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Socio personal and psychological profile of tribal livestock farmers of Telangana state

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Abstract

India's tribal livestock farmers, a significant part of the rural demographic, relies primarily on traditional livestock farming for income. These farmers often lack access to timely information and modern farming practices, limiting their productivity and underlining the need for effective Information and Communication Technologies (ICT) to improve their livelihoods. This study used an ex-post-facto research design, selecting 405 dairy farmers from the Mahabubabad, Adilabad, and Bhadhradhri Kothagudem districts of Telangana. Data was collected on socio personal and psychological characters through a structured interview schedule. The analysis revealed that the majority of farmers had a high school education (24.44%), belonged to nuclear families (65.19%), and owned medium-level material possessions (68.64%). Most were marginal farmers (75.56%) with low income (45.68%) and medium socio-economic status (69.38%). More than half maintained medium herd sizes (54.07%) and had 10-20 years of farming experience (48.89%). Despite having medium ICT knowledge (75.31%), none had received ICT training. Social participation and personal attributes such as self-confidence (64.69%), achievement motivation (67.16%), and information-seeking behavior (67.41%) were moderately strong. These findings underscore the importance of tailored ICT interventions to empower tribal dairy farmers by providing the necessary tools for enhanced productivity and income.

Keywords: Tribal livestock farmers, socio personal and psychological characters, information and communication technologies, self-confidence, achievement motivation

Introduction

India's tribal population, the second largest globally, constitutes 8.6% of the total population, with Telangana accounting for 3.1% and ranking 9th among tribal-populated states. Most tribal communities reside in rural areas and rely heavily on livestock for income and employment, with the livestock sector contributing 30.19% to the Gross Value Added (GVA) of agriculture. However, traditional farming practices result in low productivity and limited returns, primarily due to insufficient access to scientific information. Effective information dissemination is crucial for improving decision-making and empowering tribal farmers with modern farming techniques. The nomadic lifestyle and isolated living conditions of these farmers pose challenges to accessing timely information.

Information and Communication Technologies (ICT) offer a promising solution for delivering relevant agricultural knowledge, enhancing productivity, and addressing food insecurity. Despite the potential of ICT, its adoption in tribal areas faces barriers such as limited accessibility, lack of user-friendly content, and insufficient training. With this background, the present study has been formulated with the objective to study the socio-personal and psychological characters of tribal livestock farmers.

Materials and Methods

An ex post facto research design was followed to study the socio-personal and psychological characters of tribal

livestock farmers. Multi-stage sampling procedure was adopted for the selection of the respondents of the study. State of Telangana was selected purposively for the proposed study. Three districts were selected purposively based on highest number of tribal population. Three mandals from each district were selected purposively based on the highest number of tribal population. From each mandal 3 villages *viz*. Mahabubabad, Adilabad and Bhadhradhri Kothagudem districts of Telangana state, India, were selected by random sampling method. From each village 15 tribal livestock farmers were selected by simple random sampling method. Thus a total of 405 tribal livestock farmers were selected for the proposed study. The data was collected by pre structured interview schedule and questionnaire method and analyzed by using appropriate statistical methods.

Results and Discussion

Education

The educational status of tribal livestock farmers varies widely, impacting their ability to adopt modern farming practices and access government support. About 24.44% completed high school, 19.01% attended primary school, 16.79% reached an intermediate level, 12.59% were graduates, while 8.15% were illiterate and 4.20% functionally illiterate; only 3.46% were postgraduates.

Education significantly enhances farmers' capacity to leverage new technologies, participate in programs, and improve livelihoods, emphasizing the need for continued educational initiatives in rural areas. For those with low or no literacy, targeted outreach and training are vital to ensure they can adopt sustainable practices. This aligns with studies by Meena *et al*. (2023) [1] and Jadhav *et al*. (2021) [2], which found limited formal education among similar groups.

Family type

Table 1 indicates that 65.19% of tribal livestock farmers belong to nuclear families, while 34.81% are in joint families. This shift toward nuclear family structures may reflect societal changes, such as urbanization, economic factors, and evolving cultural values. Smaller, nuclear households often allow for greater individual autonomy and quicker adaptability to modern farming methods. These findings align with studies by Rana (2024) [3], Sinha *et al*. (2018) [4], Rajoria (2017) [5], and Tomar *et al*. (2016) [6].

