Exploring the role of social media in agricultural practices among rice farmers: Evidence from Kaduna State, Nigeria

*Mukhtar Elkassim[1], Ibrahim Mu'azu Ibrahim[2] and Bishir Bala[3]

[1&3]*Department of Mass Communication, ABU Zaria – Nigeria.*
[2]*National Agricultural Extension and Research Liaison Services (NAERLS),
ABU Zaria – Nigeria.*

Corresponding Author: melkassim@gmail.com

Abstract
This study examines the role of social media in enhancing agricultural practices among rice farmers in Kaduna State, Nigeria. The research reveals that social media platforms, particularly Facebook and WhatsApp, are widely used among farmers for sharing agricultural information, leading to improved farming practices. Descriptive survey was employed to collect data from 357 registered members of Rice Farmer's Association of Nigeria. Key findings indicate that social media has significantly increased access to timely and relevant agricultural knowledge, facilitated peer-to-peer learning, and reduced the reliance on traditional extension services. Farmers perceive several benefits, including faster dissemination of information, increased collaboration, and improved decision-making. However, challenges such as poor internet connectivity, high data costs, and concerns over misinformation were also identified. The study recommends improving digital infrastructure and offering targeted digital literacy programs to maximize the benefits of social media for agricultural development.

Keywords: Agriculture, Digital Literacy, Knowledge Sharing, Rice Farming, Social Media.

1. Introduction

In the rapidly evolving digital era, technological advancements are transforming various sectors, and agriculture is no exception. Traditional farming methods are being reshaped by the integration of digital tools and social media platforms, offering farmers innovative ways to share knowledge, access markets, and manage crops. This paper investigates the transformative influence of social media on rice farming, focusing on its effects on agricultural activities among rice farmers.

The agricultural sector is undergoing a profound transformation as we move further into the digital age. The advent of information and communication technologies (ICTs), including social media platforms, has significantly altered traditional agricultural practices (Castells,

2000). This shift, often referred to as the "Digital Green Revolution," impacts various aspects of agriculture, from knowledge dissemination to market access (Chakraborty et al., 2020).

Social media platforms like Facebook, Twitter, and WhatsApp have become integral to rural farming communities worldwide (Singh et al., 2017). These platforms provide farmers with virtual spaces to connect, share experiences, and access critical agricultural information. They also serve as digital marketplaces, allowing farmers to engage with buyers and sellers across geographical boundaries (Kaplinsky, 2018).

However, despite the potential benefits, the adoption of social media in agriculture, particularly among rice farmers, remains inconsistent. Barriers such as limited digital skills, insufficient infrastructure,

and doubts about the efficacy of social media tools significantly hinder their adoption (Kumar, Bhatia & Jain, 2023; Alotaibi, & Farghaly, 2023). Moreover, the technological divide between urban and rural regions further complicates this issue, limiting the reach and impact of social media in rural farming communities (Nyanga, Chikoti & Mwansa, 2023).

In this context, where social media is increasingly recognized as a powerful tool for modernizing agricultural practices, the significance of rice as a staple crop cannot be overlooked. Given that rice is a staple crop for more than half of the global population (Food and Agricultural Organisation, 2020), it holds significant importance in the agricultural landscape. In regions such as Southeast Asia and parts of Africa, rice farming is crucial to rural livelihoods. Consequently, innovations like social media that can positively influence rice farming practices have the potential to enhance food security and socio-economic well-being (Dawe et al., 2010).

Understanding the growing role of social media in agriculture, this study aims to explore how these platforms contribute to the evolution of rice farming practices, thus bridging the gap between traditional methods and modern technological advancements.

This study aims to investigate the extent to which rice farmers utilize social media for agricultural activities and the implications of this usage. Specifically, assessing rice farmers' familiarity with social media platforms; the types of social media platforms favoured by rice farmers; Identifying the type of agricultural information rice farmers sought on social media platforms; the perceived benefits and challenges associated with social media usage.

