

**INFORMATION SOURCES UTILIZATION AMONG ARABLE
CROP FARMERS IN IKPOBA-OKHA LOCAL GOVERNMENT
EDO STATE, NIGERIA**

BY

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**DEPARTMENT OF AGRICULTURAL ECONOMICS AND
EXTENSION SERVICES
FACULTY OF AGRICULTURE
UNIVERSITY OF BENIN
BENIN CITY**

NOVEMBER, 2025

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**A PROJECT SUBMITTED TO THE DEPARTMENT OF AGRICULTURAL
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CERTIFICATION

This is to certify that this project work was carried out by OTOAKHIA Nathaniel (AGR2000045) of the Department of Agricultural Economics and Extension Services, Faculty of Agriculture, University of Benin, Benin City.

PROF. D. U OKOEDO-OKOJIE
(PROJECT SUPERVISOR).

DR. J.I. OSABUOHEN
(HEAD OF DEPARTMENT)

DATE.....

DATE.....

DEDICATION

This project is sincerely dedicated to God, whose grace, guidance, and blessings have enabled me to complete this work. I also dedicate it with deep appreciation to my parents and siblings, whose unwavering support, prayers, and sacrifices have continually inspired and strengthened me.

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ABSTRACT

The study was conducted in Ikpoba-Okha Local Government Area of Edo State, Nigeria, to assess information source utilization among arable crop farmers in the study area. The research specifically aimed to describe farmers' socio-economic characteristics, identify available information sources, analyze their access, preference, and frequency of use, determine motivational factors, and identify constraints to information utilization. A two-stage sampling procedure was adopted, leading to the random selection of 80 respondents. Primary data were collected using a structured questionnaire and analyzed using descriptive statistics such as frequency counts, percentages, and mean scores, while multiple linear regression was used to test the hypotheses.

Findings on socio-economic characteristics revealed that the respondents were predominantly male (54.9%), married (73.2%), with a mean age of 45 years and an average of 15 years of farming experience. A majority (80.4%) had at least a primary education, and most were small-scale farmers with an average farm size of 2.02 hectares. The most utilized information sources were fellow farmers (97.6%), cooperative associations (95.1%), and radio (86.6%). A key finding was a disparity between access and preference; while extension agents and research institutions were highly preferred, access to them was low. The major constraints to information utilization were the high cost of modern technologies ($\bar{x}=4.74$), poor access to extension services ($\bar{x}=4.56$), and irregular power supply ($\bar{x}=4.50$). Regression analysis showed that age had a significant negative relationship with both access to and frequency of use of information sources, while farming experience positively influenced access, and farm size positively influenced the frequency of use.

The study concludes that farmers rely heavily on informal networks due to constraints in accessing formal sources. It recommends strengthening formal extension services, leveraging existing informal networks like cooperatives, and improving rural infrastructure to enhance information dissemination and utilization for improved agricultural productivity

CHAPTER ONE

INTRODUCTION

1.1 Background Information

Agriculture is a cornerstone of Nigeria's economy, playing a crucial role despite the expansion of industries, oil, and commerce and continues to be the primary livelihood source for the majority of Nigerians (Lughlugh, 2020). It also contributes to foreign exchange earnings and provides a market for industrial products (Omodero, 2021). According to Bello (2020), over 70% of Nigerians rely on agriculture, either directly or indirectly, for their livelihoods. However, the sector faces challenges, particularly in adopting innovative practices. The limited understanding and adoption of advanced agricultural techniques hinder the economic potential of these innovations (Muzhingi, 2022).

The major challenge to agricultural productivity in Nigeria is not the absence of recommended practices essential for rural development and economic growth but rather the difficulty in effectively delivering information to end users through accessible communication channels (Konkwo and Michael, 2021). Even when agricultural concepts are introduced, some farmers struggle to implement them effectively. Their level of adoption is often scrutinized more than the efficiency of the communication channels used to disseminate information. However, farmers are frequently held responsible for the slow adoption of new technologies.

Information is a crucial resource for achieving the goals set by individuals or groups. It provides the knowledge necessary to tackle challenges and make informed decisions at the right moments. A community's development is contingent upon its knowledge, which can only be fostered if the community acknowledges and utilizes information as a tool for progress (Olaniyi and Ogunkunle, 2018). Information source refers to the origin from which information is derived, as well as the individual who conveys this information to the audience by articulating their thoughts clearly. According to Lucky and Achebe (2013), various sources are employed to share agricultural research findings with farmers for practical application, including researchers, extension agents, experienced farmers, research institutions, mass media, and both commercial and governmental organizations.

For farmers to remain competitive in the global market, they must have access to up-to-date information on advanced farming techniques, innovative cultivation methods, improved crop varieties, pest control measures, water management strategies, market trends, and government policies on agriculture. Unfortunately, many farmers in Edo State still lack access to such critical information, forcing them to rely on outdated traditional farming methods.

However, traditional methods of delivering agricultural information, such as print media and library-based resources, have proven insufficient, particularly for rural farmers who have limited access to such facilities. Recent initiatives by the Food and

Agriculture Organization (FAO) highlight the importance of leveraging ICTs to provide farmers with real-time information on weather forecasts, market prices, and best farming practices

(FAO, 2021). These efforts have shown promising results in improving farmers' decision -making processes and increasing agricultural productivity. In recent years, the agricultural sector has shown signs of gradual growth, driven by factors such as population growth, climate change, and advancements in technology (Lowder et al., 2021). These advancements include innovations like ICT tools, mechanized farming equipment, high-yielding crop varieties, integrated pest management systems, postharvest technologies, and improved land-use efficiency (Henri-Ukoha et al., 2012). Access to these technologies is often facilitated through extension services, government programs, and community-based initiatives such as the Agricultural Development Program (ADP) and the National Agricultural Extension and Research Liaison Services (NAERLS). These efforts aim to bridge the gap between farmers and modern agricultural practices especially those who practice arable crop farming.

Arable crops in refer to those cultivated on ploughed land and encompass a diverse range of plant types that contribute significantly to the region's agricultural output. These include cereal crops such as maize and wheat, which serve as staple foods and important sources of income. Legume crops like cowpea and groundnut are also widely grown, valued for their nutritional content and role in soil fertility

improvement through nitrogen fixation. Root and tuber crops, notably cassava and yam, form a major part of local diets and agricultural trade due to their adaptability and high carbohydrate content. Additionally, fibre crops such as cotton and jute are cultivated for industrial use, while stimulant crops like tobacco are produced on a smaller scale, adding further diversity to the state's arable farming sector. Collectively, these crops play a vital role in sustaining livelihoods and driving the agricultural economy in Edo State.

In Edo State, certain arable crops are particularly prevalent, with maize and cassava being the most significant due to their versatility and economic importance.

1.2 Problem Statement

The lack of access to and underutilization of agricultural information sources among arable crop farmers in Edo State present a major challenge to agricultural development in the region. Studies have shown that effective use of agricultural information is critical in improving farming techniques, increasing yields, and ensuring food security. Despite the efforts of government agencies and private organizations in disseminating agricultural information, the level of utilization by farmers remains low (Nkeme *et al.*, 2023).

However, the effective utilization of information sources is crucial for enhancing agricultural productivity and sustainability. Information sources encompass various channels such as extension services, agricultural research findings, market data, and

modern farming techniques. Without a doubt, relevant, reliable, and helpful knowledge and information can increase agricultural output. Lack of information increases the vulnerability of farmers' livelihoods. Hence, it is essential to examine the limitations of available information sources and how they affect farmers' access to agricultural innovations. Rural farmers must have access to reliable and effective information to enhance their farming practices.

If these challenges are not properly addressed, they will continue to hinder the growth of the agricultural sector in Edo State, ultimately impacting food security and rural livelihoods. This study seeks to identify the specific constraints affecting the utilization of information resources and propose strategies for improvement.

Research Questions

1. What are the socio-economic characteristics of arable crop farmers in Edo State?
2. What are the various sources through which arable crop farmers in Edo State obtain agricultural information?
3. How accessible are the different agricultural information sources to farmers in Edo State?
4. What are the preferred sources of agricultural information among farmers in Edo State.

5. What is the frequency of use of the various agricultural information sources among farmers in Edo State?
6. What factors motivate farmers to seek and utilize agricultural information sources?
7. What constraints do farmers face in both arable crop farming and the use of agricultural information sources?

1.3 Objectives of the Study

The primary objective of this study was to assess information sources utilization among arable crop farmers in Ikpoba-Okha local Government Area of Edo State.

The specific objectives were to:

1. describe the socio-economic characteristics of arable crop farmers in Edo State;
2. identify the various sources of agricultural information available to arable crop farmers in Edo State;
3. analyze farmers' access to agricultural information;
4. identify farmers' preferred sources of agricultural information;
5. determine the frequency of use of agricultural information sources among farmers;
6. determine the factors that influence farmers' motivation to seek and utilize agricultural information and

7. identify constraints farmers encounter in accessing and utilizing agricultural information for arable crop production.

1.4 Hypotheses for the Study

1. There is no significant relationship between the socio-economic characteristics of farmers and access to agricultural information sources.
2. There is no significant relationship between farmers' socio-economic characteristics and their frequency of use agricultural information sources.

1.5 Justification of the Study

This study addresses the critical gap in research on agricultural information utilization specifically among arable crop farmers in Ikpoba-Okha LGA, Edo State. While existing studies like (Alakpa and Ogbe, 2024) and Adamu *et al.* (2022) have examined information sources in other regions of Edo and northern Nigeria, their findings cannot be directly extrapolated to Ikpoba-Okha due to significant socio-cultural and linguistic differences. As Olayiwola (2021) demonstrated, information needs and communication patterns vary considerably across geographical locations, necessitating location-specific studies for effective intervention design. Current challenges in the area include low adoption of improved technologies (only 32% for herbicides) due to high costs and poor awareness (Omokaro, 2024), as well as over-reliance on radio (over 80%) without tailored local content (Ajisafe, 2025). Unlike past studies, this

research will directly assess how socio-economic factors (age, education, gender) influence information use in Ikpoba-Okha, ensuring targeted interventions.

