P-ISSN: 2618-0723
E-ISSN: 2618-0731

NAAS Rating (2025): 5.04
www.extensionjournal.com

International Journal of Agriculture Extension and Social Development

Volume 8; SP-Issue 9; September 2025; Page No. 84-87

Received: 12-06-2025
Accepted: 14-07-2025

Indexed Journal
Peer Reviewed Journal

Knowledge level of livestock farmers towards social media as an information source in Andhra Pradesh

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DOI: https://www.doi.org/10.33545/26180723.2025.v8.i9Sb.2448

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Abstract

The livestock sector is a critical component of India's rural economy; however, farmers continue to face significant information gaps due to the limited reach of traditional extension systems. With increasing smartphone penetration and affordable internet, social media platforms such as WhatsApp, YouTube and Facebook are emerging as dynamic tools for disseminating timely, localized and interactive information. Recognising this potential, the present study was undertaken to assess the knowledge level of livestock farmers in Andhra Pradesh regarding social media as a source of information and to analyse how demographic, socioeconomic and behavioural variables influence knowledge acquisition. Using an ex-post-facto research design, a purposive and multi-stage random sampling technique was employed to select 540 livestock farmers including dairy, sheep/goat and backyard poultry producers across three regions of the state. A structured knowledge test consisting of 20 questions assessed the farmers' knowledge level. The results revealed that majority (60.93%) of the respondents possessed medium knowledge while 20.74 percent exhibited high knowledge and 18.33 percent fell in the low category, reflecting uneven distribution of digital skills across regions. Correlation analysis revealed that social media exposure (r = 0.524), information-seeking behavior (r = 0.442), education (r = 0.412), credibility (r = 0.402), media ownership (r = 0.394) and scientific orientation (r = 0.376) were significantly linked with farmers' knowledge. In contrast, demographic variables such as age, gender, family size and annual income were non-significant. These findings highlight that behavioural and digital characteristics, rather than traditional socio-economic factors are key drivers of social media knowledge. The study highlights the need for targeted digital literacy initiatives, credible information dissemination and platform-specific training to improve farmers' capacity to use social media effectively for improved livestock management and rural development.

Keywords: Knowledge level, social media, information source, livestock farmers, livestock farming, correlation, socio-profile characteristics

Introduction

The livestock sector is a vital component of India's rural economy, providing livelihoods for millions of small and marginal farmers and making a substantial contribution to the nation's GDP. Despite its vital role, the sector faces a persistent information gap. Traditional sources, such as extension agents and veterinarians, often have limited reach and experience delays, especially in remote regions. This leaves farmers vulnerable to challenges such as disease outbreaks, fodder shortages and market fluctuations.

Meanwhile, India is undergoing a rapid digital transformation, driven by the widespread adoption of smartphones and increasing access to affordable internet. Social media platforms, such as WhatsApp, YouTube and Facebook are emerging as powerful tools for communication and the dissemination of information. Unlike traditional ICTs and apps that often ignore livestock-specific needs, social media offers a dynamic, interactive and localized solution (Balamurugan *et al.,* 2023) [1]. These platforms enable real-time peer-to-peer learning and direct

access to expert advice, fostering a more adaptable and resilient knowledge ecosystem.

However, the effective use of social media by farmers is not universal. Adoption is often hindered by factors such as low digital literacy, poor internet connectivity and a lack of trust in online information. While the potential of social media is widely recognized, there is a significant research gap regarding its specific use and impact on livestock farmers (Malik & Ansari, 2024) [5].

This study aims to bridge that gap by critically analyzing the use of social media among livestock farmers in Andhra Pradesh. Specifically, it investigates their knowledge level regarding social media as an information source and examines the relationship between this knowledge and their demographic, socioeconomic and behavioral characteristics. The findings will highlight key factors that influence knowledge acquisition and underscore the need for targeted digital interventions to improve livestock productivity and rural livelihoods.

