between 26 to 56 years of age, and the average age of the overall farmers was 41.49 years. The average age in the case of goat and sheep farmers was more than 40 and 42 years, respectively. The majority (40.83%) of the respondents in small ruminants were middle-aged group, followed by old-age group (30%) and young age group (29.17%).

Table 1. Distribution of respondents according to their age

Age (In Years)	Goat owners (n=60)	Sheep owners (n=60)	Pooled (n=120)
Young (26-36)	22 (36.67)	13 (21.67)	35 (29.17)
Middle (37-46)	20 (33.33)	29 (48.33)	49 (40.83)
Old (47-56)	18 (30)	18 (30)	36 (30)
Mean ± SE	40.35±1.12	42.63±0.93	41.49±0.73
"t" test		1.573^{NS}	

Gender: Analysis of Table 2 indicated that majority (78.33%) of the farmers were male, whereas only 21.67 per cent were female. It has been found that most goat farmers (70.00%) and sheep farmers (81.67%) were males. Analysis of the Chi-square test

Table 2. Distribution of respondents according to their gender

Gender	Goat owners (n=60)	Sheep owners (n=60)	Pooled (n=120)
Male	42 (70)	52 (81.67)	94 (78.33)
Female	18 (30)	8 (13.33)	26 (21.67)
Chi-square test		4.910*	

Table 3. Distribution of respondents according to their family type

Family type	Goat owners (n=60)	Sheep owners (n=60)	Pooled (n=120)
Joint	13 (21.67)	5 (8.33)	18 (15)
Nuclear	47 (78.33)	55 (91.67)	102 (85)
Chi-square test	4.183*		

Table 4. Distribution of respondents according to their family size

Family size	Goat owners (n=60)	Sheep owners (n=60)	Pooled (n=120)
Small (2-6)	46 (76.67)	47 (78.33)	93 (77.5)
Medium (7-11)	8 (13.33)	13 (21.67)	21 (17.5)
Large (12-16)	6 (10)	0	6 (5)
Median ± SE	5±0.38	5±0.23	5±0.22
Mann–Whitney U Test		1791NS	

Table 5. Distribution of respondents according to their education status

Education status	Goat owners (n=60)	Sheep owners (n=60)	Pooled (n=120)
Primary school	12 (20)	18 (30)	30 (25)
High school	18 (30)	13 (21.67)	31 (25.83)
Intermediate	18 (30)	29 (48.33)	47 (39.17)
Graduate and above	12 (20)	0 (00)	12 (10)
Chi-square test	16.581**		

Table 6. Distribution of respondents according to their occupation

Primary occupation	Goat owners (n=60)	Sheep owners (n=60)	Pooled (n=120)
Business	6 (10)	10 (16.67)	16 (13.33)
Agriculture	19 (31.67)	27 (45)	46 (38.33)
Animal husbandry	30 (50)	3 (5)	33 (27.5)
Govt. Service	5 (8.33)	2 (3.33)	7 (5.84)
Fish farming	0	18 (30)	18 (15)
Chi-square test		43.768**	

revealed that there is a significant difference ($p<0.05$) between the genders of sheep and goat farmers.

Family type: In context of Indian culture, there are two prevalent family systems: joint and nuclear. The findings presented in Table 3 regarding family types indicated that majority of farmers belonged to nuclear families (85%). The chi-square test suggested significant differences ($p<0.05$) in family types between goat and sheep farmers.

Family size: Table 4 depicts that the mean family size of the small ruminant farmers was more than 5 members. The median family size of small ruminant farmers was 5 people. The majority of the farmers (77.50%) had a small-sized family (2-6 people), followedby a medium-sized family (7-11 people) with 17.50 per cent, and a large-sized family (12-16 people) with 5 per cent. Mann–Whitney U test analysis shows that there was no significant difference between the family size of sheep and goat farmers.

Education: Data presented in Table 5 indicate that the majority (39.17%) of the respondents studied up to intermediate level, followed by high school, primary school, and graduate (25.83%, 25%, and 10%, respectively). None of the respondents from small ruminant farmers group was illiterate. This shows that educated individuals are opting for small ruminant farming commercially may be due to high profitability and increasing demand. The chi-square test revealed there was a highly significant difference ($p<0.01$) between the groups with respect to education status.

