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

NAAS Rating: 5.04
www.extensionjournal.com

International Journal of Agriculture Extension and Social Development

Volume 8; Issue 5; May 2025; Page No. 166-168

Received: 05-02-2025
Accepted: 07-03-2025

Indexed Journal
Peer Reviewed Journal

Constraints in utilizing social media for accessing agricultural technology information: Challenges faced by farmers

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DOI: https://www.doi.org/10.33545/26180723.2025.v8.i5c.1880

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Abstract

Social media has emerged as a crucial platform for disseminating agricultural technology information, offering farmers access to real-time updates, expert advice, and peer-to-peer learning opportunities. However, various constraints hinder its effective utilization. This study explores the challenges faced by farmers in accessing agricultural technology information through social media. The major constraints include limited digital literacy, poor internet connectivity, high data costs, language barriers, misinformation, and a lack of personalized advisory services. Small and marginal farmers, particularly in rural areas, struggle with inadequate infrastructure, restricting their ability to leverage social media for agricultural advancements. Additionally, concerns over data privacy, cyber threats, and the authenticity of online information further deter farmers from actively engaging with social media platforms. The study highlights the need for capacity-building initiatives, affordable internet access, and the development of localized content in vernacular languages to enhance the adoption of social media for agricultural knowledge dissemination. Government and extension agencies must collaborate with technology providers to create farmer-friendly digital ecosystems. By addressing these constraints, social media can serve as an effective tool in bridging the information gap, ultimately improving agricultural productivity and sustainability.

Keywords: Social media, agricultural technology, digital literacy, cyber threats, language barriers, internet connectivity

Introduction

The integration of social media into agriculture has revolutionized how farmers access, share, and utilize agricultural information. Platforms like Facebook, WhatsApp, YouTube, and Telegram have enabled farmers to receive real-time updates on weather conditions, market prices, pest control, and government schemes. However, despite the growing adoption of digital tools, several constraints hinder the effective utilization of social media for accessing agricultural technology information. (Afreen Malik *et al*., 2024) [1].

Farmers, particularly those in rural and remote areas, face challenges such as limited digital literacy, poor internet connectivity, language barriers, and misinformation. Socioeconomic factors like affordability of smartphones, data costs, and lack of trust in online sources further restrict their engagement with digital platforms. Additionally, the credibility of agricultural content on social media remains a concern, as unreliable or misleading information can negatively impact farming decisions.

Understanding these constraints is crucial for policymakers, extension professionals, and agricultural stakeholders to design targeted interventions that bridge the digital divide and enhance farmers' access to reliable agricultural knowledge. This study explores the key challenges faced by farmers in utilizing social media for agricultural technology information and suggests possible solutions to improve their digital engagement. (Guntukogula Pattabi *et al*., 2022) [2].

Materials and Methods

This study examines the challenges faced by farmers in Cuddalore District while utilizing social media for accessing agricultural technology information. It focuses on the barriers related to digital engagement, including infrastructural limitations, digital literacy gaps, and content reliability concerns. A descriptive research design with an ex post facto approach is adopted to analyze these constraints and their impact on farmers' access to agricultural knowledge.

The study utilizes both primary and secondary data collection methods. Primary data is gathered through structured surveys and interviews with 120 farmers, while secondary data is sourced from government reports and existing literature. Various socio-demographic factors, such as age, education, farm size, cropping patterns, and family structure, along with the extent of social media usage, are examined to assess their influence on digital accessibility.

The data is analysed using percentage analysis, cumulative frequency, standard deviation, mean scores, zero-order correlation coefficients, and multiple linear regression to identify key constraints affecting social media utilization. The study aims to provide insights into the challenges limiting farmers' effective use of digital platforms and suggest strategies for improving their access to reliable

