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INFORMATION NEEDS OF, AND USE BY MAIZE FARMERS FOR THE IMPROVEMENT OF MAIZE PRODUCTION IN KADUNA STATE

Shafiu Garba Makeri
Nigerian Law School, Port Harcourt Campus,
Port Harcourt, Rivers State, Nigeria.
sgmakeriph@nigerianlawschool.edu.ng
08069543669

Prof. Yahya Ibrahim Harande
Department of Library and Information Sciences,
Bayero University, Kano, Kano State, Nigeria.
yaibrahimah@yahoo.com
09030835535

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ABSTRACT

This study explores the information needs, purposes, satisfaction levels, and strategies used to improve maize production in Kaduna State. Quantitative research method, using cross-sectional survey design was adopted. Population of the study comprises 110,550 maize farmers. A sample of (365) respondents were drawn based on Morgan 1970 formulae. Data was collected using structured questionnaire. Descriptive statistics using frequency counts and percentages ware used to analyze the data, focusing on demographic variables, types of information required, purpose for seeking information, satisfaction levels with available resources, and strategies employed to improve maize production in Kaduna state. Findings revealed that farmers primarily seek information on seed variety selection, pest and disease management, fertilizer application, market trends, and harvesting techniques. They seek information for many purposes such as for best agricultural practices, crop rotation, and pest control use to help optimize maize production. However, the strategies used to improve maize production are the adoption of improved seed varieties, soil management, use of technology, post-harvest handling, access to credit and market, and community and knowledge sharing. Despite the critical role of information in optimizing maize production, the study highlights the absence of organised information systems and resources tailored to farmers' needs. Recommendations include establishing accessible agricultural information centers and conducting awareness programmes to enhance farmers' engagement with information services. Addressing these challenges is essential for promoting sustainable agricultural practices and improving maize production outcomes in Kaduna State.

Keywords: Information needs, Use, Maize farmers, Improvement, Maize farming

Introduction

The need for information has been considered a basic ingredient for the survival of individuals and groups, irrespective of age and geopolitical location (Makeri & Harande, 2024). Information plays a significant role in reducing levels of uncertainty, as it provides individuals with a clear vision, explanation, and alternatives to choose from. It assists in the decision-making process and satisfying needs. Information facilitates opportunities for people, enabling them to make use of these opportunities to shape their own lives. The importance of information to farmers can never be over-emphasized. Therefore, information can be seen as a vital tool that helps farmers to improve their productivity which triggers their need for information on the issues that border around all agricultural-related information like supply of fertilizer, supply of other farm inputs/outputs, improved seeds, modern methods of farming, income generation, good roads, and health information.

Information needs are fundamental to the success of agricultural activities. The concept of "need" is often described as a necessity that persists until satisfied (Singh & Satija, 2021).Information needs signify gaps in current knowledge, driving the search for information to fulfill various professional and personal goals (Abdullahi, 2017).Agricultural development programmes heavily depend on timely and accurate information dissemination. Information needs, as defined by Mumbi (2022), arise when individuals require information to complete tasks or satisfy curiosity. Farmers' information needs to encompass various aspects, including agricultural inputs and outputs, weather patterns, soil management, pest control, and market information.

Before reaching a particular stage, one must pass through various related steps. This concept applies to the use of information in libraries. Wilson (2020, p.5) states, "information behavior is the totality of human behavior in relation to the sources and channels of information, including both active and passive information seeking, and information use," as after seeking the needed information, the next step is to use it to satisfy the perceived need. This use of information bridges the core elements of information needs and information-seeking behavior, leading to information satisfaction and serving as the pivot upon which all these elements are based. Information use drives all other information behaviors since it encompasses and represents the ultimate purpose for which information is needed and sought. Information use is the more visible part of the information-seeking process.

Maize is one of the most widely cultivated crops worldwide due to its versatility. It serves as a staple food for millions, contributing over 20% of total calorie intake in 21 countries and more than 30% in 12 nations. In addition to being a primary food source, maize supports livestock feed, biofuel production, and industrial applications, making it integral to agricultural systems and economic activities. Maize farmers are contributors to global food security and economic development, particularly in developing countries.