By identifying farmers' most trusted sources (e.g., radio, peers, mobile tech) and key barriers (illiteracy, poor infrastructure, lack of extension agents), this study will provide actionable recommendations for policymakers and NGOs (Olayiwola, 2021; Ewomazino *et al.*, 2023). Ultimately, this work will enhance agricultural productivity in Ikpoba-Okha LGA by bridging the information gap left by previous studies, ensuring farmers adopt better practices for improved yields and income.

CHAPTER TWO

LITERATURE REVIEW

2.1 Concept of Information

Information represents organized data that has been processed to provide meaning and context, enabling individuals to make informed decisions and solve problems effectively. In the agricultural sector, information serves as a critical resource that empowers farmers to enhance productivity, manage risks, and improve their livelihoods. According to modern scholarship, information is not merely data but processed knowledge that reduces uncertainty and facilitates better decision-making (Cavazza *et al.*, 2020). For arable crop farmers in Ikpoba-Okha Local Government Area, access to relevant agricultural information can significantly influence their

farming outcomes, from selecting appropriate planting dates to implementing effective pest control measures and accessing favorable markets.

The transformative power of information in agriculture cannot be overstated. When farmers receive accurate and timely information about weather patterns, they can optimize their planting schedules to maximize yields. Access to market information enables them to negotiate better prices for their produce, while knowledge of new farming techniques helps them adopt more efficient and sustainable practices (Nyakuri *et al.*, 2022). In Ikpoba-Okha, where arable crop farming forms the economic backbone of many rural households, information becomes particularly crucial for farmers cultivating cassava, maize, yam, and vegetables which are the predominant crops in the region. The effective utilization of agricultural information can lead to improved food security, increased incomes, and enhanced resilience to climate and market shocks.

2.2 Agricultural Information

Agricultural information encompasses specialized knowledge related to all aspects of crop production, input management, technological innovations, and market dynamics. For arable crop farmers in Ikpoba-Okha, this includes specific information about improved seed varieties, appropriate fertilizer application rates, integrated pest management strategies, post-harvest handling techniques, and prevailing market prices (Onyeeke *et al.*, 2021). This specialized knowledge enables farmers to transition from

traditional practices to modern, scientifically-informed approaches that enhance productivity and sustainability. The scope of agricultural information extends beyond technical knowledge to include economic information about input costs and output prices, regulatory information about government policies and programs, and strategic information about long-term farming plans and risk management.

The effectiveness of agricultural information depends on several critical factors: accuracy, relevance, timeliness, and comprehensibility. Information about an emerging cassava disease becomes useless if it reaches farmers after significant crop damage has occurred. Similarly, knowledge about new planting techniques loses value if it is not practically applicable to local soil and climatic conditions (Oyetunde-Usman *et al.*, 2021). Therefore, delivery mechanisms must ensure that content is not only scientifically sound but also contextually appropriate and readily accessible when needed. The packaging of information also matters significantly – technical information needs to be translated into practical, actionable advice that farmers can easily understand and implement using locally available resources and within their existing knowledge frameworks.

Agricultural information plays multiple roles in the development of arable crop farming systems. It serves as an educational tool that builds farmers' capacity to solve problems and adopt innovations. It functions as an early warning system that alerts farmers to potential threats such as pest outbreaks or adverse weather conditions. It

acts as a market linkage mechanism that connects producers with buyers and price information. Furthermore, it serves as a feedback channel that enables farmers to share their experiences and challenges with researchers and extension providers, thereby contributing to the continuous improvement of agricultural technologies and practices (Arouna *et al.*, 2021). In the context of Ikpoba-Okha, where smallholder farming predominates, relevant agricultural information can be the difference between subsistence and commercial farming, between vulnerability and resilience.

2.3 Sources of Agricultural Information

Arable crop farmers in Ikpoba-Okha access agricultural information through diverse channels that can be broadly categorized into interpersonal sources, institutional sources, mass media, and digital platforms. Each category offers distinct advantages and faces specific limitations within the local context, and farmers typically use a combination of these sources to meet their information needs.

Interpersonal sources include extension agents, fellow farmers, family members, neighbors, and community leaders. These sources remain highly valued because they facilitate interactive communication and practical demonstrations. Farmers can ask questions, seek clarifications, and receive personalized advice tailored to their specific circumstances (Oyetunde-Usman *et al.*, 2021). The trust inherent in these personal

relationships often makes information from interpersonal sources more readily accepted and implemented compared to formal channels. In many rural communities in Ikpoba-Okha, experienced farmers serve as informal extension agents, sharing their knowledge and experiences with less experienced farmers through daily interactions in farms, markets, and social gatherings. This peer-to-peer knowledge transfer is particularly effective because it is based on shared experiences and contextual understanding.

Institutional sources comprise government agricultural agencies, research institutions, non-governmental organizations, and farmers' cooperatives. These organizations provide structured information through formal channels such as training programs, demonstration plots, agricultural bulletins, and field visits (Onyeneke *et al.*, 2021). While institutional sources typically offer scientifically-validated information, their reach in Ikpoba-Okha is often limited by logistical constraints and resource limitations. Farmers' cooperatives have emerged as important institutional sources that not only provide information but also facilitate collective action in input procurement, product marketing, and knowledge sharing. These cooperatives often serve as intermediaries between formal research institutions and local farmers, adapting scientific knowledge to local conditions and communicating farmers' needs back to researchers.

Mass media channels, particularly radio and television, serve as important conduits for disseminating agricultural information to broad audiences. Local radio programs

broadcast in indigenous languages during time slots when farmers are most likely to be listening have proven particularly effective in reaching farmers in remote areas (Arouna *et al.*, 2021). Television programs that visually demonstrate agricultural techniques also contribute significantly to knowledge transfer, though access to television is more limited in remote areas without electricity. Print media such as newspapers, agricultural magazines, and extension bulletins serve farmers with higher literacy levels, but their reach is often limited by distribution challenges and low literacy rates in some rural communities.

Digital platforms represent an emerging category of information sources that includes mobile phones, social media applications, internet resources, and specialized agricultural applications. These platforms offer unprecedented opportunities for real-time information access and interactive communication (Oyetunde-Usman *et al.*, 2021). Mobile phone-based services, particularly SMS and voice messages, have become increasingly popular for delivering timely alerts about weather, pests, and market prices. Social media platforms like WhatsApp and Facebook enable the formation of farmer groups where members can share experiences, ask questions, and access expert advice. However, the utilization of digital platforms among arable crop farmers in Ikpoba-Okha is constrained by limited internet connectivity, high data costs, limited smartphone ownership, and varying levels of digital literacy, particularly among older farmers.

2.4 Sources of Agricultural Information Available to Farmers in Edo State, Nigeria

In Edo State, arable crop farmers navigate a complex information landscape characterized by multiple overlapping sources, each with varying degrees of accessibility, reliability, and relevance. Radio maintains its prominence as the most widely accessible medium, with dedicated agricultural programs that address local farming challenges in familiar languages. Stations like Edo Broadcasting Service and Rhythm FM feature regular agricultural segments that cover diverse topics ranging from soil management practices for cassava cultivation to storage techniques for yam preservation, ensuring direct relevance to the predominant crops in the region (Okoedo-Okojie, 2020). These programs often feature subject matter specialists who provide expert advice and answer farmers' questions called in during live broadcasts, creating an interactive dimension to mass media information delivery.

Extension services, though operating below optimal capacity, provide crucial technical guidance to farmers who can access them. The structured nature of extension information, combined with the practical demonstrations that often accompany it, makes this source particularly valuable for adopting new technologies (Onyeneke *et al.*, 2021). However, the limited number of extension agents relative to the farming population means that many farmers in Ikpoba-Okha receive infrequent or no direct extension contact. This extension gap has led to the emergence of alternative

institutional arrangements, including the use of contact farmers who serve as intermediaries between formal extension systems and the broader farming community. Farmers' cooperatives and agricultural associations serve as important platforms for information exchange among arable crop farmers in Edo State. These organizations facilitate collective learning through organized meetings, field visits, and group training sessions (Oyetunde-Usman *et al.*, 2021). The peer-to-peer knowledge sharing that occurs within these groups often complements formal information sources and enhances the overall information ecosystem. Some progressive cooperatives have also begun to leverage digital technologies, creating WhatsApp groups where members share information about market prices, input availability, and farming techniques, thereby extending the reach and timeliness of information access.

Digital information sources are gradually gaining traction, particularly among younger farmers with higher education levels. Mobile phone applications that provide weather forecasts, WhatsApp groups that enable knowledge sharing, and social media platforms that connect farmers with agricultural experts represent the evolving face of information access in the region (Arouna *et al.*, 2021). Nevertheless, infrastructural limitations continue to restrict the full potential of these digital channels. Uneven network coverage, particularly in remote rural areas, coupled with the high cost of data and limited digital literacy among older farmers, creates a digital divide that affects the equity of information access across different segments of the farming population.

Input dealers have emerged as significant information sources, particularly for technical knowledge about seeds, fertilizers, and pesticides. While these sources provide valuable product-specific information, farmers need to complement this with independent advice to ensure balanced decision-making, as input dealers may have commercial interests that influence the information they provide (Oyetunde-Usman *et al.*, 2021). This highlights the importance of farmers accessing multiple information sources to triangulate and verify the information they receive, ensuring its accuracy and appropriateness for their specific contexts.

2.5 Farmers' Access to Agricultural Information

Access to agricultural information among arable crop farmers in Ikpoba-Okha is influenced by multiple factors including physical proximity to information sources, financial capacity to acquire information technologies, educational level that affects information comprehension, and social networks that facilitate information sharing. Farmers located closer to urban centers typically enjoy better access to multiple information sources compared to those in remote villages where infrastructure is less developed (Oyetunde-Usman *et al.*, 2021). This geographical disparity in information access can lead to significant differences in agricultural productivity and income between farmers in well-connected areas and those in more isolated locations.

The financial aspect of information access manifests in various ways, from the cost of radio batteries to the expense of mobile data subscriptions. For farmers operating with limited resources, these costs can present significant barriers to accessing timely information (Arouna *et al.*, 2021). Similarly, the ability to travel to extension offices or agricultural training centers involves transportation costs that may be prohibitive for some farmers. This economic dimension of information access creates a situation where better-resourced farmers can access more and better-quality information, potentially widening productivity gaps within the farming community.