Understanding the role of social media in the agricultural practices of rice farmers is of paramount importance. It has the potential to inform policy interventions,

technology development, and agricultural extension services delivery to be tailored to the specific needs of these farmers. Additionally, this research contributes to the broader discourse on the digital transformation of agriculture in the 21st century (Meena, Singh & Swanson, 2018). Conclusively, the convergence of agriculture and social media represents an exciting frontier in agricultural research and development. This study endeavours to uncover the ways in which rice farmers are harnessing the power of social media to enhance their agricultural practices and, in turn, contribute to the sustainable growth of rice farming communities.

2. Literature Review
2.1 The Importance of Social Media to Agricultural Practices

Social media has become an integral part of modern agricultural practices, offering numerous benefits that enhance productivity, knowledge dissemination, and market accessibility for farmers. One of the primary advantages of social media in agriculture is its ability to facilitate real-time communication and information exchange among farmers, agricultural experts, and extension services. This immediate access to relevant information, such as weather forecasts, pest control measures, and best farming practices, helps farmers make timely and informed decisions, ultimately improving crop yields and reducing losses (Tiwari, Yadav & Singh, 2021).

Moreover, social media platforms provide a space for farmers to share experiences, innovations, and challenges, fostering a community of practice that supports continuous learning and adaptation. For instance, farmers can use platforms like WhatsApp and Facebook to participate in farmer groups where they discuss crop management techniques, share success stories, and troubleshoot problems collectively (Fawole & Olajide, 2018). This collaborative environment not only

enhances individual farming practices but also contributes to the overall development of agricultural communities.

Another significant benefit of social media is its role in enhancing market access. Farmers can use these platforms to reach broader markets by promoting their products online, thus bypassing traditional middlemen and increasing their profit margins. Social media also allows farmers to stay updated on market prices, trends, and consumer preferences, enabling them to adjust their production and marketing strategies accordingly (Ogunleye, Owolabi & Ajayi, 2019). This direct connection with markets and consumers is particularly beneficial for smallholder farmers, who often face challenges in accessing larger, more profitable markets.

Furthermore, social media serves as a valuable tool for agricultural extension services. Agricultural extension agents can leverage these platforms to disseminate information widely and efficiently, reaching farmers in remote areas who might otherwise lack access to such resources. Social media campaigns can also be used to educate farmers about new technologies, sustainable farming practices, and government policies, thereby enhancing the adoption of innovative agricultural practices (Aker, Ghosh & Burrell, 2016).

Overall, social media plays a crucial role in modernizing agricultural practices by facilitating communication, knowledge sharing, market access, and the dissemination of extension services. As these platforms continue to evolve, their importance in agriculture is likely to grow, providing farmers with the tools they need to improve their livelihoods and contribute to global food security.

2.2 Challenges of Social Media Use in Agriculture

While social media offers numerous benefits to agricultural practices, its adoption and effective use in the sector face significant challenges. These challenges can hinder the full potential of social media in enhancing agricultural productivity, knowledge dissemination, and market access.

One of the primary challenges is limited digital literacy among farmers, particularly in rural areas. Many farmers, especially older ones, may not be familiar with using social media platforms, smartphones, or computers. This lack of digital skills can prevent them from accessing valuable agricultural information available online, thus limiting the impact of social media on their farming practices (Lwoga, 2010). Even when farmers have access to social media, the complexity of navigating these platforms can be a barrier to effectively utilising the resources they offer.

Inadequate infrastructure is another significant challenge. Reliable internet access, electricity, and affordable smart devices are often lacking in rural areas where agriculture is predominant. Without these essential infrastructure elements, farmers cannot consistently access social media platforms, thereby missing out on timely information, market opportunities, and community engagement (Salau et al., 2016). The digital divide between urban and rural areas exacerbates this issue, leaving many rural farmers at a disadvantage.

Additionally, the reliability of information on social media poses a challenge. Misinformation or unverified agricultural advice circulating on social media can lead to poor decision-making, resulting in financial losses or reduced crop yields. Farmers may struggle to differentiate between credible sources and unreliable ones, especially when they lack the expertise to critically assess the information they encounter online (Zhou & Pan, 2016). This challenge underscores the need for more regulated and verified content to ensure that farmers are receiving accurate and useful information.