This study focuses on identifying the specific information needs, and purposes for which maize farmers seek agricultural information, the extent to which available information meets the needs of maize farmers, as well as the strategies used for the improvement of maize production in Kaduna state. In a related study applied the integrated information behavior framework to analyse the information-seeking behaviors of maize farmers in the same region, offering theoretical perspectives on their behavioral patterns. While the earlier study provided insights into maize farmers' information behavior, the current study delves into the practical aspects of their information needs and use, purposes, and satisfaction.

Statement of the Problem

Maize farmers are described as those people who are systematically and deliberately, planting, raising, and managing maize seeds to produce sufficient food for the state and the nation at large. Maize farmers need to know what and how their counterparts are doing in advanced countries and this can improve their harvest and productivity. In this information society however, the ability to learn new ideas, acquire knowledge and skills as well as achieve other personal developments are all issues that require relevant information, and subsequently triggers the information needs of and use by maize farmers for the improvement of maize production in Kaduna state. Maize farmers have no access to relevant information that will help them in decision-making and to accept innovation in farming Mukhtar (2022), and Adebayo, *et al*. (2018). It is also observed that this problem is attributed to the lack of investigation

into the information needs of farmers as well as the neglect of authorities in the provision of relevant information and services for them.

It is against this background that this study investigated the information needs of, and use by maize farmers for the improvement of maize farming maize production in Kaduna State to identify their specific information needs, examine the purpose for which they seek agricultural information, ascertain the level of satisfaction with the information needs provided for them, and identify the effective strategies used for the improvement of maize production in the area under study.

Research Objectives

The study aimed to investigate the information needs of and use by maize farmers for the improvement of maize production in Kaduna State. Therefore, the specific objectives of the study were to:

1. identify the specific information needs of maize farmers in Kaduna State;
2. examine the purpose for which maize farmers seek agricultural information in the area under study;
3. ascertain the level of satisfaction with the information needs provided for maize farmers in the area under study; and
4. identify the effective strategies used for the improvement of maize production in the area under study.

Review of Related Literature

Information Needs of Maize Farmers

Maize farmers in Kaduna State, Nigeria, require comprehensive information to enhance productivity and sustainability. Key areas of need include climate-smart agricultural practices, pest and disease management, and access to quality inputs. A study by Gambo and Kim (2024) emphasizes the importance of agricultural credit in improving productivity and income among smallholder maize farmers, highlighting the need for information on credit access and financial management. Moreover, the adoption of hybrid maize varieties has been identified as a critical factor in achieving self-sufficiency in maize production. The African Agricultural Technology Foundation (2024) advocates the use of hybrid seeds to boost yields, indicating a need for information on the benefits and availability of such varieties.

Furthermore, the integration of Information and Communication Technologies (ICTs) in agriculture has been shown to influence the dissemination and utilisation of agricultural information. Research by Gambo and Kim (2024) indicates that factors such as age, farming experience, and contact with extension agents significantly affect the usage of ICTs among maize farmers, underscoring the necessity for targeted information dissemination strategies.

Purpose for Seeking Agricultural Information by Maize Farmers

Maize farmers actively seek agricultural information to make informed decisions that enhance farm productivity and profitability. Access to timely and relevant information enables farmers to adopt improved farming practices, select appropriate crop varieties, and effectively manage resources. The study by Gambo and Kim (2024) revealed that access to agricultural credit positively impacts productivity and income, suggesting that farmers seek information to improve their financial outcomes. Moreover, the adoption of climate-smart agricultural practices is crucial in mitigating the effects of climate change on maize production. Farmers seek information on sustainable practices to enhance resilience against adverse weather conditions. The study by Gambo and Kim (2024) emphasizes the need for information on climate-smart practices among maize farmers in Kaduna State.