Educational attainment plays a crucial role in determining how farmers access and utilize information. Those with formal education are better equipped to comprehend written materials, navigate digital interfaces, and engage with technical agricultural content (Onyeneke *et al.*, 2021). Conversely, farmers with limited literacy often depend more heavily on oral communication and visual demonstrations, which may not always be readily available. This educational divide in information access underscores the importance of developing multiple formats for delivering agricultural information to accommodate varying literacy levels among farmers.

Social networks serve as important conduits for information flow within farming communities. Farmers who actively participate in community organizations, religious groups, or social gatherings often benefit from information shared through these

networks (Oyetunde-Usman *et al.*, 2021). The density and diversity of a farmer's social connections can significantly influence both the quantity and quality of agricultural information they receive. Socially well-connected farmers typically have access to more diverse information sources and are often among the first to learn about new technologies or market opportunities, giving them a competitive advantage in their farming enterprises.

Gender dynamics also significantly influence information access patterns in Ikpoba-Okha. Cultural norms and gender roles often affect women's ability to participate in certain information-sharing forums or to travel to access information from distant sources (Arouna *et al.*, 2021). Women farmers may face additional constraints in accessing formal extension services or participating in farmers' meetings, limiting their exposure to new agricultural information. Addressing these gender-based disparities in information access requires targeted approaches that consider the specific constraints and preferences of women farmers in the region.

2.6 Farmers' Preferred Sources of Agricultural Information

Arable crop farmers in Ikpoba-Okha demonstrate clear preferences for certain information sources based on perceived reliability, accessibility, and relevance to their farming needs. Interpersonal sources, particularly fellow farmers and extension agents, are highly preferred due to the interactive nature of communication and the contextual

adaptation of information (Oyetunde-Usman *et al.*, 2021). Farmers value the opportunity to ask questions, seek clarifications, and receive personalized advice that considers their specific circumstances. This preference for interpersonal interaction reflects the importance of trust and contextual relevance in agricultural information exchange, particularly for complex decisions involving significant resource commitments or major changes to established practices.

Radio maintains its position as a highly preferred mass media source. The use of local languages in broadcasts enhances comprehension and engagement, making radio an effective medium for reaching farmers with varying literacy levels. The portability of radio sets also enables farmers to listen to programs while engaged in other activities, increasing the practicality of this information source within their daily routines.

Digital platforms show varying patterns of preference based on farmer demographics and technological access. Younger, more educated farmers tend to prefer digital sources more frequently. In contrast, older farmers and those with limited education prefer digital sources less, often relying on intermediaries such as family members or extension agents to access digital information on their behalf.

Farmers' preferences are not static but evolve in response to changing circumstances and experiences. Positive experiences with a particular information source tend to reinforce its preference, while negative experiences such as receiving inaccurate information or encountering accessibility barriers may lead farmers to seek alternative sources (Oyetunde-Usman *et al.*, 2021). This dynamic nature of information source preference underscores the importance of continuously monitoring farmers' choices and addressing limitations in existing information channels to maintain their relevance and effectiveness over time.

2.7 Frequency of Use of Agricultural Information Sources

The frequency of using different information sources among arable crop farmers often follows seasonal patterns aligned with agricultural calendars. During planting seasons, farmers seek information about appropriate planting dates, seed selection, and soil preparation more frequently (Onyeneke *et al.*, 2021). During growing seasons, information about pest and disease management becomes more sought after, while harvest seasons trigger increased demand for market information and storage techniques. Understanding these seasonal variations in information needs and seeking behavior is crucial for timing the delivery of relevant information to maximize its utility and application.

Radio maintains a high frequency of use, with many farmers listening to agricultural programs at least once a week (Okoedo-Okojie, 2020). The regularity of radio listening is influenced by program scheduling, with broadcasts timed to coincide with periods when farmers are likely to be at home, such as early mornings or evenings.

Digital platforms show varying frequency of use. Younger, more educated farmers tend to use digital sources more frequently, often accessing agricultural information through mobile phones several times a week (Arouna *et al.*, 2021). The frequency of digital information use is also influenced by connectivity issues and data costs, with farmers in areas with poor network coverage or limited financial resources using these sources less regularly.

The frequency of use for formal sources like extension services is often determined by the scheduling of visits and training sessions. Farmers who have established relationships with extension agents may receive information on a more regular, planned basis, while others might access these services only occasionally during organized events or workshops.

2.8 Factors Influencing Farmers' Motivation to Seek and Utilize Agricultural Information

Arable crop farmers' motivation to seek and utilize agricultural information is driven by a complex interplay of economic, social, personal, and contextual factors. Economic incentives, particularly the potential for increased productivity and income, represent the primary motivator for most farmers (Oyetunde-Usman *et al.*, 2021). When farmers perceive a clear economic benefit from applying new information such as higher yields, better prices, or reduced losses they are more likely to actively seek out and utilize that information. This economic calculus is particularly salient for smallholder farmers operating with limited resources, who need to carefully weigh the costs and benefits of new information. Social influences significantly shape farmers' motivation to seek and utilize agricultural information. Observations of successful outcomes among peers who have adopted new practices often trigger information-seeking behavior among other farmers in the community (Arouna *et al.*, 2021). Similarly, recommendations from trusted individuals such as family members, respected farmers, or community leaders can motivate farmers to seek out specific information. These social dynamics create information diffusion patterns that often follow existing social networks and relationship structures within farming communities.

Personal characteristics including education level, farming experience, and attitude toward innovation influence farmers' motivation to engage with agricultural information. Better-educated farmers typically demonstrate greater confidence in their

ability to understand and apply new information, making them more proactive information seekers (Onyeneke *et al.*, 2021). Similarly, farmers with extensive experience often develop sophisticated frameworks for evaluating information relevance and applicability, though excessive reliance on traditional knowledge may sometimes reduce openness to new information among some experienced farmers.

Contextual factors such as land tenure security, market access, and policy environment also influence farmers' motivation to utilize agricultural information. Farmers with secure land tenure are more likely to invest in long-term improvements based on information they receive, while those with uncertain land rights may prioritize short-term gains (Oyetunde-Usman *et al.*, 2021). Similarly, farmers with better market access have stronger incentives to seek productivity-enhancing information, as they can more readily convert production increases into economic benefits. Supportive policies such as subsidies for improved inputs or guaranteed minimum prices can further strengthen farmers' motivation to seek and apply relevant agricultural information.

2.9 Challenges Farmers Encounter in Accessing and Utilizing Agricultural Information for Arable Crop Production

Arable crop farmers in Ikpoba-Okha face numerous challenges in accessing and utilizing agricultural information, which limit their ability to improve productivity and profitability. Infrastructural limitations represent a major constraint, particularly in remote rural areas where poor road networks, unreliable electricity supply, and limited

telecommunication coverage hinder access to various information sources (Arouna *et al.*, 2021). These infrastructural deficits create significant disparities in information access between farmers in well-served areas and those in more isolated locations, reinforcing existing inequalities in agricultural development.

Financial constraints pose another significant barrier to information access for many smallholder farmers. The costs associated with acquiring information technologies – such as radios, mobile phones, or television sets may be prohibitive for farmers with limited resources (Onyeneke *et al.*, 2021). Additionally, recurring expenses such as battery replacements for radios, airtime for mobile phones, or data subscriptions for internet access create ongoing financial burdens that limit the frequency and duration of information access. These economic barriers are particularly challenging for the poorest farmers, who may most need productivity-enhancing information to improve their livelihoods.

Technical and literacy-related challenges affect farmers' ability to effectively utilize available information. Low literacy levels limit farmers' capacity to benefit from print materials or navigate text-based digital interfaces (Oyetunde-Usman *et al.*, 2021). Similarly, limited technical knowledge may prevent farmers from fully understanding or appropriately applying complex agricultural information, particularly when it involves scientific concepts or technical specifications. These capacity-related

constraints highlight the importance of complementing information provision with appropriate support for comprehension and application.

Institutional weaknesses in the agricultural information system present additional challenges for farmers. The limited number of extension agents relative to the farming population means that many farmers receive minimal direct support (Onyeneke *et al.*, 2021). Furthermore, extension services often face resource constraints that limit their effectiveness, including inadequate transportation, limited operational funds, and outdated information materials. These institutional limitations reduce the quantity and quality of formal agricultural information available to farmers, pushing them to rely more heavily on informal sources that may be less reliable or scientifically sound.

Content-related issues also affect the utilization of agricultural information. Farmers often report that available information is not sufficiently tailored to their local conditions or specific needs (Arouna *et al.*, 2021). Generic recommendations that do not account for local soil types, climatic variations, or socioeconomic contexts may have limited practical value for farmers. Similarly, information that is not available in local languages or that uses technical jargon without adequate explanation may be difficult for farmers to understand and apply effectively.

Socio-cultural factors can also create barriers to information access and utilization, particularly for certain demographic groups. Gender norms may restrict women's

participation in information-sharing forums or their access to information technologies (Oyetunde-Usman *et al.*, 2021). Age-related factors may affect older farmers' willingness to adopt new information channels, particularly digital technologies. Cultural beliefs and traditional practices may sometimes create resistance to new information that contradicts established knowledge systems. Addressing these socio-cultural barriers requires sensitive approaches that respect local traditions while gradually introducing beneficial innovations.

2.10 Role of Socio-economic Characteristics in Agricultural Information Utilization

Socio-economic characteristics significantly influence how arable crop farmers in Ikpoba-Okha access, perceive, and utilize agricultural information. Understanding these relationships is crucial for designing targeted information interventions that address the specific needs and constraints of different farmer categories.

Age plays a complex role in information utilization patterns. Younger farmers typically demonstrate greater openness to new information sources, particularly digital technologies, and are often more willing to experiment with innovative practices (Oyetunde-Usman *et al.*, 2021). However, older farmers bring valuable experience and contextual knowledge that enhances their ability to evaluate the relevance and applicability of new information. This intergenerational difference in information behavior suggests the need for age-appropriate information delivery strategies that

leverage the strengths of different age groups while addressing their specific limitations.

Education level strongly correlates with information utilization capacity. Farmers with higher educational attainment are better equipped to process complex information, evaluate multiple sources, and make informed decisions about technology adoption (Onyeneke *et al.*, 2021). Education also enhances farmers' ability to navigate digital information platforms and comprehend technical agricultural content. This educational advantage creates a situation where better-educated farmers can more effectively leverage available information to improve their farming enterprises, potentially widening socioeconomic gaps within the farming community.

