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Constraints in Social Media use for Agriculture and Fisheries in Andhra Pradesh

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HIGHLIGHTS

- Fish farmers reported a higher total constraint intensity than farmers in agriculture.
- Barriers to support were most pronounced among agriculture farmers, particularly women and older farmers.
- Vernacular content and responsive online extension groups can enhance digital inclusion.

ARTICLE INFO

Keywords: Agriculture farmers, Digital extension, Information credibility, Rural communication, Vernacular content, Social media.

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ABSTRACT

Social media has emerged as an important digital outreach tool to provide rural farming communities with timely agricultural and fisheries information. The study was conducted in 2025-26 in the Nellore and East Godavari districts of Andhra Pradesh to compare the constraints on the use of social media among agriculture and fish farmers. An ex post facto design was adopted, and data were collected from 80 agriculture and 80 fish farmers using a pretested, structured interview schedule. Four dimensions, access, usability, credibility, and social and institutional support, were identified, comprising twenty constraint statements. Respondents ranked these constraints, and severity was measured using the Rank-Based Quotient technique. The dimension with the most severe among fish farmers was usability, with a mean RBQ of 70.05. The non-availability of content in the preferred local language was the single biggest constraint for fish farmers (RBQ 84.50) and agriculture farmers (RBQ 79.50). The highest dimension of agriculture farmers was social and institutional support, with a mean RBQ of 60.5. The overall mean RBQ was higher for fish farmers (61.24) than for agriculture farmers (58.93). The inclusive digital extension requires vernacular, sector-specific content and responsive online extension support.

INTRODUCTION

The role of social media platforms such as WhatsApp, YouTube, and Facebook is emerging as a vital medium of communication in agriculture and fisheries. They help quickly spread advisory messages, facilitate farmer-to-farmer communication, share market information, and enable learning through short videos and live sessions. In India, with a comparatively low number of extension workers compared to the size of the farming population, digital platforms are seen as an adjunct to improve extension outreach (Nain et al., 2019; Shanmuka et al., 2022). Additionally, the availability of mobile Internet services and inexpensive smartphones has improved the ability to provide need-based, timely information in rural areas via social media platforms (Patel & Mallappa, 2022).

Previous studies show that social media has the potential to increase access to agricultural knowledge, enable two-way communication and provide opportunities for participatory learning

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within farming communities (Nain et al., 2019; Sandeep et al., 2022). However, just having access to the platform does not ensure effective use (Panda et al., 2019; Iwuchukwu et al., 2023). Some of the constraint's farmers face includes internet availability, device quality, lack of digital skills, language of the content, message relevance, information reliability, and farmers' feedback to the extension person (Guntukogula et al., 2023). The limitations diminish the utility of social media as an extension tool (Awuor et al., 2021). They can exacerbate inequalities between older and younger, male and female, less and more educated, less and more institutionalised, and those with and without social media experience (Kaur et al., 2022).

Successful Fish farming requires timely information on water quality, market prices, government schemes, feed management, disease symptoms, seed availability, and weather risks for successful fish farming. Many fisheries communities are situated in coastal, riverine, or pond-based systems with limited access to extension services (Shanabhoga et al., 2023). While digital platforms can mitigate distance constraints, fish farmers face challenges as fisheries content are less accessible than crop-related information. Additionally, a lack of scientific advisories in local languages exacerbates language barriers and terminology issues (Shivakumarappa et al., 2023).

Recent research on social media use in agriculture has identified several challenges, including poor connectivity, low digital literacy, misinformation, and a lack of locally relevant content (MadhuShekar et al., 2023). There is still limited comparative evidence of the differences between agriculture farmers and fish farmers in terms of these constraints. This comparison is important because the extension methods used for crop farmers may not suit the information needs and platform use conditions of fish farmers (Chowdary et al., 2024). The study hypothesised that the nature and intensity of constraints in the use of social media differ between agriculture farmers and fish farmers. The study aimed to identify, quantify, rank, and compare such constraints using the Rank-Based Quotient technique. This method was deemed appropriate because it transforms the respondents' "natural" ranking, enables comparison of the resulting percentage scores, and aids in prioritising constraints for extension planning. A focused comparison is therefore needed to identify areas where a common digital intervention is adequate and others where sector-specific support is required (Saha et al., 2024).