Occupation: A perusal of the data in Table 6 indicates that the majority (38.33%) of the respondents engaged in small ruminant rearing relied on agriculture as their main occupation, followed by animal husbandry (27.5%), fish farming (15%), business (13.33%), and Govt. service (5.84%). It is also evident from the table that the majority of the respondents of goat farmers relied on animal husbandry as their main occupation (50%), whereas sheep farmers relied on agriculture (45%). The chi-square test revealed there was a highly significant difference ($p<0.01$) between the groups with respect to occupation.

Annual income: The mean annual income through small ruminant farming was more than Rs. 10, 08,000 as shown in Table 7. The majority (53.33%) of the

Table 7. Distribution of respondents according to their annual income

Annual income (In Rupee)	Goat owners (n=60)	Sheep owners (n=60)	Pooled (n=120)
Low (up to 500000)	20 (33.33)	18 (30.00)	38 (31.67)
Medium (500001 - 1500000)	30 (50)	34 (56.67)	64 (53.33)
High (Above 1500000)	10 (16.67)	8 (13.33)	18 (15)
Mean±SE	1033333.33±107590.89	983333.33±89020.62	1008333.33±69565.81
"t" test	0.358^{NS}		

Table 8. Distribution of respondents according to their landholding

Landholding (in acre)	Goat owners (n=60)	Sheep owners (n=60)	Pooled (n=120)
Marginal (0.1-2.5)	27 (45)	36 (60)	63 (52.5)
Small (2.5-5)	21 (35)	16 (26.67)	37 (30.83)
Semi-Medium (5-10)	11 (18.33)	8 (13.33)	19 (15.83)
Medium (10-25)	1 (1.67)	0	1 (0.84)
Mean ± SE	3.61±0.37	2.77±0.25	3.19±0.23
"t" test	1.872^{NS}		

Table 9. Distribution of respondents according to their flock size

Flock size	Goat owners (n=60)	Sheep owners (n=60)	Pooled (n=120)
Small (<100)	40 (66.67)	47 (78.33)	87 (72.5)
Medium (100 - 150)	14 (23.33)	10 (16.67)	24 (20)
Large (>150)	6 (10)	3 (5)	9 (7.5)
Mean±SE	110.27±12.32	80.77±3.87	95.52±6.57
"t" test	2.284^{*}		

Table 10. Distribution of respondents according to their experience in small ruminant farming

Experience (In years)	Goat owners (n=60)	Sheep owners (n=60)	Pooled (n=120)
Low (<5)	19 (31.67)	11 (18.33)	30 (25)
Moderate (5-9)	25 (41.67)	17 (28.34)	42 (35)
High (10-19)	16 (26.66)	24 (40)	40 (33.33)
Very high (e" 20)	0 (00)	8 (13.33)	8 (6.67)
Mean ± SE	7±0.51	10.28±0.75	8.64±0.47
"t" test	3.614^{**}		

farmers had a medium income from small ruminant farming, followed by low (31.67%) and high income (15%). In the case of sheep and goat farmers, the majority of the respondents had medium annual income (53.33% and 50%, respectively).

Landholding: Land is one of the important resources. Data presented in Table 8 indicate that majority of the respondents (52.5%) had marginal land (0.1-2.5 acres) followed by small (2.5-5), semi-medium (5-10 acres), and medium ((10-25 acres) land holding (30.83%, 15.83%, and 0.84% respectively) with an average land of 3.19 acre. Table 8 also revealed that in the goat farmers group majority (45%) had marginal land holding, and in the sheep farmers group, also majority (60%) of the respondents possessed marginal land holding.

Flock size: The data provided in Table 9 indicates that the average flock size per farm was more than 95 small ruminants, ranging from 54 to over 700 animals. A majority of farmers (72.5%) possess a small-sized flock (<100 animals), followed by 20% of respondents with amedium flock size (100-150 animals), and 7.5% of farmers owning more than 150 small ruminants. When examining small ruminant farmers separately, the average flock size of goats was more than 110, and sheep was 80. The "t" test results indicate a significant difference ($p<0.05$) between groups in terms of flock size.