Privacy and data security concerns also limit the adoption of social media in

agriculture. Farmers may be wary of sharing their personal information or agricultural data on social media platforms due to fears of data breaches or misuse. These concerns can discourage them from engaging with social media, thereby missing out on the potential benefits these platforms can offer (Baumüller, 2018).

Moreover, language barriers can restrict the use of social media in agriculture. Many social media platforms and the information shared on them are predominantly in English or other major languages, which may not be accessible to farmers who speak local dialects. This language gap can prevent farmers from fully understanding or engaging with the content available online (Agbo et al., 2015).

Finally, cost-related issues such as the high cost of data and smart devices can be prohibitive for many farmers. Even when they recognize the benefits of social media, the financial burden associated with regular internet access and purchasing compatible devices can deter them from using these platforms regularly (Aker & Mbiti, 2010).

2.3 Review of Related Studies

The integration of social media into agricultural practices has been the subject of increasing academic inquiry, offering valuable insights into its various applications and impacts across different contexts. This section reviews existing literature on the role of social media in agriculture, focusing on its use in research, information dissemination, extension services, marketing, and youth participation.

Several studies have explored how social media is utilized by agricultural researchers and extension agents. Sokoya, Onifade, and Alabi (2012) examined the role of social media in agricultural research within Nigeria. Their findings revealed that Facebook is the most preferred platform among researchers, primarily used for networking and staying updated on industry developments. The study recommended enhancing the effective use of social media for research dissemination among agricultural scientists. Thomas and Laseinde (2015) focused on the training need of agricultural extension agents in Oyo State, Nigeria, particularly regarding social media usage. Their study identified Facebook as the most prevalent platform and highlighted the need for targeted training to improve social media use among extension agents. The relationship between education, marital status, social media usage, and training needs was also explored. In India, Meera, Jhamtani, and Rao (2014) explored the use of social media by agricultural extension officers to enhance communication with farmers. Their study emphasized the potential of platforms like WhatsApp in providing real-time solutions to farmers' queries and the necessity for training programs to improve the digital skills of extension officers.

The role of social media in engaging youth in agriculture has also been highlighted. Umunakwe et al. (2018) studied agricultural students in Nigeria and found that they extensively used social media for research, learning, and networking. The study emphasized the benefits derived from these platforms in enhancing educational experiences, despite barriers such as the cost of devices. A study by Nagesh and Mukherjee (2020) in Bangladesh examined how social media platforms like Facebook and YouTube have been utilized by young farmers to share innovative farming techniques. This has led to a broader dissemination of sustainable farming practices and has helped to retain youth interest in agriculture by connecting them with like-minded peers globally.

Social media has also been instrumental in transforming agricultural marketing practices. Inegbedion et al. (2020) investigated the use of social media platforms like Facebook, WhatsApp, and Instagram in marketing agricultural

products in South-South Nigeria. The study found that these platforms significantly improved efficiency and sales turnover by reducing marketing costs and increasing market awareness. In Kenya, Ondari and Karanja (2019) explored how social media platforms are used by smallholder farmers to access markets and negotiate better prices for their produce. The study highlighted the role of social media in bypassing traditional middlemen, thereby increasing farmers' profit margins. Beyond Nigeria, the role of social media in agriculture has been explored in various international contexts. Mittal and Mehar (2016) examined how social media and mobile technologies influence information dissemination among farmers in India. Their study revealed that these platforms greatly enhanced farmers' access to timely and relevant agricultural information, leading to improved farming practices and outcomes. Similarly, Garcia et al. (2019) investigated the impact of social media on smallholder farmers in Latin America, finding that it facilitated knowledge exchange and market access, particularly in remote areas. In a study conducted in the United States, Ferrell et al. (2018) discussed how social media platforms are increasingly being used by farmers to engage directly with consumers, share the origins of their food, and promote transparency in the food supply chain. This direct engagement has been shown to increase consumer trust and support for local farming.

