

Effect of Farmers' Socioeconomic Characteristics on Access to Agricultural Information in Gwagwalada Area Council, Abuja

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Abstract

This study was done to examine the information sources accessible to farmers in the Gwagwalada Area Council, Abuja. All farmers in the study region made up the population, and a sample size of 120 respondents were randomly chosen from this group. A well-structured questionnaire was used to gather data for this study's main sources. Descriptive statistics and the logit regression analysis model were used to evaluate the data. The findings showed that the majority of farmers (42.5%) were between the ages of 36 and 50, were married, and had households with 11 to 20 people. Additionally, the farmers (43%) make between N100,001 and N500,000. Results of the research revealed that farmers have access to some information such as information on fertilizer application, land preparation, improved varieties, fertilizer rate application, pest and diseases, market information and storage and processing. Few farmers had access to information on climate change, proper irrigation and farm machineries. The major source of information was radio, friend and relatives, farmers association and television. Education, marital status, and property size were all significant at the 5% level of probability, according to a logistic regression analysis of socioeconomic characteristics. The study came to the conclusion that radio, family, and friends are the most accessible sources of knowledge. The study comes to the conclusion that socioeconomic factors like gender, employment, annual revenue, farm experience, education, and farm are important for farmers. In order to motivate farmers to purchase some of the facilities that depend on these amenities to operate and provide access to information, it was suggested that the government make basic services like electricity and internet connections more affordable.

Keywords: Information, agricultural, access, extension

INTRODUCTION

The different types of information and messages that are pertinent to producers' agricultural production activities, such as crop production and protection, animal production and management, and natural resource production and conservation, are referred to as agricultural information. (Tadesse 2018). Agriculture-related data that are transformed into meaningful and practical contexts or forms for efficient decision-making in agriculture- or farming-related activities are referred to as agricultural information for the purposes of this research. The output of agriculture benefits greatly from agricultural information services. Farmers can implement new farming techniques or technologies, as well as learn when to plant and harvest their crops as well as which animals to raise and where to sell them. (Aina, Kaniki and Ojambo 2015). Farmers can find out where to get bank loans and other farming inputs, as well as how to manage pests and diseases, by using agricultural information. Such knowledge will subsequently boost agricultural output and raise farmers' standards of living (Nwali et al., 2022).

There are many different kinds of information on activities connected to agriculture. There could be data on improved seed varieties, market prices, crop output and protection, livestock production, agroforestry, pest and disease control, fertilizer availability and application, farm financing facilities, and so on. Oduwale and Ikhizma (2017) identified a number of different kinds of agricultural information, including details on managing pests and diseases, services provided by public and private organizations, selling farm products, credit and loan options for farmers, fertilizer use, etc. Agricultural information was described by Aina et al. (2015) as knowledge that is both published and unpublished, cross-disciplinary in nature, and applicable to all facets of agriculture. Information is the first step in empowering producers because it is essential for boosting agricultural output and enhancing marketing and distribution plans. (Rehman et al., 2018).

The adoption of information and any actions based on it, according to Mittal & Mehar (2015), significantly depend on the sources from which people obtain their information. Additionally, a more focused strategy for sharing information about agriculture can guarantee that it reaches as many farmers as feasible and takes into account the variety of sources that farmers rely on. It is the responsibility of extension services to provide farmers with agricultural information so they can increase output, thereby achieving food security and generating income. According to Abbas et al. (2018), the main causes of low yield and sluggish production among farmers are a lack of technical expertise and information at the farm level. Information is now the primary factor determining the development of countries, groups, and individual (Sanap, 2015). In order to make informed decisions, farmers need to have access to the most recent information on topics like new farming methods, water management, product marketing, etc. Agricultural information is seen as a productive resource that limits and influences the efficiency of production. (Bawa, 2014). The extension workers are in charge of educating farmers and providing them with pertinent and useful agricultural information.

Additionally, agricultural information is a crucial tool for the growth of small-scale farmers and helps people in both rural and urban areas support their livelihoods Ronald (Silayo and Abdalah, 2015). Farmers would benefit from global information if information centers were

spread throughout rural areas. Rural farmers, particularly those in Nigeria, face widening information gaps, making it difficult for them to compete in the global market or even adopt improved technology (Obodike, 2016).

