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**National Extension Policy and State-Level Implementation  
The Case of Cross River State, Nigeria**

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## ABSTRACT

Agricultural extension plays a number of important roles in the growth and transformation of the agricultural sector, including improving agricultural productivity and food security and reducing hunger and malnutrition. Extension programs and interventions that will achieve significant impacts in terms of behavior and practice changes, as well as agricultural productivity increase, will succeed as a result of suitable policy formulation and an effective implementation process. Ultimately, agricultural extension reform requires policy vision and determination and a state-level strategy that can be implemented. This paper documents issues, challenges, constraints, and potential solutions and opportunities in implementing the national extension policy (NEP) at the state level in Nigeria, using Cross River State as a case study.

We use both quantitative and qualitative methods, in the form of descriptive statistical analysis and an inclusive consultative process with a focus on the multistakeholder participatory model, respectively. The descriptive results show that, generally, there is low access to agricultural extension service across commodities and their respective value chains in Cross River State. We also document interesting insights from the multistakeholder consultative process. We find that collaboration and partnership between private and public extension service providers is key to developing a sustainable extension, advisory, and support service in Cross River State. We also found that coordination and standardization of the activities of the extension service providers is a way to avoid pollution of the agricultural innovation system in the state. Funding of extension services is another important factor affecting the effective implementation of the NEP. We therefore suggest that agricultural extension services can be funded through decentralization, involvement of farmers' associations and nongovernmental organizations, contracting out of extension services, public-private partnerships, privatization, and embedding advisory services in other types of contracts. The results of this study further validate our approach of using multistakeholder engagement at the state level as an effective and insightful method of implementing the NEP at the state level.

**Keywords:** Nigeria, Extension Policy, Multistakeholder Consultation, Mixed Methods Approach, De-federalization, Implementation

## **ACKNOWLEDGMENTS**

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## ACRONYMS

ADP	Agricultural Development Program
AETA	Agricultural Extension Transformation Agenda
AIS	agricultural innovation system
AKIS	agricultural knowledge and information system
APPEALS	Agro-Processing, Productivity Enhancement and Livelihood Improvement Support
CD4AIS	Capacity Development for Agricultural Innovation Systems
CRADP	Cross River Agricultural Development Project
ERLCC	extension, research, and learning coordinating committee
FDAE	Federal Department of Agricultural Extension
FMARD	Federal Ministry of Agriculture and Rural Development
ICT	information and communication technology
IFPRI	International Food Policy Research Institute
MEL	monitoring, evaluation, and learning
MTRM	Monthly Technology Review Meeting
NARIS	National Agricultural Research Institutes
NEP	national extension policy
NGO	nongovernmental organization
REFILS	Research-Extension-Farmer-Input Linkage System

## 1 INTRODUCTION

Agricultural extension can play a number of important roles in the growth and transformation of the agricultural sector, including improving agricultural productivity and food security and reducing hunger and malnutrition (Ferroni and Zhou 2012; Mur, Oonk, and Bitzer 2016; Kassem et al. 2019), but many developing countries, especially in Africa south of the Sahara—for instance, Nigeria—have yet to harness this potential (Msuya et al. 2017; Wossen et al. 2017). Meanwhile, many advanced economies have utilized agricultural extension systems to grow and nurture their agricultural sectors (Qamar 2005; Anderson and Feder 2007; Feder, Birner, and Anderson 2011).

In Nigeria, agricultural extension gained a strong footing during the World Bank’s collaboration with the federal and state governments in establishing and funding the Agricultural Development Projects (ADPs) in 1975 (FMARD 2012; Okwoche, Asogwa, and Obinne 2012; Taye 2013; Naswem and Ejembi 2017; Oyelami, Akinwale, and Ladele 2018). Prior to the establishment of the ADPs, Nigeria had virtually no deliberate and effective agricultural extension system or policy. After the World Bank withdrew its funding, the impacts of the ADPs and agricultural extension in general gradually diminished over time. However, despite this decline and the challenges facing extension delivery in the past and present, Nigeria’s system for agricultural extension delivery still has great potential (Madukwe 2008; Iwuchukwu and Igbokwe 2012; Agber, Iortima, and Imbur 2013; Issa 2013; Huber, Davis, and Lion 2017). This system could be revitalized, thanks to the existence of several agricultural research institutions, extension offices, or ADPs in some states and extension training programs in Nigeria. It is important to stress that the state ADPs remain one of the major platforms for agricultural extension delivery at the state and grassroots levels in Nigeria (FMARD 2012; Olomola et al. 2014; Naswem and Ejembi 2017). Moreover, nearly all the public extension workers in Nigeria are employed in the state ADPs (Taye 2013; Huber, Davis, and Lion 2017; Oyelami, Akinwale, and Ladele 2018).

In Nigeria, consecutive governments have implemented policies to promote agricultural extension in the country. Some of these policies include the Unified Agricultural Extension Services, the 2001 Agricultural (Extension) Policy, the Agricultural Transformation Agenda, and the Agricultural Promotion Policy. The Agricultural Transformation Agenda had a strong agricultural extension component, the Agricultural Extension Transformation Agenda (AETA), which led to the creation of the Federal Department of Agricultural Extension (FDAE) in 2011 (FMARD 2012; Issa 2013). This department was established to supervise, monitor, and provide the leadership required for an efficient and effective agricultural extension and advisory service in Nigeria (FMARD 2012). Although the FDAE is the main body charged with formulating and implementing agricultural extension policies, it exerts only limited authority over the states, which play a more significant role in implementing agricultural extension policies through the states’ ADPs (Huber, Davis, and Lion 2017).

A 2012 report from the Federal Ministry of Agriculture and Rural Development (FMARD) showed that there was no legislated agricultural extension policy to coordinate and oversee agricultural extension activities in the country and ensure that the essential components that are necessary to drive a sustainable and market-oriented agricultural extension system are harmonized. The FDAE is therefore currently developing the country’s first legislated agricultural extension policy, as recommended by the AETA, with the help of development partners working in this area in Nigeria.

The issues affecting the effective and efficient delivery of agricultural extension services in Nigeria are general, but the country also faces some context-specific issues. For instance, Huber, Davis, and Lion (2017) note that there is weaker human capital capacity (for example, educational attainment) among agricultural extension officers in northern Nigeria compared to southern Nigeria. Their study shows that most of the extension agents in contact with farmers have an Ordinary National Diploma in most states in the north, and most in the southern states have a Higher National Diploma. This implies that the southern region produces more qualified extension agents than the northern region. Aside from the regionally based challenges facing agricultural extension in Nigeria, there are also state-specific challenges affecting the ability to realize the full potential of agricultural extension across states in Nigeria. In this study, we focus on understanding the dynamics of agricultural extension services in Cross River State.

Olomola et al. (2014) note that in Cross River State, agricultural extension is a development priority and a functional component of the state's agricultural sector budget, but it receives hardly any funding to carry out extension activities. The Cross River Agricultural Development Project (CRADP) is the main body charged with the delivery of agricultural extension services in Cross River State, with the support of the Cross River State Ministry of Agriculture and Natural Resources. Although the state does not have a specific agricultural extension policy in place, it promotes agricultural extension activities through some of the federal and state agricultural projects and policies.

The content of the national extension policy (NEP) is well articulated and aims at transforming agricultural extension in Nigeria, but a pertinent question to ask is: how workable and operative are the nationally oriented policies at the state level? The setbacks and limitations of top-down national planning in agriculture have become progressively clearer, and it has been more extensively acknowledged that, if the policies are to succeed, stakeholders at many levels (such as the public sector, private sector, civil society, researchers, youth and women representatives, and other developmental stakeholders) must play a more determining role in their design and implementation mechanisms (Brancalion et al. 2016; Hermans et al. 2017; Sartas et al. 2018; Bisseleua et al. 2018; Faure et al. 2019).

To address some of the challenges facing agricultural extension delivery in the state, it is imperative to understand effective ways of systematically incorporating a multistakeholder process in the implementation of the national policy at the state level. To this end, we used a multistakeholder approach for information generation and client consultations, which can help harvest relevant information to guide policymakers in designing better interventions to implement the NEP in Cross River State. Hence, the objective of this paper is to document the issues, challenges, constraints, and potential solutions and opportunities in implementing the NEP at the state level, using Cross River State as a case study.

The remainder of this paper is organized as follows. Section 2 presents a concise review of the literature on agricultural extension policies in the context of Cross River State. Section 3 describes the conceptual framework using the Kaleidoscope Model to analyze system capacity. The methodology used for the study is presented in section 4. In section 5 we present lessons from multistakeholder consultations in Cross River State. We present strategies for policy implementation in section 6. Section 7 reports on the implications and goals of the NEP at the national level and in other states. We present concluding remarks in the final section.