Methodology

This study used an ex-post-facto research design to investigate the knowledge level of livestock farmers in Andhra Pradesh regarding social media as a source of information. The state was divided into three geographical areas: Coastal, North Coastal and Rayalaseema. To select the sample, a purposive sampling method was employed to choose the three districts with the largest livestock populations from each region, resulting in a total of nine districts. Then, three mandals were randomly selected from each district, yielding twenty-seven mandals overall. From each mandal, 20 farmers were chosen with equal representation from three livestock categories: dairy, sheep/goat and backyard poultry. The final sample size was 540 respondents with 180 farmers from each of the three farming categories. Only farmers with prior experience using at least one social media application were included to ensure the sample was relevant to the study's purpose.

A structured knowledge test was developed to evaluate the respondents' knowledge level, consisting of 20 carefully framed statements related to various aspects of social media and its utility in livestock farming. All participants were asked to confirm their understanding of the presented statement as Know/ Don't know. A score of '1' was assigned to each 'Know' response whereas a score of '0' was designated for a 'Don't Know' response. The total knowledge score for each livestock farmer was estimated by summing the responses to each statement. The mean and standard deviation were used to categorise the respondents' knowledge level.

Results and Discussion

The categorisation of livestock farmers by knowledge level shown in Table 1 indicates that most respondents (60.93%) fall into the medium knowledge category. This suggests they have a reasonable understanding of livestock management practices but their knowledge is often fragmented and incomplete. This pattern is rooted in their practical experience in dairy farming, sheep/goat rearing and backyard poultry farming, supplemented by partial exposure to extension services and digital platforms. A smaller proportion of farmers (20.74%) belonged to the high knowledge category, predominantly in progressive coastal and peri-urban areas where they have greater access to veterinary institutions, dairy cooperatives and digital information sources such as social media and mobile applications.

Table 1: Knowledge level wise categorisation of livestock farmer

S. No	Category	Frequency	Percentage
1.	Low	99	18.33
2.	Medium	329	60.93
3.	High	112	20.74
Total		540	100
Mean		30.02	
S.D		4.03	

Conversely, 18.33 percent of farmers were in the low knowledge category, largely concentrated in drought-prone and remote tribal regions like Rayalaseema, where poor infrastructure, limited veterinary services, lower education and socio-economic constraints hinder knowledge acquisition. These findings were in parallel with the observations made by Raviya *et al.*, (2020) [7] and Sriker Reddy *et al.,* (2020) [8]. The mean score of 30.02 with a standard deviation of 4.03 reflects a moderate overall knowledge level among farmers with relatively low variability, suggesting that most respondents' knowledge level were clustered around the average. These results highlight the uneven diffusion of scientific livestock knowledge across different regions and socio-economic groups in Andhra Pradesh. They underscore the need for targeted training, stronger extension services and inclusive ICT-based interventions to help farmers transition from low to medium and higher knowledge level, thereby boosting livestock productivity and improving rural livelihoods.

The correlation results summarised in Table 2 suggest that several independent variables significantly influence livestock farmers' knowledge of social media. The strongest relationship were observed with social media exposure ($r = 0.524$, $p< 0.01$), information-seeking behaviour ($r = 0.442$, $p< 0.01$), education ($r = 0.412$, $p< 0.01$), credibility of information sources ($r = 0.402$, $p< 0.01$), media ownership ($r = 0.394$, $p< 0.01$) and scientific orientation ($r = 0.376$, $p< 0.01$). These results indicate that farmers who are better educated, actively seek information, own communication tools and possess a scientific outlook are more likely to utilise and benefit from social media for livestock-related knowledge. Social media exposure, in particular, recorded the highest correlation, suggesting that direct usage of platforms such as WhatsApp, YouTube and Facebook enhances familiarity and experiential learning, thereby strengthening knowledge on their use for professional purposes.

Table 2: Relationship between the knowledge level of livestock farmers regarding social media and their profile characteristics

S. No.	Independent variable		Correlation Coefficient (r)	Significance
1.	Age		0.082	Non-significant
2.	Gender		-0.031	Non-significant
3.	Socio–economic status	Education	0.412**	Significant
		Social status	0.065	Non-significant
		Family size	-0.021	Non-significant
		Land holding	0.102	Non-significant
		Experience in livestock farming (years)	0.110	Non-significant
		Herd size	0.308*	Significant
		Material possession	0.362**	Significant
		Annual income	0.071	Non-significant
4.	Media ownership		0.394**	Significant
5.	Achievement motivation		0.093	Non-significant
6.	Social media exposure		0.524**	Significant
7.	Information seeking behaviour		0.442**	Significant
8.	Scientific orientation		0.376**	Significant
9.	Market orientation		0.339*	Significant
10.	Economic motivation		0.051	Non-significant
11.	Credibility		0.402**	Significant
* Correlation is significant at 0.05 level (2-tailed)				
** Correlation is significant at 0.01 level (2-tailed)				