It is impossible to overstate the importance of information in agriculture for advancing agricultural growth. Due to the need to communicate information to farmers in a way that is appropriate and best meets their needs, disseminating information has become both simpler and more complex in today's information and technologically advanced world. There are many ways to disseminate information, some of which include demonstrations, public gatherings, group discussions, talks, television, radio, movies, flyers, bulletins, letters, circulars (Olorunniyi et al., (2022). However, Khapayi & Celliers (2016) identified various reasons for low accessibility to agricultural information, such as: poor roads, poor transportation from farms to markets, lack of marketing skills and information, insufficient land availability to expand production, lack of agricultural implements to better production, poor production and management skills and low levels of education. Farmers can make educated decisions about their agricultural practices with the aid of agricultural knowledge. Socioeconomic factors may also affect farmers' access to agricultural knowledge, according to Rehman (2018). Socioeconomic characteristics are the position of an individual or group on the socioeconomic scale, which is defined by a combination of social and economic factors such as gender, age, income, amount and kind of education, type and prestige of occupation, place of residence, and in some societies or parts of society-ethnic origin or religious background (Oduwole et al., 2022).

The majority of smallholder farmers share common socioeconomic traits, such as a lack of access to education or a dependence on social grants as a source of income (Damisa et al. 2017). Socioeconomic factors, such as the adoption of farming methods, the type of farming systems used, and even what is farmed, have been emphasized as some of the most influencing factors in farmers' decision-making processes and access to information. (Ani, 2014). Smallholder farmers in Nigeria, in particular, exhibit a number of socioeconomic traits that have been linked to their access to critical agricultural information, particularly with regard to the adoption of specific farming production practices and market involvement. (Devi & Ponnarasi, 2019). The use of fertilizer and pesticides, irrigation water sources, and the amount of land that is farmed have all been documented to be affected by socioeconomic factors such as gender, age, education level, and income sources. (Olagunju and Salimonu, 2020). Designing facilitation strategies to increase food safety, sustainable production, and graduation into providing more formalized markets requires a thorough understanding of the socioeconomic backgrounds of the farmers, particularly those in Gwagwalada Area Council of FCT (Abuja).

Objective of the Study

This study's goal is to ascertain how farmers' socioeconomic traits affect their access to agricultural knowledge in the Gwagwalada Area Council, Abuja. The specific objective of the study is to;

- i. describe the socioeconomic traits of the farmers in Gwagwalada Area Council, Abuja
- ii. determine the agricultural information sources accessible to farmers in the study region
- iii. examine the producers in the study area's access to the necessary information.

iv. identify the problems of accessing information by farmers in the community.

Concept of Agricultural Information

A vital element in raising agricultural output is agricultural knowledge. Research has firmly proven the value of knowledge and information sharing in contexts of research for development. One of the most important factors affecting agricultural production is considered to be having access to the right information and knowledge. (Masuki, Mowo, Kamugisha, Tanui, Tukahirwa, & Adera, 2020). Agricultural information is essential if farmers have to advance beyond their current level of production, a steady flow of accurate, understandable, factual information links the scientist with the farmer through the various sources that communicate such information (Achebe & Lucky, 2013). Younger farmers responded more favorably than older ones to questions about the relevance, applicability, and veracity of the information given by agricultural periodicals. There is a need to raise the bar for farming publications generally in terms of their applicability (Shahzad et al. (2019).

As a result, ICT-based projects have just recently been introduced as a part of strategies to increase agricultural performance among smallholder farm families and overcome poor farm productivity. Asogwa et al. (2012), advocate that extension agents be moved to where farmers are residing to ease accessibility and to adopt other methods of information dissemination being used to convey information to farmers in a way that farmers would easily understand the message and the marketing information being communicated to them.

Sources of Agriculture Information

Information sources are instruments that may be able to satisfy the information requirements of various user groups. They are the ones who carry knowledge. There are many sources of information, but what counts is "what" sources are accessible and pertinent to the various user categories, what sources of information are helpful for their various seeking behaviors, and primarily for utilization to fulfill tasks/needs. Any object that peoples interact with or observe can provide knowledge. (Bates 2012; Adangara et al. 2002). Farmers learn about agriculture from a variety of sources and knowledge providers. For instance, the national meteorological agency is the source for weather conditions. (Narula & Arora, 2015).

