

Reforming Agricultural Extension and Advisory Services in Nigeria: A Strategic Review for Sustainable Agricultural Development

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ABSTRACT

Agricultural extension and advisory services (AEAS) are fundamental to fostering sustainable agricultural development, enhancing farmer productivity, and improving rural livelihoods in Nigeria. This article comprehensively reviews the historical evolution of Nigeria's AEAS, highlighting distinct eras marked by varying approaches and institutional arrangements. It identifies key actors involved in AEAS delivery, including public agencies, farmer organizations, NGOs, the private sector, and research institutions. The study analyzes persistent challenges such as policy gaps, weak coordination, inadequate funding, staffing shortages, marginalization of vulnerable groups, and underutilization of ICTs. Drawing from global best practices and local experiences, it proposes strategic reforms emphasizing legislated policy frameworks, sustainable financing, pluralistic and demand-driven service models, strengthened research-extension linkages, and inclusive outreach to women and youth. These reforms aim to reposition Nigeria's AEAS as a dynamic, responsive system that supports agricultural innovation and inclusive economic growth.

Keywords: Agricultural extension, Nigeria, AEAS reform, policy, sustainable financing

INTRODUCTION

Agricultural extension and advisory services (AEAS) constitute a critical component in the agricultural innovation system, facilitating the transfer of knowledge, improved technologies, and best practices from research institutions to farmers. In developing countries like Nigeria, where agriculture remains a predominant source of livelihood, AEAS act as a catalyst for broad-based rural development, poverty alleviation, and food security enhancement (Birner et al., 2006). The fundamental goal of AEAS is to empower farmers and other value chain actors to effectively respond to evolving challenges, including climate variability, resource constraints, pest and disease pressures, and market dynamics, thus improving productivity, incomes, and overall quality of life.

Nigeria's agricultural sector, employing a significant proportion of the population, holds vast potential for economic diversification and sustainable growth. The Nigerian government has recognized agriculture as a strategic sector for national development, aiming to leverage its resources to diversify the economy away from oil dependency (FMARD, 2016b). However, the realization of this objective largely hinges on the effectiveness of AEAS in promoting innovation adoption, market access, and value addition among smallholder farmers, who constitute the majority of producers.

Historically, Nigeria's AEAS has evolved, incorporating diverse approaches ranging from traditional farm advisory services and the World Bank-supported Training and Visit (T&V) system to more recent participatory and ICT-enabled models such as Farmer Field Schools (FFS) and value chain development initiatives (Huber et

al., 2017). Despite these efforts, the sector has struggled with significant challenges including weak coordination among multiple stakeholders, insufficient funding, inadequate staffing, and limited private sector participation. These challenges undermine AEAS's ability to effectively meet the diverse and rapidly changing needs of Nigeria's heterogeneous farming communities (Issa, 2020).

The contemporary global discourse on agricultural extension has shifted towards pluralistic, demand-driven, and participatory frameworks that emphasize client-oriented services, integration of information and communication technologies (ICTs), and gender and youth inclusion (Birner et al., 2006; FMARD, 2015). In line with this global trend, Nigeria is pursuing reforms to reposition its AEAS into a more responsive, sustainable, and impactful system that supports inclusive agricultural transformation. However, the path to reform is complex, requiring an in-depth understanding of historical lessons, institutional arrangements, stakeholder roles, and systemic bottlenecks.

This article seeks to provide a comprehensive review of Nigeria's AEAS landscape, elucidating its historical development, key actors, systemic challenges, and current reforms. It aims to generate actionable insights to inform policy frameworks and operational strategies that will strengthen AEAS as a pivotal driver of agricultural innovation and rural development in Nigeria.

Specific Objectives

The specific objectives of this study are to:

1. trace the historical development and transformation of agricultural extension and advisory services in Nigeria;
2. identify and characterize the key stakeholders and actors involved in AEAS delivery at national and grassroots levels;
3. analyze the major challenges limiting the efficiency and effectiveness of AEAS in Nigeria;
4. evaluate current extension approaches and innovations with a focus on participatory, demand-driven, and ICT-enabled models, and
5. propose actionable reforms targeting policy, funding, coordination, and capacity building for sustainable agricultural advisory services.

METHODOLOGY

This study employs a qualitative research methodology based on comprehensive document and literature analysis. It systematically reviews government policy documents, project reports, academic articles, and evaluations from international agencies related to AEAS in Nigeria. The historical progression of extension approaches, institutional arrangements, and reforms are synthesized to derive patterns, lessons, and gaps. Additionally, key challenges are collated from empirical reports and studies by Nigerian government agencies (e.g., NAERLS, FMARD), donor projects (e.g., USAID MARKETS II), and professional associations (AESON). The study leverages a thematic analytical approach to propose reforms grounded in both local realities and global AEAS best practices, emphasizing participatory and ICT-driven strategies.