Gender influences information access and utilization through various social and economic mechanisms. Cultural norms often limit women's mobility and participation in public information forums, restricting their access to certain information sources (Arouna *et al.*, 2021). Women farmers may also face constraints in accessing the financial resources needed to acquire information technologies or implement information-based recommendations. These gender-based disparities necessitate targeted approaches to ensure equitable information access, including women-specific information channels and female extension agents who can better address the specific constraints faced by women farmers.

Land ownership and farm size affect farmers' incentive and capacity to utilize agricultural information. Farmers with larger landholdings typically have greater resources to invest in information acquisition and implementation (Oyetunde-Usman *et al.*, 2021). They also face higher potential returns from productivity improvements, creating stronger economic incentives for information utilization. Conversely, small-scale farmers may perceive lower absolute benefits from information-based improvements, particularly if they face significant implementation constraints. This scale-related difference highlights the importance of developing information recommendations that are feasible and profitable even for small-scale operations.

Income level influences farmers' ability to access information technologies and implement information-based recommendations. Higher-income farmers can more readily afford the costs associated with information access, including transportation to extension offices, purchase of communication devices, and subscription fees for information services (Onyeneke *et al.*, 2021). They also have greater financial capacity to experiment with new practices recommended through information channels. This economic dimension of information utilization creates a potential vicious cycle where poorer farmers, who most need productivity enhancements, face the greatest barriers to accessing and implementing relevant information.

Social capital, manifested through membership in farmer organizations, participation in community groups, and density of social networks, significantly enhances

information access and utilization (Arouna *et al.*, 2021). Socially well-connected farmers benefit from information sharing within their networks, access to collective information resources, and peer support in implementing new practices. This social dimension of information utilization underscores the importance of strengthening farmer organizations and community networks as platforms for information exchange and collective learning.

2.11 Policy Recommendations for Enhancing Agricultural Information Utilization

Enhancing agricultural information utilization among arable crop farmers in Ikpoba-Okha requires comprehensive policy interventions that address the multiple constraints identified in the literature. These recommendations focus on improving information access, relevance, and application across different farmer categories.

Strengthening extension services should be a priority for policymakers. This includes increasing the number of extension agents, improving their training, and equipping them with appropriate resources and mobility support (Onyeneke *et al.*, 2021). Extension services should also be reoriented to focus more on facilitating information access rather than merely delivering preset messages, empowering farmers to become proactive information seekers. Regular training programs for extension agents on emerging agricultural technologies and effective communication methods would enhance their capacity to serve as credible information sources.

Leveraging multiple information channels can help reach diverse farmer groups with varying preferences and capacities. Policy should support the development of integrated information systems that combine traditional channels like radio with emerging digital platforms (Arouna *et al.*, 2021). Particular attention should be given to ensuring that digital information initiatives address connectivity challenges in rural areas and are designed for accessibility by farmers with limited digital literacy. Subsidies or community-based access models could help overcome cost barriers associated with digital information access.

Developing localized content is essential for enhancing the relevance and applicability of agricultural information. Research and extension systems should prioritize the contextual adaptation of generic recommendations to suit local conditions in Ikpoba-Okha (Oyetunde-Usman *et al.*, 2021). This includes translating technical information into practical, actionable advice that considers local resource constraints, farming systems, and socioeconomic contexts. Participatory approaches that involve farmers in content development can help ensure that information addresses their priority concerns and is presented in accessible formats.

Addressing structural constraints that limit information access for vulnerable groups is crucial for equitable agricultural development. Specific measures should target women farmers, youth, and resource-poor farmers who face additional barriers to information access (Onyeneke *et al.*, 2021). These could include women-focused extension

programs, youth-friendly digital platforms, and pro-poor information services that minimize cost barriers. Affirmative action in information provision can help prevent the reinforcement of existing socioeconomic disparities through unequal information access.

Promoting media pluralism and competition in agricultural information delivery can enhance quality and innovation. Policy should create an enabling environment for diverse information providers, including private sector actors, civil society organizations, and farmer-led initiatives (Arouna *et al.*, 2021). Regulatory frameworks should ensure information quality while encouraging innovation in information services. Support for community radio stations, farmer-produced content, and local information entrepreneurs can help diversify the information landscape and make it more responsive to farmer needs.

Building farmers' capacity to seek, evaluate, and utilize information is as important as improving information supply. Policy should support farmer education and literacy programs, digital skills training, and critical thinking development (Oyetunde-Usman *et al.*, 2021). These capacity-building efforts should target not only technical agricultural knowledge but also information literacy skills that enable farmers to navigate the complex information landscape and make informed decisions about which information to trust and apply.

Establishing feedback mechanisms between information users and providers can enhance the relevance and quality of agricultural information over time. Policy should institutionalize systems for collecting farmer feedback on information services and using this feedback to improve content and delivery methods (Onyeneke *et al.*, 2021). Regular assessments of information needs and utilization patterns can help information providers stay responsive to evolving farmer priorities and changing agricultural contexts.

2.12 Empirical Review

Recent empirical studies provide valuable insights into information source utilization patterns among arable crop farmers in Nigeria, with specific relevance to the context of Ikpoba-Okha Local Government Area in Edo State.

A study by Okoedo-Okojie and Ewere (2020) examined information source utilization among 200 arable crop farmers in Edo State, focusing specifically on cassava and maize producers. The study found that radio was the most widely accessed information source (92% of farmers), followed by fellow farmers (88%) and mobile phones (76%). However, when assessing frequency of use, fellow farmers were consulted most regularly, with 65% of farmers reporting daily or weekly consultations. The study also revealed significant disparities in digital information access, with only 32% of farmers over 50 years old regularly using mobile-based information services

compared to 78% of farmers under 35 years. These findings highlight the enduring importance of traditional information sources while indicating generational differences in the adoption of digital channels.

Research by Adebayo and Sanni (2023) investigated the relationship between socioeconomic characteristics and information source preferences among 150 arable crop farmers in Southern Nigeria. The study employed regression analysis and found that education level had the strongest positive correlation with the use of formal information sources such as extension services and digital platforms. Farm size was also significantly correlated with information source diversity, with larger-scale farmers accessing an average of 4.2 different information sources compared to 2.7 sources for small-scale farmers. The study also identified significant gender differences, with women farmers relying more heavily on interpersonal networks and less on formal institutions, highlighting the need for gender-sensitive information delivery approaches.

A comprehensive study by Balogun and Adeyemo (2024) assessed the impact of digital information platforms on agricultural productivity among 180 arable crop farmers in South-West Nigeria. The research found that farmers who regularly used mobile-based information services achieved 23% higher yields for maize and 18% higher yields for cassava compared to non-users. However, the study also identified significant barriers to digital information adoption, including network connectivity

issues (reported by 68% of farmers), high data costs (61%), and limited digital literacy (49%). These findings suggest that while digital platforms offer significant potential for improving agricultural productivity, addressing access barriers is crucial for realizing this potential equitably.

Ifeanyi-obi *et al.* (2023) conducted research on information needs and seeking behavior among 120 arable crop farmers in Niger Delta region, which includes Edo State. The study found that pest and disease management information was the most frequently sought category (requested by 85% of farmers), followed by market price information (78%) and weather forecasts (72%). Regarding source preferences, extension agents were rated as the most trustworthy source, but were only accessible to 42% of farmers. Radio programs were the most accessible trustworthy source, available to 88% of farmers. The study also revealed that farmers typically consulted 2-3 different sources to verify important information, indicating sophisticated information evaluation strategies despite limited formal education.

Nwachukwu and Adebayo (2022) examined constraints to agricultural information utilization among 100 smallholder crop farmers in South-South Nigeria. The study identified the high cost of information technologies as the most significant barrier, reported by 82% of farmers. Other major constraints included limited extension contact (76%), poor network connectivity for digital services (71%), and information irrelevance to local conditions (65%). The research also found that farmers who

participated in cooperatives faced fewer constraints and utilized more information sources, suggesting the importance of collective action in overcoming individual limitations.

A recent study by Eze and Okoro (2024) explored the effectiveness of different information delivery methods for arable crop farmers in similar contexts to Ikpoba-Okha. The research compared demonstration plots, farmer field schools, radio programs, and SMS alerts, finding that demonstration plots were most effective for complex skills like integrated pest management, while SMS alerts were most effective for time-sensitive information like market prices. The study recommended combining multiple delivery methods to address different types of information needs, with particular emphasis on visual and practical methods for farmers with limited literacy.

These empirical studies collectively demonstrate that arable crop farmers utilize diverse information sources based on accessibility, reliability, and relevance to their specific needs. While digital platforms offer growing potential, traditional sources like radio and interpersonal networks remain crucial, particularly for older farmers and those with limited education. The findings underscore the importance of developing multifaceted information systems that address the varying needs and constraints of different farmer categories in Ikpoba-Okha and similar contexts.

CHAPTER THREE

METHODOLOGY

3.1 Study Area and Scope

This study was carried out in Edo State, one of the 36 States in Nigeria, located in the South-South geopolitical zone. Edo State shares boundaries with Kogi State to the north, Delta State to the east and south, and Ondo State to the west. It lies between latitudes 5.44° and 7.34° North and longitudes 5.40° and 6.45° East, covering a total land area of 19,187 square kilometers (7,494.92 square miles). The State has an estimated population of 4,777,000 (Nigeria Data Portal, 2021) and is administratively divided into eighteen local government areas, including Akoko-Edo, Egor, Esan Central, Esan North-East, Esan South-East, Esan West, Etsako Central, Etsako East, Etsako West, Igueben, Ikpoba-Okha, Oredo, Orhionmwon, Ovia North-East, Ovia South-West, Owan East, Owan West, and Umunwonde.

Specifically, this study focuses on Ikpoba-Okha Local Government Area. Ikpoba-Okha is predominantly agrarian, with arable crop farming being a major economic activity. In the area of agriculture, farmers in Ikpoba-Okha LGA, like those in other parts of Edo State, are involved in the cultivation of a variety of arable crops such as yam, cassava, maize, cocoyam, and vegetables.

3.1.2 Population of the Study

The population of the study consists of arable crop farmers in Ikpoba-Okha Local Government Area, Benin City, Edo State.

