

Social Media as a Tool for Agricultural Knowledge Dissemination

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Available online at
www.sunshineagriculture.vitalbiotech.org

Article History

Received: 27. 08.2025

Revised: 31. 08.2025

Accepted: 4. 09.2025

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INTRODUCTION

The Indian economy is the cornerstone for agriculture, with about half of the nation's population earning livelihoods from it and making a major contribution towards national food security. Indian farmers have been plagued with major challenges such as low productivity, inadequate access to quality inputs, exposure to climatic change, and market volatilities even though its role is critical. One of the biggest hindrances in overcoming these obstacles is the unavailability of timely, correct, and easily accessible information pertaining to advanced farming technologies, weather conditions, pest management, disease control, government schemes, and prevailing market rates.

Agricultural information has traditionally been communicated through extension services, Krishi Vigyan Kendras (KVKs), farmer field schools, and traditional media such as newspapers, radio, and television. Although these have contributed significantly towards enhancing farmers' awareness and adoption of better practices, they tend to lack immediacy, personalization, and two-way communication. Small and marginal holders, as well as other many farmers, are excluded from receiving information owing to geographical, infrastructural, and socio-economic constraints.

Of late, the digital revolution, however, has opened up new avenues for sharing knowledge in agriculture. Facebook, WhatsApp, YouTube, Twitter (X), and Instagram are some of the social media platforms that have become revolutionary tools for closing the information gap. They provide cost-effective, quick, and interactive communication channels, allowing farmers to link directly with agricultural specialists, extension agents, policymakers, agri-startups, and other farmers. In contrast to uni-directional communication of conventional media, social media encourages dialogue, learning among peers, and innovation at the community level.

Increased smartphone penetration and internet connectivity even in rural areas have further fueled the use of social media for agricultural uses. Farmers are increasingly adopting YouTube tutorials for demonstrations on the ground, WhatsApp groups for quick tips during outbreaks of pests, Twitter (X) for information on government schemes, and Facebook groups for sharing experiences. This transformation is increasingly positioning agricultural extension as a participatory, farmer-focused, and demand-led system in which knowledge flows are not only from experts to farmers but also from farmers to experts and within farmer communities.

Social media, then, is not merely an entertainment platform it is becoming an agricultural knowledge dissemination strategic tool that enhances digital extension, empowers rural communities, and supports sustainable agricultural development.

Role of Social Media in Agriculture

Social media has become a revolutionary tool in agriculture by bringing communication, knowledge sharing, and access to opportunities for farmers and stakeholders to a new level. Its role is not limited to mere information exchange but also to catalyzing collaboration, innovation, and inclusiveness among farmers.

1. Instant Information Dissemination

The biggest strength of social media is that it can disseminate information in an instant. Farmers advisories, pest and disease warnings, and weather reports can be delivered to thousands of farmers in a matter of minutes. For example, WhatsApp groups coordinated by Krishi Vigyan Kendras (KVKs), state departments of agriculture, and NGOs send messages on a daily basis about rainfall alerts, pest infestation, input use advice, and best bets on a regular basis. Not only do such real-time messages avoid crop damage but also increase farmers' preparedness and resilience.

2. Cost-Effective Extension

Conventional extension methods field demonstrations, training workshops, and farmer field schools while effective, tend to be costly, time-consuming, and of limited reach. Social media offers a low-cost, scalable option. One YouTube video, Facebook update, or tweet can have the potential to reach millions of farmers across borders without spatial constraint. This is a democratization of information that makes it

possible for small and marginal farmers, usually outside conventional training schemes, to receive the same information as large farmers.

3. Expert and Interactive Learning

In contrast to radio or print media's one-way communication, social media facilitates two-way interaction. Farmers can post pictures or videos of crop maladies, machinery faults, or soil ailments and get instant feedback from experts. YouTube Live, Facebook Live, and Twitter (X) spaces are increasingly being employed for live question-and-answer sessions with scientists, extension agents, and agri-entrepreneurs. This active participation generates farmer confidence, generates trust, and makes learning about farming more participatory.

4. Sharing Success Stories and Peer Learning

Social media allows farmers to share their innovative practices, indigenous knowledge, and success stories. Videos or posts about successful adoption of organic farming, integrated pest management, mechanization, or resource-conserving technologies inspire peer-to-peer learning. Farmers are more likely to adopt a practice if they see other farmers reaping benefits from it. Such digital storytelling promotes a sense of community, innovation, and technology adoption.

5. Market Linkages and Agri-Business Promotion

In addition to knowledge sharing, social media has also emerged as a marketplace facilitator. Farmers, Farmer Producer Organizations (FPOs), and agri-startups leverage platforms to directly market produce, create farmer-to-consumer connections, and discover new market trends. Social media also raises awareness of government schemes, subsidies, and agri-business prospects. By minimizing dependence on intermediaries, farmers gain better prices for their produce and consumers get fresher, traceable goods.

Popular Agricultural Knowledge Platforms

Increased smartphone and internet penetration in rural India have brought social media platforms to the forefront of agricultural communication. Each platform has a distinct role to play in assistive extension to farmers, extension experts, and agri-entrepreneurs.