Historical Development of Agricultural Extension and Advisory Services (AEAS) in Nigeria

The evolution of agricultural extension and advisory services (AEAS) in Nigeria reflects a complex interplay of political, economic, and institutional factors shaping service delivery over time. This history is generally segmented into distinct eras, each characterized by specific approaches, achievements, and challenges.

During the **Colonial and Post-Independence Era (1893–1968)**, the agricultural extension system was largely export-oriented, focusing on commodity-specific advisory services designed to support colonial economic interests. Extension efforts primarily targeted export crops such as cocoa, rubber, palm oil, cotton, and groundnut, with minimal attention to local food staples. Delivered through the Ministry of Agriculture in a diffused extension model, extension agents were burdened with conflicting roles that combined advisory functions with regulatory enforcement. This period was marked by weak linkages between research institutions and extension

services, resulting in inappropriate recommendations, and limited engagement with farmers. Consequently, the capacity of extension services to generate sustained agricultural development was constrained by poor organizational structures, bureaucratic inefficiencies, and inadequately trained staff working under substandard conditions (Akinbode, 1994).

The **Oil Boom Era (1970–1979)** brought a significant shift as the discovery and exploitation of oil resources led to the neglect of agriculture in national development priorities. Despite this, some initiatives aimed at revitalizing agriculture emerged, notably the National Accelerated Food Production Program (NAFPP) and pilot Agricultural Development Programs (ADPs) that promoted the Training and Visit (T&V) extension system. The T&V system aimed to increase agricultural productivity through systematic training and regular farm visits. However, these initiatives suffered from limited political and financial commitment, irregular funding, and failure to adequately reach smallholder farmers who formed the majority of the rural population. As a result, despite some technical advances, the programs' impact was constrained, underscoring the need for more inclusive and sustainable extension models (Mijindadi, 1991).

The **State-wide ADP Era (1980–1995)** marked a period of expansion and professionalization of AEAS in Nigeria. Building upon initial pilot successes, the ADP system scaled out the T&V extension approach nationwide. The system emphasized integrated support encompassing relevant technologies, extension services, access to inputs, and market linkages, reflecting an understanding that these elements are critical in revitalizing agriculture. The introduction of the Unified Agricultural Extension Service (UAES) in 1989 represented a government policy effort to streamline extension delivery by consolidating messages across agricultural subsectors to farmers. Nonetheless, the T&V system's high operational costs, rigid administrative structures, and centralized control rendered it unsustainable in the Nigerian context. Moreover, poor engagement of the private sector limited diversification of service offerings, while dysfunctional research-extension-farmer-input linkages (REFILS) weakened adaptive technology dissemination and adoption (FACU, 1991).

Following the **Withdrawal of World Bank Support (1996–2011)**, the ADP extension system experienced steep decline due to funding shortfalls and weakened institutional capacity. This period coincided with a global paradigm shift away from supply-driven, centralized extension approaches toward participatory, demand-driven, and pluralistic advisory services that integrate information and communication technologies (ICTs). Nigerian reform efforts aligned with these trends by emphasizing inclusive extension systems that addressed cross-cutting issues such as gender equity, youth involvement, climate change resilience, and health concerns like HIV/AIDS. Various donor-supported projects, including Fadama II and Community-Based Agricultural and Rural Development initiatives, adopted participatory and ICT-enabled delivery methods. Despite these advances, the sector remained fragmented, underfunded, and coordination remained weak, limiting the scalability and impact of reforms (FMARD, 2015).

Key Actors in Nigeria's AEAS Landscape

Federal Department of Agricultural Extension (FDAE): The Federal Department of Agricultural Extension, a recently established Department within the Federal Ministry of Agriculture and Food Security, plays a pivotal role in providing leadership, coordination, quality control, and ensuring the overall effective delivery of AEAS across Nigeria. Its core mandates include sensitizing and educating farmers on the Agricultural Extension Transformation Agenda (AETA) to foster active participation and commitment; conducting a comprehensive census of extension staff nationwide to assess quantity and quality; and carrying out training needs assessments for extension workers throughout the country. These functions are crucial for building an efficient, well-coordinated national AEAS framework.

Agricultural Development Programs (ADPs): Agricultural Development Programs remain the primary grassroots extension delivery mechanism in Nigeria, despite varying levels of functionality contingent on state policies and funding. Historically, ADPs have represented the pinnacle of agricultural extension achievements in Nigeria. However, to fully realize their statutory mandate of enhancing smallholder farming systems, they require urgent resuscitation and revitalization to strengthen their capacity for effective service delivery.