Governmental organizations, academic institutions, non-governmental organizations, and pertinent private companies have all created and published agricultural material. Depending on the intended use, this information is accessible in either primary or secondary form. Increasing the production of farmers would entail ensuring that they obtain the optimum output from their farms, and the place of agricultural information in ensuring this cannot be overemphasized (Olaniyi, Adetumbi and Adereti, 2018). Information sources and channels available to farmers include libraries, internet, extension agents, research organizations, radio, television, communitybased organizations, neighbours, family, fellow farmers (farmer to farmer communication), cooperative groups and societies, traders, etc. (Ngathou *et al.*, 2015). Okwu and Daudu (2015) realized that friends, relatives and neighbors are regularly available and accessible to the farmers to gain the agricultural information they need. According to Mtega (2018), the access of underprivileged farmers to agricultural extension officers restricts the dissemination of agricultural information to farmers in rural areas of developing nations.

Elia (2014) discovered that powerful individuals were essential in educating farmers about agricultural climate change.

Role of Communication Sources in Disseminating Agricultural Information

In order to increase agricultural productivity and handle the issue of food insecurity, knowledge and information management can be extremely important. Intermediaries and smallholder farmers can get the right knowledge and information in a timely way if it is properly managed (Alfa et al., 2022). Such knowledge and information delivery surely reduces the risk and uncertainty smallholder farmers encounter from produce production to marketing. (UNDP, 2020). A variety of various pieces of information are required throughout the production process, and their absence can reduce farmers' yield. While knowledge of high yielding varieties and the best time to plant is essential during the planting stage, knowledge of fertilizer, pesticides, and new methods during the planting and growing phases can result in appreciable yield variations. Additionally, knowledge of the right harvesting season, the climate, and the weather can help farmers get better outcomes. (Otter & Theuvsen, 2017). Information about farm issues is now primarily shared with other farmers, friends, and family members through mass media, advertisements, government agencies, and personal interaction. Agricultural information is essential if farmers have to advance beyond their current level of production, a steady flow of accurate, understandable, factual information links the scientist with the farmer through the various sources that communicate such information (Achebe & Lucky, 2013; Abenga, et al. 2022).

Farmers use a variety of public and private sources, including the mainstream media, including radio, television, newspapers, farmers' magazines, leaflets, and posters. Additionally, there are one-on-one or small-group interactions with extension personnel and business reps. Exhibitions, seminars, workshops, and demos may fall under this category. Additionally, there might be direct interactions with other producers. (Adam, 2019). Radio can simultaneously reach a big audience. When compared to other extension media and techniques that involve both individual and group contacts, it is a very affordable medium. Radio is regarded as an authentic, reliable, and prestigious method of communication and is regarded as a reliable source of information. The term "credibility" describes the reliability of information that producers regarded as significant and gave weight to when adopting it. Because farmers view agricultural technologies as admirable, this impacted their adoption. (Kakade & Kolar, 2013).

Problems Associated with Agricultural Information Accessibility by Farmers

Information source is gaining relevance all over the world as it has become a very important tool in farming because it has the ability to connect with farmers and Agribusiness people from around the world over large geographical distances (Aluko, et al., 2021). The benefit of this can be as large or as small as the Farmers choose depending on how much time he wishes to spend on it (Chui *et al*, 2012). In addition to improving interactions and information flow among the various actors engaged in agricultural innovation, social media also helps agricultural extension and advisory service providers perform at a higher level. The power of information media is in the features that allow it to be applying to a whole range of applications that involved interactions between people (Chui *et al* 2012). It has removed the limitation of geographical distance from users, which enable a platform that shares information and culture, it also allows

businesses and organization direct access to consumers and their genuine thoughts, giving up to date and relevant information on trends and preferences (Chu *et al*, 2012). Unfortunately, there are a number of obstacles that prevent Nigerians from effectively utilizing information sources for the dissemination of farming knowledge. The different challenges are explained in the sections below.

Unreliable Electric Power Supply

It is embarrassing that a consistent power source in the nation remains a mirage. The current situation is very sad because almost all social media apps require electricity to function, but the availability of electricity in Nigeria is not promising. In support of this, Adomi (2017) claimed that power outages are an issue impeding the provision of information and the use of the internet in African nations. Similarly, Ossai-Ugbah (2018) claims that this “power outages increase the general overhead and running cost thus having a negative impact on the use of social media for marketing and advertisement of agricultural products and how to effectively use social media for promotion in a cost-effective manner.