This literature review highlights the diverse roles of social media in agriculture, from research and extension services to marketing and youth participation. The studies reviewed underscore the potential of these platforms to enhance agricultural practices while also acknowledging the challenges that need to be addressed for their effective utilization.

3. Methodology

This study employed a comprehensive approach to data collection, analysis, and interpretation, ensuring that the research objectives were thoroughly addressed. The research design adopted was a survey method, selected to gather data directly from members of the Rice Farmers Association of Nigeria (RIFAN) in Sabon Gari Local Government Area (LGA). The survey method was chosen because it effectively captures the opinions, attitudes, and behaviours of participants, which are essential for understanding the acceptance and usage of social media for agricultural activities among rice farmers. Given the nature of the study, a quantitative approach was utilized, allowing for statistical analysis of the collected data to reveal patterns and trends within the population. To ensure the reliability and validity of the data, in-person surveys were conducted, which facilitated higher response rates and provided the opportunity to clarify questions directly with the respondents.

The population of the study comprised all 5,000 registered rice farmers within the Sabon Gari LGA, as recorded by the RIFAN office for the years 2021 to 2023. Due to the large population and the constraints of time and resources, a stratified random sampling technique was employed to ensure a representative and comprehensive sample. The population was divided into strata based on the 11 wards within Sabon Gari Local Government Area—Basawa, Bomo, Chikaji, Jama'a, Anguwan Gabas, Samaru, Hanwa, Jushi, Muchia, Zabi, and Dogarawa were each ward serves as a stratum. Simple random sampling was then used to select members from each stratum, with proportional sample size allocation. This approach was chosen to reduce sampling error and enhance representativeness by adequately capturing different groups within the population. This approach culminated in a sample size of 357, as determined by Krejcie and

Morgan's (1970) sample size determination table.

Data collection was conducted using questionnaires, which were distributed and collected with the assistance of five research assistants between April and June 2023. The questionnaire design ensured content validity through expert review and the elimination of non-significant items. The reliability of the instrument was confirmed using Cronbach's Alpha, with all constructs yielding values above the 0.7 threshold, indicating satisfactory internal consistency. The collected data were then analysed using descriptive statistics. The Statistical Package for the Social Sciences (SPSS) software was utilized to conduct the analysis, allowing the study to effectively address the research objectives and questions.

This comprehensive methodology ensured the study's findings were reliable, valid, and representative of the population, providing a solid foundation for understanding the role of social media in agricultural activities among rice farmers in Sabon Gari LGA.

4. Results and Discussion
4.1 Results
The research objectives posed at the beginning of the study were explored by administering three hundred and fifty-seven (357) questionnaires to rice farmers who are members of Rice Farmers' Association of Nigeria (RIFAN) in Sabon Gari local government area of Kaduna state, out of which 329 were filled and returned representing 92 percent of the respondents. Descriptive statistics were employed to analyse the data collected from the respondents. And the findings of this study reveal important insights into the use of social media among rice farmers in Sabon Gari local government.

Table 1: The Respondents Acquaintance with Social media

Responses	Frequency	Percentage
Yes	309	94
No	20	6
Total	**329**	**100**

The data in Table 1 indicates that the majority of rice farmers in Sabon Gari local government, accounting for 94%, were familiar with social media. Only a small fraction of respondents, representing 6% of smallholder farmers, reported not being familiar with social media.

Table 2: Usefulness of Social Media for Agricultural Activities

Responses	Frequency	Percentage
Yes	270	82
No	33	10
Not sure	26	8
Total	**329**	**100**

Table 2 highlights that a significant number of rice farmers in Sabon Gari local government actively utilize social media for agricultural activities. Specifically, 82% of respondents affirmed their use of social media for agriculture-related purposes, while 10% reported not using social media for such activities. Additionally, 8% of respondents were uncertain about their social media usage for agriculture-related tasks.