Farmer-Based Organizations (FBOs): Robust farmer-based organizations are indispensable to protecting and advancing the interests of smallholder farmers. FBOs facilitate farmers' access to agricultural inputs, credit, and

markets, promote economies of scale, and enhance negotiating capacity with traders and suppliers. Additionally, they contribute resources for transportation, processing, and value addition activities. Globally and locally, investing in FBOs has been recognized as a strategic priority by donor agencies and NGOs to improve credit recovery, empower demand for services, and reduce transaction costs (IFPRI, 2011). However, Nigerian FBOs remain largely fragmented, weak, politically influenced, and lack sufficient organizational capacity. Strengthening and building their capacity is critical for meaningful contributions to policy articulation, research, extension demand, and sustainable agricultural development.

Non-Governmental Organizations (NGOs): NGOs, both indigenous and international, have played significant roles in Nigeria's AEAS landscape, often implementing targeted outreach programs in collaboration with donor agencies. Key examples include the Shell Petroleum Development Company (SPDC) and Nigerian Agip Oil Company (NAOC) initiatives in the Niger Delta, USAID-MARKETS projects across multiple states, and corporate programs by British-American Tobacco Nigeria (BATN). The Leventis Foundation has advanced youth human capital development through farm training centers nationwide, while Sasakawa Global 2000 (SG2000) uniquely employs "Management Training Plots" to build farmer capacity via ADP structures. Other NGOs like the Foundation for Partnership Initiatives in the Niger Delta (PIND) and the Dangote and Kofi Annan Foundations focus on value chain development and capacity building. Despite these contributions, the post-World Bank experience revealed pronounced inefficiencies and inadequacies in public extension services, highlighting the need for pluralism—a coordinated system comprising public, private non-profit, and for-profit sectors. However, pluralism in Nigeria has largely emerged by default, with limited coordination and quality assurance among actors, leading to service fragmentation.

Private Sector Participation: The Agricultural Transformation Agenda (ATA) catalyzed renewed private sector interest by promoting agribusiness and encouraging investment in agriculture to reduce post-harvest losses, add value, enhance infrastructure, and improve farmers' access to finance and markets. The Growth Enhancement Support Scheme (GES), utilizing an e-wallet platform for input subsidies, and the Central Bank of Nigeria's Anchor Borrowers' Program have been instrumental in linking farmers to markets and credit facilities. The private sector includes agro-input suppliers such as Syngenta and Notore, commodity producers like Stallion Rice Company and Babban Gona, and companies involved in capacity building and crop protection like Harvest Fields and CropLife. Notably, British American Tobacco has successfully integrated credit provision, input supply, training, and market offtake services. Nevertheless, private sector participation faces challenges including inconsistent policies, poor intra-sector coordination, limited engagement in research-extension-farmer-input linkages (REFILS), and issues related to quality assurance. Diverse collaboration models exist, ranging from independent operations to donor-supported partnerships, underscoring the fragmented nature of private sector involvement. This fragmentation reveals a critical knowledge gap about the breadth of actors in AEAS, underscoring the need for comprehensive national mapping efforts initiated by the Developing Local Extension Capacity (DLEC) project since 2017.

National Agricultural Extension and Research Liaison Services (NAERLS): NAERLS is the country's principal research institute charged with developing, collating, and disseminating proven agricultural technologies to farmers using appropriate methodologies. It produces a wide range of extension publications and organizes the annual National Extension Review and Planning Meeting (NER&PM) and the Agricultural Performance Survey (APS). NAERLS maintains zonal offices across Nigeria's six agro-ecological zones and actively participates in the REFILS system to foster collaboration among research, extension, farmer, and input sectors. Additionally, its Skill Acquisition and Development Center (SADC) provides entrepreneurship training across numerous agricultural disciplines, serving both public and private sectors, including unemployed youths and graduates. The institute's training and conference facilities bolster capacity building efforts focused on government priority commodity value chains.

Nigerian Forum for Agricultural Advisory Services (NIFAAS): Formally launched in 2011, NIFAAS serves as Nigeria's national forum affiliated with the African Forum on Agricultural Advisory Services (AFAAS). It brings together policy makers, researchers, extension professionals, NGOs, farmer groups, training institutions, and private sector actors to deliberate on advisory service issues. NIFAAS envisions a transformed Nigerian agriculture characterized by food security, global competitiveness, and knowledge-driven, ICT-enabled extension services. Its mission includes promoting market-oriented and responsive AEAS through thematic

working groups, linking stakeholders with continental initiatives such as CAADP, facilitating knowledge exchange, and identifying demand-driven service opportunities consistent with global best practices.