Family size

Table 1 shows that 59.51% of respondents have medium-sized families, followed by large (30.12%), small (5.68%), and very large (4.69%) family sizes. Family size significantly impacts labor availability, resource management, and economic stability in livestock farming. Thus, extension services and support programs should consider these variations to deliver targeted assistance. These findings align with studies by Mohammad (2024) [7], Mithun *et al*. (2022) [8], Jadhav *et al*. (2021) [2], Dechamma *et al*. (2020) [9], Singh and Kameshwari (2019) [10], and Sinha *et al*. (2018) [4].

Material possession

Table 1 indicates that 68.64% of tribal livestock farmers possess a moderate level of assets, 21.73% have high material assets, and only 9.63% fall into the low possession category. This moderate asset level generally supports basic livestock operations but may limit farmers' ability to expand or adopt advanced practices. Those with higher asset levels are better positioned to improve productivity and employ modern techniques, while those with fewer assets may face operational challenges due to restricted access to essential resources. Targeted support programs, such as subsidies, equipment access, and infrastructure development, could be beneficial for farmers with fewer assets, enabling them to enhance productivity and livelihood stability. This aligns with findings from Akash (2024) [11] and Madhuri *et al*. (2020) [12], who reported similar trends in material possession among rural farmers.

Land Holding

From the Table 1, it is evident that about three fourth (75.56%) of total respondents were marginal farmers followed by small (10.86%), semi-medium (6.44%) medium (5.43%) and large (0.98%) farmers.

The distribution of farm classifications underscores the dominance of marginal and small farmers within the community. This situation suggests that enhancing the capacity and productivity of these farmers through tailored assistance programs could significantly improve livestock productivity and production impacting the income obtained and their outcome in and livelihoods in the region. The results are in similar with Mohammad (2024) [7] who reported that the majority of the respondents belonged to marginal farmers category.

Annual income

The annual income of tribal livestock farmers is presented in Table 1. the results revealed that (45.68%) of total respondents were in the low level of income, followed by medium (41.23%) and high (13.09%) levels of income category. The prevalence of low-income respondents underscores the urgent need for strategic development programs aimed at improving the economic conditions of these tribal livestock farmers ultimately leading to better productivity and enhanced quality of life in the community. The results are in accordance with Sinha *et al*. (2018) [4] who revealed that majority of the livestock farmers had low level of income levels.

Socio-economic status

The socio-economic status of respondent farmers from the Table 1 revealed that more than two-thirds of the respondents (69.38%) had medium socio-economic status category followed by high and low socio-economic status with 20.25 per cent and 10.37 per cent respectively. The medium socio-economic status was suggesting that most of the tribal livestock farmers maintain a standard of living that is relatively stable but may not be affluent. Their position is likely characterized by a balance of effective income, material possessions, cultural involvement, and participation in community activities, which can enhance their overall well-being. The results are in accordance with Amitha and Karthekeyan (2023) [13].

Herd size

Herd size and its composition is an indicator of farmer's

preferences, requirements and farming ability as it is significant contributor of income to the family. As evident from the Table 1, majority (54.07%) of the respondent farmers have a medium herd size, indicating that over half of the farmers manage a moderate number of livestock. This is followed by 24.45 per cent of respondents who have a large herd size, and 21.48 per cent of respondents with a small herd size. In the study area, cross bred cows were more predominant than buffaloes as it was easy to rear cattle because they have better heat tolerance over buffaloes and generally people prefer cow milk over buffalo milk. The findings are in line with Mithun *et al.* (2022) [8], Jadhav *et al.* (2021) [2] and Meenia *et al.* (2021) [14] who revealed in their studies that majority of the respondents had medium level of herd size.

Experience in livestock farming

Table 1show that 48.89% of livestock farmers have 10-20 years of experience, 32.84% have up to 10 years, 12.59% have 20-30 years, 4.44% have 30-40 years, and 1.23% have over 40 years of experience. Greater experience generally equips farmers with better skills in herd management, disease prevention, and market strategies, enhancing productivity.

Today, driven by both passion and rising unemployment, more youth are entering livestock farming alongside agriculture. Documenting the extensive experience and knowledge of seasoned tribal farmers could create valuable extension modules, benefiting less experienced farmers in other regions. Extension agencies could use this resource to develop strategies that pass this knowledge to future generations, supporting sustainable farming practices. These findings align with, Jadhav *et al.* (2021) [2], Madhuri *et al.* (2020) [12], and Aldosari *et al.* (2019) [15], who found most farmers had moderate experience, while Asghar *et al.* (2022) [16] reported a majority with higher experience.