Lack of Awareness

The majority of producers in developing countries are ignorant of information sources. Even the small number of people who are conscious still struggle to understand the useful applications of these websites for extension service. Additionally, users are not familiar with the protocols used in information sources, such as social networking (Ezeani & Igwezi, 2017). Even some extension agents may not be aware that there is a topic expert in their field, as many rural farmers are likely to be. It's critical for change agents to reach out to potential customers and try out different public personas. In Nigeria, it can be difficult to convince farmers and Facebook users (including extension staff) to use the social media platform for more important and beneficial purposes (Adomi, 2017).

Network Problems

There are frequently issues with cable networks or internet networks. Either that or a broadband network issue. A connectivity issue, which occurs when a connectivity component like a hub, router, or switch malfunction, is when the cables that connect various sections of a network are cut or shorted (Fadiji et al. 2021). Excessive network collusions, software issues, and the sharing of IP addresses are other potential network issues. Ezeani and Igwesi (2012) noted that most institutions have insufficient bandwidth to support this technique and added bandwidth issues to this. Online participation that is successful can be hampered by poor connectivity. This tends to limit their creativity and make it challenging for them to comprehend science terminology, especially when it comes to abstract ideas. It is assumed that education will improve farmers' capacity to take in, decipher, and comprehend knowledge. The majority of farmers, however, are uneducated, and if this isn't taken into account, they will totally misinterpret the information. (Lucky & Achebe, 2012). Quality of information, newness, farmers' interest, timely publication, simple access to print media, relevance of information, farmers' literacy level, comprehensiveness, and cost of print media were some significant variables that impacted print media's effectiveness. (Rehman, Muhammad, Ashraf & Hassan, 2011).

MATERIALS AND METHODS

3 Study Area

The study region is the town of Gwagwalada, which is situated between latitudes 8.25 and 9.25 north of the equator and longitudes 6° and 7° 45' east of Greenwich. The municipality is one of the federal capital territory's oldest towns. The FCT is located near to the country's geographic center and spans an area of about 8000km². It is entirely contained within the area known to as the "middle belt" and the North-Central geopolitical zone (Mabogunje, 1977 and Akerele, 1991). It is bordered to the north by Kaduna State, to the south-east by Nasarawa State, to the south and southwest by Kogi and Niger States. One of the biggest satellite towns and the Federal Capital Territory's third-largest urban center is Gwagwalada. (NPC, 1991). The headquarters of one of the Federal Capital Territory's oldest councils, Abuja, is located there. It is one of the most heavily populated regions in the FCT. (Ejaro, 2013). The federal capital city experienced a huge influx of civil servants and the organized private sector, which resulted in an explosion of people in and around the area. (FCC). As a consequence, Gwagwalada also experienced notable growth and a rise in the rate of land conversion.

Within the Federal Capital Territory, Gwagwalada Town is situated about 55 kilometers from the Federal Capital City (FCC). The entire area of the Gwagwalada township region is about 6,500 hectares. The more established indigenous and newly developed planned areas make up Gwagwalada town. The older portion dates back to before 1976, whereas the latter was created as a result of the Federal Capital Development Authority's expansion in line with its intended function in the spatial development of the Federal Capital Territory. (FCT). Its two sections' internal organization resembles pre-colonial urban centers in Nigeria's western and northern regions quite a bit. (Balogun, 2001). The urban or planned areas in Gwagwalada are the areas from which the town's growth is meant to radiate, serving as the town's growth pole. These areas include phases 1, 2, and 3. (FCDA, 2000).

Sample and Sampling Techniques

All farmers in the Gwagwalada Area Council of the FCT of Abuja will make up the population for this research. Within the study region, this population will consist of both male and female farmers. Purposive sampling technique will be used in this research in which ten (10) council wards will be selected within the local government area and simple random sampling technique will be carried out in the selected wards to collect a sample size of 5 farmers per ward selected to make up the entire sample size 120 respondents for this research. The table below shows the council districts from which respondents will be chosen.

Procedure for Data Collection

The self-administered questionnaires will be used to gather primary data for the research. The researcher and the study assistants will ask respondents to fill out a questionnaire, which will then be collected after they've finished. After that, the questionnaire will be classified to collect the information needed for statistical analysis, which will be used to answer the research question posed in this study.

Research Instrument

The study will use structured questionnaires to elicit information from respondents. The questionnaire will involve closed-ended questions. The questionnaires will mainly utilize questions that attracted Likert scale responses. By doing so, it ensured that the tool is adaptable. The instrument will be divided into three sections A, B and C with each section covering questions on each specific objective. The questionnaires will be administered to the respondents with the help of trained research assistants to facilitate the distribution and collection of questionnaires.