## **2 KEY CHALLENGES IMPEDING EFFECTIVE IMPLEMENTATION OF AGRICULTURAL EXTENSION POLICIES AND EXTENSION DELIVERY**

Issues relating to agricultural extension policy are likely to have a significant impact on the achievement of adequate agricultural productivity and food and nutrition security in Nigeria. A review of recent studies (Omotayo, Chikwendu, and Adebayo 2001; Koyenikan 2008; Iwuchukwu and Igbokwe 2012; Akinbamowo 2013; Obiora and Emodi 2013; Hamisu et al. 2017) and a report by FMARD (2012) suggests that several factors are responsible for the ineffectiveness and limited impact of agricultural extension policy in Nigeria. These factors include, for instance, absence of a legislated extension policy and policy inconsistency (Koyenikan 2008; FMARD 2012; Akinbamowo 2013; Obiora and Emodi 2013), funding complications and weak diversification (Iwuchukwu and Igbokwe 2012; Hamisu et al. 2017), a low level of participation by the private sector in the delivery of extension services (Omotayo, Chikwendu, and Adebayo 2001; Iwuchukwu and Igbokwe 2012), weak synergy across government levels (FMARD 2012; Inegbedion et al. 2019), weak capacity and technical know-how of extension personnel (Issa 2013; Suvedi, Ghimire, and Kaplowitz 2017) and inadequate manpower for the effective delivery of services (FMARD 2012; Obiora and Emodi 2013).

### **Absence of a Legislated Extension Policy and Policy Inconsistency**

The efforts and strategies of policymakers may not yield expected and fruitful outcomes if there is no legislative support for an implementation mechanism. A policy that is effectively and timely legislated may likely have an impact at scale, especially in developing countries. The AETA report noted that the lack of a properly legislated agricultural extension policy is one of the major challenges hindering the growth of agricultural extension in Nigeria (FMARD 2012). For instance, the 2001 Agricultural Extension Policy, which was the first NEP to be documented, was not guided by any formal legislation. Additionally, the report revealed that agricultural extension services in Nigeria are delivered by a variety of agencies and institutions across the country, and some of these agencies lack basic principles and philosophies to guide agricultural extension delivery, leading to outputs that fall short of expectations. Also, Nigeria lacks a legal platform for coordinating and overseeing agricultural extension activities, and this has in no small way contributed to the inefficient implementation of agricultural extension policies, especially at the state level (Koyenikan 2008; FMARD 2012; Akinbamowo 2013; Obiora and Emodi 2013).

### **Funding Complications and Weak Diversification**

Adequate funding is essential to achieving the desired results in agricultural extension service delivery. There are two major problems associated with funding in the context of agricultural extension policies: inadequate funds and untimely or late disbursement of funds for implementing agricultural extension policies. These problems have been highlighted by FMARD as one of the major hindrances to the execution of agricultural extension policies (FMARD 2012). The ADPs, which are still in existence, were launched and jointly funded by the World Bank and the federal and state governments. However, the effectiveness of the ADPs declined significantly soon after the World Bank withdrew its sponsorship (Iwuchukwu and Igbokwe 2012; Agber, Iortima, and Imbur 2013; Issa 2013; Hamisu et al. 2017). Auta and Dafwang (2010) and Inegbedion et al. (2018) suggested that the state ADPs in Nigeria were classified as having weak sources of funding, while Davis, Lion, and Arokoyo (2019) argued that there has been no improvement in terms of funding because there is little or no effort to diversify the sources of funding for agricultural extension services, at either the federal or state level. Mbang (2015) showed that the state government is the major source of financing in the Cross River State agricultural sector. However, the allocated funds are not enough to execute the agricultural programs and effectively carry out extension services in the state. For example, in 2014, the Cross River State Ministry of Agriculture and Natural Resources allocated only 1.6 percent of

its proposed budget to the CRADP for implementing agricultural extension and advisory services (Mbang 2015). This further suggests that there may be weak commitment and political will on the part of the state to finance policy interventions.

### **Low Level of Participation by the Private Sector**

The private sector has a role to play in the implementation of agricultural extension policies through the delivery of agricultural extension services under the control of the public sector. However, the AETA report stated that the participation of the private sector in agricultural extension policy articulation remains very limited (FMARD 2012). Interestingly, some studies (Farinde and Atteh 2009; Akinbamowo 2013; Obiora and Emodi 2013; Babalola and Ipadeola 2015) have demonstrated that the privatization of extension service delivery in Nigeria offers the potential for better administration and greater efficiency and effectiveness than the public sector–led extension currently in place in the country. Arokoyo (2009) suggested that the low private sector investment is due to investors' reduced confidence as a result of the unfavorable policy environment, policy flip-flops, and limited or no available incentives in the agricultural extension sector. Hence, it is likely that limited participation by the private sector, even at the level of formulation of agricultural extension policies, may affect the implementation and effectiveness of the policies and related interventions under the policy framework.

### **Weak Capacity and Technical Know-How of Extension Personnel**

Extension personnel must be skilled in technical subject-matter areas across several value chains, the administration and operation of extension service delivery mechanisms, the dynamics of human resource management and development, project planning and appraisal, program development coordination and process, instructional and knowledge-sharing skills, communication strategies, and evaluation techniques (Issa 2013; Suvedi, Ghimire, and Kaplowitz 2017; Tata and McNamara 2018). These capabilities will ensure a high level of professional proficiency and enhance extension officers' ability to carry out their functions. However, in Nigeria, there are number of challenges that could hinder the successful implementation of agricultural policies at the state level, most of which are related to the capacity, competency, and performance of state ADP personnel, given their major role in the implementation of agricultural extension policies at the state and farmer levels (Issa 2013; Umeh et al. 2015). Additionally, several studies (Ekerete and Ekanem 2015; Apantaku et al. 2016; Cynthia and Nwabugwu 2016; Aromolaran et al. 2016) have shown that many public extension agents are less information and communication technology (ICT) compliant, and the ICT utilization rate is low. Many agents are less motivated to seek knowledge on or familiarize themselves with trending issues within their core areas of expertise. According to FMARD (2012), most of the ADPs lack these qualities and are thus unable to adequately partake in the implementation of agricultural policies.

### **Weak Synergy across Government Levels**

A key driver for unlocking the potential and prospects of public extension services lies in refining and enhancing coordination across actors, departments, sectors, and organizations at different levels of the government (federal, state, and local). The three levels of government share authority and responsibility for the provision of agricultural services. However, weak synergy and a lack of coordination structures to promote the interventions and programs of the agricultural extension policies at the federal and state levels and even at the local level are a key challenge that hinders the successful implementation of extension policies in Nigeria. Many contradictions and conflicts of interest exist at these different levels. Babalola and Ipadeola (2015) note that the national agricultural development policies enacted at the federal level are

sometimes in conflict with the needs of rural farmers. Various studies further state that the processes of formulating and implementing agricultural extension policies should involve all stakeholders, including farmers, and should consider the professional needs of extension workers. It was on this premise that the AETA made a case for the establishment of the FDAE within FMARD to mastermind, supervise, and deliver the leadership needed for effective and efficient agricultural extension and service delivery across different levels of government.

### **Inadequate Number of Extension Workers**

The World Bank recommended a ratio of one extension agent to 1,000–1,500 farmers (CTA 2011; FMARD 2012), which was actually achieved during the period of the World Bank–funded ADPs (FMARD 2012). However, there was a substantial decline in the quantity and quality of extension staff after the World Bank withdrew its funding, and this has led to a decrease in the quality of extension and advisory services in the country (Huber, Davis, and Lion 2017). The Cross River State coordinator for Sasakawa Global 2000,<sup>1</sup> Ekok Ntua, stated in an interview that there were only about 94 active extension agents in Cross River State in 2019, creating a ratio of one extension agent to 4,000 farmers. This figure, which shows the approximate concentration of agricultural extension agents in the state, is below the average ratio set by the World Bank. However, Ntua further indicated that about 1,350 unemployed youths had been recruited under the N-agro section of the N-power program to work as extension agents, with the aim of increasing agricultural productivity in the state. Similarly, a study by Mbang (2015) showed that the number of staff currently working to execute agricultural extension and advisory services at the CRADP was only 53, far below the projected ideal number of 103. The study emphasized that the institution was obviously understaffed, which led to inefficiencies in carrying out its duties.

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<sup>1</sup> Sasakawa Global 2000 is a nonprofit organization established to develop programs for technology demonstration in various African countries in cooperation with national extension services. In addition, the Sasakawa Africa Association is teaching agro-processing in Africa in an attempt to increase the economic viability of the Sasakawa Global 2000 methods and improve the links between Africa's farms and urban areas.

### 3 CONCEPTUAL FRAMEWORK

We used a framework based on the Kaleidoscope Model to analyze capacity at the systems, organizational/institutional, and individual levels and assess prevailing gaps in the implementation of the NEP in Cross River State.