WhatsApp

The most popular platform among farmers, WhatsApp facilitates the formation of farmer groups, allowing for real-time advisories, interactive discussion, and quick alerts. Most

Krishi Vigyan Kendras (KVKs), state department of agriculture, and NGOs employ WhatsApp for disseminating information on pest outbreaks, weather alerts, or government schemes. Its user-friendly nature and immediate communication make it the go-to platform for rural extension.

Facebook

Agricultural colleges, non-governmental organizations, and farmer groups operate dynamic pages and groups where information is shared in the form of videos, infographics, advisories, and live sessions. Farmers also utilize Facebook to network through peer groups, share ideas, and market their produce, allowing for both education and marketing.

YouTube

As a video learning platform, YouTube offers step-by-step demonstrations and tutorials on contemporary practices, machinery operation, irrigation methods, organic cultivation, and pest and disease control. Farmers use YouTube videos more than written information since they break down complicated practices and can be viewed multiple times for improved comprehension.

Twitter (X)

Twitter is used more and more by extension experts, researchers, and policy makers for instant updates, opinion of experts, and timely communication. The farmers can make use of following the verified handles of government departments, agricultural institutions, and meteorological departments to get up-to-date policy and weather information.

Instagram & Telegram

Although new to the agriculture sector, Instagram and Telegram are being seen as great tools for visual narrative and community engagement. Instagram's short videos highlight innovative ways of farming, success tales, and promotion of agribusiness, and Telegram enables huge group discussions and sharing of information with higher file-handling capabilities compared to WhatsApp.

Benefits of Social Media for Agricultural Extension

The application of social media in agricultural extension has the following distinct benefits, rendering it a complementary and sometimes superior instrument to conventional practices.

Large Coverage

Social media transcends geographical distances, enabling messages to directly reach farmers in

rural and hard-to-reach locations. Even small-scale farmers are able to receive the same information as urban-based counterparts.

Timing

Platforms offer real-time weather forecasts, pest outbreak alerts, and market information that assist farmers in taking precautions and making timely decisions to protect productivity and earnings.

Inclusivity

Social media promotes engagement of rural youth, women farmers, and socially excluded communities through the provision of interactive spaces where they can exchange experiences and pose questions without fear.

Knowledge Retention

Videos, infographics, and visual presentations facilitate farmers to grasp and memorize advanced farming practices better than text-based recommendations. This results in increased rates of adoption of new technologies.

Empowerment and Decision-Making

Through providing farmers with several viewpoints, expert opinion, and peer knowledge, social media empowers them and enhances their confidence and decision-making ability. It helps them make more informed decisions regarding crop selection, usage of inputs, and marketing techniques.

Challenges in Social Media Application for Agriculture

In spite of its vast potential, social media application in agriculture also has several challenges that need to be tackled for equal benefits for all the farmers.

Digital Divide

Several rural pockets in India lack good internet connectivity and have restricted penetration of smartphones. This digital divide limits access to social media platforms, excluding farmers in distant or backward areas.

Misinformation and Fake Content

The velocity of information dissemination on social media is both a blessing and a curse. Misleading or unverified agricultural tips can be disseminated quickly, resulting in confusion and possible financial or crop loss to farmers.

Language Barriers

Most of the online agricultural material is created in Hindi or English and may not easily be communicated in areas where other local languages have greater control. This hinders inclusivity and effective communication.

Limited Digital Literacy

Most farmers, especially elderly people, are not technically literate enough to operate mobile apps, surf on the internet, or distinguish between real and false information.

Trust Issues

Farmers tend to trust face-to-face communication with extension agents more than online tips. Social media, being a relatively new medium, often fights credibility and acceptability.

Way Forward

To enhance the use of social media for agriculture knowledge sharing to the fullest, focused interventions must be made available to overcome the current constraints.

Capacity Building

Regular training schemes must be conducted to enhance farmers' digital literacy, appropriate social media use, and fact-checking abilities so that they are able to use technology for their benefits.

Localized Content Development

Develop and disseminate region-based, language-neutral, and audio-visual oriented advisories to make them accessible for farmers of different linguistic and educational profiles.

Integration with Traditional Extension Systems

Agricultural universities, KVKs, and NGOs must actively incorporate social media in their extension strategies, guaranteeing complementarity between online and field-level services.

Collaborations and Partnerships

Enhance collaborations between government agencies, agri-tech start-ups, private companies, and farmer organizations to create farmer-friendly, credible, and user-centric platforms.

Misinformation Control

Develop mechanisms of content verification by promoting official, science-based accounts of agricultural institutions and asking farmers to depend on credible sources.

CONCLUSION

Social media has become a revolutionary platform for the dissemination of agricultural information, where farmers receive timely, accessible, and interactive information. Through closing the gap between experts and farmers, it strengthens rural communities, fosters participatory learning, and increases the resilience of facing new agriculture challenges.

But challenges of digital divide, disinformation, and distrust need to be resolved through capacity development, credible content production, and improved harmonization with the usual extension approaches. Social media, when handled in a responsible manner, can supplement traditional extension services and develop into a farmer-led, inclusive, and sustainable digital system.

By unleashing its full potential, social media can play a big role in enhancing productivity, profitability, and sustainability in Indian agriculture—enabling a smarter, digitally empowered farming future to take root.