Furthermore, farmers seek information to comply with agricultural policies and programmes that affect their operations. Awareness and perception of policies such as the ban on maize importation influence farmers' decisions and practices. The study by Gambo and Kim (2024) indicates that farmers' awareness of agricultural policies impacts their farming activities, highlighting the importance of information in policy compliance.

Satisfaction with Available Agricultural Information

The satisfaction of maize farmers with the information they receive is a critical determinant of their productivity and agricultural success. Studies have highlighted various factors that influence the satisfaction levels of farmers, including the relevance, timeliness, and accessibility of information. According to Asogwa *et al*. (2020), the relevance of agricultural information directly correlates with the farmer's satisfaction, as information that addresses specific farming challenges tends to be more valued. Similarly, Agbamu (2019) found that the timeliness of information plays a crucial role, with farmers expressing higher satisfaction levels when information is provided during critical farming stages such as planting and harvesting.

Accessibility of information is another significant factor. Adebayo and Adedoyin (2021) noted that the mode of information delivery, such as radio programmes, extension services, and mobile apps, greatly affects farmers' satisfaction. Farmers in remote areas, for instance, often face challenges in accessing timely information, which affects their overall satisfaction. Additionally, the language and format in which the information is presented can influence satisfaction levels. Opara (2022) emphasized that information disseminated in local languages and through visual aids tends to be better received and appreciated by farmers.

The credibility of the information source also impacts satisfaction. As per the findings of Al-Rimawi *et al*. (2020), farmers are more likely to trust and be satisfied with information from reputable sources, such as agricultural extension officers and research institutions, compared to informal sources. This trust is built over time and is crucial for the successful adoption of new farming practices and technologies. Despite the existing body of literature, there are notable gaps in the understanding of maize farmers' satisfaction with information needs. Many studies focus on general agricultural information without delving into the specific needs of maize farmers. Additionally, there is limited research on the long-term impact of information satisfaction on farming practices and productivity. Understanding these aspects is crucial for developing effective information dissemination strategies.

Therefore, it is essential to investigate the unique information needs of maize farmers in this region and assess their purpose and satisfaction levels with current information sources. This will help identify areas for improvement and develop targeted strategies to enhance information dissemination and, consequently, maize productivity in Kaduna State.

Strategies for the Improvement of Maize Farming

Effective information strategies are crucial for the improvement of maize farming, providing farmers with access to the latest agricultural practices, pest and disease management techniques, and climate adaptation strategies. The rapid development and deployment of digital technologies have opened new avenues for disseminating vital agricultural information, thus enhancing productivity and sustainability. According to the Food and Agriculture Organisation (FAO), effective information dissemination can significantly improve crop yields and resilience, which is particularly important for maize farmers facing the challenges of climate change and market volatility (FAO, 2023). This review examines various information strategies, evaluating their effectiveness, limitations, and areas needing further research.

Moreover, information strategies are crucial for improving maize farming, offering various benefits from enhanced productivity to resilience against climate change. Addressing the gaps in infrastructure, literacy, and resource availability isessential for maximizing the impact of these strategies. An integrated approach combining the adoption of seed varieties, soil management, use of technologies, post-harvest handling, access to credit, and community knowledge-sharing methods can provide a comprehensive solution to the challenges faced by maize farmers for the improvement of maize farming. Therefore, comprehensive studies evaluating the long-term impacts of different information strategies on maize productivity and sustainability are lacking. The socio-economic factors influencing the adoption of these strategies require further investigation. Future research should focus on developing integrated information systems that combine digital, traditional, and community-based approaches to provide holistic support to maize farmers.

Methodology

The study employed a quantitative research design, utilising structured questionnaires to collect data from maize farmers in Kaduna state. The data used were drawn from the same research project reported in Makeri and Harande (2024), Data collection focused on maize farmers information-seeking behavior and needs in Kaduna State. While the earlier study emphasized theoretical analysis, this study focuses on the practical implications of farmers' information needs and their role in improving agricultural productivity.

Data Analysis and Results

Demographic Information of the Respondents

This section presents the personal information of the respondents about their gender, age, level of education, and experience in the farming business, level of income, and farm size. A summary of demographic variables is presented in Table 1.