3.2 Sampling Procedure and Sample Size

A two-stage sampling procedure was employed to select respondents for the study.

The first stage involved the purposive sampling of four communities (Uhie, Obaretin, Uroho, and Ogheghe) from 9 major farming communities in Ikpoba-Okha LGA, based on prevalence of arable crop farming activities. The sampling frame of practicing arable crop farmers was obtained from Edo State Agricultural Development Programme (ADP) to guide the selection.

The second stage involved the use of a simple random sampling of 20 arable crop farmers from each selected community, yielding a total sample size of 80 respondents.

3.3 Types and Sources of Data

Data for this study was collected from primary sources. Primary data was obtained through the administration of structured questionnaires designed to align with the study's objectives. Literature was sourced from relevant journals, articles, textbooks, news publications, and online resources.

3.4 Measurement of Variables

Independent Variables

Socio-economic characteristics of the respondents
Age: Respondents were asked their age in years.

Sex: It was measured using the options of male or female.

Marital status: Respondents were asked to indicate their marital status, i.e, Single, Married, Divorced, Widow/Widower, or Others.

Educational level: Respondents were asked to indicate their level of education as: No formal education, Primary, Secondary, or Tertiary.

Type of arable crop grown: This was measured by listing crops such as Cassava, Maize, Yam, Vegetable, or Others (to be specified).

Farm Size: The farm size was measured in hectares (Ha).

Farming Experience: The farming experience of respondents was measured in years.

Income: Respondents were asked to indicate their income level, which will be measured in Naira.

Household size: This was measured by the number of persons residing in the respondents' household.

Extension contact: Respondents were asked to indicate whether they have had contact with an extension agent (Yes or No).

Dependent variables

Agricultural information sources among respondents: Respondents' were asked their sources of agricultural information. Descriptive statistics such as means, percentages, standard deviation and frequency counts were used to achieve this objective.

Access to agricultural information: Respondents were asked to indicate the sources of agricultural information they access. This was measured using a 5 point likert scale: Very accessible (5), Accessible (4), Moderately accessible (3), Less accessible (2), Not accessible (1).

Preferred sources of agricultural information: Respondents were asked their preferred sources of agricultural information. This was measured using a 5 point likert scale: Strongly prefer (5), Prefer (4), Neutral (3), Less prefer (2), Not prefer (1).

Frequency of use of information sources: Respondents were asked their frequency of use of information sources. This was measured using a 5 point likert scale of: Daily (5), Weekly (4), Monthly (3), Occasionally (2), Never (1).

Motivational factors for seeking and utilizing information: Respondents were asked to indicate factors that motivate them to seek and use agricultural information (e.g., improved yields, market access, government policies). This was measured using a 5point Likert scale Strongly Agree (5), agree (4), Neutral (3), Disagree (2), Strongly disagree (1).

Constraints in accessing and utilizing agricultural information: Respondents were asked to indicate the extent to which various factors constrain their access to and use of agricultural information. This was measured using a 5-point Likert scale ranging from Major Constraint (5), significant constraint (4), moderate constraint (3), slight constraint (2), not a constraint (1).

3.5 Data Analysis

Objective 1: Descriptive statistics such as means, percentages, standard deviation, and frequency counts were employed to achieve objective this objective

Objective 2-7: This was achieved using a mean score.

Inferential statistics tools such as Multiple linear regression and logistic regression were used to test hypotheses

3.6 Test for Hypothesis

Hypothesis one

H₀₁: There is no significant relationship between the socio-economic characteristics of respondents and their access to agricultural information sources. This was tested using Multiple Linear Regression.

$Y = a + b_1x_1 + b_2x_2 + b_3x_3 + \dots b_nx_n$ Where: a = correlation coefficient

x₁ = age x₂ = household size x₃ = farm size x₄ = experience

Hypothesis two

H₂₀: There is no significant relationship between farmers' socio-economic characteristics and their frequency of use of agricultural information sources. This was tested using logistic regression.

The logit regression model is specified as:

$$\Pr(Y=1|X) = \ln[P / (1 - P)] = a + b_0X_1 + b_2X_2 + b_3X_3 + \dots + b_4X_4 + U \dots\dots\dots (1) \text{ Where:}$$

ln = Natural logarithm

Pr(Y=1|X) = Probability of Y occurring given X₁, X₂, ..., X_n

a = Constant term coefficient b₀, b₁, b₂, ..., b_n = Coefficients of independent variables

x₁, X₂, ..., X_n = Independent variables

U = Error term

The mathematical expression of the model can be written explicitly as:

$$Y_i = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 + b_8X_8 + U \dots\dots\dots (2)$$

CHAPTER FOUR

RESULTS AND DISCUSSION

This chapter presents the results obtained from the field survey conducted in Ikpoba-Okha Local Government Area of Edo State on information source utilization among arable crop farmers. The results are discussed according to the study objectives.

4.1 Socio-economic Characteristics of Arable Crop Farmers in the Study Area

The socio-economic characteristics of the arable crop farmers are presented in Table 1.

4.1.1 Age distribution

The average age of respondents was approximately 45 years, indicating a predominantly middle-aged farming population. This demographic pattern is consistent with rural farming communities across southern Nigeria, where ageing farmer populations often demonstrate slower adoption of digital information channels (Olayemi *et al.*, 2022). Age also shapes the type of information sources farmers rely on, with older respondents tending to prefer interpersonal and traditional extension methods, which they perceive as more trustworthy and easier to navigate. However, contrasting findings from northern Kaduna show younger farmers (mean age 38 years) are rapidly shifting toward ICT-based information due to higher digital literacy and greater exposure to youth-focused empowerment programs (Suleiman and Musa, 2023). This contrast suggests that age influences information-source utilization

differently across regions, largely shaped by local economic opportunities and technology exposure.

4.1.2 Sex

The study revealed that 54.9% of respondents were male, while 45.1% were female, showing that arable crop farming in the study area is male-dominated though female participation remains substantial. For information source utilization among arable crop farmers in Ikpoba-Okha, this gender distribution highlights the need to tailor extension messages differently, as male farmers may prioritize field-based advisory services while females, often engaged in post-harvest activities, could benefit more from sources focused on marketing and value addition. This agrees with Adamu *et al.* (2022), who observed similar gender patterns, explaining that men are often more involved in field operations while women contribute mainly to processing and marketing activities. Obayelu *et al.* (2019) further noted that gender disparities in land and credit access restrict women's productivity despite their active role in farming. The significant involvement of women (45.1%) underscores their crucial role in the agricultural value chain, particularly in processing and marketing, and points to the necessity of ensuring that agricultural information and extension services are gender-sensitive to effectively reach all practitioners.

4.1.3 Marital status

Results in Table 1 shows that a large majority (73.2%) of the farmers were married. Among arable crop farmers in Ikpoba-Okha Local Government Area, this prevalent marital status facilitates the dissemination of agricultural information through intra-household networks, where spouses and children can share insights from various sources, thereby amplifying the reach and adoption of recommended practices. This high percentage indicates stability and access to family labour, which is common among smallholder farming households. This marital structure provides a reliable labour pool that can be instrumental in implementing new farming techniques learned through information sources, as family units often work collectively. Married farmers are also more likely to remain in agriculture as a sustainable livelihood (Ifeanyi-Obi and Iferobia, 2024). Family labour contributes to reducing production costs and enhances information sharing within households, promoting technology adoption.

4.1.4 Educational level

A promising 80.4% of the farmers had at least a primary education, with 46.3% attaining secondary level and 34.1% possessing tertiary education. Only 7.3% had no formal education. This relatively high literacy rate is a positive asset for information source utilization as educated farmers are better equipped to understand complex agricultural advisories, interpret written materials, and engage with digital platforms like mobile apps and the internet (Ifeanyi-Obi and Iferobia, 2024). In comparable contexts, such as Ondo State, higher education levels (secondary and above) have

been linked to 25-30% greater utilization of ICT-based information for crop disease management (Ale *et al.*, 2023), underscoring the potential for Ikpoba-Okha farmers to leverage print and online resources more effectively if targeted interventions address residual literacy gaps.

4.1.5 Household size

As shown in Table 1, the mean household size was 5 persons, with 69.5% of farmers having between one and five members. This is in agreement with Habanyama and Chibomba (2025), who reported a similar average among smallholder farmers in Mkushi District, Zambia. Household size also influences the extent to which farmers access and utilize agricultural information sources; moderately sized households often demonstrate better engagement with extension services and information channels, as they can allocate time and labour for both farm work and knowledge-seeking activities. They observed that while larger households provide potential labour advantages, excessive household size can create consumption pressure, ultimately reducing per capita income and limiting savings for farm investment. Moderate household sizes are typical among smallholder farmers and provide readily available labour for farm operations.

4.1.6 Farming experience

The farmers had an average of 15 years of farming experience, indicating a community rich in practical, field-based knowledge. This level of experience plays a pivotal role in how farmers access, evaluate, and utilize agricultural information. Experienced farmers typically possess strong interpersonal networks built over years of participation in cooperative groups, communal labor systems, and local market interactions. These networks increase their likelihood of accessing reliable information from peers, input dealers, and informal extension actors.

Furthermore, farmers with deeper experience are more adept at interpreting the relevance of information particularly weather advisories, pest alerts, or price trends because they can compare new information with their accumulated indigenous knowledge. This aligns with observations in Niger State, where farmers with more than 12 years of experience were 30–40% more likely to use interpersonal information channels effectively (Funom and Ogbemudia, 2021). However, contrasting evidence shows that in highly commercialized farming zones, such as parts of Ogun State, long farming experience may actually reduce reliance on formal extension and digital sources, as older farmers become over-dependent on habitual practices (Adeyemo and Rahman, 2023). For Ikpoba-Okha farmers, the positive association between experience and information access suggests that experience strengthens—not weakens their information-seeking behavior, especially through community-based channels.

4.1.7 Farm size

As shown in Table 1 the average farm size was 2.02 hectares, with 70.7% cultivating two hectares or less, classifying them as smallholders. This prevalence of small-scale farming underscores the importance of information sources that promote intensive and efficient land use practices to maximize output from available land. Adetimehin *et al.* (2018) reported that smallscale farms dominate Nigeria’s agricultural landscape and that limited land ownership constrains mechanization and large-scale adoption of modern technologies. Nonetheless, smaller farms often allow for intensive management and diversified cropping systems that enhance food security.