Table 3: Extent of Social Media Usage for Agricultural Activities

Responses	Frequency	Percentage%
To a large extent	289	80
To a minimal extent	50	14
Not at all	26	6
Total	**329**	**100**

Table 3 indicates the extent to which respondents use social media platforms for agricultural activities. The data reveals that a substantial majority, comprising 80% of all respondents, utilize social media platforms for agricultural tasks to a significant extent. In contrast, 14% of respondents engage in minimal usage for agricultural purposes, while a minority of respondents, 6%, do not use social media for agricultural activities at all.

Table 4: Preferred Social Media Platforms Among Rice Farmers

Response	Frequency	Percentage (%)
Facebook	339	33
Whatsapp	248	24
Instagram	173	17
Twitter	40	3
YouTube	170	16
SnapChat	24	2
Others	50	5
Total	**1,044**	**100**

Table 4 provides insight into the preferred social media platforms among rice farmers in Sabon Gari local government. The data reveals that Facebook, WhatsApp, YouTube, and Instagram are the most favoured platforms. Specifically, 33% of respondents prefer using Facebook, followed by 24% for WhatsApp, 21% for YouTube, 17% for Instagram, 3% for Twitter, and 2% for Snapchat. An additional 5% of respondents prefer using other social media platforms.

Table 5: Benefits of Using Social Media for Agricultural Activities

Response	Frequency	Percentage (%)
Encourages virtual meeting among farmers	147	7
Promotes sharing and exchange of knowledge and ideas related to agriculture	197	9
Promotes self-expression	248	12
Saves cost of accessing agricultural information	220	11
Facilitates dissemination of new agricultural innovations and technologies	276	13
Strengthen interpersonal relationship with other farmers	218	10

Response	Frequency	Percentage (%)
Promotes creativity	89	4
Promotes access to and adoption of new agricultural innovations and technologies	264	13
Makes collaboration with other farmers and experts easier and faster	163	8
Total	**2,089**	**100**

Table 5 outlines the perceived benefits of using social media for agricultural activities among rice farmers. The data demonstrates a range of benefits, with the highest percentage (13%) indicating that social media facilitates the dissemination of new agricultural innovations and technologies. Other notable benefits include saving the cost of accessing agricultural information (11%), promoting self-expression (12%), promoting the sharing and exchange of agricultural knowledge (9%), and encouraging virtual meetings among farmers (7%). These findings underscore the multifaceted advantages of social media in the agricultural context.

Table 6: Types of Agricultural Information Sought on Social Media.

Response	Frequency	Percentage (%)
Information on new agricultural innovations and technologies	249	19
Educational & training information	141	11
Agribusiness and trade information	120	9
Government agricultural policies and plans	158	12
Weather condition and Environmental information	30	2
Variety of seeds	135	10
Agrochemicals	109	8
Agricultural Credit facilities, source, terms & conditions	232	18
Agricultural Market trend, price, and stock available	143	11
Total	**1,317**	**100**

Table 6 provides insights into the types of agricultural information sought by rice farmers on social media platforms. The data indicates that information on new agricultural innovations and technologies is the most sought-after category (19%), followed by agricultural credit facilities, source, terms & conditions (18%), government agricultural policies and plans (12%), and agricultural market trends, prices, and stock availability (11%). These findings highlight the diverse information needs of rice farmers in the digital era.

Table 7: Challenges Faced by Rice Farmers When Using Social Media for Agricultural Activities

Response	Frequency	Percentage (%)
Inability to differentiate authentic information from the fake ones	160	15
Slow/faulty internet connection	329	31
Costly data charges	300	29
Lack of expertise and competence on use of social media	80	8
Language barrier	180	17
Total	**1049**	**100**

Table 7 outlines the challenges faced by smallholder farmers when using social media for agricultural activities. The data highlights that slow or faulty internet connections (31%) and costly data charges (29%) are the major challenges. Additional challenges include the inability to differentiate authentic information from fake sources (15%), language barriers (17%), and a lack of expertise and competence in using social media for agricultural activities (8%). These findings underscore the need to address digital access and literacy issues in agricultural communities.