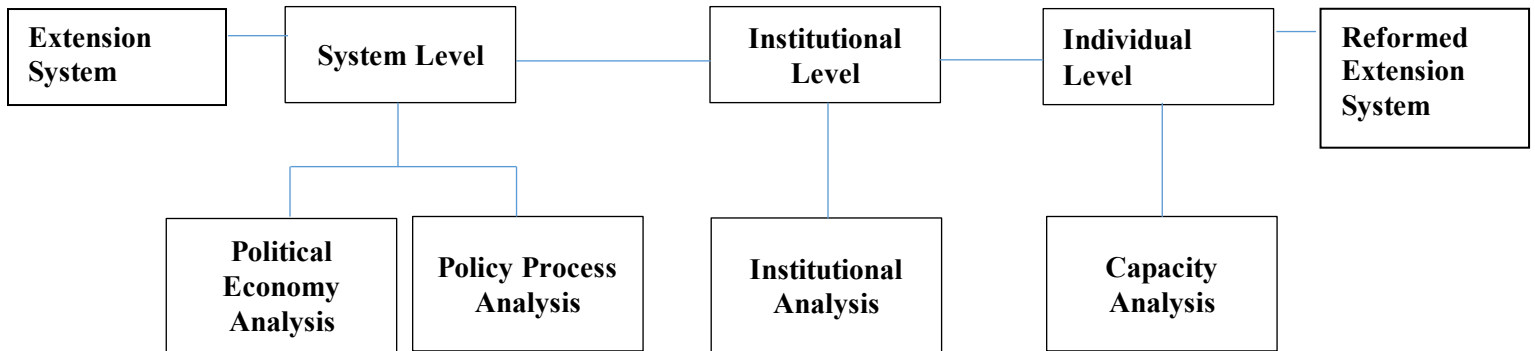
System capacity refers to the context in which changes are taking place (Baser and Morgan 2008). In other words, through this dimension, we assess whether (and to what extent) the current conditions promote capacity strengthening for agriculture extension services. As described by Babu and Blom (2014), this dimension includes the smooth functioning of the different stages of the policy process (identification, research, strategy development, implementation, monitoring and evaluation, and strategy revision).

Organizational/institutional capacity is assessed using the 5C approach of Baser and Morgan (2008), which describes this capacity as an organization's capability to act and commit, deliver development objectives, adapt and self-renew, relate to external stakeholders, and achieve coherence. Each of these capabilities is required for effective organizations and institutions. To that end, the Kaleidoscope Model provides a framework for formally testing what factors trigger the episodes of structural policy reform and effective procedure for policy implementation.

Individual capacity is often thought of as one's knowledge, skills, and attitudes—that is, one's awareness and understanding of a particular situation, issue, or area; one's technical ability to react, predict, analyze, or solve in a critical way; and one's personal motivation to apply oneself to the task at hand. In the specific case of agriculture extension systems, most studies (Faure, Desjeux, and Gasselin 2012; Kilelu, Klerkx, and Leeuwis 2014; Anil, Tonts, and Siddique 2015; Ratan, Singh, and Bara 2016) on the dynamism of individual capacity have established that the education, knowledge, skills, and attitudes of agricultural extension agents (or those with a key role in the dissemination of vital information) are significant factors in explaining interfarm, interregion, and intercountry differences in agricultural productivity and overall performance, along with the more conventional factors such as the availability of land and water resources, inputs, and credit.

For the design and implementation of a specific set of interventions, such as agricultural extension services, we propose four sets of analytical tools (see Figure 3.1). They are (1) political economy analysis, (2) policy process analysis, (3) institutional analysis, and (4) capacity analysis. These tools jointly help us understand the issues, constraints, challenges, opportunities, and risks involved in adopting agriculture extension services. We begin with political economy analysis, as it provides a broader context on the nature of the political process, which has serious implications for the design and implementation of agriculture extension reforms. Next, we look at the policy process to understand the actors and players in the policy system and their roles in designing and implementing policies. Both of these analyses are conducted at the systems level. To address issues at the institutional level, we conduct an institutional analysis, and at the individual level we conduct an individual capacity analysis.

**Figure 3.1 Schematic overview of capacity levels and analyses**



**Source:** Authors.

## 4 METHODOLOGY

We used a mixed methods approach<sup>2</sup> to achieve our study objectives. By combining qualitative and quantitative research components, we aim to expand and strengthen our conclusions and, therefore, contribute to the policy underpinning of the agricultural innovation system (AIS) in Nigeria. Ultimately, a mixed methods approach helps increase knowledge and validity.

For the quantitative component, we employ simple descriptive statistics such as percentage and frequency and create charts to show, for example, the percentage of farmers with access to various sources of extension services for three different commodities (rice, cocoa, and poultry) along the nodes of their value chains (producers, processors, and marketers), which are of priority in the state. We used the data from the baseline survey of the Agro-Processing, Productivity Enhancement and Livelihood Improvement Support (APPEALS) project collected by the International Food Policy Research Institute for the government of Nigeria through FMARD. The total number of participating households was 474, comprising 321 producers, 56 processors, and 97 marketers. In terms of commodities, the survey data comprise 219 rice value chain actors, 152 poultry value chain actors, and 103 cocoa value chain actors.

For the qualitative analysis, we used stakeholder mapping, the priority-setting method, and application of the Capacity Development for Agricultural Innovation Systems (CD4AIS) tools (consultative processes) to capture the multistakeholder process. The CD4AIS approach brings together key stakeholders in the AIS of each pilot state or country to establish a logical mechanism for strategically assessing capacity development needs with the aim of promoting innovation and dynamism that meets the needs of smallholder farmers within different value chains in the food system, small and medium-sized agribusinesses, and consumers. The approach supports the development of policies and approaches at the global level and tests these with national and local innovation partnerships (Coote and Rahman 2016; Tropical Agriculture Platform 2016; Sawadogo and Sawadogo 2017).

### **Stakeholder Mapping: Characterization and Involvement of Stakeholders**

The support system for agriculture (including crops, aquaculture, livestock, and agroforestry) relies, to a large extent, on the public sector, private sector, and nongovernmental organizations (NGOs). Our stakeholder mapping strategies begin with FMARD. The two main departments (technical and service) of FMARD share responsibility for policy and administration in matters related to agricultural development. Basically, the FDAE provides extension services, and there are several NGOs working within the AIS.

The FDAE's responsibilities include overseeing, monitoring, and providing the leadership needed for efficient and effective agricultural extension and advisory service delivery in Nigeria; reviewing the extension policies within existing agricultural policies and recommending appropriate policies that will ensure the effective participation of all stakeholders in a stable policy environment and adequate funding for the delivery of efficient and effective agricultural extension and advisory services; recommending appropriate institutional structures and arrangements for the delivery of effective and efficient agricultural extension and advisory services, using the value chain approach; and recommending demand-responsive

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<sup>2</sup> Mixed methods is a research methodology in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (for example, the use of qualitative and quantitative viewpoints, data collection, analysis, and inference techniques) for the broad purpose of achieving breadth and depth of understanding and corroboration.

extension systems, approaches, and tools that will ensure the delivery of efficient and effective agricultural extension and advisory services to all the actors in the targeted commodity value chains of interest to the government. Therefore, FMARD and the FDAE are a strong component in the stakeholder mapping process, which necessitates their involvement.

The participation of the private sector in agricultural extension service delivery is likely inevitable, given the recent paradigm shift in agriculture (Adebayo et al. 2015; Sennon 2015; Rahman and Yousif 2016; Raidimi and Kabit 2017; Oyelami, Akinwale, and Ladele 2018). Studies have argued that multiple drivers have prompted privatization reforms of agricultural extension in various countries. For instance, dissatisfaction with the performance of large government agencies has led many countries to embrace microeconomic reform to provide incentives for the private sector to improve service delivery, including in agricultural extension (Chapman and Tripp 2003; Raidimi and Kabit 2017; Oyelami, Akinwale, and Ladele 2018). Furthermore, the goals and purposes of agriculture and food systems policy have developed from a principal focus on production to wider coverage of the mechanisms of value chains and the dynamics of market-oriented poverty reduction goals (Davidson and Ahmad 2002; Abdu-Raheem and Worth 2016). The reforms were also a response to a marked change in the profile of agricultural firms, farms, and the target population of extension and advisory services in many countries (Quaye et al. 2019; Sinclair and Coe 2019). Against this backdrop, we included the private sector in the dialogue and consultative process.

In recent years, NGOs have taken the lead in developing strategies to promote and implement various development activities, thereby supporting or “reducing” the role of the state in social welfare services. Unarguably, NGOs are better able to bridge gaps between policies and the rural poor and can foster participatory processes and channel concerns back into research and extension discussions and other types of agricultural policy development in which they participate. NGOs as part of a third-sector institutional framework are playing a fundamental role in providing strong support to development issues such as agricultural extension services delivery (Rajendran 2004; Siddaraju 2011; Mayya 2015). In areas of the economy, such as agricultural extension, where the private and public sectors may demonstrate less interest, NGOs are making a conscious effort to fill the structural gap by integrating and designing mechanisms to tackle and reduce the impact of the abandonment of the sector (Farrington and Lewis 2014; Mayya 2015). These NGOs are also included in the consultative process.