This concurs with Garba *et al.* (2021) reported that most Nigerian farmers operate on small parcels of land.

4.1.8 Income

The respondents reported an average monthly income of approximately ₦73,800, with nearly 90% earning below ₦100,000. This low-income profile is a critical determinant of information source utilization because it limits the ability to afford data subscriptions, smartphones, newspapers, transportation to extension offices, and sometimes even radio batteries. Low income also restricts a farmer’s capacity to act on newly acquired agricultural information (e.g., buying improved seeds or fertilizers), which decreases motivation to seek such information regularly.

Despite these limitations, low-income farmers tend to rely heavily on cost-free information channels, such as fellow farmers, cooperatives, radio programs, and WhatsApp groups. These channels require minimal financial investment, explaining their high utilization rates in the study area. Similar trends were observed in Kwara State, where smallholders earning below ₦120,000 monthly reported over 70% dependence on informal and mass media sources due to cost barriers associated with ICT platforms (Yusuf *et al.*, 2021).

In contrast, studies from Anambra's peri-urban zones reveal that increases in farm income correspond with higher use of digital tools such as online market platforms, YouTube tutorials, and subscription-based advisory apps (Ezenwa and Okoye, 2023). This demonstrates that income plays a complex but crucial role: low income pushes farmers toward accessible informal channels, while higher income expands access to diverse, technology-enabled information sources.

4.1.9 Types of arable crops grown

The study identified a strong focus on staple crops. Cassava (80.5%) and Maize (79.3%) were the most widely cultivated, underscoring their economic and food security importance in Ikpoba-Okha. Yam (51.2%) and Vegetables (37.8%) were also significant. This crop mix directly influences the type of agricultural information farmers are most motivated to seek, such as techniques for cassava processing, maize storage, or vegetable pest management. Crop-specific demands align with findings

from Niger State, where soybean farmers similarly prioritize information on high-value staples, favoring interpersonal channels for localized pest and yield advice (Funom and Ogbemudia, 2021).

4.1.10 Extension contact

The study revealed that about 52.4% of farmers reported contact with extension agents, though such contact was mostly rare or occasional. This gap in formal advisory services directly shapes information source utilization, pushing farmers to rely more heavily on informal networks to fill the information void left by the under-resourced extension system. The infrequent nature of this contact (53.7% rarely, 40.2% occasionally) reveals a significant gap in the formal agricultural support system, pushing farmers to rely more heavily on informal information networks. This result is in contrast with Ehilenboadiaye *et al.* (2021), who found 97.45% of farmers had contact with extension agents. This discrepancy may be due to funding and staff shortages that restrict extension services, alongside poor infrastructure that isolates rural communities. The change is also driven by low farmer awareness of available support and an increasing reliance on digital platforms, which can leave behind those without technology. This limited interaction reflects the low extension-to-farmer ratio nationwide. In Kwara State, similar low contact rates (below 60%) have been attributed to agent shortages and logistical barriers, leading to over 70% of farmers defaulting to peer consultations (Yusuf *et al.*, 2021).

Table 1: Socio-economic characteristics

Variable	Freq.	%	Mean	Std. dev.
Age in years				
≤ 30.00	8	9.8		
31.00 - 40.00	16	19.5	44.89	10.24
41.00 - 50.00	31	37.8		
51.00 and above	27	32.9		
Sex				
Male	45	54.9		
Female	37	45.1		
Marital Status				
Single	15	18.3		
Married	60	73.2		
Divorced	2	2.4		
Widowed	5	6.1		
Educational Level				
No formal education	6	7.3		
Primary	10	12.2		
Secondary	38	46.3		
Tertiary	28	34.1		
Household Size				
≤ 5.00	57	69.5		

Table 1: Socio-economic characteristics Cont'd

6.00 - 10.00	22	26.8	4.65	2.08
11.00 and above	3	3.7		
Farming Experience in years				
≤ 10.00	35	42.7		
11.00 - 20.00	29	35.4	15.45	9.86
21.00 - 30.00	11	13.4		
31.00 and above	7	8.5		
Farm Size in hectares				
≤2.00	58	70.7		
2.01 - 5.00	19	23.2	2.02	1.79
5.01 and above	5	6.1		
Type of arable crops grown				
Cassava	66	80.5		
Maize	65	79.3		
Yam	42	51.2		
Vegetables	31	37.8		
Others (specify)	3	3.7		
Monthly Income in naira				
≤ 100000.00	74	90.2		

Table 1: Socio-economic characteristics Cont'd

100001.00 - 200000.00	7	8.5	73841.46	40779.8878
			3	
200001.00 and above	1	1.2		
Access to extension agents	43	52.4		
If yes how often				
Rarely	44	53.7		
Occasionally	33	40.2		
Frequently	5	6.1		

Source: Field Survey, 2025.

4.2 Sources of Agricultural Information among Arable Crop Farmers

The assessment of available information sources is central to understanding information source utilization. As shown in Table 2, farmers in Ikpoba-Okha leverage a diverse mix of channels, with a clear preference for informal and social networks, consistent with diffusion of innovations theory where proximity and trust drive adoption in resource-scarce settings. An overwhelming 97.6% of farmers cited fellow farmers as their source of information, followed closely by cooperative associations (95.1%). This highlights that information source utilization in this region is profoundly social and community-based. Farmers trust the practical, localized knowledge gained from their peers, a pattern echoed in Niger State where interpersonal sources ranked highest (mean utilization score 4.22) among soybean growers due to their timeliness and cultural relevance (Funom and Ogbemudia, 2021). Traditional mass media like radio (86.6%) and television (85.4%) remain highly accessed, valued for their wide reach and affordability, particularly in areas with limited literacy, as radio alone accounts for 80-90% of broadcast info uptake in rural Nigeria (Abegunrin, 2021).

Notably, modern digital platforms show significant penetration, with mobile phones/internet (86.6%) and specific applications like WhatsApp (79.3%) being widely used. This indicates a dual pattern of information source utilization, where farmers are progressively integrating digital tools alongside traditional methods, driven by affordability of basic smartphones. In Oyo State, similar adoption rates

(82.9% for WhatsApp and Facebook) among arable farmers have enhanced access to market and weather advisories, though unevenly across gender lines (Olayemi *et al.*, 2022). In contrast, formal sources like extension agents (54.9%) and research institutions (36.6%) are utilized by fewer farmers, pointing to a significant gap between the availability of scientific knowledge and its reach to the end-user. This underutilization persists nationwide, with extension coverage dropping to 50% in southern states due to funding shortfalls (Bashir *et al.*, 2022).

Table 2: Sources of information

Source of information	Freq.	%
Extension agents	45	54.9
Fellow farmers	80	97.6
Radio	71	86.6
Television	70	85.4
Newspapers/Magazines	56	68.3
Research institutions	30	36.6
Internet/Mobile phone	71	86.6
WhatsApp	65	79.3
Cooperative/farmer associations	78	95.1
Family/friends	51	62.2
NGOs	37	45.1
Agricultural input dealers	68	82.9
Facebook	54	65.9
YouTube	50	61
Instagram	38	46.3
Exhibitions/Seminars/Workshops	46	56.1
Hearsay	45	54.9
Textbooks	39	47.6

Source: Field Survey, 2025.

4.3 Access to Agricultural Information Sources

Table 3 reveals a critical insight into information source utilization regarding what farmers can easily access. Fellow farmers are the most accessed source ($\bar{x}=4.58$), followed by family and friends ($\bar{x}=4.44$) and radio ($\bar{x}=4.21$). This indicates that informal, interpersonal, and traditional mass media channels are the most readily available to farmers in Ikpoba-Okha.

In contrast, formal sources like extension agents and research institutions have relatively low access scores ($\bar{x}=2.82$ and $\bar{x}=2.58$, respectively). This signifies significant barriers in reaching expert, scientific information sources, a finding consistent with challenges in extension service delivery noted by recent studies (Iwuchukwu et al., 2023). In Taraba State, this access gap leads to 60% of arable farmers forgoing verified advisories, opting instead for input dealers despite lower trust (Bashir et al., 2022).

Digital platforms such as WhatsApp ($\bar{x}=3.86$) and internet/mobile phones ($\bar{x}=3.82$) show moderate accessibility, suggesting that while these tools are present, issues like connectivity and cost may prevent them from being as accessible as traditional interpersonal networks.

Table 3: Access to information sources among farmers

Information Source	Access (Mean)	Access (Std.)
---------------------------	--------------------------	--------------------------

		Dev.)
Fellow Farmers	4.58	0.64
Radio	4.21	1.07
Family/Friends	4.44	0.77
Whatsapp	3.86	1.26
Internet/Mobile Phone	3.82	1.25
Agricultural Input Dealers	3.97	1.09
Cooperative/Farmer Associations	3.75	1.16
Television	3.96	1.23
Exhibitions/Seminars/Workshops	3.2	1.33
Extension Agents	2.82	1.61
Newspapers/Magazines	3.6	1.25
Research Institutions	2.58	1.23
Facebook	3.61	1.24
YouTube	3.34	1.32
Instagram	3.05	1.34
Hearsay	3.56	1.22
Textbooks	2.93	1.45
NGOs	2.87	1.14

Note: Mean \geq 3.0 = High access.

Source: Field Survey, 2025.

4.4 Preference for Agricultural Information Sources

The data on farmer preference, also in Table 4, tells a different story from mere access, highlighting a strong, unmet demand for expert knowledge. While fellow farmers are both the most accessed and most preferred ($\bar{x}=4.38$) source, a significant preference-access gap exists for formal sources. Extension agents and research institutions have much higher preference scores ($\bar{x}=3.56$ and $\bar{x}=3.62$, respectively) than access scores. Farmers value these formal sources but face significant barriers in reaching them. Agricultural input dealers ($\bar{x}=4.35$) and cooperative associations ($\bar{x}=4.13$) are also highly preferred, indicating that farmers value sources that are both practical and seen as having useful expertise. Conversely, hearsay is moderately accessed but is the least preferred source ($\bar{x}=2.93$), indicating that farmers are aware of its unreliability and do not actively seek it out, aligning with trustworthiness rankings where informal rumors score lowest in maize farming contexts (Abegunrin, 2021).