METHODOLOGY

The study was conducted in 2025–26 across 16 villages in the Nellore and East Godavari districts of Andhra Pradesh. An ex post facto research design was adopted because the study examined constraints that farmers had already perceived and experienced. The study was conducted in 2025–26 across 16 villages in the Nellore and East Godavari districts of Andhra Pradesh. Eight villages were selected from each district through purposive sampling from major crop-producing and fish-producing areas. Separate villages were selected for the agricultural and fisheries samples to ensure representation of both enterprise systems. From each selected village, 10 farmers engaged in the respective principal enterprise were selected. Thus, the final sample comprised 80 agriculture farmers from eight crop-producing villages and 80 fish farmers from eight fish-producing villages, giving a total of 160 respondents. Primary data were collected through a pre-tested structured interview schedule administered via personal interviews. Group discussions with farmers and local extension personnel were used only to understand the local context and refine the interpretation of the findings. The interview schedule consisted of 20 constraint statements grouped under four dimensions: access, usability, credibility, and social and institutional support. Each dimension comprised five statements. Respondents were asked to rank the five constraint statements within each dimension according to their perceived severity. The ranks were converted to Rank-Based Quotient (RBQ) values according to Sabarathanam (1988). RBQ values were calculated separately for each constraint statement within the four dimensions and for agriculture farmers and fish farmers. This technique was used to identify and prioritise the leading constraints within each dimension for the two groups. The findings were presented through constraint-wise RBQ values and ranks.

RESULTS

The ranking of individual constraints within the dimension revealed that each group of respondents faced several constraints, with different priority orders for them is presented in Table 1. For fish farmers, slow internet speed (RBQ = 65.25) was the most serious problem in the access dimension, while agriculture farmers ranked unreliable mobile internet as the most serious problem in the access dimension (RBQ = 64.00). Both groups identified high mobile data costs as the second greatest limitation to access, indicating that affordability remained a common barrier. The least significant access problem was network loss during working hours in the groups.

For the usability aspect, the unavailability of content in the preferred local language was the highest-ranked by the fish farmers (RBQ = 84.50) and the agriculture farmers (RBQ = 79.50). The second most severe fish farmer usability constraint (RBQ 82.75) and agriculture farmer usability constraint (RBQ 64.75) was trouble understanding technical terms without examples. Similarly, the constraints score was higher among fish farmers (69.50) than among agriculture farmers (59.25), indicating a greater device-related usability gap in fisheries.

The dimension of credibility as presented in Table 2, reveals that fish farmers considered the advice given late, not in time for the season or agro-climatic conditions, to be the main constraint (RBQ = 73.25), and agriculture farmers considered the main constraint as a mismatch of information with crop/fishery enterprise (RBQ = 75.25). On the support dimension, the highest RBQ was observed for the absence of official extension or farmer groups online among fish farmers (RBQ = 65.50), while barriers faced by women and older farmers were highest among agriculture farmers (RBQ = 70.75). The Dimension-wise Mean Values revealed that, among fish farmers, the most dominant constraint was usability (Mean RBQ = 70.05), whereas, among agriculture farmers, social and institutional support was the top one (Mean RBQ = 60.50). The Mean RBQ% for the overall constraint intensity was higher for Fish Farmers (61.24) than for Agriculture Farmers (58.93).