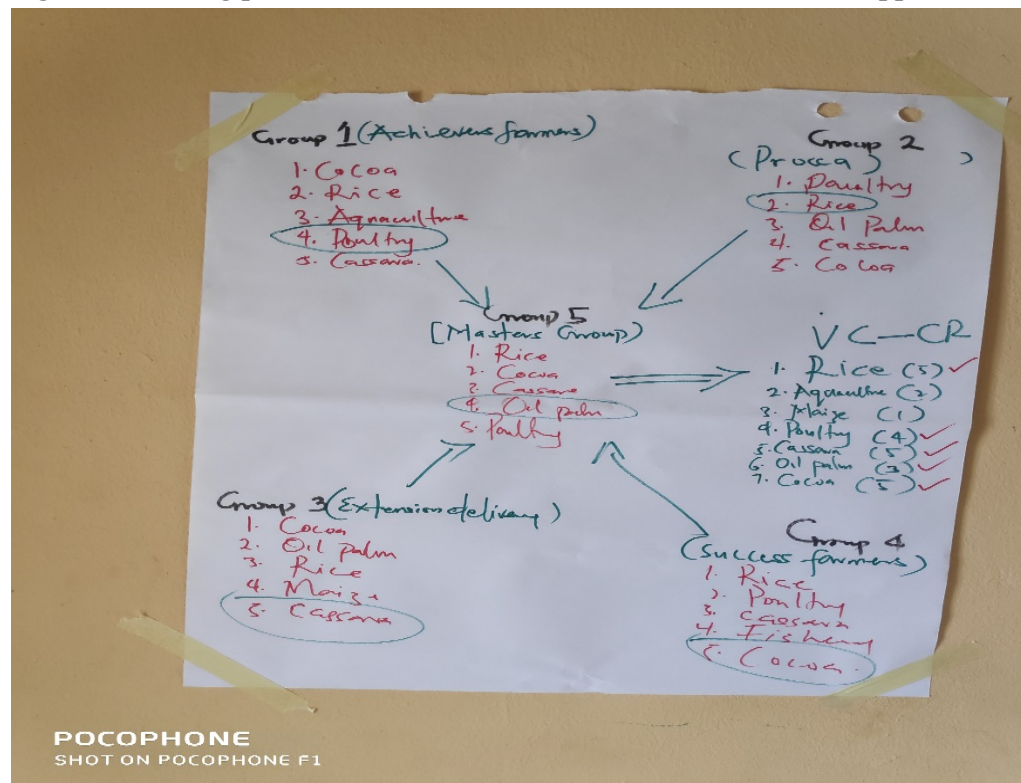
To exercise voice is not merely to speak, but to be heard and to make a difference. We need to know how the poor are able to influence agricultural policy, in terms of policy formulation and implementation, through civil society organizations. “Bottom-up” organizations, with their roots in traditional arrangements, have played various roles in local agricultural development and have represented local voices to external agencies (Esman and Uphoff 1984; Jones and Sanyang 2007; Luqman, Shahbaz, and Ali 2013; Waters-Bayer et al. 2013). For this reason, we included a women’s group and a youth group in the consultative process as well.

## 5 EXTENSION POLICY AND STATE-LEVEL IMPLEMENTATION: LESSONS FROM CROSS RIVER STATE

This section includes the detailed discussion on the output of the qualitative and quantitative component of the approaches used to delve deeper into the issues on extension policy and state-level implementation. The first part of this section focuses on setting priorities and application of CD4AIS approach while the second part shows the figures and tables on the access to types of extension services in Cross River State.

To identify effective procedures to strategically implement the national agricultural extension policy in Nigeria, we used the CD4AIS approach. We adopted this approach to engage multiple stakeholders in the AIS in Cross River State. Preliminarily, we used a trend line tool to categorize the stakeholders' engagement into five groups based on important value chains in the state (see Figure 5.1). The trend line approach gives a trajectory to help prioritize value chains in the state. The procedure involves establishing and representing sequences of major events or changes that have affected the specific commodities in the state over an extended period of time, across the value chains, through dialogue and the engagement of stakeholders. This exercise by the stakeholders, which encouraged dialogue and participation, led to the identification of the key commodity value chains in Cross River State: rice (5),<sup>3</sup> poultry (4), cassava (5), oil palm (3), aquaculture (2), maize (1), and cocoa (5). However, the trend line tools filtered out the less-represented value chains (aquaculture and maize), allowing the meeting to focus on the better-represented value chains (rice, poultry, cassava, oil palm, and cocoa).

**Figure 5.1 Setting priorities for value chains based on the trend line approach**



**Source:** Authors.

<sup>3</sup> The numbers in parentheses are the occurrences of each of the value chains across the five stakeholder groups.

### **Application of CD4AIS Tools (Consultative Process)**

To effectively apply the CD4AIS tools, a top-down consultative process was initiated. A federal-level consultative meeting was held in the Federal Capital Territory Abuja to discuss the implementation arrangements and strategies on the federal agenda and understand the synergy between state and local government areas of priority based on the predominant value chains. The second phase of the process was a state-level consultative meeting using the CD4AIS tools for the stakeholders in the state. The high-level consultation involved the state coordinator of FMARD, the directors of the ADP, directors of the Cross River State Ministry of Agriculture and Natural Resources, private sector actors, development partners, academics, a women's group, and a youth group, among others.<sup>4</sup> It is important to note that the narrative in this section is basically the opinions of relevant stakeholders in the key value chains in Cross River State. Figure 5.2 shows a cross-section of the participants of the meeting.

**Figure 5.2 Cross-section of stakeholders during the consultative workshop**



Source: Authors.

### ***State-Level Committee/Actors Linkages***

The consultative process explicitly revealed the dynamics of the impediments among the state actors involved in extension services delivery in Cross River State. Specifically, ADP officers are representing the public sector in the state, representatives from the conglomeration of private actors provide oversight to ensure private operation within the state, and the Research-Extension-Farmer-Input Linkage System (REFILS)<sup>5</sup> oversees the content of the interventions by the private sector in the state.

<sup>4</sup> See Table A.2 in the appendix for the details of the participants.

<sup>5</sup> REFILS is an organization of research extension and input agencies that aims to improve the productivity of farmers. The concept is that village extension workers pass information to farmers on inputs and market situations. REFILS is the umbrella organization that coordinates the research and extension activities of the ADPs in Nigeria. It is a representation of the institutional dynamics of linkages between National Agricultural Research Institutes, ADPs, farmers, and input agencies.

However, the process revealed that the structures and systems linking the actors in Cross River State were weak. The stakeholders submitted that there had been dwindling effort and inconsistency in the roles<sup>6</sup> of REFILS, especially the monthly technology review meeting,<sup>7</sup> in recent years. In its defense, REFILS affiliates claimed that research systems were currently faced with the challenge of operating with little or no funding. They stated that the research system of REFILS needs a multisystem funding mechanism in order to achieve the expected impact and effectively disseminate key findings while mapping the various interventions in the state. Additionally, meeting participants stated that the capacity of the resource persons within REFILS was extremely low, which led to a weak dissemination approach and feedback “harvesting” techniques that have significantly undermined the effectiveness of the state-level committee and adoption of innovation by the farmers.

Meanwhile, on the demand side, the stereotypically conservative nature of farmers has also led to low adoption of many AIS outputs. One of the meeting participants said, “Farmers are very skeptical of new innovation because they are very used to the indigenous/traditional approach of farming systems.” In the discussion, farmers’ representatives opined that limited practical demonstration and minimal involvement of farmers in designing extension models have long contributed to low productivity of extension service delivery in Cross River State. For instance, the current research approaches to solving many extension problems were criticized as lopsided because researchers are always creating “invisible” problems for farmers that their research is planning to solve. However, participants argued strongly that this approach will not be effective. It was suggested that farmers should instead be contacted and given the opportunity to convey their key challenges, which the experts can assist in solving. Many of the stakeholders agreed with this suggestion, and the room echoed, “Farmers should be the first! Farmer first! Farmer first!” However, participants acknowledged that some of the key contributors to this problem are a low level of awareness and skewed flow and management of information among key actors. Therefore, efforts should be intensified to raise awareness among both researchers and farmers, along with implementation of effective information management systems.

### ***Pluralism in Extension***

Public institutions’ “monopoly” of extension service delivery is clearly not yielding the expected results. Studies (Davis 2006; Birner and Anderson 2007; Adhiguru, BIRTHAL, and Ganesh Kumar 2009) have argued that a well-functioning pluralistic structure for agricultural extension planning and delivery should lighten the excessive personnel and financing pressure on the government that is affecting the quality of extension delivery by the public sector. Moreover, pluralism in extension exposes smallholder farmers to a variety of productivity-enhancing human information sources. Nevertheless, the government’s role is crucial to the success of the pluralistic mechanism. The efforts of the government may be linked to strategic guidance on policy options, free and fair coordination of activities, quality control of extension delivery, adequate technical assistance to “fragile” private organizations and NGOs, and settlement of disputes, for example,

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<sup>6</sup> Some of the key identified important roles in which REFILS is deficient in Cross River State include the following: the monthly technology review meeting; frequently carrying out diagnostic surveys to review constraints; prioritizing and evaluating technologies for multilocation trials; demonstration; adopting a sequence of action for farming system research / on-station research managed trials; extension-managed and farmer-executed on-farm adaptive research; extension-guided small plot adoption trials; and farmers’ demonstrations on small plots to widely publish the proven adopted technologies.

<sup>7</sup> This is a forum at which extension staff, through the REFILS mechanism, update the scientists on the farmers’ input demand situation.

in order to safeguard the interests of farmers (Qamar 2005; Anderson and Feder 2007; Birner and Anderson 2007; Feder, Birner, and Anderson 2011).