Professional Associations: Professional bodies such as the Agricultural Extension Society of Nigeria (AESON) and the Rural Sociological Association of Nigeria (RuSAN) contribute significantly to the development and professionalization of agricultural extension in Nigeria. AESON, established in 1992, provides a platform for academics, practitioners, and policymakers to collaborate toward advancing the extension profession. With over 1,000 members spread across Nigerian universities, polytechnics, and research institutes, AESON supports manpower development, organizes national conferences, and regularly publishes research journals, sustaining a vibrant professional community.

Donor Community: Since the colonial period, donor agencies have played important roles in shaping Nigeria's agricultural extension landscape by providing funding, technical assistance, and policy guidance. The World Bank's support for establishing State-wide Agricultural Development Programs marks a watershed moment, introducing the Training and Visit (T&V) model on a large scale. The USAID MARKETS II Project stands out for its success in promoting agribusiness through participatory group extension approaches delivered by qualified private advisory service providers collaborating with public extension agents. Other notable donors and NGOs include Sasakawa Global (SG2000), LAPO, GIZ, UNDP, FAO, ICRISAT, IITA, UNICEF, IFAD, the Dangote Foundation, and the Rockefeller Foundation. Their combined efforts have contributed to capacity building, technology dissemination, and innovation adoption, reinforcing the pluralistic extension environment in Nigeria. Key success factors of these donor-led initiatives include commitment to farmer profitability, integration of technology and financial services, innovative extension delivery, capacity building along value chains, and sustainable funding.

Major Challenges Facing AEAS in Nigeria

Nigeria's AEAS system confronts multifaceted challenges undermining its effectiveness:

1. The absence of a legally enacted national AEAS policy generates inconsistent government commitment, unclear roles, and fragmented leadership structures (Madukwe, 2008).
2. Leadership weaknesses and poor coordination across government ministries, donor-funded projects, and private sector initiatives result in inefficiencies and duplication.
3. Funding is irregular and insufficient, while smallholder farmers face significant barriers to credit, inhibiting the sustainability of extension interventions (Issa, 2020).
4. Extension staffing levels are inadequate, with the national average extension agent-to-farmer ratio falling far below internationally recommended standards, limiting coverage and personalized advisory services.
5. Women, youth, and other vulnerable populations are often marginalized in extension service design and delivery, reducing inclusivity and outreach effectiveness.
6. Fragmented and unregulated NGO and private sector activities contribute to quality assurance gaps and inconsistent service provision.
7. Weak research-extension-farmer-input linkages (REFILS) hamper timely technology development and adoption by farmers.
8. Despite Nigeria's status as the largest ICT market in Africa, technological tools remain underutilized in AEAS, limiting opportunities for enhancing advisory reach, feedback, and innovation uptake (Kudla, 2022).

RECOMMENDATIONS AND NEEDED REFORMS

Based on global best practices and local experiences, key reforms needed to reform AEAS in Nigeria are highlighted in this section.

1. Policy Enactment: Urgently legislate the Draft National Agricultural Extension and Advisory Services Policy to formalize roles, responsibilities, and sustainable commitment frameworks (FMARD, 2016a).
2. Planned Human Resource Development: Address critical extension staff shortages with strategic recruitment, training, and retention aligned with farmer population growth (NAERLS/FMARD, 2024).

3. Sustainable Funding Framework: Create an Agricultural Extension and Advisory Services Development Fund with shared financing mechanisms (Federal 40%, State 45%, LGA 10%, Farmers 5%) to guarantee consistent resource flow.
4. Pluralistic and Demand-responsive Systems: Institutionalize participatory approaches such as Farmer Field and Business Schools (FFBS), innovation platforms, and ICT-assisted e-extension services to reach diverse farmer groups with tailored advisory support (Birner et al., 2006).
5. Strengthen REFILS: Reinforce multi-stakeholder linkages among research, extension, farmers, and input/market sectors to facilitate relevant and timely technology development and adoption.
6. Target Women and Youth: Implement inclusive programs empowering women and youth with access to inputs, training, credit, and markets, recognizing their contribution to productivity gains.
7. Regulate and Coordinate NGOs and Private Sector: Establish mechanisms for registration, quality assurance, and synergy to avoid duplication and ensure service standards.
8. Leverage ICT: Expand use of mobile platforms, internet services, and media campaigns to improve advisory reach and feedback mechanisms (Kudla, 2022).

CONCLUSION

Agricultural extension and advisory services remain a foundational pillar for sustainable agricultural development in Nigeria, critical for food security, poverty reduction, and economic diversification. While historical approaches have yielded mixed results, lessons learned advocate for comprehensive reforms emphasizing policy legislation, sustainable funding, stakeholder coordination, participatory approaches, and ICT adoption. Implementing these reforms will reposition AEAS as an effective driver of inclusive agricultural transformation.

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