Table 1. Constraints in social media utilisation

S. No.	Constraint statement	Fishery		Agriculture	
		RBQ	Rank	RBQ	Rank
	Access				
1	Mobile internet was unreliable in the village	63.50	III	64.00	I
2	Slow speeds restricted videos or live sessions	65.25	I	48.25	IV
3	Network was lost during field hours	45.25	V	40.50	V
4	Power cuts restricted phone use	61.25	IV	59.75	III
5	Mobile data was too expensive	63.75	II	63.50	II
	Usability				
6	Suitable smartphone was not available	69.50	III	59.25	III
7	Installing or updating apps was difficult	56.00	V	40.50	V
8	Help was needed to manage accounts	57.50	IV	56.00	IV
9	Preferred local-language content was unavailable	84.50	I	79.50	I
10	Technical terms were difficult without examples	82.75	II	64.75	II
	Credibility				
11	Information did not match crop or fishery	64.25	II	75.25	I
12	Advice was not timely for season or agro-climate	73.25	I	66.25	II
13	Posts rarely showed prices or market demand	51.25	IV	50.00	IV
14	False or misleading advice was a concern	53.00	III	49.50	V
15	Credible pages or groups were difficult to identify	48.75	V	59.00	III
	Support				
16	Family discouraged social media use for farming	61.25	II	65.00	III
17	Women or older farmers faced more barriers	57.00	III	70.75	I
18	Official online extension group was absent	65.50	I	40.25	V
19	Extension officers rarely responded promptly	53.25	IV	66.25	II
20	Training on safe and effective use was unavailable	48.00	V	60.25	IV

Table 2. Mean constraint intensity by dimension

Constraint Dimension	Fishery		Agriculture		Difference
	RBQ	Rank	RBQ	Rank	
Usability	70.05	I	60.00	II	+10.05
Access	59.80	II	55.20	III	+4.60
Credibility	58.10	III	60.00	II	−1.90
Support	57.00	IV	60.50	I	−3.50
Overall mean	61.24		58.93		+2.31

Note: Positive difference indicates higher constraint intensity among fish farmers.

DISCUSSION

The results indicate that the profiles of constraints in the use of social media are shared to some extent, yet also sector-specific. The importance of vernacular content for digital extension effectiveness is evident from its unavailability in both groups. This finding aligns with other studies, which have found that language barriers and a lack of content in a region are significant barriers to farmers' uptake of social media (Malik & Ansari, 2024; Shanmuka et al., 2022). Compared to general agricultural information easily accessible on popular platforms, fisheries advisory information is less accessible, localised, and understandable to fish farmers than to other farmers.

Each group had a specific set of dominant credibility constraints. In fisheries, all decisions related to water quality, feed, disease, and harvest are time-sensitive, and the impact of untimely advice is magnified for the fish farmer. Farmers who received general advice on crop or fishery issues were less concerned about the discrepancy between what they were told and what they found in their fields. The above-mentioned trends are consistent with the previous studies, indicating that a social media-based extension service should be fast, relevant, credible and localised (Singh & Verma, 2023).

Supporting dimension further helps in understanding the relative pattern. The lack of institutional digital presence, as was the case with other extension groups, was the most frequently mentioned limitation to official support for fish farmers (Awuor et al., 2021). Fish farmers reported they lacked access to official support due to their lack of digital presence, specifically their official extension groups. However, farmers pointed to challenges faced by women and older farmers, helping shift the focus to the social dimension of the rural digital divide. The findings align with the literature, which indicates that gender, age, confidence, and household support influence participation in digital information systems (Eduafo et al., 2024). Thus, the use of social media for extension should not be restricted to delivering information. It should include digital literacy, inclusive training, vouching advisory teams and an open and responsive expert support (Sandeep et al., 2020). The results highlight the need for tailored, sector-specific content and immediate expert support to leverage social media effectively. Offering inclusive digital training to women, older farmers, and fish farmers can enhance access, trust, and the effective utilisation of online advisory services (Jarial & Sachan, 2021).

The study suggests that social media extension programs need to go beyond the dissemination of information and adopt a more targeted approach to providing digital support that is inclusive, needs-oriented, and sector-specific. For farmers, creating local-language fisheries advisories using simple examples, visual explanations, and prompt expert responses should be a priority. Digital extension interventions should place special emphasis on agriculture farmers, including women, older farmers, family members, and local extension workers, in training programmes to overcome social barriers (Jarial & Sachan, 2021). Creating official, online, verified groups at the village or block level can ensure information is credible and reduce reliance on unverified sources. Hence, cultivating digital literacy, vernacular content generation, and adaptive advisory services into the mainstream of extension work can turn social media into a more effective and accessible platform for agriculture and fisheries development, ensuring its greater reliability and engagement with social media users (Darshan & Meena, 2017).

