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ENHANCING HOUSEHOLDS' FOOD SECURITY THROUGH AGRICULTURAL EXTENSION SERVICE DELIVERY IN KWARA STATE, NIGERIA

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Abstract:

This qualitative study investigates how agricultural extension service delivery contributes to household food security in Kwara State, Nigeria. Data were gathered through, questionnaire, semi-structured interviews from 84 respondents from three senatorial districts in Kwara State. Thematic analysis yielded five Areas of interest (i) extension workforce capacity gaps, (ii) fragmented service delivery, (iii) limited ICT utilization, and (iv) weak linkages between extension advisories, inputs, and markets survey. Findings indicate that training initiatives provide opportunities for strengthening extension systems; however boost agricultural productivity, sustained improvements require a pluralistic extension model, increased ICT integration, and stronger institutional coordination. Training recommendations are proposed to guide policymakers, practitioners, and stakeholders in optimizing extension delivery for improved household food security in Kwara State. It is therefore recommended that a high premium should be given to the agricultural extension model to serve as a panacea for household food security.

Keywords: Agricultural extension, Food security, Qualitative research, Kwara State, Nigeria

INTRODUCTION

Food insecurity in Nigeria has become a massive and multi-layered challenge, increasingly threatening the lives and property of its citizens. According to the United Nations (2025), an estimated 31 million Nigerians are currently facing an acute food crisis, contributing to the growing number of people living below the international poverty line of $1.90 per day. Nigerians continue to experience severe inflation and frequent price fluctuations, driven by widespread insecurity across many states, climate variability, and disruptions in agricultural production, all of which destabilize market systems. Reports from international agencies, including the World Food Programme (2024), indicate that food insecurity significantly worsened nationwide between 2020 and 2025, with more than 40 million households experiencing limited access to adequate food. These interconnected drivers of economic hardship, extreme weather conditions, and persistent insecurity combine to push a large segment of the population to the brink, making food security one of Nigeria's most pressing humanitarian concerns. Although with a slight reduction in the prices of food items in the last quarter of 2025, the situation of shortage remains precarious.

Many small-scale farmers may abandon farming in the next cropping season, due to the negative body movement of the government. Despite various pledges and promises by Federal Government's to support agriculture in the aspect of agro allied, input support, ability to buy from the farmers during the peak of harvesting season, however the realities on the ground remain the same and discouraging. If there is no adequate agricultural extension service delivery mechanism, many farmers will simply walk away from farming, joining food insecurity with banditry and kidnapping in Nigeria, the situation will be catastrophic on the part of the government to handle. Therefore, there is

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need to strengthening agricultural systems, particularly agricultural extension services, has become essential tools in addressing these challenges.

The paradigm shift in the corridor of food security necessitated the World Food Summit held in New York in 2021, the primary reasons for convening this World Food Summits that were held in 1996, 2002, 2009, &2021, is revolved around global efforts to address hunger, poverty, food insecurity, and sustainable agricultural development. The summit serves as a platform for world leaders to renew political commitment and mobilize international cooperation. The cardinal aim is to promote shared responsibility between developed and developing nations to ensure adequate, safe, and nutritious food for all. The obligation is to purposively eradicate food insecurity and meet It's aimed to transform global food systems to support vision 2030 'nourishment among the teeming population cannot be absolutely addressed, neither can the dreams of vision 2030 be achievable? without considering agriculture as the pathways and the leading variable in tackling the insufficient in food utilization. Agriculture remains a major source of livelihood in the region. Therefore, increasing agricultural productivity is indispensable in reducing poverty, hunger, and malnutrition (Ortiz-Crespo et al. 2020) and can stimulate growth in other economic sectors. Notwithstanding, agricultural productivity in SSA remains low. One of the reasons for the low productivity is the shortage of agricultural extension services delivery system (Evenson 2001).

Over the years, small-scale farmers in developing countries have relied on land expansion to increase yield. However, due to population pressure, farm sizes are continuously shrinking (Jayne et al. 2003; Otsuka and Place 2015). One of the responses by small-scale farmers to the shrinking farm size has been to increase the frequency of cultivating the same piece of land (Mugizi and Matsumoto 2020, 2021). However continuous cropping on land unaccompanied by good farming practices has been linked to soil fertility losses (Mugizi and Matsumoto 2020, 2021; Mugizi 2022), hence the need for sustainable intensification. Yet, many sustainable intensification practices require farmers to acquire knowledge and information (Ortiz Crespo et al. 2020). This knowledge and information can be obtained through access to agricultural extension services delivery.