Training received in ICT

Table 1 reveal that none of the tribal livestock farmers received formal ICT training, instead learning independently or with support from family and friends. ICTs provide essential information on livestock health, disease management, and market prices, yet a lack of training presents a digital knowledge gap. Addressing this through targeted ICT programs would enhance farmers' ability to adapt to industry demands. These results are consistent with findings by Madhuri *et al.* (2020) [12], Hasan *et al.* (2019) [17], Nagaraj *et al.* (2018) [19], Kafura *et al.* (2016) [18], and Mishra (2015) [20], who reported low ICT training among farmers.

Knowledge on ICT tools

Table1 reveal that 75.31% of tribal livestock farmers have a medium level of knowledge regarding ICT tools, indicating a basic familiarity with digital technologies in farming. However, there is significant potential for improvement in leveraging these tools for better farm management and productivity. Additionally, 13.09% of farmers exhibit high knowledge, actively using digital platforms for information on livestock health and market trends, while 11.60% have low knowledge, which may hinder their ability to capitalize on modern advancements in livestock farming.

These findings underscore the need for enhanced educational initiatives and training programs to boost farmers' understanding and application of ICT tools, which could greatly improve their productivity and market engagement. This aligns with studies by Jadhav *et al.* (2021) [2], Thangjam and Jha (2020) [21], Kabir (2015) [23], and Raghuprasad *et al.* (2013) [22], which similarly found that most farmers possess a medium level of ICT knowledge.

Social participation

Table 1, shows that 64.44% of respondents have a moderate level of social participation, indicating some engagement in community activities. About 23.70% reported low participation, which may limit their access to resources, while only 11.85% demonstrated high participation, suggesting that many farmers prioritize their farming activities over social involvement. Those with higher participation levels are often members of local organizations. Encouraging greater engagement in social organizations could enhance access to resources and support. These findings align with Meena (2023) [1], Mithun *et al.* (2022) [8], Madhuri *et al.* (2020) [12], and Thangjam and Jha (2020) [21], contrasting with, which noted lower social participation.

Innovativeness

About 71.85% of respondents exhibit a medium level of innovativeness, with 16.54% showing high innovativeness and 11.60% having low innovativeness. This trend may be attributed to strong extension contact with scientists and extension workers, which provides valuable information on new technologies, enabling quicker adoption of innovations. These findings align with Meena *et al.* (2023) [1], Madhuri *et al.* (2020) [12], Singh and Kameshwari (2019) [10], Priti *et al.* (2017) [24], and Mishra (2015) [20], who also noted that most dairy livestock farmers demonstrate a medium level of innovativeness.

Self-confidence

Self-confidence is vital for tribal livestock farmers to effectively use ICTs and make informed decisions. The results indicate that 64.69% of respondents have a medium level of self-confidence, 18.77% have high self-confidence, and 16.54% have low self-confidence. This trend may be due to farmers self-learning how to use ICTs for knowledge and resources, which boosts their confidence. These findings align with Tankodara *et al.* (2022) [25] and Babu *et al.* (2013) [26], while Lalitha (2021) [27] reported lower self-confidence levels among respondents.

Economic orientation

Economic orientation is crucial for livestock farmers to prioritize financial goals, make sound decisions, and enhance profitability and sustainability. Table 1, show that 71.11% of respondents have a medium economic orientation, 16.79% have a high orientation, and 12.10% have a low orientation. These results align with findings from Meenia *et al.* (2021) [14], Madhuri *et al.* (2020) [12], Pujar *et al.* (2020) [28], Singh and Kameshwari (2019) [10], Mishra (2015) [20], which indicated that most dairy livestock farmers have a medium economic orientation. In contrast, Verma and Sharma (2022) [29] reported that a majority of respondents exhibited a high economic orientation.

Achievement motivation

Achievement motivation is vital for dairy livestock farmers, driving them to set high goals and improve practices. Table 1. reveal that 67.16% of respondents have a medium level of achievement motivation, 19.26% have high motivation, and 13.58% have low motivation. This indicates that while most farmers are motivated for personal advancement, they need additional support to enhance their motivation. Implementing policies to support tribal livestock farmers could help them start enterprises and maximize profits. These findings align with studies by Meena *et al*. (2023) [1], Verma and Sharma (2022) [29], Priti *et al*. (2017) [24].