Instrument Validation for Research

The research tool used in this study was validated by pilot testing it and having it reviewed by specialists from the University of Abuja's department of Agricultural Extension and rural sociology. This guaranteed that the tool had both face validity and content validity.

Data Analysis

Descriptive statistics will be used to analyze the data that was gathered (measures of central tendency and measures of variations). Based on the surveys, data will be analyzed using a statistical package for social sciences. The answers will be summarized and the degree of similarities and differences will be demonstrated using various statistics, including mean scores, standard deviations, percentages, and frequency distribution. Tables and numbers will be used to display the results. To determine whether respondents concur or disagree that the aforementioned variable(s) or factor(s) exist in the study area with regard to farmers' access to

RESULTS AND DISCUSSION

Socio Economic Characteristics of The Respondents

Table 1 Socioeconomics characteristics of respondents (n=100)

Sex	Frequency	Percentage (%)
Male	95	79.2
Female	25	20.8
Age		
20-35	26	21.7
36-50	51	42.5
51-65	33	27.5
66-80	10	8.3
Marital status		
Single	6	5.0
Married	90	75.0
Divorced	18	15.0
Widowed	6	5.0
Household size		
1-5	14	11.7
6-10	23	19.2
11-20	70	58.3
21-25	13	10.8

Farmers Cooperation		
No	41	34.2
Yes	79	65.8
Annual income		
30000-100000	52	43.3
100001-500000	60	50.0
1000001-2500000	8	6.7
Farm experience		
2-10	23	19.2
11-20	30	25.0
21-30	38	31.7
31-40	5	4.2
41-50	16	13.3
51-60	8	6.7
Level of Education		
Primary	12	10.0
Secondary	47	39.2
Tertiary	40	33.3
NONE	21	17.5
Farm size		
2-10	3	2.5
21-40	2	1.7
41-80	36	30.0
81-100	50	41.7
101-150	29	24.2

Source: Field Survey 2023

The socioeconomic characteristics of the study's subjects are shown in Table 1. The findings showed that there were 79.2% more males than women among farmers in the Gwagwalada Area Council of the Federal Capital Territory of Abuja. Farmers between the ages of 20 and 35 made up the most of the population (21.7%), followed by those between the ages of 51 and 65 (42.5%), and farmers between the ages of 36 and 50 (42.5%). There were very few producers between the ages of 66 and 80 (8.3%). Seventy-five percent (75%) of the interviewees were married. At the time of this study, 15% of participants were divorced, 5% were widowed, and 5.0% were still unmarried. This result agreed with the report of Simonyan et al. (2012) in their study of gender differentials in technical efficiency among maize farmers in Essien Udim Local Government Area-Nigeria where the reported that marital status was positive and significantly related to the productivity of the male farmers. The large percentage of married farmers can increase their output because they will work together to use the farming resources that are available. This confirms the results of Bawa et al. (2010), who found that men are more likely to work in agriculture and that most farmers were between the ages of 18 and 40, when people are most productive economically. The findings of this study indicate that the majority of farmers are still in their early years and are still within their monetarily significant age range. This demonstrates their strong capacity for coping and aptitude for utilizing resources. The

findings support Ogumbameru's (2011) research, which found that young and middle-aged individuals are most engaged in agricultural production activities to boost productivity.

The findings indicate that most respondents were married, which is the only explanation for the high average household size of 58.3% of respondents, who had between 11 and 20 people living with them. This large household size is an important factor in the production of vegetables because it will result in more family labor being accessible and lower labor costs on the farm. This result supports the findings of Odebode and Mungong (2001) and Ndaghu (2008), who also stated that the typical family size in farming households was between 7 and 12. The findings are comparable to those of Banmeke's 2003 study of women farmers in south-west Nigeria, which showed that the modal household size ranged between 6 and 12. It will be smart to target development programs for women farmers with the understanding that they are members of households rather than treating them as people in isolation. The respondents' farms in this survey varied in size from 2 hectares to 150 hectares and larger. 81 to 100 hectares of ground are owned by 41.7% of farmers, followed by 41 to 80 hectares by 30%, 101 to 150 hectares by 24.2%, 2 to 10 hectares by 2.5%, and 21 to 40 hectares by 1.7% of farmers. This suggests that the vast majority of farmers are big-scale operators with comparatively large farms. The high cost of land and the land tenure system in Gwagwalada, where this study was conducted, make it difficult for one person to own a large amount of land because so many people are interested in using it for one activity or another. This suggests that due to the conflicting demands for land, urban farming is land-constrained. (Urban Agriculture Magazine, 2003). This supports Ebisike et al., (2021) conclusion that farm size greatly affects farmers' adoption decisions and access to extension services. It is typical to assume that farmers with big farms will devote a lot of resources to the farm project, want to benefit from material intervention, and seek out novel practices that may call for the use of ICTs.