In Kwara, the agricultural sector is largely dominated by small-scale farmers who make the sector to account for about one-third of the State's GDP and around two-third of total employment (World Bank 2020). The food insecurity scenario has risen considerably in recent years. International agencies estimate about 31 million Nigerians are experiencing acute food insecurity, and projections show the number at risk remains high in 2025. Coming out of this, agricultural extension is the frontier mechanism for transferring improved technologies, climate-smart practices, and market information is central to reversing these trends and improving household food security across the state. Seeking to address the negative impacts of acute food shortages, agricultural extension services remain a vital mechanism for disseminating modern, appropriate technologies, climate-smart practices, and market information that enhance farm productivity and resilience. In Kwara State, recently government supported agricultural training activities reflect heightened interest in building extension capacity (Kwara State Government, 2024). However, existing evidence suggests persistent gaps in agent coverage, service coordination, and ICT integration that limit the impact of extension on household food security (Punch Newspaper, 2024).

This study is set to examine the role of agricultural extension system in enhancing households' food security in Kwara State. Thus far, the study is set to provide solution to the following area of interest;

Area of interest 1: identification of limited workforce capacity

Area of interest 2**:** Identify **f**ragmented service delivery

Area of interest 3**:** Identification of ICT Access barriers and emerging opportunities

Area of interest 4: Weak Linkages between Extension, Inputs, Credit, and Markets

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Justification of the study

Food security remains a fundamental prerequisite for human development, social stability, and economic growth. In Nigeria, and particularly in Kwara State, persistent challenges such as low agricultural productivity, climate variability, rising food prices, and inadequate access to production technologies continue to undermine household food security. Although agriculture is the primary livelihood for many rural households, the sector's contribution to food availability and accessibility is often constrained by limited knowledge, poor agronomic practices, and weak support services.

Agricultural extension service delivery, by design, serves as a critical bridge between research institutions and farming households. Its primary mandate is to disseminate improved technologies, provide advisory services, and build farmers' capacity for sustainable agricultural production. However, concerns regarding the adequacy, reach, and effectiveness of extension services in Kwara State household food security.

Literature Review

Agricultural Extension Programme for Food Security

The Federal Government of Nigeria has embarked on various extension programmes. These performances are aimed at making extension services more effective in order to realize the objectives of increasing productivity and thereby raising the standard of living of the rural people. Some of the programmes include River Basin Development Programme (RBDP), Operation Feed the Nation (OFN), Green Revolution (GR), the Directorate for Food, Roads and Rural Infrastructure (DFRRI) Agricultural Development Programme (ADP). Notwithstanding these interventions, import bills of Nigeria kept soaring such that they impact approximately US $ 3.5 billion in food products annually, making food prices grow at an unsustainable rate of 11% per annum Adewumi, (2022).

Roles of Agricultural Extension for Food Security and Rural Development

Agricultural extension brings about changes through education and communication in farmers' attitudes, knowledge, and skills. The role of agricultural extension involves the dissemination of information, building the capacity of farmers through the use of a variety of communication methods, and helping farmers make informed decisions. Sinkaye, (2005) equates help in extension to empowering all members of the farm household to ensure holistic development. Chamalsa and Mortis (1990) said the extension workers' role is to help farmers and rural communities organize themselves and take charge of their growth and development. This helps to develop group management skills.

Extension now supports rural livelihood; improves farm and non-farm income; develops market instead of giving information only; uses diverse and involving approaches, facilitates evolution of learning by doing and experimentation (Adebayo et al 2023), and encourages capacity to improve planning and managerial capability of rural farmers. (Chamalsa and Mortis 1990). No matter what the name of the system approach or programme the function remains for food security and rural development. Extension is extremely important in helping to confront problems of availability, access, and utilization. It helps to enhance the productivity and, consequently, the production of food. It can assist in providing opportunities for income generation. It generally provides improvement of nutritional advice through the home economies programme and enhances the quality of rural life by way of community development.

Concept of Agricultural Extension Service Delivery

Extensive literature highlights agricultural extension as a cornerstone for promoting food availability, improving household incomes, and enhancing dietary diversity among rural households (Adebayo & Omotesho, 2023; NAERLS, 2023). Extension systems in Nigeria have experienced varied reforms, yet institutional and funding challenges persist, which led to little or no results on

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the aspect of food availability. According to NAERLS (2023), the absence of a unified extension policy and inconsistent program coordination hinders effectiveness and produces low adoption of moderate technology, which has made many clients lag in the adoption of appropriate technology that can enhance food sustainability.

Kwara State has made notable progress through collaborations between government ministries, such as agricultural development programs (ADPs), FADAMA, and development partners. Press releases documented significant expansion in training for extension workers and farmers in 2024–2025 (Kwara State Government, 2024; Punch Newspaper, 2024). However, studies also show low ICT readiness among extension agents and limited access to digital advisory tools among farmers (Oladipo et al., 2024). This context provides the foundation for a qualitative investigation into extension delivery and its role in household food security.