Experience in small ruminant rearing: The experience gained in small ruminant farming enterprises is commonly reflected through years of involvement. It is observable from Table 10 that the average farming experience of respondents was more than 8 years. It further reveals that the majority (35%) of the respondents had moderate experience in small ruminant rearing, followed by high (33.33%), low (25%), and very high (6.67%) levels of experience. Independent sample "t" test analysis reveals that there was a highly significant difference ($p<0.01$) in the experience of sheep and goat owners.

Exposure to small ruminant training: The study area revealed that the majority (80.83%) of respondents had not received any training on scientific small ruminant farming (Table 11). It might be due to a lack of awareness, unavailability of training facilities, and an unorganized goat farming sector. The chi-square test revealed that there is a highly significant difference ($p<0.01$) between the sheep and goat farmers in terms of training received.

Table 11. Distribution of respondents according to the training availed

Training availed	Goat owners (n=60)	Sheep owners (n=60)	Pooled (n=120)
Yes	20 (33.33)	3 (5)	23 (19.17)
No	40 (66.67)	57 (95)	97 (80.83)
Chi-square test	15.545**		

Table 12. Distribution of respondents according to their social participation

Social participation	Goat owners (n=60)	Sheep owners (n=60)	Pooled (n=120)
No participation	48 (80)	60 (100)	108 (90)
Member of one organization	7 (11.67)	0 (00)	7 (5.83)
Member in more than one organization	0 (00)	0 (00)	0 (00)
An office bearer of any organization	5 (8.33)	0 (00)	5 (4.17)
Chi-square test		13.333**	

Table 13. Distribution of respondents according to their credit linkage

Credit linkage	Goat owners (n=60)	Sheep owners (n=60)	Pooled (n=120)
Institutional	7 (11.67)	0 (00)	7 (5.83)
Non-Institutional	3 (5)	8 (13.33)	11 (9.17)
No linkage	50 (83.33)	52 (86.67)	102 (85)
Chi-square test		9.312*	

Social participation: This concept refers to the willingness of individuals to share and participate in interpersonal and group relationships outside their immediate household. The data in Table 12 showed that the vast majority of respondents (90%) did not have any social participation, while 5.83% of respondents were members of one organization, and 4.17 percent were office bearers of any organization. However, none of the respondents said they were members of two organizations. The majority of respondents in both sheep and goat farmer groups (80.00% and 100%, respectively) had no social participation. The chi-square test revealed that there is a highly significant ($p<0.01$) difference among the sheep and goat farmers in terms of social participation.

Credit linkage: A quick look at the data in Table 13 revealed that 85 per cent of farmers had no credit linkage, followed by non-institutional and institutional with 9.17 per cent and 5.83 percent, respectively. In the case of goat farmers, 11.67 per cent had accessed institutional sources of credit. With regard to sheep farmers, none of them had accessed institutional sources of credit. Application of the Chi-square test revealed there is a significant difference ($p<0.05$) between goat and sheep farmers in terms of credit linkage.

DISCUSSION

Due to their dependence on their experience and reliability in livestock livelihoods, the majority of small ruminant rearers were middle-aged. Better non-animal husbandry alternatives could be the cause of young people's low involvement. Similar age patterns in sheep and goat farmers were observed by Kumar (2013). The majority of small ruminant owners were male. There was significant difference in gender between goat and sheep farmers might be due to the reason that females were more associated with commercial goat farming and had taken it as a subsidiary occupation. In contrast, participation by females in sheep farming was less. This result was in line with Senthilkumar et al. (2018), who found majority of small ruminant owners were male. Sheep owners were more likely to be from nuclear families, in comparison to goat owners, and goat owners had higher family size. These findings align with Roy and Tiwari (2016), who reported a majority of goat farmers in nuclear families (71.11%) and joint families (28.89%). A considerable proportion of respondents had education up to the intermediate level. This contrasts with earlier reports by Kakraliya et al. (2025), and Roy and Tiwari (2016), which found sheep and goat farmers were largely illiterate, indicating a shift toward greater participation of educated individuals in sheep and goat rearing.