Table 4: Preference for information sources among farmers

Information Source	Preference (Mean)	Preference (Std. Dev.)
Fellow Farmers	4.38	0.64
Radio	4.2	1.04
Family/Friends	4.29	0.73

Whatsapp	3.75	1.22
Internet/Mobile Phone	3.75	1.1
Agricultural Input Dealers	4.35	0.97
Cooperative/Farmer Associations	4.13	0.92
Television	4.11	1.2
Exhibitions/Seminars/Workshops	4.09	0.94
Extension Agents	3.56	1.33
Newspapers/Magazines	3.71	1.1
Research Institutions	3.62	1.06
Facebook	3.43	1.14
YouTube	3.51	1.18
Instagram	3.23	1.24
Hearsay	2.93	1.2
Textbooks	3.18	1.25
NGOs	3.43	1.11

Note: Mean \geq 3.0 = High preference

Source: Field Survey, 2025.

4.5 Frequency of use of information sources

The frequency of use, detailed in Table 5, completes the picture of information source utilization by showing which channels are integrated into farmers' regular routines, revealing a hierarchy favoring interactive and low-cost options. Interestingly,

extension agents recorded the highest frequency of use ($\bar{x}=4.27$). This, when contrasted with their low access score, implies that the farmers who do manage to access these agents engage with them very intensively and regularly. This underscores their immense value within the ecosystem of information source utilization for those who are reached, as intensive contacts yield 20-30% higher adoption rates of recommended practices (Olayemi *et al.*, 2022). Cooperative associations ($\bar{x}=3.95$), fellow farmers ($\bar{x}=3.78$), and radio ($\bar{x}=3.78$) are also used frequently, confirming their role as reliable and consistently tapped resources, particularly for real-time advisories like weather forecasts (Abegunrin, 2021). The frequency of use for digital platforms like WhatsApp ($\bar{x}=2.68$) and Facebook ($\bar{x}=2.56$) is moderate, suggesting that while these tools are available, they are not yet primary channels for routine agricultural information. This could be due to data costs, digital literacy, or a preference for oral communication, as evidenced in Ondo State where mobile apps see only 50-60% weekly engagement for disease management due to connectivity issues (Ale *et al.*, 2023).

The infrequent use of newspapers and textbooks aligns with literacy barriers and a preference for more interactive or auditory sources, a trend where print media utilization drops below 40% in low-income rural cohorts (Funom and Ogbemudia, 2021).

Table 5: Frequency of use of information sources

Information source	Mean	Std. D
Extension Agents	4.27	0.91
Fellow Farmers	3.78	1.47
Radio	3.78	1.52
Television	3.05	1.44
Newspapers/Magazines	1.89	1.00
Research Institutions	3.39	1.46
Internet/Mobile Phone	3.46	1.60
Whatsapp	2.68	1.20
Cooperative/Farmer Associations	3.95	1.33
Family/Friends	2.09	1.06
NGOS	2.90	1.06
Agricultural Input Dealers	2.62	1.36
Facebook	2.56	1.36
Youtube	2.40	1.38
Instragram	2.40	1.01
Exhibitions/Seminars/Workshops	2.75	1.48
Hearsay	2.40	1.29
Textbooks	2.19	0.42

Source: Field Survey, 2025. *Mean \geq 3.0 = Frequent

4.6 Motivational Factors for Seeking and Utilizing Agricultural Information

Understanding what drives farmers to look for information is key to enhancing information source utilization. The results in Table 6 show that motivation is primarily pragmatic and economic, rooted in survival imperatives amid volatile markets and climate risks. The strongest motivators for information source utilization were increasing yield ($\bar{x}=4.51$) and improving income ($\bar{x}=4.50$). This demonstrates that farmers perceive information as a direct input for enhancing profitability and food security, with yield-focused motivations driving 85% of info-seeking behaviors in Oyo State (Abegunrin, 2021). Other high-ranking motivators like access to market information ($\bar{x}=4.40$) and reducing pest losses ($\bar{x}=4.35$) highlight a focus on both offensive (maximizing profit) and defensive (minimizing loss) strategies, particularly for staples like maize where pest info via peers boosts resilience (Funom and Ogbemudia, 2021). The desire for modernization ($\bar{x}=4.34$) indicates an openness to change, which is a positive signal for introducing new information channels, as ICT exposure correlates with 15% higher modernization scores among extension-linked farmers (Olayemi *et al.*, 2022). The relatively lower score for online platforms ($\bar{x}=3.56$) suggests that while digital tools are used, they are not yet a primary driver for seeking information, reinforcing the need for a blended approach to dissemination that integrates digital with trusted interpersonal elements (Ale *et al.*, 2023).

Table 6: Motivational Factors for Seeking and Utilizing Agricultural Information

Motivational factor	Mean	Std. Dev.
To increase yield and productivity	4.51	0.55
To improve income	4.50	0.55
To reduce losses from pests/diseases	4.35	0.79
Access to market information	4.40	0.65
Government policy and subsidy awareness	4.01	0.71
Peer influence	3.73	0.77
Training or extension exposure	4.15	0.76
Credit/loan access	4.04	0.69
Technology demonstrations	4.06	0.71
Participation in farmers' groups	3.96	0.74
Desire for modernization	4.34	0.72
Influence of online platforms	3.56	1.02

Source: Field Survey, 2025. *Mean \geq 3.0 = High

4.7 Constraints to Accessing and Utilizing Agricultural Information

Despite the high motivation, several barriers impede effective information source utilization. As shown in Table 7, these constraints are largely infrastructural, financial, and institutional, perpetuating a cycle of suboptimal decision-making in arable farming. The high cost of modern technologies ($\bar{x}=4.74$) was the most severe constraint. This directly affects information source utilization by limiting the adoption of tools like smartphones and the internet, and more importantly, it prevents farmers from acting on the information they receive (e.g., being unable to afford improved seeds recommended on a radio program). In Kwara State, cost barriers alone reduce digital engagement by 65% among smallholders (Yusuf *et al.*, 2021). Poor access to extension services ($\bar{x}=4.56$) and irregular power supply ($\bar{x}=4.50$) cripple the effectiveness of both formal advisory services and electronic media, with power outages cited as a top deterrent in 70% of rural surveys (Olayemi *et al.*, 2022). Poor internet connectivity ($\bar{x}=4.30$) and lack of ICT devices ($\bar{x}=4.21$) are significant bottlenecks for digital information source utilization, echoing findings from Taraba where poor infrastructure halves extension reach (Bashir *et al.*, 2022). Furthermore, issues like lack of trust and information that is not locally relevant reduce the effectiveness of the information that does manage to get through, as non-localized content leads to 40% lower adoption rates in Niger State (Funom and Ogbemudia, 2021).

Table 7: Constraints to Accessing and Utilizing Agricultural Information

Constraints	Mean	Std. Dev.
Poor access to extension services	4.56	0.77
High cost of modern technologies	4.74	0.44
Illiteracy/difficulty understanding info	4.09	1.25
Poor internet connectivity	4.30	0.94
Lack of access to ICT devices	4.21	0.88
Lack of relevant/localized info	3.99	0.84
Lack of trust in information source	4.15	0.86
Language barrier	3.94	1.02
Geographic limitations	4.25	0.82
Political interference	3.87	1.03
Time constraints	3.96	0.97
Cultural barriers gender roles) (e.g., traditional beliefs,	4.07	0.97
Irregular power supply	4.50	0.85

Source: Field Survey, 2025. *Mean \geq 3.0 = High constraints.

4.8 Test of Hypotheses

4.8.1 Relationship between Socio-economic characteristics and access to information sources

Hypothesis 1: There is no significant relationship between the socio-economic characteristics of farmers and access to agricultural information sources.

The regression analysis presented in the first hypothesis table reveals a significant model (Fstatistic significant at $p < 0.05$) with an R Square of 0.156, indicating that the included socioeconomic variables explain 15.6% of the variation in access to information sources. Specifically, two variables were found to have a significant relationship with access:

- Age had a significant negative relationship with access (Beta = -0.414, $p = 0.013$).

This implies that older farmers in Ikpoba-Okha have less access to information sources, likely due to lower adoption of digital channels and a greater reliance on traditional, fixed networks. This aligns with Oyo State findings where age negatively predicts ICT access ($\beta = -0.28$, $p < 0.05$), as older cohorts face steeper learning curves for apps like WhatsApp (Olayemi *et al.*, 2022).

Farming Experience had a significant positive relationship (Beta = 0.472, $p = 0.012$).

This suggests that more experienced farmers have established broader social and professional networks, giving them better access to various information channels, a pattern where experience boosts interpersonal source utilization by 35% (Abegunrin, 2021).

Variables like household size, farm size, and income were not significant predictors of access. Therefore, the null hypothesis is rejected. These specific socio-economic characteristics are significantly related to how arable crop farmers in Ikpoba-Okha access agricultural information, with implications for age-targeted extension programs to bridge generational divides.

Table 8.1 Relationship between Socio-economic characteristics and access to information sources

	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t	
Constant	68.665	9.617		7.140	0.000
Age	-0.588	0.231	-0.414	-2.547	0.013
Household size	0.044	0.948	0.006	0.046	0.963
Farm experience	0.691	0.269	0.472	2.565	0.012
Farm size	-0.212	1.538	-0.026	-0.138	0.891
Income	0.052	0.417	0.066	0.392	0.696

$R^2 = 0.156$; $F = 2.705$; $p = 0.027$

Source: Field Data, 2025

8.2 Relationship between Socio-economic Characteristics and Frequency of Use of Information Sources

Hypothesis 2: There is no significant relationship between farmers' socio-economic characteristics and their frequency of use of agricultural information sources.

The regression model for frequency of use was stronger, explaining 34.1% of the variation (R Square = 0.341). Key findings were:

Age again showed a significant negative relationship (Beta = -0.335, $p=0.023$), confirming that younger farmers are not only better at accessing information but also use it more frequently, consistent with Ondo State data where youth (under 40) exhibit 25% higher digital frequency scores (Ale *et al.*, 2023).

Farm Size had a strong positive relationship (Beta = 0.521, $p=0.003$). Farmers with larger landholdings have more at stake commercially, which motivates them to use information sources more frequently to optimize production and manage risks, as larger farms correlate with 40% greater radio and peer engagement in Niger (Funom and Ogbemudia, 2021).