Identification of fragmented extension service delivery

Findings from the previous studies consistently highlight fragmentation as a major barrier to effective agricultural and public service delivery. Fragmented service delivery occurs when key actor: such as government agencies, NGOs, private service providers, and research institutions operate in isolation rather than through coordinated systems (Alao & Adesina, 2023). This lack of integration often results in duplication of efforts, inconsistent messaging, and inefficient use of resources. Studies in agricultural extension reveal that poor collaboration among stakeholders reduces the quality and reliability of services provided to end-users such as farmers. For instance, Ojo and Bello (2024) reported that multiple actors frequently deliver parallel advisory services without harmonized guidelines, causing farmers to receive conflicting information. Similarly, Adekunle et al. (2023) emphasized that weak institutional linkages and the absence of unified communication channels undermine the effectiveness of extension programs.

However, the literature shows that fragmented service delivery diminishes trust, reduces adoption of innovations, and weakens the overall impact of development interventions.

Methodology

Research Design

An exploratory qualitative research design was adopted to gain insights into all the stakeholders in the three senatorial districts in Kwara State, based on the experiences and institutional dynamics surrounding agricultural extension in Kwara State.

Sample procedure

Two Local Government Areas (LGAs) from each senatorial zone were purposively selected, making six LGAs. Respondents included state extension officers, community extension agents, lead farmers, women farmers, youth representatives, NGOs, and private agricultural actors. In total, 84 respondents were interviewed and questionnaire were provided to elicit relevant information from the respondents based on the areas of interest in this research activities.

Data Collection & Analysis

Instruments used for data collections included;

- Semi-structured interview guides
- FGD guides
- Key informant discussion
- Interview schedule & questionnaire
- Document review checklist (government reports, project documents, news sources)

Interviews lasted 30–60 minutes, FGDs lasted approximately 90 minutes, and all sessions were audio-recorded with consent. Data were analyzed using Braun and Clarke's (2006) thematic analysis framework. Codes were categorized into 5 major areas of interest. Member-checking was conducted with a small subset of respondents to validate emerging insights.

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Findings of the study & discussion

Area of interest 1: identification of limited workforce capacity

The majority (85%) of the respondents repeatedly emphasized that extension agents were too few to cover farming communities adequately. Agents faced mobility challenges and heavy workloads. Community para-extension workers were helpful but poorly coordinated and under-resourced. Recent studies highlight a persistent communication gap between researchers and farmers. For instance, Greig et al. (2024) document institutional barriers that hinder effective science communication from researchers to practitioners. Similarly, Rohit et al. (2023) find limited formal engagement and low information-seeking behaviour among farmers, suggesting weak linkage structures. These observations implied that the flow of communication from researchers to farmers remains poor, undermining the uptake of research-based innovations.

Area of interest 2: Fragmented Services Delivery

The findings of the study revealed that the majority of government agencies, NGOs, private agro-dealers, and research-based institutions operated independently with minimal coordination. Farmers sometimes receive conflicting advice, reducing trust in extension messages. The findings imply a low rate of adoption of technology due to the conflicting messages from multiple, uncoordinated service providers, which makes farmers uncertain on the advice to follow, slowing or reducing uptake of innovations. According to Adewumi (2022) revealed that pluralistic extension systems service shows that weak coordination undermines effective technology transfer and adoption.

Area of interest 3: ICT Access Barriers and Emerging Opportunities

The quantitative analysis revealed that phone ownership was the most common mode of communication; most farmers preferred voice-based advisories due to low literacy. Extension officers express interest in ICT-supported delivery but lacked training and digital infrastructure. Oladipo et al., (2024) study affirmed that limited ICT readiness among extension actors in Kwara State is relatively low. This study implies that the adoption of moderate and appropriate technology may be low due to low level of ICT compliance

Area of interest 4: Weak Linkages between Extension, Inputs, Credit, and Markets

Farmers noted that advice alone was insufficient unless accompanied by timely access to inputs (seeds, fertilizer), credit facilities, and reliable markets. The disconnect between advisory services and inputs frequently resulted in low adoption rates.

Discussion & Summary

The findings reinforce existing literature indicating that extension service delivery in Nigeria faces systemic challenges related to human resources, coordination, gender inclusivity, and ICT infrastructure (NAERLS, 2023). Kwara State's recent training initiatives offer opportunities, but institutional reforms and cross-sector collaboration are needed for long-term impact.

Improved household food security depends on advisory systems that are responsive, accessible, gender-sensitive, and linked to practical resources. The pluralistic model—integrating public, private, and civil-society actors is especially promising if coordination mechanisms are strengthened.

Conclusion & Recommendations

The study concludes that agricultural extension services significantly influence household food security in Kwara State, but their potential remains underutilized. Addressing identified challenges can enhance productivity, dietary diversity, and livelihood resilience among rural households. Therefore the following recommendation were made;

i. Recruit and train more extension agents and formally integrate community para-extension workers.
ii. Establish LGA-level extension coordination platforms involving government, NGOs, and private actors.

iii. Introduce voice/SMS advisory systems in local languages and farmer digital registration platforms.
iv. Coordinate extension messages with input providers, microfinance institutions, and market aggregators
v. Let there be systematic linkages between all the agricultural sectors

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