CONCLUSION

The study shows that access, usability, credibility, and support-related factors are limiting the use of social media in the agriculture and fisheries sector, with varying degrees of severity across the study areas. The usability gap is larger for fish farmers, mainly because there is no easily understandable, local-language information about fisheries. The level of support constraints, particularly for women and older farmers in agriculture, is greater, and access to online responses is delayed. Results suggest that digital extension is not entirely about platform availability. For this to work, the content must be multilingual, focused on a specific sector, locally relevant and credible; the extension staff must be trained, and programmes on digital literacy must be inclusive. The usefulness of social media in agriculture and fisheries extension can be enhanced by clarifying the official online farmer group's role and improving response mechanisms.

DECLARATIONS

Ethics approval and informed consent: The study involved human participants and adhered to voluntary participation, informed consent, and confidentiality principles. No invasive procedure was involved.

Conflict of interest: The authors declare no conflicts of interest.

Authors' contribution: Sai Kumar Periginji: paper plan execution and manuscript preparation; Ajay Kumar Prusty, Pritam Tripathy: Monitoring, paper planning and manuscript editing; Biswajit Sahoo, Nibedita Mishra: Monitoring, manuscript editing and manuscript correction.

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REFERENCES

Awuor, F. J., Opiyo, M. A., Obiero, K. O., Munguti, J. M., Abwao, J., Nyonje, B. M., Nevejan, N., & Stappen, G. V. (2021). Aquaculture extension service in Kenya: Farmers and extension officers' perspectives. *Journal of Agricultural Extension and Rural Development, 13*(1), 14–22. https://doi.org/10.5897/JAERD2020.1203

Chowdary, R., Modem, R. K., Ramu, Y. R., & Sarada, R. (2024). Role of social media in agricultural extension service delivery: A stakeholder analysis. *Ecology, Environment and Conservation, 30*(Special Issue), s119–s123. https://doi.org/10.53550/EEC.2023.v30i01s.021

Darshan, N. P., & Meena, B. S. (2017). Constraints in using internet and social media as perceived by farmers in Karnal District of Haryana, India. *International Journal of Current Microbiology and Applied Sciences*, *6*(10), 1465-1468. https://doi.org/10.20546/ijcmas.2017.610.173

Eduafo, I., Osei, C. K., Bakang, J.-E. A., & Tham-Agyekum, E. K. (2024). Could social media be a game-changer in improving agricultural extension delivery in Ghana? *Heliyon, 10*(12), e33293. https://doi.org/10.1016/j.heliyon.2024.e33293

Guntukogula Pattabhi, S., Prashanth, P., Sreenivasulu, M., & Madavilata, A. (2023). Effectiveness of social media agricultural information on farmer's knowledge. *Environment Conservation Journal, 24*(1), 123–129. https://doi.org/10.36953/ECJ.11432297

Iwuchukwu, J. C., Eke, O. G., Arigbo, P. O., Chukwudum, E. O., & Igwe, N. J. (2023). Challenges and training needs for integrating social media into agricultural extension services in Enugu State, Nigeria. *Journal of Agricultural Extension, 27*(2), 88–96. https://doi.org/10.4314/jae.v27i2.9

Jarial, S., & Sachan, S. (2021). Digital agriculture through extension advisory services: Is it gender-responsive? A review. *International Journal of Agricultural Extension, 9*(3), 559–566. https://doi.org/10.33687/ijae.009.03.3687

Kaur, A., Walia, G. S., & Singh, R. (2022). Leveraging social media platforms for valuing agri-entrepreneurship in Punjab, India. *Indian Journal of Extension Education, 58*(3), 70–73. https://doi.org/10.48165/IJEE.2022.58315