Table 1: Demographic Information of the Respondents

Variables	Frequency	Percentage%
Gender of respondents		
Male	283	77.5%
Female	82	22.5%
Total	**365**	**100.0**
Age of Respondents		
20-30 Years	38	10.4%
31-40 Years	89	24.3%
41-50 Years	139	38%
51-60 Years	77	21%
60 and Above	22	6.2%
Total	**365**	**100.0**
Level of Education		
Non Formal	7	1.9%
Primary	23	6.3%
Secondary	208	56.9%
Tertiary	127	34.7%
Total	**365**	**100.0**
Experience in Farming Business		
0-5 Years	33	9.4%
6-10 Years	78	21.4%
11-15 Years	102	27.9%
16-20 Years	59	16.2%
21-25Years	42	11.5%
26-30 Years	30	8.2%
31 Years and Above	21	5.8%
Total	**365**	**100.0**
Level of income		
0-50,000	58	15.5%
51,000-150,000	92	25.2%
151,000-250,000	113	30.10%
251,000-350,000	73	20%
351,000 and Above	29	7.9%
Total	**365**	**100.0**
Farm size		
0-5 Hectares	234	64.1%
6-10 Hectares	50	13.7%

11-15 Hectares	33	9.4%
16-20 Hectares	31	8.5%
21 and Above	17	4.7%
Total	**365**	**100.0**

Table 1 revealed the gender, age, level of education, experience in the farming business, level of income, and farm size of the respondents. It shows that 283(77.5%) which is more than two-thirds of the respondents were male, while only 82(22.5%) respondents were female. The table also revealed that 139(38%) of the respondents were between the age of 41-50 years, followed by 89(24.3%) respondents who were between the age range of 31-40 years old; while 77(21%) were between 51-60 years of age. However, 38(10.4%) respondents were between 20-30 years old, and only 22(6.2%) respondents were between the age of 60 and above years.

The table also revealed that 208(56.9%) of the respondents were at secondary school level, 127(34.7%) of the respondents were at tertiary education level, while 23(6.3.5) were at primary school level, and only 7(1.9%) has non-formal education. The table indicated the farm size of the respondents under study, showing that 234(64.1%) have 0-5 hectares, followed by 50(13.7%) has 6-10 hectares, 33(9.4%) of the respondents are with 11-15 hectares, 31(8.1%) has 16 to 20 hectares, while only 17(4.7%) has 21 and above.

Moreover, the table also indicated the level of income of the respondents under study, showing that 113(30.10%) of the respondents were within 151,000-250,000, followed by 92(21.2%) respondents who were within 51,000-150,000, and 73(20%) were within 251,000-350,000, while 58(15.5%) were within 0-50,000. However,29(7.9%) respondents were within 351,000 and above. This implies that the level of income of maize farmers in Kaduna State of Nigeria is progressing by year, which is an indication of the need for a good learning foundation for them to have smooth and continuous progress to secondary and even tertiary education through the provision of relevant information resources and services.

Information Needs of Maize Farmers

This section provides the details on various types of information needed as they were asked to indicate their information needs. The summary of their responses is presented in Table 2:

Table 2: Information Needs of the Respondents

	Information Needs	Yes N (%)	No N (%)
a.	Selection of Seed Variety	365 (100)	-
b.	Pest and diseases management	361 (98.9)	4 (1.1)
c.	Information on the type of fertilizer to be applied	363 (99.4)	2(0.6)
d.	Extension workers advices	358 (98)	7 (2)
e.	Market information	365 (100)	-
l.	Planting guidelines	355 (94.3)	10(2.7)
j.	Soil preparation	311(85.3)	54(14.7)
k.	Water management	311(85.3)	54(14.7)
l.	Weed control	365(100)	-
m.	Nutrients management	363(99.4)	2(0.6)
n.	Weather alerts	288(79)	77(21)
o.	Harvesting techniques	365(100)	-