The participating stakeholders acknowledged the importance and relevance of the pluralism of extension service in Cross River State. Though there are many actors and players in the extension service delivery system, meeting participants stated that there are no synergies or interactions between the stakeholders in the state. The participants argued that there should be a functional structure in the state's agricultural extension system that tolerates the connectivity and coexistence of a variety of agencies, service providers, models, and institutional arrangements (public, private, community-based, NGOs, etc.) catering to the information, advisory, and support service needs of farmers in Cross River State. One of the stakeholders said, "Collaboration and partnership between private and public extension service providers is key to developing a sustainable extension, advisory, and support service in Cross River State." Another added that the zenith of public extension systems is over, and agricultural extension is currently a complex web of many actors in the AIS in Cross River State. However, despite the promising nature of pluralism of extension, the stakeholders cautioned that the state lacked a regulatory framework. Therefore, they recommended that a well-structured monitoring system be instituted to guide against the uncontrollable entry of manipulative private extension services. In addition, the national agricultural extension policy should be implemented in Cross River State to support the development of pluralistic and demand-driven agricultural extension services.

#### ***Sustainable Funding of Extension Service Delivery***

Sustainable funding is critical to attaining the desired results in agricultural extension service delivery. During the consultation meeting, the participants engaged in extensive deliberation on how agricultural extension in Cross River State can be funded sustainably. We discussed how the funds can be strategically mobilized by the Cross River State Ministry of Agriculture and Natural Resources through pool harvest of interested parties. The stakeholders clearly stated that there is no political will on the part of the government to fund extension; hence, sustainable funding is out of reach if programs depend solely on the government. For instance, one of the stakeholders said, "The government may not be totally committed to funding agricultural extension service delivery because they perceive it may not bring immediate returns to the government pocket/revenue, so the government prioritized other sectors over agriculture." Additionally, we found that strong and productive collaboration between the state department of agricultural extension and the FDAE may yield positive results on sustainable funding through strategic efforts to identify sources of funds for agricultural extension through the Trust Fund. However, there was a call for transparency in the inflow and outflow of harvested funds. One of the stakeholders from the University of Calabar, Nigeria said, "There should be transparency in the spending of the money to the public without any form of corruption." Following up on this, stakeholders are of the opinion that innovation in fundraising is critical, and the participation of genuine private investors will be supported.

In recent years, several donor agencies (both multilateral and bilateral) have consistently reinvigorated interest in the privatization<sup>8</sup> of national extension service delivery, which is handled by the federal government of each country under the federal department of agriculture. At the consultation meeting, opinions were divided on what approach should be prioritized in delivering extension services in Cross River State with a view to obtaining sustainable funding for agricultural extension. Many arguments have

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<sup>8</sup> Terms like *outsourcing*, *cost-recovery*, and *contracting out* are related to the drive for privatization.

been made for the approval of privatization of extension service delivery. The supporting claim for the privatization of extension services is that public sector extension systems have not delivered the expected results. The conclusion of previous studies (Madukwe 2008; Iwuchukwu and Igbokwe 2012; Agber et al. 2013; Issa 2013) in Nigeria, corroborated by the stakeholders in the consultation meeting, is that “good performance lasted as long as the World Bank loan facility lasted. The federal, state, and local governments have proved incapable of financing the ADP extension system and indeed any extension system in Nigeria.”

However, in order to achieve the desired sustainable funding of national agricultural extension service delivery, firm and pragmatic steps are necessary and inevitable. Hence, since farmers benefit from the advisory services offered by extension officers, and bearing in mind the continuous decline in the political will and diminishing government budget allocations for public extension services, the cost of conveying and disseminating agricultural extension services should be partially borne by the farmers, by charging a reasonable and fair fee to increase commitment. The private sector is actively and predominately involved in selling farm inputs and machinery to farmers; accordingly, it is imperative that it also be responsible for and deeply involved in comprehensively advising farmers on agricultural matters, with a view to encouraging a “win-win” and symbiotic relationship rather than a parasitic relationship, as pointed out by some of the stakeholders. For instance, one of the participants from the Cross River State Ministry of Agriculture and Natural Resources said, “Some of the private extension service agencies in Cross River State are manipulative and too profit-oriented rather than offering improved and quality extension service delivery.” Using the aforementioned approach, healthy and sustainable competition among service providers can be established, which will result in higher quality and lower costs for extension services. This approach will likely be more sustainable than depending solely on government or public funding of agricultural extension services.

In terms of economics and development, the financing and delivery of extension services should be considered as separate entities and implemented by two different important sectors (public and private). The massive movement from bilateral and multilateral donors to privatized extension services will definitely change the indigenous, approachable, and informal relationships existing between CRADP extension staff and smallholder farmers. The probable reason for this cannot be disconnected from the nature of the current relationships, because until now the farmers, at whatever level, have never been required to make any financial contribution toward extension advice that will enhance their productivity and well-being.

There are success stories, especially in developed countries, where this approach to funding has helped in revamping agricultural extension service delivery. For instance, Costa Rica operates a type of cost-sharing system in which the government provides extension vouchers to farmers that they then use in accessing private extension experts at a fair cost. Similarly, in the Netherlands, farmers pay up to 60 percent of the costs associated with extension services, while the government pays the remaining 40 percent. The benefits include increased efficiency, improved quality, a client orientation, job satisfaction for staff, and expanded marketing opportunities for farmers. In Albania, private sector entrepreneurial initiatives to create long-term relationships with farmers have proven to be successful. Extension services in Nicaragua are both decentralized and semi-private. Bulgaria privatized a number of state farms to be used as demonstration farms, with the objective of establishing private extension services.

Despite advocating for the privatization of extension services, various studies (Dinar and Keynan 2001; Anderson and Feder 2007; Solís and Bravo-Ureta 2005; Qamar 2005; Birner and Anderson 2007; Feder, Birner, and Anderson 2011) have submitted that there is genuine fear that the zeal for privatization could prevent small farmers from benefiting from the services. Small farmers either do not believe that extension advice is worth paying for or they simply cannot afford to pay. The common wisdom would dictate that in developing countries such as Nigeria, commercial farmers and large cooperatives should pay for extension advice, while the government should continue providing free-of-charge extension services to small producers. Alternatively, in Table A.1 in the appendix we present a range of options for providing and financing agricultural advisory services, including the possible combinations of extension services and financing.

### ***Setting Priorities at the State Level***

Regardless of how appealing the NEP may be, appropriate priority setting for the targeted actors is key to achieving the objectives of the policy. Setting priorities correctly at the state level through thoughtful analysis and evaluation of the challenges facing actors along value chains is essential in order to effectively and efficiently address bottlenecks without affecting the flow of activities along the nodes of the value chains. Figure 5.3 shows the brainstorming session relating to priority setting. There are many actors in the AIS, and their challenges differ. The representative of the Cross River State chapter of the Nigerian Agro Input Dealers stated that “the challenge facing extension delivery along the cocoa value chain is more institutional, while that of rice farmers is more knowledge and information systems within extension services.” Therefore, it is imperative to identify the actors that need immediate intervention based on their “state of emergency.”

Developing extension delivery for a particular value chain to benefit smallholder farmers is key to the overall development and growth of the agricultural sector and to the contribution of agriculture to the country’s overall gross domestic product. However, to assess the application of reform principles or interventions through the NEP, it is important to divide each extension aspect in Cross River State into various subcomponents along the value chains or commodities. For example, some of the subcomponents of grassroots extension program planning in the state will require the identification of farmers’ groups or innovation platforms, prioritization of needs, assessment of available resources, preparation of a grassroots extension plan based on priorities, etc. Then, each subcomponent of the aspect must be examined to see whether a particular principle is applied or not, and to what extent. Furthermore, attention should be paid to how to develop the priorities set and how long the reforming principle or intervention application will need to be in operation before its impact can be expected to be felt by smallholder farmers. These issues should be considered in the state-level priority setting process. Meanwhile, it is also vital to give opportunity for feedback on the priorities to observe whether the application of certain reform principles or interventions is unclear, and how the priority “resetting” process can be initiated and the interventions revised accordingly.

**Figure 5.3 Brainstorming Session on State-Level Priority Setting in Cross River State**



**Source:** Authors.

### ***Quality Control and Regulation***

The objective of agricultural extension service delivery is to enhance smallholder farmers' ability to make insightful and strategic decisions connected to improving their agricultural practices with a view to increasing productivity and livelihood outcomes. To achieve this objective, the quality of extension service delivery must be assessed in terms of its relevancy,<sup>9</sup> understandability,<sup>10</sup> and reliability<sup>11</sup> (Kassem et al. 2019; Mur, Oonk, and Bitzer 2016; Birner and Anderson 2007). As noted by the stakeholders during the consultation meeting in Cross River State, the central impediment to establishing a well-functioning pluralistic agricultural extension mechanism in the state is the absence of effective coordination to assess quality among the various agencies involved in the delivery of agricultural extension services. A participant said that “the absence of quality control and a well-functioning extension regulation board has led to inconsistent technical approvals of approaches and creating unnecessary confusion among the farmers.”

<sup>9</sup> Relevancy of extension delivery refers to whether it is addressing the specific farmer's needs; how applicable it is to the farmer's existing extension challenges; how affordable it is for the farmer; whether it is tailored to socioeconomic and agroecological contexts; whether it is timely; and whether it renders itself to further experimentation and adaptation.

<sup>10</sup> Understandability of extension delivery is important, as it is expected to be clear, concise, and free of vagueness in order to convince farmers rather than confuse them.

<sup>11</sup> Reliability of extension delivery is linked to the accuracy of information, validated in the local context. Additionally, it is expected to be complete, consistent, and transparent.