Income showed a significant negative relationship (Beta = -0.334, $p=0.028$). This counterintuitive result may indicate that farmers with marginally higher incomes in this context are already embedded in stable market or information loops, reducing their need to constantly seek new information, or it could reflect that the income variation within the sample was not large enough to enable different utilization

patterns. Similar paradoxes appear in low-variance income groups, where mid-tier earners rely on cooperatives over active seeking (Bashir *et al.*, 2022).

Based on these results, the null hypothesis is rejected. These characteristics significantly influence how often arable crop farmers in the study area utilize the information sources available to them, suggesting tailored interventions like subsidized ICT training for larger, younger farms to amplify utilization impacts.

Table 4.8.2 Relationship between Socio-economic Characteristics and Frequency of Use of Information Sources

		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t.	Sig.
1	(Constant)	54.658	9.347		5.848	.000
	Age	-.523	.224	-.335	-2.330	.023
	Household size	.599	.922	.078	.650	.518
	Farm experience	.352	.262	.219	1.344	.183
	Farm size	4.595	1.495	.521	3.074	.003
	Income	.000	.000	-.334	-2.245	.028

$R^2 = 0.341$; $F = 7.518$; $p = 0.000$.

Source: Field Data, 2025.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

This study assessed agricultural information source utilization among arable crop farmers in Ikpoba-Okha Local Government Area of Edo State. A survey of 80 farmers revealed a dominance of middle-aged ($\bar{x}=45$ years) and experienced ($\bar{x}=15$ years) males (54.9%), most of whom were married (73.2%) and had secondary education (46.3%). The farmers were primarily smallholders, with an average farm size of 2.02 hectares and a low average monthly income of ₦73,840. Contact with extension agents was limited, with only 52.4% having access, and such contact was mostly rare. The findings showed that farmers heavily relied on informal information sources, with fellow farmers (97.6%), cooperative associations (95.1%), and radio (86.6%) being the most accessed. A key finding was the discrepancy between access and preference; while extension agents and research institutions were highly preferred, access to them was low. Motivations for seeking information were primarily economic, driven by the desire to increase yield ($\bar{x}=4.51$) and improve income ($\bar{x}=4.50$). Major constraints included the high cost of modern technologies ($\bar{x}=4.74$), poor access to extension services ($\bar{x}=4.56$), and irregular power supply ($\bar{x}=4.50$).

Regression analysis confirmed significant relationships between socio-economic characteristics and information use. Age had a significant negative relationship with both access to and frequency of use of information sources, while farming experience positively influenced access, and larger farm size positively influenced the frequency of use.

5.2 Conclusion

The study concludes that while arable crop farmers in the study area are experienced and have a reasonable level of education, their potential is constrained by limited financial capacity and significant barriers to accessing formal, high-quality agricultural information. There is a clear reliance on informal social networks for information, which, while accessible, may not always provide the scientific or technical knowledge needed for improved productivity. The strong expressed preference for, yet limited access to, formal sources like extension agents and research institutions indicates a significant unmet demand for expert guidance. Addressing the identified infrastructural, financial, and institutional constraints is crucial for enhancing information utilization and, consequently, the productivity and sustainability of arable crop farming in the region.

5.3 Recommendations

Based on the findings of this study, the following recommendations are proposed:

2. **Strengthen Formal Extension Services:** Government and agricultural development agencies should prioritize the recruitment, training, and deployment of more extension agents to improve the farmer-to-extension-agent ratio. This will directly address the high farmer preference for and low access to this critical information source (Ogunleye and Abidogun, 2014).
3. **Leverage Existing Informal Networks:** Extension programs should integrate and work through existing strong informal channels, such as cooperative associations and respected fellow farmers, to disseminate validated agricultural information, thereby bridging the gap between formal knowledge and local trust networks.
4. **Improve Rural Infrastructure:** Investments in stable power supply and internet connectivity in rural areas are essential to unlock the potential of digital information platforms like mobile phones and radio, which farmers already access but whose utility is hampered by infrastructural deficits.
5. **Promote Financial Inclusion:** Policies that enhance farmers' access to credit and subsidies are needed to overcome the major constraint of the high cost of modern technologies. This would enable farmers to act upon the information they receive and adopt improved practices.
6. **Develop Tailored Information Programs:** Information dissemination strategies should be tailored to different farmer demographics. For instance, programs for older farmers should consider their lower adoption of new channels, while digital

literacy training could enhance the use of ICT tools among all farmers, as their role is growing (Arangurí *et al.*, 2025).

By implementing these recommendations, stakeholders can significantly improve the sourcing and utilization of agricultural information, leading to enhanced decision-making, productivity, and livelihoods for arable crop farmers in Edo State.

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RESEARCH QUESTIONNAIRE

**DEPARTMENT OF AGRICULTURAL ECONOMICS AND EXTENSION
SERVICES, FACULTY OF AGRICULTURE, UNIVERSITY OF BENIN, BENIN
CITY, EDO STATE**

Dear Respondent,

I am a final year student of the above-named Department conducting a research project titled "Information Source Utilization among Arable Crop Farmers in Ikpoba-Okha Local Government Area, Edo State." I hereby solicit your kind assistance in responding to the questions below with utmost honesty and accuracy. All responses will be treated confidentially and strictly used for academic purposes only.

Thank you for your cooperation.

**Otoakhia Oshioke Nathaniel
Researcher**

Note: Please kindly tick as appropriate

Local Government Area: _____

Community/Town/Village: _____

SECTION A: SOCIO-ECONOMIC CHARACTERISTICS

1. Age: _____ years
2. Sex: Male Female
3. Marital Status: Single Married Divorced Widowed

4. Educational Level: No formal education Primary Secondary
 Tertiary
5. Household Size: _____ persons
6. Farming Experience: _____ years
7. Farm Size: _____ hectares
8. Type of Arable Crops Grown (You may tick more than one): Cassava
 Maize Yam Vegetables Others (specify): _____
9. Monthly Income from Farming: _____
10. a. Do you have access to extension agents? Yes No
- b. If yes, how often? Rarely Occasionally Frequently

SECTION B: SOURCES OF AGRICULTURAL INFORMATION

S/N	Source of Information	Yes	No
1	Extension agents		
2	Fellow farmers		
3	Radio		
4	Television		
5	Newspapers/Magazines		
6	Research institutions		
7	Internet/Mobile phone		
8	WhatsApp		
9	Cooperative/farmer associations		

10	Family/friends		
11	NGOs		
12	Agricultural input dealers		
13	Facebook		
14	YouTube		
15	Instagram		
16	Exhibitions/Seminars/Workshops		
17	Hearsay		
18	Textbooks		

SECTION C: ACCESS TO AGRICULTURAL INFORMATION, THEIR PREFERRED SOURCES AND FREQUENCY OF USE INSTRUCTIONS. FOR ACCESSIBILITY:

Rate how accessible each source is to you using: VA = VERY ACCESSIBLE , A = ACCESSIBLE , MA = MODERATELY ACCESSIBLE, LA = LESS ACCESSIBLE.L, NA = NOT ACCESSIBLE. FOR PREFERENCE: RATE YOUR PREFERENCE FOR EACH SOURCE USING: SP = STRONGLY PREFER, P = PREFER, N = NEUTRAL , LP = LESS PREFER , NP = NOT PREFER

S/N	Information source	Access to information source					Preferred source				
		VA	A	MA	LA	NA	SP	P	N	LP	NP
1	Extension Agents										
2	Fellow Farmers										
3	Radio										
4	Television										
5	Newspapers/Magazines										
6	Research Institutions										
7	Internet/Mobile Phone										
8	Whatsapp										
10	Cooperative/Farmer Associations										
11	Family/Friends										
12	NGOS										
13	Agricultural Input Dealers										
14	Facebook										
15	Youtube										
16	Instragram										
17	Exhibitions/Seminars/Workshops										
18	Hearsay										
19	Textbooks										

SECTION D: FREQUENCY OF USE OF INFORMATION SOURCES

Instructions: Rate how frequent do you use each source using daily, weekly, monthly, occasionally and never

S/N	Source	Daily	Weekly	Monthly	Occasionally	Never
1	Extension agents					
2	Fellow farmers					
3	Radio					
4	Television					
5	Newspapers/Magazines					
6	Research institutions					
7	Internet/Mobile phone					
8	WhatsApp					
9	Cooperative/farmer associations					
10	Family/friends					
11	NGOs					
12	Agricultural input dealers					
13	Facebook					
14	YouTube					
15	Instagram					
16	Exhibitions/Seminars/Workshops					

S/N	Source	Daily	Weekly	Monthly	Occasionally	Never
17	Hearsay					
18	Textbooks					
19	Others (please specify)					

SECTION E: MOTIVATIONAL FACTORS FOR SEEKING AGRICULTURAL INFORMATION

S/N	Motivational Factor	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	To increase yield and productivity					
2	To improve income					
3	To reduce losses from pests/diseases					
4	Access to market information					
5	Government policy and subsidy awareness					
6	Peer influence					
7	Training or extension exposure					

S/N	Motivational Factor	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
8	Credit/loan access					
9	Technology demonstrations					
10	Participation in farmers' groups					
11	Desire for modernization					
12	Influence of online platforms					
13	Others					

SECTION E: CONSTRAINTS IN UTILIZING AGRICULTURAL INFORMATION

S/N	Constraint	Major Constraint	Significant Constraint	Moderate Constraint	Slight Constraint	Not a Constraint
1	Poor access to extension services					
2	High cost of modern technologies					
3	Illiteracy/difficulty					

S/N	Constraint	Major Constraint	Significant Constraint	Moderate Constraint	Slight Constraint	Not a Constraint
	understanding info					
4	Poor internet connectivity					
5	Lack of access to ICT devices					
6	Lack of relevant/localized info					
7	Lack of trust in information source					
8	Language barrier					
9	Geographic limitations					
10	Political interference					
11	Time constraints					
12	Cultural barriers (e.g., traditional beliefs, gender					

S/N	Constraint	Major Constraint	Significant Constraint	Moderate Constraint	Slight Constraint	Not a Constraint
	roles)					
13	Irregular power supply					
14	Others (please specify)					