50% of producers make between N100,001 and N500,000 as their annual income. 6.7% made between N 1,000,001 and N 2,500,000, while 43.3% made between N 30,000 and N 100,000. As was already mentioned, a farmer's yearly income is significantly influenced by his or her level of experience and the size of the farm. The reality that the majority of farmers had large plots of property cannot be far removed from the respondents' annual income. This suggests that the study area's farmers made an average salary, suggesting that they may have the resources to buy and use ICTs. According to the results 31.7% of the farmers showed that they have been farming of the study area for a period of 21-30 years, 25% indicated that they have an 11-20 years farming experience, 19.2% have a 2-10 years' experience, 13.3% have 41-60 years experience, 6.7% have 51-60 years of farming experience while 4.2% have 31-40 years farming experience in the study area. According to the study, the framers' knowledge and productivity tend to increase as they gain experience in farming, which increases the business's productivity and profitability. The majority of these respondents were born into farming families, which may account for their extensive farming expertise. With so many years of farming experience, a farmer may become more skilled, understand how to use inputs, and optimize both cost and output. This outcome was consistent with Adebayo's (2006) observation that a person's performance on the work tends to improve the longer they remain at that job. The outcome is in line with the findings of Ebisike et al. (2022), who claimed that farmers would depend more on their farming experience than their educational background to

increase output. Since farmers exchange information with one another in a farm cooperation, the majority of farmers (79%) belong to one. This could lead to an improvement in the designation of farm information. Through their collaboration or organization, extension workers can quickly find and provide farmers with information on new innovations. As a result, extension workers will be able to meet with farmers and provide them with information more easily if there are more farmers participating in organizations or cooperatives. The results also showed that 10.0% of farmers had a basic education, 39.2% had a secondary education, and 33.3% had a tertiary education. 17.5% of farmers had no formal education. This is consistent with the prediction that the length of formal schooling will lower the degree of technical inefficiency. This is also in conformity with the works of Fasasi (2007); Parikh, Ali and Shah (1995) who stated that number of years spent in formal education was significant at 5%, thus could be said to have substantial influence on the farmers' level of efficiency and ability to appreciate or utilize a particular level of technology. This current result shows that since the population of the farmers are mostly people who are at their young age, adaptation and usage of improved technological innovation will be faster and more effective.

Major Sources of Information

Table 2 below lists the various information sources that the farmers in the study region have access to. The outcome demonstrates that the majority of producers have access to various information sources. While all farmers (100%) said they get their information from friends and family, 79.20% of respondents said they get their information from the news. Another 35.8% said they get their knowledge from magazines, 40% from extension agents, 51.70 from input suppliers, 70.80 from farmers associations, and 39.20 from markets or traders' organizations. television (50.8%) Colleges and universities (17.50%) Newspaper (40.8%) and social media (18.30%) were the sources of the knowledge. This result demonstrates that the main information sources that farmers have at their disposal are media, friends and family, farmers associations, and input supply. While the availability of material is relatively limited in social media, academic research, and magazines. This finding concurs with Ajayi's (2003) finding that radio was one of the most widely used information sources among Nigerian farmers. Because transistor radios are affordable and simple to maintain with batteries, many Nigerian farmers can manage to buy them, which may account for the respondents' widespread use of radio. The reason for the low accessibility to information sources such as university and research centers, social media, and trade organizations could be due the fact that they were located in the urban centers and other require some level of education to access in which case the farmers could not afford to access

Table 2: Major sources of information

Source of information	Frequency	Percentage (%)
Radio	95	79.2
Friend and Relative	120	100
Magazine	43	35.8
Extension Agents	48	40
Input supply	62	51.7
Farmers Association	85	70.8
Market Traders Organization	47	39.2
Television	61	50.8
Union Research	21	17.5
Newspaper	49	40.8
Social Media	22	18.3