Information seeking behavior

Information-seeking behavior is essential for tribal livestock farmers, allowing them to stay updated on technologies and practices that enhance productivity. According to Table 1, 67.41% of respondents exhibit a high level of information-seeking behavior, 17.78% have a medium level, and 14.81% have a low level. This trend reflects a strong commitment to acquiring relevant knowledge and resources for improving livelihoods. These findings support studies by Mithun *et al*. (2022) [8], Meenia *et al*. (2021) [14], Singh and Kameshwari (2019) [10], which also noted that many respondents demonstrated medium information-seeking behavior.

Table 1: Socio personal and Psychological characters of tribal livestock farmers

S. No.	Variable	Category	Frequency	Percentage
1.	Education	Illiterate	33	8.15
		Functionally literate	17	4.20
		Primary School (1st -5th)	77	19.01
		Middle School (5th- 7th)	46	11.36
		High School (7th - 10th)	99	24.44
		Intermediate	68	16.79
		Graduation	51	12.59
		Post-Graduation	14	3.46
2	Family	Nuclear	264	65.19
		Joint	141	34.81
3	Family Size	Small (1-3)	23	05.68
		Medium (4-6)	241	59.51
		Large (7-9)	122	30.12
		Very large (>9)	19	04.69
4.	Material Possession	Low (<8.54)	39	9.63
		Medium (8.54 to 14.58)	278	68.64
		High (>14.58)	88	21.73
5.	Land holding	Marginal (upto 1 ha)	306	75.56
		Small (1 - 2 ha)	44	10.86
		Semi- Medium (2 - 4 ha)	29	06.44
		Medium (4- 10 ha)	22	05.43
		Large (above 10 ha)	04	00.98
6.	Annual Income	Low (below Rs. 1,00,000)	185	45.68
		Medium (Rs.1,00,000-Rs. 2,50,000)	167	41.23
		High (above Rs.2,50,000)	53	13.09
7.	Socioeconomic status	Low (<17.45)	82	20.25
		Medium (17.45-36.57)	281	69.38
		High (>36.57)	42	10.37
8.	Herd size	Low (<8.43	87	21.48
		Medium (8.43-34.85)	219	54.07
		High (>34.85)	99	24.45
9.	Experience in Livestock farming	Up to 10 years	133	32.84
		10- 20 years	198	48.89
		20-30 years	51	12.59
		30-40 years	18	4.44
		40 years and above	05	1.23
10.	Training received in ICT	No trainings	405	100.00
		Training	00	00.00
11.	Knowledge on ICT tools	Low (< 7.91)	47	11.60
		Medium (7.91 - 15.77)	305	75.31
		High (>15.77)	53	13.09
12.	Social Participation	Low (< 10.84)	96	23.70
		Moderate (10.84 - 18.42)	261	64.44
		High (>18.42)	48	11.85
13.	Innovativeness	Low (< 16.48)	47	11.60
		Medium (16.48 - 22.58)	291	71.85
		High (>22.58)	67	16.54
14.	Self confidence	Low (< 5.18)	67	16.54
		Medium (5.18 - 8.92)	262	64.69

		High (>8.92)	76	18.77
15.	Economic orientation	Low (< 18.32)	49	12.10
		Medium (18.32-27.78)	288	71.11
		High (> 27.78)	68	16.79
16.	Achievement Motivation	Low (< 12.71)	55	13.58
		Medium (12.71-17.73)	272	67.16
		High (> 17.73)	78	19.26
17.	Information seeking behaviour	Low (< 22.53)	60	14.81
		Medium (22.53-36.79)	72	17.78
		High (>36.79)	273	67.41

Conclusion

The study concludes that tribal dairy farmers in Telangana, though traditionally skilled in livestock farming, face limitations in productivity due to a lack of access to modern farming methods and Information and Communication Technology (ICT) resources. While many respondents demonstrated moderate ICT knowledge, none had received formal training, highlighting a significant gap in technological empowerment. The socio-economic profile of the farmers—predominantly marginal with medium socio-economic status, moderate social participation, and a high level of information-seeking behavior—suggests readiness for ICT-based interventions. Moderate levels of innovativeness, self-confidence, and achievement motivation further indicate a strong potential for adopting new technologies if appropriate training and resources are made available. The findings underscore the need for targeted ICT initiatives to improve access to timely agricultural information, fostering a pathway for enhanced productivity, income, and overall socio-economic upliftment for tribal farming communities. Addressing these needs through ICT training and infrastructure can provide tribal livestock farmers with essential tools to modernize their practices, improve livelihoods, and build resilience in a changing agricultural landscape.

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