The majority of respondents depended on agriculture as their primary occupation, with a land holding of 3.19 acres. This dominance of agriculture suggests that small ruminant rearing is largely integrated with existing farming systems to supplement household income. Similar findings were reported by Manzoor et al. (2022) among sheep farmers in Jammu & Kashmir. The mean annual income from small ruminant farming was more than ₹ 10,08,000. This relatively high-income level indicates that small

ruminant rearing serves as a significant livelihood activity, contributing substantially to household earnings and reinforcing its role as an economically viable enterprise in the study area. The average flock size per farm was more than 95 small ruminants. This is substantially higher than the average flock size of more than 18 goats as reported by Roy and Tiwari (2016) in West Bengal and Uttar Pradesh. The larger flock size in the present study suggests a more commercialized and intensive approach to small ruminant farming, reflecting improved market orientation and greater investment by farmers. The majority of respondents had moderate experience in small ruminant rearing, consistent with the findings of Manzoor et al. (2022) in Jammu and Kashmir. Sheep owners reported higher experience levels than goat owners, likely because many sheep farmers in the study area continued their ancestral tradition of sheep rearing. The majority of respondents had not received any formal training. Similar results were reported by Kumar (2013), and Yadav (2017), who observed an absence of training among goat farmers. The lack of training highlights a significant gap in capacity-building efforts, which may hinder the adoption of scientific management practices and limit productivity improvements in small ruminant farming. The majority of respondents reported no social participation. Limited participation in social or community groups may restrict farmers' access to information, collective decision-making, and opportunities for knowledge sharing, thereby affecting their ability to adopt improved practices in small ruminant farming. Similar observations were made by Roy and Tiwari (2016) in West Bengal and Uttar Pradesh, where most goat farmers also lacked social involvement.

The study examined the socioeconomic profile of commercial small ruminant farmers, showing that most were middle-aged men involved in agriculture, with intermediate education, small nuclear families, and an average of more than 8 years of farming experience. Access to formal training and credit was limited. Approximately 85 percent of farmers lacked credit linkage, and 10 percent relied on non-institutional sources, often facing high interest rates. The results emphasize the need for targeted extension services, especially for youth and women, along with financial literacy programs to encourage scientific management and entrepreneurship in goat and sheep farming. Improving access to credit through institutional channels is vital for sustainable small ruminant development. Overall, the study underscores the importance of strengthening household livelihoods and fostering inclusive, resilient, and sustainable livestock growth in rural India by reinforcing the socioeconomic foundations of small ruminant producers.

Conflict of interest: The authors have no conflict of interest in this study.

Author's contribution - TCD, RT, TD: Conception and design of experiment; TCD, SN: Acquisition of data; TCD, RT, AD: Performed statistical analysis of data; TCD, RT, AD: Performed interpretation of the result and provided technical efforts in drafting of the manuscript. The final manuscript was read and approved by all authors.

Data availability statement: Data of research conducted is preserved by the author and will be made available upon reasonable request.

Ethical approval: Not applicable.

Use of artificial intelligence tools: During the preparation of this work, the authors used Open AIChatGPT to increase the readability. After using this tool/service, the authors reviewed and edited the content as needed and take full responsibility for the content of the publication.

REFERENCES

Birthal, P. S., & Jha, A. K. (2005). Economic losses due to various constraints in dairy production in India. *The Indian Journal of Animal Sciences*, *75*(12), 1470-1475. https://epubs.icar.org.in/index.php/IJAnS/article/view/9411

Chander, M., & Rathod, P. K. (2015). Livestock innovation system: Reinventing public research and extension system in India. *Indian Journal of Animal Science*, *85*(11), 1155-1163. https://doi.org/10.56093/ijans.v85i11.53036

Department of Animal Husbandry & Dairying. (2020). *20th Livestock Census*. Ministry of Fisheries, Animal Husbandry & Dairying, Government of India.