4.2 Discussion of Findings
The study aimed at achieving the research objectives posed at the beginning of the research. The answers are derived from respondent through information in questionnaires that were used to find out if the problems raised by the research objectives are resolved. A critical analysis of the data collected revealed that the research objectives have received adequate response as follows:

Assessing Rice Farmers' Acquaintance with Social Media
The study's findings reveal that an overwhelming majority of rice farmers in Sabon Gari Local Government Area, accounting for 94% of respondents, are familiar with social media platforms. This finding aligns with previous studies that emphasize the growing familiarity with social media among rural farmers globally. For instance, Sokoya, Onifade, and Alabi (2012), who found that agricultural researchers in Nigeria widely recognized and adopted social media for professional networking and staying updated with industry developments. Similarly, Meera, Jhamtani, and Rao (2014) highlighted the increasing integration of social media in agricultural extension services, indicating a growing familiarity with these platforms among farmers. The widespread recognition of social media among rice farmers serves as a strong foundation for further exploration into how these platforms are utilized for agricultural purposes. Iwuchukwu et al. (2019) also observed a similar trend among smallholder farmers in Nigeria, where a majority were aware of and engaged with social media platforms. Naruka et al. (2017) equally noted a high level of social media awareness among Indian farmers, suggesting that social media has become a crucial element of modern agricultural communication.

Exploring the Types of Social Media Platforms Favoured by Rice Farmers
The preference for specific social media platforms among rice farmers, as shown in Table 4, reveals that Facebook is the most favored platform (33%), followed by WhatsApp (24%), YouTube (21%), and Instagram (17%). These findings are consistent with those of Thomas and Laseinde (2015), who identified Facebook

as the most commonly used platform among agricultural extension agents in Oyo State, Nigeria. Additionally, studies by Umunakwe et al. (2018) and Nagesh and Mukherjee (2020) support the prominence of Facebook and WhatsApp in agricultural contexts, where these platforms are used for networking, information dissemination, and communication among stakeholders. The popularity of these platforms can be attributed to their ease of use, widespread availability, and the interactive features they offer, as observed by Thomas & Laseinde (2015) in their study of social media use in rural communities.

Identifying the Type of Agricultural Information Sought on Social Media
The study found that rice farmers primarily seek information on new agricultural innovations and technologies (19%) via social media, followed by educational and training information (11%), government agricultural policies and plans (12%), and agricultural credit facilities (18%), among others. These findings align with the research by Garcia et al. (2019) and Mittal and Mehar (2016), which highlighted the role of social media in enhancing access to timely and relevant agricultural information. The specific types of information sought by rice farmers underscore the importance of social media in bridging knowledge gaps and supporting informed decision-making in agriculture. Additionally, Sebotsa et al. (2020) found that farmers frequently use social media to stay updated on new technologies and financial services. Similarly, Suleiman et al. (2018) highlighted the importance of social media as a tool for disseminating government policies and market trends, supporting the current study's findings.

Examining the Perceived Benefits of Social Media Usage for Agricultural Activities
The perceived benefits of social media usage, as highlighted in the study, include the facilitation of new agricultural innovations (13%), cost savings in accessing information (11%), and the promotion of self-expression (12%). These benefits align with the findings of Inegbedion et al. (2020), who demonstrated how social media platforms significantly improve marketing efficiency and sales turnover for farmers by reducing costs and increasing market awareness. Moreover, the findings resonate with studies by Ferrell et al. (2018), who emphasized the role of social media in enhancing transparency and direct engagement between farmers and consumers. It is also in in consistent with the study by Paudel & Baral (2018), who reported similar benefits of social media use in agriculture, particularly in terms of cost savings and knowledge sharing. Similarly, it also aligns with Thakur & Chander (2018), who emphasized the role of social media in empowering farmers by giving them a platform to express their views and share experiences. The recognition of these benefits underscores the potential of social media to transform agricultural practices by enhancing information access, communication, and marketing.