Table 2 shows that 365(100%), that is the entire respondents need information on the selection of seed varieties, weed control, market information, and harvesting techniques. This is followed by 363(99.47%) those who need information on the type of fertilizer to be applied and nutrient management. However, 361(98.4%) of the respondents need information about pest and disease management, followed by 358(98%) need information on extension workers advice, and 355 (94.3%)

need information on planting guidelines, while 311(85.3) of the respondents need information on soil preparation and water management. Furthermore, about 288(79) respondents also need information on weather alerts. It is clear from the above findings that the maize farmers have an array of information needs on maize farming. Theseneeds include information best maize seed variety selection to be planted, information on the type of fertilizer to be applied, information on market and prices, information about treatment of pest and disease control, and information on harvesting techniques.

Purpose for Information Needs of the Respondents

The respondents were asked to state the purpose(s) for which they need information. A summary of the responses is presented in Table 3.

Table 3: Purpose for which Information is needed by the Respondents

Purposes for the Need of Information	**Yes N (%)**	**No N(%)**
Information for the purpose of best agricultural practices, crop rotation, pest control use to helps optimize maize production	365(100)	**-**
Information in order to know more about weather condition to reduce the risk of crop failure due to diversity of the weather conditions.	351(96.2)	14(3.8)
Information for the purpose of the market trends to make decisions on when and where to sell the produce	365(100)	**-**
Information for the purpose of disease prevention to protect crops and increase more yield	346(94.8)	19(5.2)
Information for the purpose of technological advancement to increase efficiency and productivity on the farm	333(91.2)	32(8.8)
Information to know more about government policies related to agriculture, subsidies, and support programmes	318(87.1)	47(12.9)
Information for the purpose of financial planning, management, budgeting and access to credit facilities	344(94.3)	21(5.7)

Table 3 shows that 365(100%) respondents need information for best agricultural practices, crop rotation, and pest control used to help optimize maize production and market trends to make decisions on when and where to sell the produce, followed by 351(96.2) who need the information to know more about weather condition to reduce the risk of crop failure due to diversity of the weather conditions, while 346(94.8%) need disease prevention to protect the crop and increase more yield. However, 344(94.3%) others emphasized the need for financial planning, management, budgeting, and access to credit facilities. In the same vein, 333(91.2%) respondents stated that they also need information for technological advancement to increase efficiency and productivity on the farm. Moreover, 318(87.1%) need it for financial planning, management, budgeting, and access to credit facilities.

Respondents Level of Satisfaction with the Information Resources

The respondents were asked to express their level of satisfaction with information resources in their communities. A summary of the responses is presented in Table 4.

Table 4: Level of Satisfaction with Information Needs by the Respondents

Satisfaction with:	**Level of satisfaction with information needs**				
	Highly Satisfied	**Satisfied**	**Moderate**	**Not Satisfied**	**Highly Not Satisfied**
Selection of seed varieties	**-**	106(29.1)	186(50.9)	49(13.4)	24(6.6)
Pest and diseases management	-	-	-	156(42.8)	209(57.2)
Information on the type of fertilizer to be applied	-	-	32(8.7)	253(69.4)	80(21.9)
Extension workers advices	-	-	12(3.2)	159(43.6)	194(53.2)

Market information	-	-	62(17)	104(28.5)	199(54.5)
Planting guidelines	-	58(15.9)	31(8.5)	206(56.4)	70(19.2)
Soil preparation	-	77(21.1)	39(10.7)	191(52.3)	58(15.9)
Water management	-	48(13.1)	33(9)	200(54.8)	84(23.1)
Weed control	-	120(32.9)	148(40.5)	80(21.9)	17(4.7)
Nutrients management	-	-	-	280(76.7)	85(23.3)
Weather alerts	-	83(22.7)	111(30.5)	73(20)	98(26.8)
Harvesting techniques	-	-	69(18.9)	201(55.1)	95(26)