Kakraliya, A. L., Meena, M. L., Pandey, R., Jat, H., & Singh, P. K. (2025). Socio-economic status of goat farmers in Sirohi Tehsil of Sirohi district, Rajasthan. *International Journal of Advanced Biochemistry Research*, *9*(4S), 722-724. https://doi.org/10.33545/26174693.2025.v9.i4Sh.4250

Kumar, V. (2013). *Adoption of improved technologies and production status with reference to goat husbandry in semi-arid zone of Uttar Pradesh* [Unpublished doctoral dissertation]. Indian Veterinary Research Institute.

Kumar, A., Misra, S. S., Chauhan, I. S., Gowane, G. R., & Shinde, A. K. (2021). Small ruminant production in dryland

regions of India: Status, challenges and opportunities. *The Indian Journal of Animal Sciences*, *91*(5), 350-359. https://doi.org/10.56093/ijans.v91i5.115385

Manzoor, A., Khan, H. M., Nazir, T., & Ganai, A. M. (2022). Sheep rearing: Socio-economics and health practices in South Kashmir of Jammu and Kashmir. *Indian Journal of Small Ruminants (The)*. https://doi.org/10.5958/0973-9718.2022.00041.1

Nandi, D., Roy, S., Bera, S., SundarKesh, S., & Samanta, A. K. (2011). The rearing system of Black Bengal Goat and their farmers in West Bengal, India. *Veterinary World*, *4*(6), 254-257. https://doi.org/10.5455/vetworld.4.254

National Family Health Survey (NFHS-5) 2019–21. (2020). *Compendium of fact sheets key indicators India and 14 States/UTs (Phase-II)*. Government of India, Ministry of Health & Family Welfare. https://main.mohfw.gov.in/sites/default/files/NFHS-5_Phase-II_0.pdf

Roy, I., Rahman, M., Lalmuansangi, Behera, R., Karunakaran, M., & Mandal, A. (2023). Garole - A promising sheep breed in Coastal West Bengal. *Journal of Indian Society for Coastal Agricultural Research*, *41*(1), 64–70. https://doi.org/10.54894/JISCAR.41.1.2023.127078

Roy, R., & Tiwari, R. (2016). Socio-personal and socio-economic profile of goat owners in India. *Indian Journal of Extension Education*, *52* (3 & 4), 57-60. https://epubs.icar.org.in/index.php/IJEE/article/view/144112

Sasidhar, P., & Suvedi, M. (2018). Assessment of the core competencies of veterinarians: implications for policy decisions in India. *Revue Scientifique Et Technique De L OIE*, *37*(3), 785–795. https://doi.org/10.20506/37.3.2885

Seetha, A., Pandian, A. S. S., Thirunavukkarasu, M., Senthilkumar, S., & Kumaravelu, N. (2021). Constraints perceived by the small ruminant farmers of Tamil Nadu: The socio-economic determinants. *Journal of Entomology & Zoology Studies*, *9*(2), 953–956.

Senthilkumar, S., Manivannan, C., & Sureshkannan, S. (2018). Utilization pattern on use of mobile phones among small ruminant farmers in Tirunelveli district. *International Journal of Extension Education*, *14*(Special Issue), 84-88. https://krishikosh.egranth.ac.in/handle/1/5810201957

Shivakumara, C., Reddy, B. S., Satihal, D. G., & Suresh, S. P. (2016). Production performance and mortality rate under sheep and goat farming in Karnataka. *Journal of Experimental Zoology, India, 19*(1), 1481–1484.

Singh, N. J., Jain, G., Aslam, C. P., & Shukla, A. K. (2023). Valuable role of meat, milk, & fiber production of goat farming in Indian economic. *Indian Journal of Livestock & Veterinary Research*, *1*, 2-4.

Yadav, P. (2017). *Goat rearing practices among livestock farmers: An analysis in Fatehpur district of Uttar Pradesh* [Unpublished doctoral dissertation]. Indian Veterinary Research Institute. http://krishikosh.egranth.ac.in/handle/1/5810148154

Received - 24.11.2025, Accepted - 23.01.2026, Published - 17.04.2026 (Online), 01.06.2026 (Print)
Section Editor: Dr. Arun Kumar Das, Editorial Board Member