Therefore, it is critical that the relevant governmental and nongovernmental agencies create a task force with the responsibility of coordinating, technically supervising, and controlling quality. Components of quality control may include the certification of extension practitioners after meeting the eligibility criteria to be a qualified extension officer. There should also be continuous on-site and off-site capacity strengthening to increase the quality of extension officers' service delivery. To maintain the quality of the extension delivery content, extension agents must realize that agriculture is a very dynamic subject, ever-changing, and the processes involved in its practice are seasonal and time specific; therefore, the extension agents and related officers must regularly and constantly upgrade their knowledge, skills, and technical know-how. One of the meeting participants said that "sometimes farmers are more knowledgeable than extension agents because the extension officers are not updating their knowledge about new happenings in the farming system." Therefore, deliberate growth and development in agricultural extension require new knowledge, the skills to use it, and the right attitudes that place value on the dissemination of innovation.

### ***Extension Gap Analysis***

Extension gap analysis is critical in decision making within the AIS, as it helps in assessing whether public extension services are meeting farmers' needs and, if not, whether to strengthen the capacity of the organization or restructure it. The assessment of agricultural extension and the training needs of extension officers or farmers must foster the process of identifying the main gaps in the application of the reform principles and interventions within the AIS. This can take place, for instance, through the preparation of a survey tool or other detailed, structured instruments that directly link to capacity gaps, innovation gaps, knowledge gaps, dissemination gaps, and other relevant gaps. The content can include, but is not limited to, the existing organizational structure, active connections with relevant institutions, the existing narrow or broad mission and technical mandate, the dynamics of human resources (total number of staff members, disaggregated by gender, areas of specialization of the junior and senior officers, qualifications of staff, and relevant experience and location of professional and general services staff), the availability of physical facilities (such as offices, equipment, stationery, audiovisual aids, communication facilities, transport, etc.), and the operational budget. The decisions regarding the foregoing points will inform the preparation of an action plan, financing, and schedule for overall organizational modification or the strengthening or restructuring of the specific organizational components, including revision of terms of reference, with the participation of key staff.

### ***Summary***

The consultative process revealed the major challenges and existing bottlenecks in raising the productivity and profitability of agriculture in Cross River State, reducing instability, increasing resource-use efficiency, ensuring equity, improving quality, and meeting the demands for diversification and commercialization. The CD4AIS tools helped us recognize the weaknesses in agricultural extension delivery in the state. The process also revealed, in the words of one stakeholder, the "poor coordination among the public and private universities, the ADP officers, and research organizations." Interestingly, there were massive calls for a "paradigm shift in agriculture extension delivery processes" from a supply-driven to a demand-driven approach.

### **Sources of Agricultural Extension in Cross River State across Value Chains and Commodities**

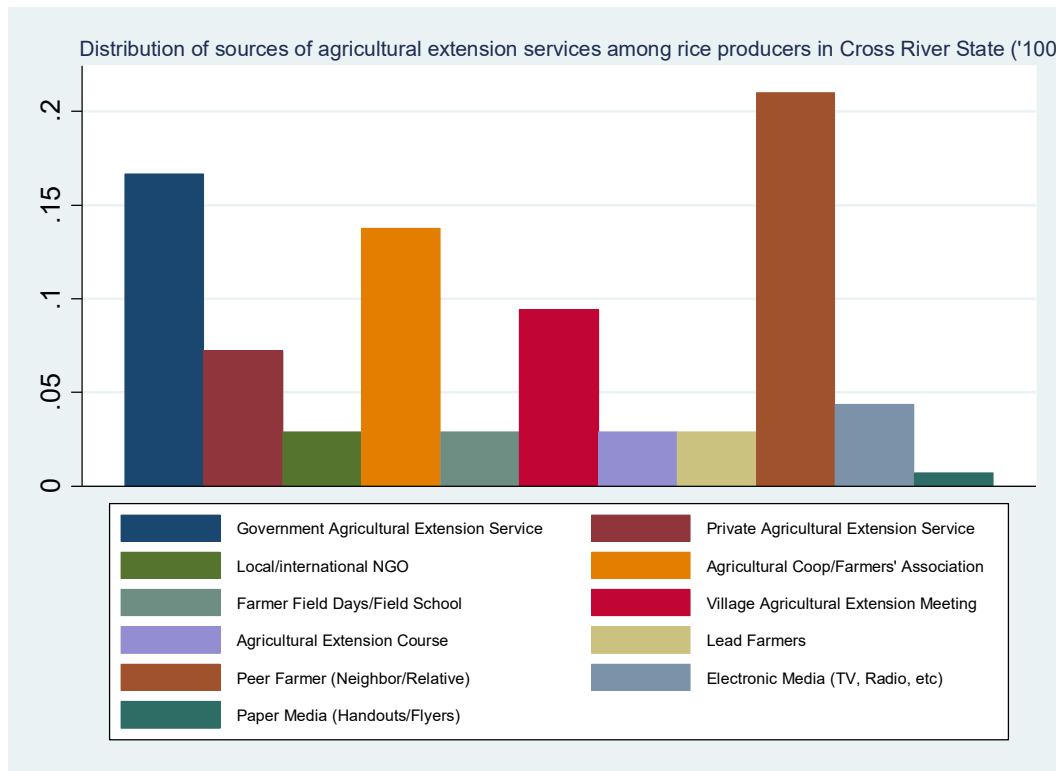
Using the APPEALS baseline data, we identified the basic sources of agricultural extension services along the nodes of the value chains (producers, processors, and marketers) for the priority commodities (rice, poultry, and cocoa) in Cross River State. We identified the dominant sources of agricultural extension

services among the operators, such as government agricultural extension services, private agricultural extension services, local/international NGOs, agricultural coops / farmers’ associations, farmer field days / field schools, village agricultural extension meetings, agricultural extension courses, lead farmers, peer farmers (neighbors/relatives), electronic media (TV, radio, etc.), and paper media (handouts/flyers).

**Extension Service Delivery along the Rice Value Chain**

Figure 5.4 shows how extension-related information or services are accessed by rice producers in Cross River State. These results suggest that many of the rice farmers did not have direct contact with the extension agents; rather, they received “secondhand” information relating to rice production from co-farmers. More than 20 percent of rice-producing farmers accessed “extension services” from fellow farmers. We found that the government is the second dominant source of extension information and services in Cross River State, followed by farmers’ associations. The study shows that 16.7 percent and 13.8 percent of rice producers in Cross River State received extension services from the government and farmers’ associations, respectively. By implication, approximately 85 percent sourced extension services elsewhere or did not receive any services whatsoever. It is important to note that more than 93 percent of rice producers claimed that they did not receive agricultural extension services from private agricultural extension service providers. This implies low involvement of private extension services in Cross River State. Therefore, the promotion of pluralistic extension by involving public, private, and civil society institutions will be critical for enhancing the productivity and livelihoods of rice-producing households in Cross River State.

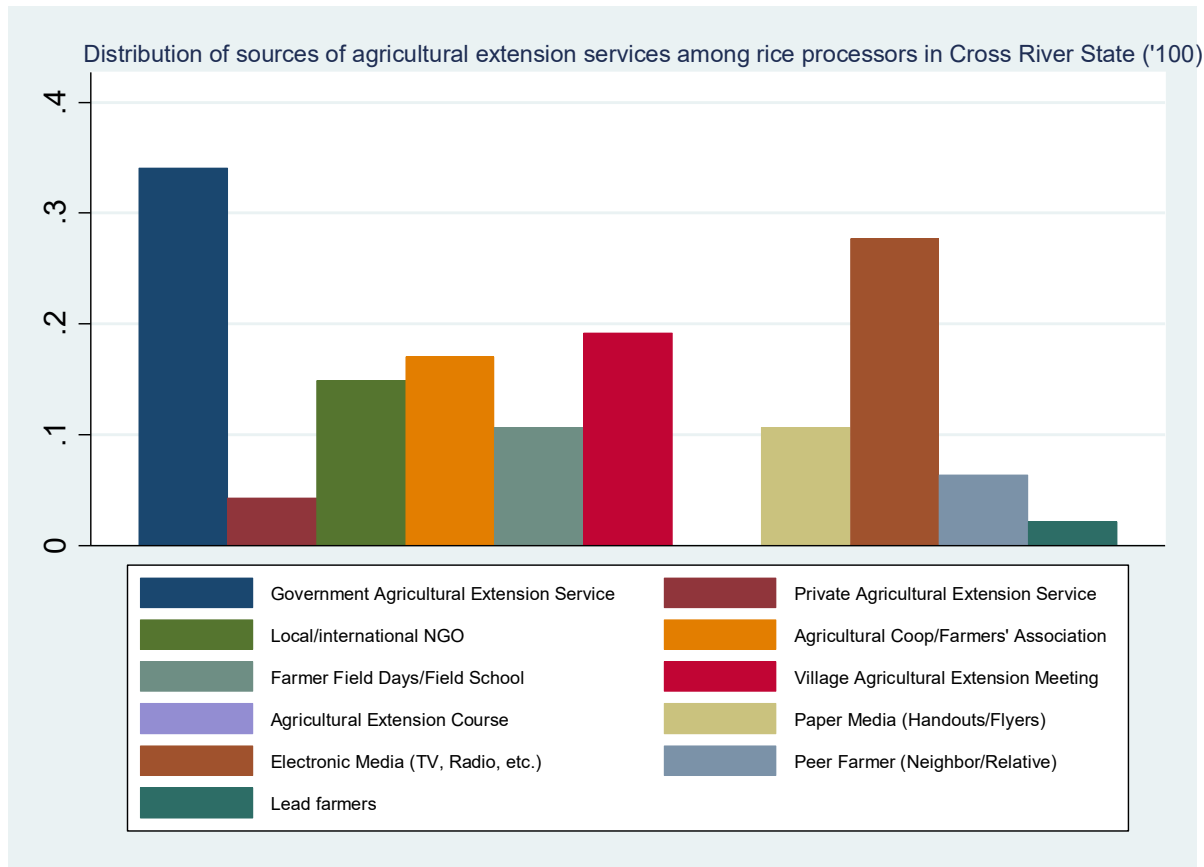
**Figure 5.4 Sources of extension services among rice producers**