Moderate but significant associations were also found for material possession (r = 0.362, $p< 0.01$) and market orientation (r = 0.339, $p< 0.05$) while herd size showed a relatively weaker yet significant relationship (r = 0.308, $p< 0.05$). Farmers with greater material possessions, such as smartphones, internet access or other physical assets are more exposed to digital content, facilitating better engagement with social media. Similarly, ownership of media devices such as television, radio or computers enhances access to online platforms, reinforcing digital literacy and knowledge acquisition.

Farmers with larger herd sizes tend to depend more on timely and accurate information about animal health, feed and breeding, which makes them active users of social media for livestock-related updates. Market orientation further supports this trend, as farmers who focus on tracking market prices and opportunities are inclined to use social media as an emerging source of information to improve decision-making and profitability. Scientific orientation also plays a vital role, since farmers with a favourable attitude towards modern practices are more open to exploring and adopting communication technologies to expand their knowledge base. The credibility of information sources emerged as another critical factor, as farmers who consider social media trustworthy are more likely to utilise it efficiently and internalise its potential for learning.

In contrast, demographic factors such as age (r = 0.082), gender (r = -0.031) and family size (-0.021), as well as socio-economic variables like landholding (r = 0.102), farming experience (r = 0.110), annual income (r = 0.071), social status (r = 0.059), achievement motivation (r = 0.081) and economic motivation (r = 0.066), showed non-significant correlation with knowledge level. This indicates that these factors do not directly or consistently influence farmers' engagement with social media for knowledge purposes. The lack of significance may result from uniformly low digital exposure among certain demographic groups or the limited impact of these variables on farmers' willingness and ability to adopt digital tools for learning. These revelations of the study are supported by the conclusions drawn by Patel and Mallappa (2022) [6] and Gbughemobi *et al.*, (2021) [4].

Overall, the findings highlight that structural and behavioural variables such as education, media ownership, social media exposure, information-seeking behaviour and scientific and market orientation play a constructive role in shaping farmers' knowledge of social media as a tool for information dissemination and decision-making. In contrast, basic demographic characteristics and traditional socio-economic indicators seem to have little direct influence, emphasising the increasing importance of digital access, behavioural traits and attitudes in determining knowledge acquisition in livestock farming.

Conclusion

This study highlights the transformative potential of social media in bridging the information gap faced by livestock farmers in Andhra Pradesh. The findings confirm that while majority of the farmers possess a medium level of knowledge regarding the use of social media for professional purposes, a significant portion remains in the low-knowledge category, emphasising the need for targeted digital interventions. The research successfully identifies the key drivers of this knowledge acquisition.

The study's most significant finding is that a farmer's digital and behavioral characteristics are far more influential than their demographic and socio-economic profiles in determining their social media knowledge. Variables such as social media exposure, information-seeking behavior and education have a significant and positive relationship with knowledge level. This suggests that simply providing a farmer with a smartphone isn't enough; their active engagement, willingness to seek information and basic digital literacy are critical for them to effectively utilize these platforms. The significant correlation with media ownership, scientific orientation and credibility further underscore that a farmer's attitude and access to technology are crucial for knowledge acquisition in the 21st century.

Conversely, the lack of significant relationship between knowledge level and traditional factors such as age, gender,

family size and annual income challenges conventional assumptions about technology adoption in rural settings. This suggests that the digital divide is not simply a reflection of economic status or age but is more closely connected to specific behavioural characteristics and access to digital resources.

In conclusion, social media can become a vital factor in livestock farming if policies and extension efforts focus on strengthening farmers' digital skills, encouraging information-seeking behavior and ensuring reliable online sources. Empowering farmers in this way will make the livestock sector more resilient and productive, supporting rural livelihoods and the agricultural economy. Future research should examine farmers' platform preferences, the economic impacts of social media and the need for tailored digital literacy training.

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