Source: Field Survey 2023

Types of Information Accessed by Farmers

The type of information needed by farmers in the study area is as presented in table 3 below. The result shows that the most information accessed by the farmers is on agrochemicals (100%), followed by soil fertility (92.50%) and agricultural credit facilities (91.70%), 87.50% of farmers accessed information on weed management, pest and diseases (87.50%) climate change (84.20%) information on improved varieties (86.70%) information on proper irrigation (80.80%) land preparation (78.30%) information on storage (75.80%) information on processing (72.50%) and information on market information (78.30%). This finding suggests that farmers made use of the information at their disposal to increase farm production and practices through proper soil management, better seeds, and pest control on the farm. The findings thus concur with Asiabaka's (2002) conclusion that knowledge about the efficient use of farm machinery and inputs, new practices, and agricultural innovations are the main pieces of information farmers need to increase farm output and productivity. This implies that farmers in this research area if they effectively utilize this information available to them are expected to have improved output in their farms.

The implication of this finding is that farmers benefited from information that borders on their, farm inputs and crop production. They did not benefit from information on highly technical agricultural activities. This may be that most of these farmers need an intermediary like an extension agent to further breakdown these messages and introduce them to other more advance usage of the ICT facilities available to them. This results also implies that the more training the farmers receive from extension agents, the more they can make the most appropriate and creative use of ICTs. The benefits indicated by this farmer also agree with the report of Asiabaka (2002) who that ICTs helps farmers to improve their efficiency and output.

Table 3 Types of information accessed by farmers

Type of Information	Frequency	Percentage (%)
Market information		
No	26	21.7
Yes	94	78.3
Improved varieties		
No	16	13.3
Yes	104	86.7
Soil fertility		
No	9	7.5
Yes	111	92.5
Land preparation		
No	26	21.7
Yes	94	78.3
Climate change		
No	19	15.8
Yes	101	84.2
Pest and diseases		
No	15	12.5
Yes	105	87.5
Weed management		
No	15	12.5
Yes	105	87.5
Agricultural credit facilities		
No	10	8.3
Yes	110	91.7
Proper irrigation		
No	23	19.2
Yes	97	80.8
Agrochemicals		
No	0	0
Yes	120	100
Storage		
No	29	24.2
Yes	91	75.8
Processing		
No	33	27.5
Yes	87	72.5

Problem of accessing information by farmers

The different problems of accessing information by farmers in the study area is presented in table 6 below. The result show that 98.30% face the problem of poor market access, inadequate extension workers (91.70%), expert absence (51.70%), poor infrastructure (91.70%), 45.80% face the problem of language barrier, poor modern communication (80%), 86.70% gets unreliable information, poor farm machineries (82.50%) and poor credit information (90%).

This result means that access to information and usage is affected by the factors listed above. Poor infrastructure continues to be a significant barrier to farmers' access to and use of information, particularly those in remote areas. This research supported Adomi's (2007) assertion that power outages are an issue that hinders the availability and use of information and the internet in African nations. Similarly, Ossai-Ugbah (2013) claims that this "power outages increase the general overhead and running cost thus having a negative impact on the use of social media for marketing and advertisement of agricultural products and how to effectively use social media for promotion in a cost-effective manner"

Table 4 Problem of accessing information by farmers

Challenges	Frequency	Percentage (%)
Inadequate extension workers		
No	10	8.3
Yes	110	91.7
Expert absence		
No	58	48.3
Yes	62	51.7
Poor infrastructure		
No	10	8.3
Yes	110	91.7
Language barrier		
No	65	54.2
Yes	55	45.8
Poor modern communication		
No	24	20.0
Yes	96	80.0
Unreliable information		
No	16	13.3
Yes	104	86.7
Poor market access		
No	2	1.7
Yes	118	98.3
Poor farm machineries		
No	21	17.5
Yes	99	82.5
Poor credit information		
No	12	10.0
Yes	108	90.0

Source: Field Survey 2023

Logistic Regression of Analysis of the Effect of Social Economic Characteristics of Farmers on Their Access to Information