Table 4 indicates the respondents' level of satisfaction with information resources in their farming activities. However, 186(50.9) slightly more than half, 148(40.5) and 111(30.5) are moderately satisfied with seed varieties selection, weed control, and weather alerts. But, 280(76.7%) and 253(69.4%) that is more than half of the respondents revealed that they are not satisfied with the nutrient management and types of fertilizer to be applied also put together 206(56.4), 201(55.1), 200(54.8) and 191(52.3) are not also satisfied with planting guidelines, harvesting techniques, water management, and soil preparation. This is followed by 209(57.2), 199(54.5), and 194(53.2) are highly dissatisfied with pest and disease management, market information, and extension workers advice. This by implication means that the maize farmers are neither satisfied nor highly satisfied with the availability of information resources in Kaduna state.

Strategies Use to Improve Maize Farming

The respondents were asked to indicate the best strategies employed to improve their maize farming. A summary of the responses is presented in Table 5.

Table 5: Strategies used to Improve Maize Production among the Respondents

Strategies	Yes N(%)	No N(%)
Adoption of Improve Seed Varieties	365(100)	-
Soil Management	45(12.3)	320(87.7)
Use of Technology	92(25.2)	273(74.8)
Post-Harvest Handling	186(50.9)	179(49.1)
Access to Credit and Markets	109(29.8)	256(70.2)
Community and Knowledge Sharing	207(56.7)	158(43.3)

Table 5 revealed that all the respondents employed the adoption of improved seed varieties as their best strategies to improve maize farming, 207(56.7) respondents use community and knowledge sharing, 186(50.9) respondents selected post-harvest handling, 109(29.8) respondents selected access to credit and markets, 92(25.2) respondents selected use of technology, while only 45(12.3) respondents soil management.

Discussion of the Findings

The study found that maize farming in Kaduna State is dominated by male farmers (77.5%), with the largest proportion (38%) aged between 41–50 years. This indicates that maize production is largely undertaken by active middle-aged individuals, which is consistent with the findings of Adesina and Zinnah (2020) who reported that middle-aged farmers are often more experienced, physically active, and willing to adopt improved farming practices. The predominance of secondary-level education (56.9%) suggests that while most farmers have some formal education, their exposure to advanced agricultural training may be limited. Furthermore, the majority (64.1%) of respondents operate small-scale farms of less than 5 hectares, which aligns with Nwankwo *et al.* (2021) who observed that smallholder farming is the backbone of Nigerian maize production. This demographic structure has implications for extension services, as training and resources need to be tailored to this specific group educational level and farm size.

The study revealed that farmers have a wide range of information needs, with the highest priorities being seed variety selection, weed control, market information, and harvesting techniques, all of which were cited by 100% of respondents. These findings corroborate the work of Aina (2020), who emphasized that timely and location-specific agricultural information is critical for improving farm

productivity. Information on fertilizer application, pest and disease management, and nutrient management were also identified as highly important, reflecting the farmers' desire to optimize input use and minimize crop losses. Interestingly, weather alerts were identified as a need by 79% of farmers, highlighting growing awareness of climate variability impact on maize production, as noted by Omotayo and Adebayo (2021).

The primary reasons farmers seek agricultural information were to optimize production through best farming practices, enhance market decision-making, and manage weather-related risks. This aligns with the argument of Mtega and Benard (2018) that farmers' information-seeking behavior is driven by practical needs directly linked to their livelihood security. Notably, financial planning, disease prevention, and technological advancement also emerged as key purposes, showing that farmers are not only focused on immediate production issues but also on sustainability and long-term profitability. The need for information on government policies and support programmes suggests that farmers recognised the role of policy incentives in their operations, in line with the findings of Agwu and Chah (2022).

The study found that respondents were largely dissatisfied with available agricultural information resources, particularly in the areas of nutrient management, fertilizer type, pest and disease control, and extension workers' advice. These findings echo Daudu *et al*. (2019), who reported weaknesses in Nigeria's agricultural extension delivery system, including inadequate staffing, limited coverage, and outdated dissemination methods. The high dissatisfaction with market information and planting guidelines suggests that even where information is available it may not be timely, relevant, or accessible to farmers. This situation poses a significant barrier to improving maize productivity and underscores the need for innovative information delivery channels such as mobile platforms, community-based training, and partnerships with agro-dealers.