MadhuShekar, B. R., Sudha Rani, V., Padmaveni, C., Malla Reddy, M., & Anil Kumar, B. (2023). Analysis of farmer's perception and usage of social media in agriculture. *International Journal of Bio-resource and Stress Management, 14*(12), 1646–1653. https://doi.org/10.23910/1.2023.4972a

Malik, A., & Ansari, M. A. (2024). Farmers' use of social media and constraints faced: A study in Uttarakhand, India. *Asian Journal of Agricultural Extension, Economics & Sociology, 42*(8), 92–100. https://doi.org/10.9734/ajaees/2024/v42i82535

Nain, M. S., Singh, R., Sharma, J. P., & Mishra, J. R. (2019) Filling the information gap through developing and validating Entrepreneurial Technical Information Packages (ETIPs) for potential agricultural entrepreneurs. *Journal of Community Mobilization and Sustainable Development, 14*(1), 44-48.

Nain, M. S., Singh, R., & Mishra, J. R. (2019). Social networking of innovative farmers through WhatsApp messenger for learning exchange: A study of content sharing. *Indian Journal of Agricultural Sciences, 89*(3), 556-558. https://doi.org/10.56093/ijas.v89i3.87605

Panda, S., Modak, S., Devi, Y. L., Das, L., Pal, P. K., & Nain, M. S. (2019). Access and usage of Information and Communication Technology (ICT) to accelerate farmers' income. *Journal of Community Mobilization and Sustainable Development, 14*(1), 200-205.

Patel, P. K., & Mallappa, V. K. H. (2022). Predictive factors for farmers' knowledge of social media for sustainable agricultural development. *Indian Journal of Extension Education, 58*(4), 55–59. https://doi.org/10.48165/IJEE.2022.58412

Sabarathanam, V. E. (1988). Manuals of field experience training for ARS scientists. *National Academy of Agricultural Research Management, 21*, 1243-1248.

Saha, P., Prusty, A. K., Nanda, C., Ray, S., & Sahoo, B. (2024). Professional insights provided by women extension personnel in Odisha. *Indian Journal of Extension Education, 60*(3), 101–105. https://doi.org/10.48165/IJEE.2024.603RN03

Sandeep, G. P., Prashanth, P., Sreenivasulu, M., & Madavilata, A. (2022). Effectiveness of agricultural information disseminated through social media. *Indian Journal of Extension Education, 58*(2), 186–190. https://doi.org/10.48165/IJEE.2022.58244

Sandeep, G. P., Prashanth, P., Sreenivasulu, M., & Madhavilata, A. (2020). Social media in agriculture–A profile analysis. *International Journal of Current Microbiology and Applied Sciences*, *9*(7), 2727-2736. https://doi.org/10.20546/ijcmas.2020.907.322

Shanabhoga, M. B., Krishnamurthy, B., Suresha, S. V., Dechamma, S., & Kumar, R. V. (2023). Climate change adaptation constraints among paddy growing farmers in Kalyana-Karnataka region of Karnataka State. *Indian Journal of Extension Education, 59*(2), 124–127. https://doi.org/10.48165/IJEE.2023.59227

Shanmuka, A., Lenin, V., Sangeetha, V., Muralikrishnan, L., Ramasubramanian, V., & Arora, A. (2022). Analysis of factors affecting social media utilization of extension agents. *Indian Journal of Extension Education, 58*(2), 110–114. https://doi.org/10.48165/IJEE.2022.58221

Shivakumarappa, G., Kumbhare, N. V., Padaria, R. N., Burman, R. R., Kumar, P., Bhoumik, A., & Prasad, S. (2023). Constraints in the adoption of farm pond in drought regions of Maharashtra. *Indian Journal of Extension Education, 59*(1), 142–145. https://doi.org/10.48165/IJEE.2023.59130

Singh, D., & Verma, B. K. (2023). The utilisation of social media for accessing farming information by progressive farmers. *Bhartiya Krishi Anusandhan Patrika, 38*(3), 290–295. https://doi.org/10.18805/BKAP642