**Source:** Authors’ compilations based on 2019 APPEALS baseline data.

Figure 5.5 shows the sources of agricultural extension services among rice processors in Cross River State. Extension services from the public sector are predominant. We found that more than 30 percent of processors received extension services from the government, compared to less than 4 percent from private extension providers. Interestingly, approximately 28 percent of rice processors received extension services through electronic media and ICT. This finding corroborates previous studies (Nwagwu 2015; Masuka et al. 2016; Ali et al. 2018; Beru, Cheserek, and Kiptui 2018) arguing that the use of electronic media and ICT is vital in delivering high-quality, accurate, and speedy extension services. Additionally, village-level extension-related meetings and agricultural cooperatives / farmers' associations provided extension services to 11 percent and 19 percent, respectively.

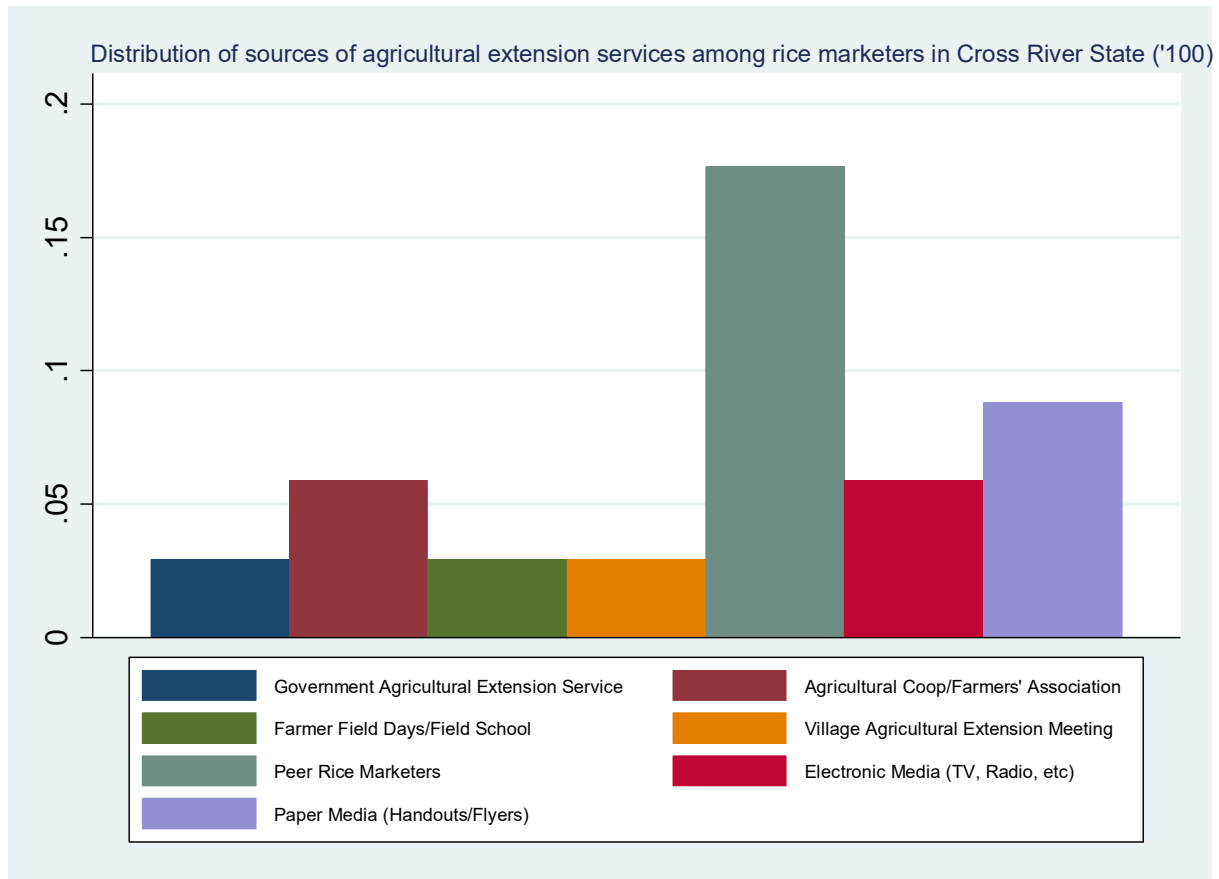
**Figure 5.5 Sources of extension services among rice processors**



**Source:** Authors' compilations based on 2019 APPEALS baseline data.

Access to agricultural extension among rice marketers is shown in Figure 5.6. The figure shows that rice marketers received extension-related information predominately from other marketers. A similar result was obtained on the sources of extension services among rice producers (see Figure 5.4). The result further shows that paper media (such as flyers and handouts) and electronic media (such as radio, television, and mobile phones) are the sources of extension service for 6 percent and 9 percent of rice marketers, respectively. Studies (Anandajayasekeram 2008; Adesoji 2009; Taye 2013) have shown that providing extension services to marketers is vital for the dissemination of some marketing-related information and for providing marketing channels when farmers have surplus and cannot obtain direct access to markets.

**Figure 5.6 Sources of extension services among rice marketers**



**Source:** Authors' compilations based on 2019 APPEALS baseline data.

***Extension Service Delivery along the Poultry Value Chain***

The distribution of access to agricultural extension services by poultry producers is presented in Table 5.1. The table shows that 27.72 percent of poultry producers received extension services from private agricultural extension service providers. This is significantly different from the experience observed among rice producers, processors, and marketers. The reason could potentially relate to the complexity associated with livestock production. Delay or inaccessibility of necessary information or advisory services can lead to “massive destruction.” Hence, most poultry producers will seek alternatives from private extension providers rather than waiting for government advisory services. Studies (Msoffe and Ngulube 2016; Fue et al. 2017) have shown that poultry farmers consistently seek advisory services on disease control, poultry protection, breeds and breeding, and feeding and nutrition, which may also inform their decision to seek “fast” services at a cost. Additionally, we found that 19.8 percent and 13.86 percent received advisory services from paper media and government agricultural extension services, respectively. This suggests that print media play an important role in providing access to poultry-related information for poultry producers in Cross River State.

**Table 5.1 Distribution of access to agricultural extension services by poultry producers**

Variable	Yes (%)
<i>Do you receive any extension services from...?</i>	
Government agricultural extension service	13.86
Private agricultural extension service	27.72
Local/international NGO	4.95
Agricultural coop / farmers' association	6.93
Farmer field days / field school	1.00
Village agricultural extension meeting	1.00
Agricultural extension course	6.93
Lead farmer	3.96
Peer farmer (neighbor/relative)	1.39
Electronic media (TV, radio, etc.)	2.57
Paper media (handouts/flyers)	19.8
Other	2.97

**Source:** Authors' compilations based on 2019 APPEALS baseline data.

Table 5.2 presents the sources of agricultural extension accessed by poultry processors in Cross River State. Only four (private agricultural extension service, agricultural extension course, electronic media, and paper media) out of the many options “available” to the poultry processors were utilized. Specifically, more than 55 percent of poultry processors accessed advisory information through media (electronic and paper). Studies (Qamar 2002; Fue et al. 2017) have shown that extension organizations in developing countries such as Nigeria have dual challenges in maintaining direct contact with farmers and researchers: the physical distances to be covered and the lack of adequate transportation facilities. Hence, the probable justification for the high use of media may be that these physical barriers can be bypassed to a great extent through the development and application of appropriate interactive information mechanisms. Also, much like poultry producers, more than 30 percent of poultry processors used private agricultural extension providers, while none of the poultry processors used any government advisory services.

**Table 5.2 Distribution of access to agricultural extension services by poultry processors**

Variable	Yes (%)
<i>Do you receive any extension services from...?</i>	
Government agricultural extension service	0.00
Private agricultural extension service	33.33
Local/international NGO	0.00
Agricultural coop / farmers' association	0.00
Farmer field days / field school	0.00
Village agricultural extension meeting	0.00
Agricultural extension course	11.11
Lead farmer	0.00
Peer farmer (neighbor/relative)	0.00
Electronic media (TV, radio, etc.)	11.11
Paper media (handouts/flyers)	44.44

**Source:** Authors' compilations based on 2019 APPEALS baseline data.

We present in Table 5.3 the distribution of sources of agricultural extension services to poultry marketers in Cross River State. Media (electronic and paper) and private agricultural extension services provided most of the advisory services to poultry marketers: 16.20 percent and 7.89 percent received information from the media and private extension services, respectively. Although 5.26 percent of poultry marketers received information from government agricultural extension services, this result further confirms that the presence of the public sector in delivering adequate and sustainable extension service to the poultry farmers is extremely limited in the state. Local or international NGOs and farmer field schools both provided extension services to 5.26 percent and 2.63 percent of poultry marketers.