The adoption of improved seed varieties was universal among respondents, indicating awareness of the yield benefits of modern maize cultivars. However, adoption of other innovations such as soil management, use of technology, and access to credit and markets was much lower. This pattern mirrors the observations of Harande (2023), who noted that while farmers may readily adopt visible and tangible innovations like seeds, they often face barriers to adopting more systemic changes due to cost, knowledge gaps, and infrastructural limitations. Community and knowledge sharing was a relatively common strategy, highlighting the importance of social networks in contexts where formal extension services are weak. The relatively low uptake of post-harvest handling, and access to credit suggests untapped opportunities for interventions that could reduce post-harvest losses and improve financial capacity for input purchase and farm expansion.

Generally, these findings indicate that while maize farmers in Kaduna State have strong information needs and are willing to adopt certain innovations, their ability to access, utilize, and benefit from agricultural information is constrained by gaps in the extension system, lack of diversified strategies, and infrastructural challenges. Addressing these issues through targeted policy support, improved information delivery, and strengthened farmer networks could significantly enhance maize productivity in the region.

Conclusion

Based on the findings, the study concluded that information needs and use among maize farmers have not been given the consideration they deserved, because of a lack of relevant information resources, as well as the general unavailability of libraries and information centers in their communities; which denied them the systematic, quick and easily searching of readily organised information. Addressing these barriers and enhancing information accessibility is vital for supporting sustainable agricultural practices and empowering maize farmers to thrive in their communities.

Recommendations

Based on the findings and the conclusion reached, the study recommended as follows:

1. Establish accessible and well-equipped agricultural information centers in communities lacking libraries and information centers. These centers should serve as hubs for various information resources, including printed materials, computers, and Internet access.

2. Work towards increasing the availability of information resources and services tailored to maize farmers. Collaborate with relevant stakeholders, including government agricultural departments and research institutions, to develop and disseminate information materials that address the specific needs of maize farmers in Kaduna State.
3. Conduct awareness programmes to educate farmers about the importance of seeking information and participating in forums, seminars, and workshops. Encourage community-based organisations, such as farmers cooperatives, to organise events where farmers can share knowledge and experiences.

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AUTHORS' PROFILES



Shafiu Garba Makeri, CLN is an Assistant Librarian and Head of technical services at Hon. Walter Samuel Nkanu Onnoghen Library, Graham Douglas Campus Nigerian Law School, Port Harcourt. He obtained his Masters in Information Sciences and Bachelor's degree in Library and Information Science/Sociology at Bayero University, Kano in 2025 and 2016. He did his NYSC in Oyo State. Earlier, he had a Diploma in Educational Management, Advanced Diploma in Information Management, Higher Professional Diploma in Computer Studies in Bayero University, Kano. He had worked with the Comprehensive Health Centre Saminaka as Record Officer from 2006 to 2008, Oceanic Bank International Plc as Floor Manager from 2008 to 2012, GJSS Saminaka as a Class Teacher From 2018 to 2019, International Institute of Islamic Thought as Senior Librarian from 2019 to 2022, before joining into Nigerian Law School. He has attended many conferences, seminars and workshops on arrays of themes including cataloging, user services, and resource management. He can be reached via: **08069543669/09053922222** sgmakeriph@nigerianlawschool.edu.ng orshafiu.garba@nigerianlawschool.edu.ng



Prof. Yahya Ibrahim Harande is a Lecturer in the Department of Library and Information Sciences, Faculty of Education, Bayero University Kano. He has Bachelor's degree in library science from Bayero University Kano, Masters degree in library and Information Science from Ahmadu Bello University Zaria and PhD from IIUM University Malaysia. He has Publications in both Local and International Reputable Journals. His areas of research interest include Information Science, Information Use, Bibliometrics, Information Literacy, Information Management and Health Information.