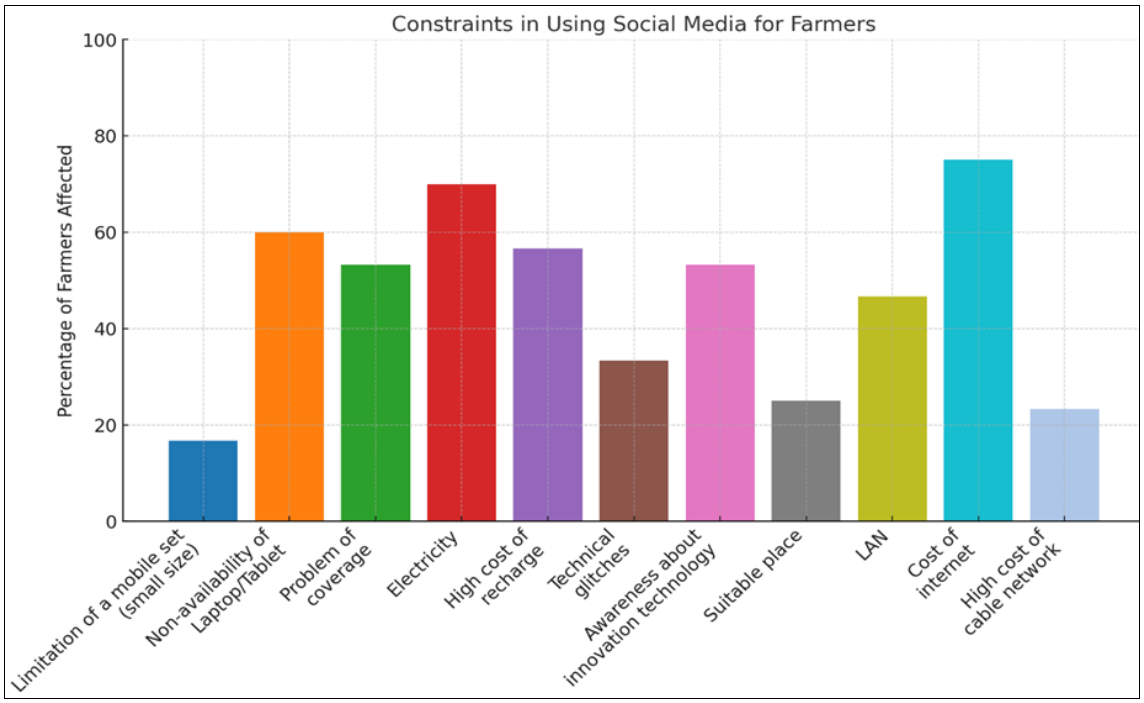
agricultural technology information.

Results and Discussion

The following profiles represent the constraints faced by farmers in utilizing social media for accessing agricultural technology information, as reported during the survey. The data highlights varying levels of digital accessibility, literacy, and trust in social media platforms for agricultural purposes. Key challenges include limited internet connectivity, lack of technical knowledge, language barriers, and concerns about misinformation. The results are displayed in Table-I.

Table I: Constraints in using social media for farmers. (n=120)

S. No	Sites and Application	Frequency	Per centage
1.	Limitation of a mobile set (small size)	20	16.67
2.	Non availability of Laptop/Tablet	72	60.00
3.	Problem of coverage	64	53.33
4.	Electricity	84	70.00
5.	High cost of recharge	68	56.67
6.	Technical glitches	40	33.33
7.	Awareness about innovation technology	76	53.33
8.	Suitable place	30	25.00
9.	LAN	56	46.66
10.	Cost of internet	90	75.00
11.	High cost of cable network	28	23.33



Conclusion

The study highlights several constraints in utilizing social media for accessing agricultural technology information among farmers. The most significant barriers include high internet costs (75.00%), electricity issues (70.00%), and the non-availability of laptops or tablets (60.00%), limiting farmers' ability to access digital agricultural resources effectively.

Additionally, poor network coverage (53.33%), lack of awareness about innovative technologies (53.33%), and high recharge costs (56.67%) further hinder seamless access to social media platforms. Technical glitches (33.33%), LAN connectivity issues (46.66%), and the lack of a suitable place for usage (25.00%) also present significant challenges.

These constraints emphasize the need for affordable internet access, improved digital infrastructure, stable electricity supply, and targeted awareness programs to enhance farmers' ability to use social media effectively for agricultural technology dissemination. Addressing these challenges can improve knowledge-sharing and the adoption of innovative farming practices.

Acknowledgement

The authors extend their sincere gratitude to the Department of Agricultural Extension, Annamalai University, for their invaluable support and guidance throughout this study. We deeply appreciate the cooperation of the farmers and rural beneficiaries of Cuddalore district, whose insights and experiences provided crucial data for understanding the challenges in utilizing social media for accessing agricultural technology information. We are also thankful to our mentors, colleagues, and field extension professionals, whose encouragement and expertise significantly contributed to analyzing the constraints faced by farmers. Their support has been instrumental in the successful

completion of this study.

Abbreviation
LAN – Local Area Network

Conflict of Interest
The authors declare that there is no conflict of interest regarding the publication of this research study.

Financial status
This research was conducted without any external funding. The authors confirm that all expenses were borne personally, and no financial support was received from any organization or institution.

Ethics statement
This study was conducted in adherence to ethical research practices. Informed consent was obtained from all participants, ensuring their voluntary participation and confidentiality of their responses. The research respects the cultural and social sensitivities of Cuddalore district people and complies with institutional and governmental ethical guidelines.

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