Assessing the Challenges Faced by Rice Farmers when Using Social Media for Agricultural Activities
The study identified several challenges associated with social media usage among rice farmers, including slow or faulty internet connections (31%), costly data charges (29%), and difficulties in differentiating authentic information from fake sources (15%). These challenges are consistent with those reported by Obidike et al. (2022) and Ponnusamy et al. (2022), who noted that infrastructural limitations, such as poor internet connectivity and high data costs, are significant barriers to social media adoption in agriculture. Furthermore, the issue of misinformation, as highlighted in this study, echoes concerns raised by Nyanga et al. (2023) regarding the reliability of information

shared on social media platforms. Addressing these challenges is crucial for maximizing the potential benefits of social media in agriculture.

4.2.1 Implications of the Study's Findings for Practical Applications

The findings of this study have several practical implications for the agricultural sector:

Enhanced Agricultural Extension Services: The high level of social media familiarity among rice farmers indicates that these platforms can be effectively utilized for agricultural extension services. Extension officers can leverage social media to reach a wider audience and provide timely updates on farming techniques, market trends, and government policies.

Targeted Content Delivery: Understanding the preferred social media platforms allows for the development of targeted communication strategies. Agricultural programs can focus on Facebook and WhatsApp to disseminate content, ensuring higher engagement and effective outreach.

Content Development Focus: Given the specific types of information that farmers seek on social media, content development efforts should prioritize agricultural innovations, financial services, and government policies. Tailoring content to these needs can enhance the relevance and usefulness of the information provided.

Addressing Challenges: The identified challenges, such as internet connectivity issues and data costs, need to be addressed to maximize the benefits of social media in agriculture. Policymakers should consider initiatives to improve rural internet infrastructure and provide subsidies for data costs. Additionally, efforts should be made to develop fact-checking tools and multilingual content to overcome misinformation and language barriers.

Empowerment through Social Media: The benefits associated with social media use, such as cost savings and knowledge sharing, highlight its potential to empower farmers. Agricultural stakeholders should continue to explore innovative ways to use social media as a tool for farmer education, community building, and market access.

5. Conclusion and Recommendations

This study set out to examine the role of social media in the agricultural practices of rice farmers in the Sabon Gari local government area. The research objectives included assessing farmers' familiarity with social media, identifying the most favoured platforms, exploring the types of agricultural information sought, understanding the perceived benefits of social media use, and identifying the challenges faced by farmers. The study adopted a survey research method, targeting a population of 5,000 registered members of Rice Farmers Association of Nigeria in Sabon Gari Local Government Area of Kaduna State.

The findings reveal a high level of social media familiarity among rice farmers, with the majority utilising platforms like Facebook, WhatsApp, YouTube, and Instagram for various agricultural activities. The study also identified the primary types of agricultural information sought by farmers, such as new agricultural innovations, credit facilities, and government policies. Additionally, the perceived benefits of social media usage include cost savings, knowledge sharing, and self-expression. However, challenges such as poor internet connectivity, high data costs, misinformation, and language barriers were also highlighted.

The study contributes to the understanding of how social media is being utilized in agriculture and underscores both its potential benefits and challenges. The results are consistent with previous research, confirming the increasing importance of social media in agricultural communication and the need for addressing the barriers to its effective use.

5.1 Recommendations

Based on the research objectives and findings of the study, the following recommendations were made:

1. Agricultural extension services should increasingly leverage social media platforms, particularly Facebook and WhatsApp, to reach a broader audience of farmers. This can include regular updates on farming techniques, market information, and government policies tailored to the needs of the farming community.

2. Content provided through social media should focus on the types of information that rice farmers are most interested in, such as new agricultural innovations, financial services, and government policies. This will ensure that the information provided is both relevant and useful.

3. To address the challenges of poor internet connectivity and high data costs, policymakers should prioritize improving rural internet infrastructure and explore subsidy programs for farmers to reduce the financial burden of accessing online resources.

4. There is a need for the development of fact-checking tools and services to help farmers verify the authenticity of agricultural information found on social media. Additionally, multilingual content creation should be encouraged to cater to farmers who may face language barriers.

5. Social media should be further explored as a tool for farmer education, community engagement, and market access. Agricultural programs and NGOs should invest in training farmers on how to effectively use these platforms for networking, learning, and commercial purposes.

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