Table 5 displays the results of the logistic regression study of the impact of farmers' socioeconomic traits on their access to information. The table demonstrates that certain socioeconomic factors, such as sex, farmers' cooperation, yearly income, farming experience, level of education, and farm size, have an impact on farmers' access to and use of agricultural information in the study area ($P < 0.05$). The regression analysis therefore implies that the ability of the farmers to have access to different sources of information is dependent on the socio-economic characteristics of the farmers such as sex, membership of farmers' cooperation, income level, farming experience, level of education and farm size. This outcome is consistent with Matata et al. (2010), who found that the extended message was biased against women. The majority of the time, men are given the information by male extension agents with the implied hope that it will "trickle down" to women. Furthermore, it observed that extension messages tend to focus on activities of male farmers while ignoring the broad range of agricultural activities, responsibilities and constraints facing women farmers. This is because most extension workers in developing countries are males, and they frequently favor men in their extension work. (Barry 2005). The hypothesis also showed that membership of cooperative organization also affects farmers' access to information, this is so because most times extension agents and other information sources are focused toward groups and cooperative societies where information can be passed to a large number of farmers at the same time. The amount of income, farm experience, schooling, and farm size are additional variables that influence farmers' access to and utilization of agricultural information. The outcomes also highlight how crucial education is to farmers' access to and use of agricultural knowledge.

The conclusion suggests that the more educated the farmers are, the more likely it is that they will interpret and use the information given to them, and that the more sources of information they can afford, the better. Education also makes it easier to access helpful knowledge. This result supports the claim made by Fagbohunge and Longe (2009) that people have the capacity to make sense of their surroundings, synthesize and incorporate a variety of new pieces of information in the context of what they already know.

This research supports the results in Simon et al. (2015), which suggested that an increase in income had a positive impact on market participation, better output, and the purchase of more land for farming, which in turn led to an increase in resources to improve practice.

Table 5. Logistic regression of analysis of the effect of social economic characteristics of farmers on their access to information

Characteristics	Coef.	Std. Err	z	P-value	95% Conf.	Interval]
Sex	.124685	.0658456	1.40	0.000*	-.002151	.6552122
Age	.1063279	.024668	4.31	0.078	.0522665	.3522133
Marital status	-1033862	.1187375	-0.87	0.384	-.268473	.655422
House hold size	.1097286	.0891101	1.23	0.418	-.036445	.2843812
Farmers cooperation	.1063279	.024668	4.31	0.007*	.2654455	.3251552
Income	-6.13e-07	1.98e-06	-0.31	0.000*	-.5486212	.0365888
Farm Experience	.1097286	.0891101	1.23	0.001*	-.0254662	.5525886
Level of Education	.1063279	.024668	4.31	0.000*	.0665455	.5661122
Farm size	.6928957	.3941596	1.76	0.004*	-1.664888	.0455662
Constant	6043869	1.637978	0.37	0.712	-1.365564	1.5488366

Source: Field Survey 2023 * = Significant at 5% significant levels

CONCLUSION AND RECOMMENDATIONS

Conclusion

Following the results of the research, the following conclusions are made;

- The socio-economic characteristics of the farmers in the study area indicated that there are more males in the farming enterprise than females, majority of this farmers in their youthful age and they are mostly married with a household size of 11-20. Majority of them has secondary education and they have been in the farming vegetable for about 5-15 years.
- The research also concluded the most available source of information are radio and family and friends.
- The research concludes that farmers have access to some information such as information on fertilizer application, land preparation, improved varieties, fertilizer rate application, pest and diseases, market information and storage and processing
- The research findings showed that the major problem faced by farmers are poor market access, inadequate extension workers, expert absence, poor infrastructure, language barrier, poor modern communication, unreliable information, poor farm machineries and poor credit information.
- The research also concludes that socioeconomic characteristics of the farmers such as gender, occupation, annual income, farm experience, education and farm size affect the ability of the farmer to have access to agricultural information.

Recommendation

The following recommendations are made on the basis of major findings and conclusions of this study.

- Since it is widely recognized that a major barrier preventing access to necessary information is a lack of access to credit facilities and institutional credit, the rural financial system needs to be improved. Farmers may be able to access credit through non-governmental organizations and other donor agencies working in partnership with the government at reduced interest rates and potentially without the need for collateral for small loans.

- ii. Extension agents should educate farmers on the importance and use of the available agricultural information.
- iii. Government should make basic amenities such as electricity and internet connection available at reduced cost so that farmers can be encouraged to buy some of the facilities that require these amenities to function so as to be able to have access to information.
- iv. In order to introduce farmers to cutting-edge methods and better technologies, extension should be reinforced. In this instance, it is important to increase both the frequency of contact between extension employees and farmers and the availability of extension services.

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