**Table 5.3 Distribution of access to agricultural extension services by poultry marketers**

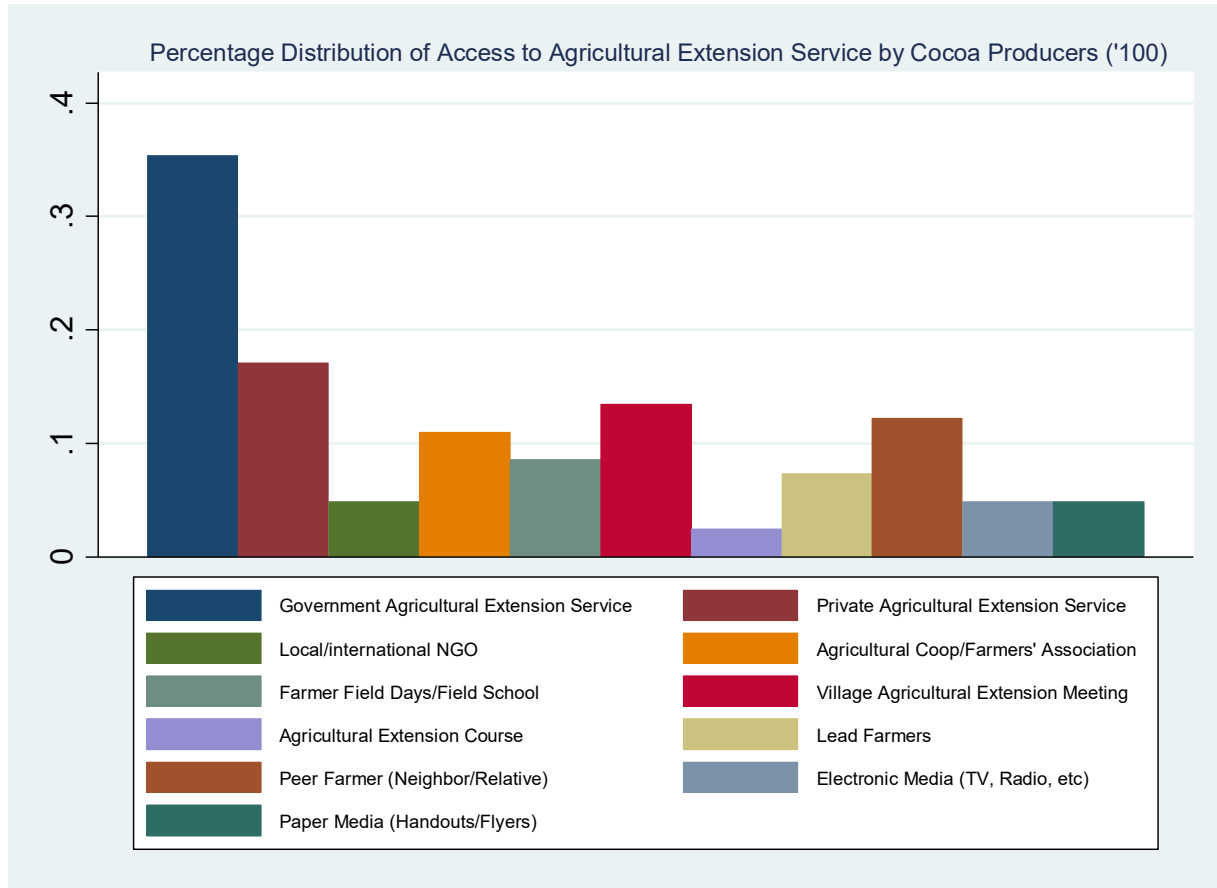
Variable	Yes (%)
<i>Do you receive any extension services from...?</i>	
Government agricultural extension service	5.26
Private agricultural extension service	7.89
Local/international NGO	5.26
Agricultural coop / farmers' association	0.00
Farmer field days / field school	2.63
Village agricultural extension meeting	0.00
Agricultural extension course	5.26
Lead farmer	7.89
Peer farmer (neighbor/relative)	2.63
Electronic media (TV, radio, etc.)	8.10
Paper media (handouts/flyers)	8.10

**Source:** Authors' compilations based on 2019 APPEALS baseline data.

#### ***Extension Service Delivery along the Cocoa Value Chain***

Figure 5.7 shows the distribution of access to agricultural extension services among cocoa producers in Cross River State. The figure shows that approximately 35 percent of cocoa producers received extension services directly from the government agricultural extension service, while 18 percent and 15 percent received advisory services from private agricultural extension services and village agricultural extension meetings, respectively. This result implies that cocoa producers specifically benefit more from government advisory services than do their counterparts in the poultry and rice value chains in Cross River State.

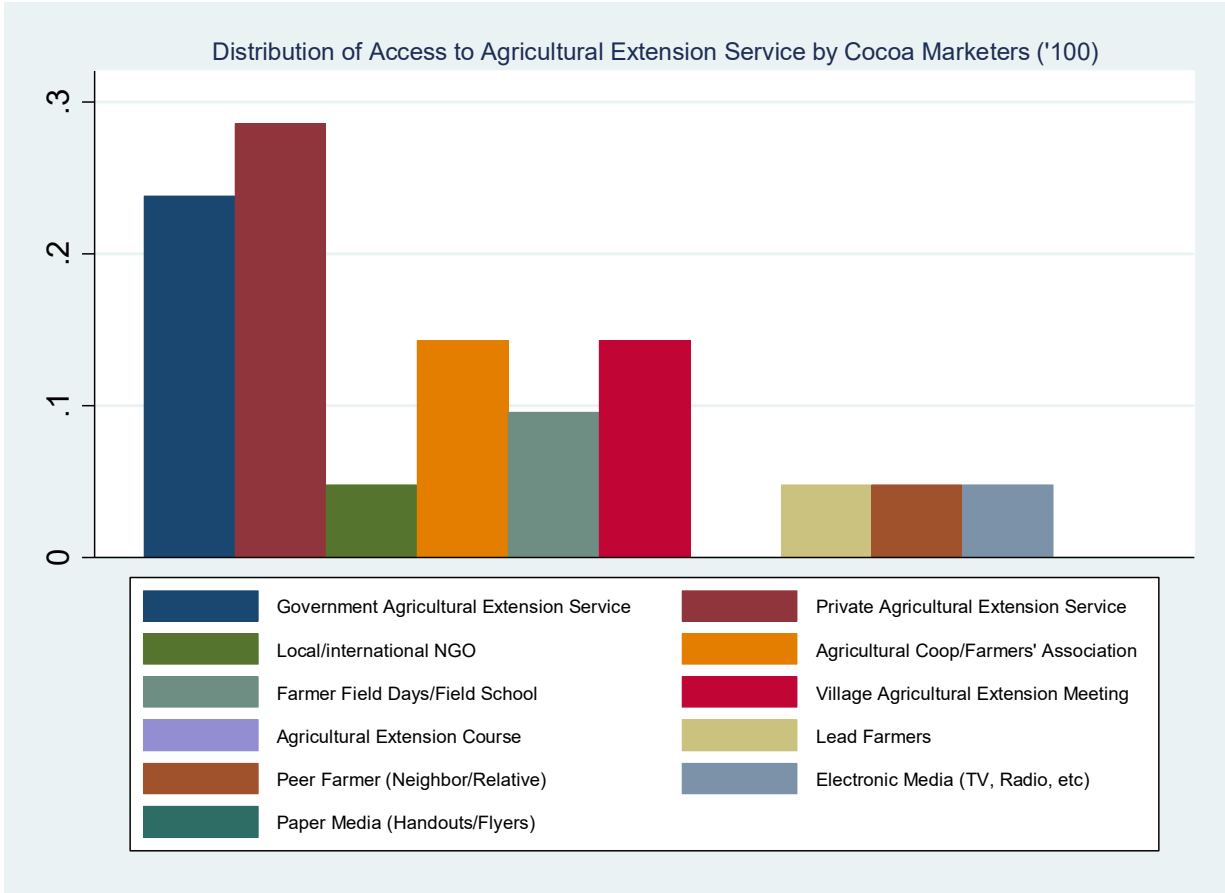
**Figure 5.7 Percentage distribution of access to agricultural extension services among cocoa producers**



**Source:** Authors' compilations based on 2019 APPEALS baseline data.

We present the results on access to agricultural extension services among cocoa marketers in Cross River State in Figure 5.8. Private agricultural extension services are predominant in providing advisory services to cocoa marketers, in contrast to cocoa producers. We found that 28 percent of cocoa marketers received extension services from private agricultural extension services, while 22 percent received services from the government.

**Figure 5.8 Percentage distribution of access to agricultural extension services among cocoa marketers**



**Source:** Authors' compilations based on 2019 APPEALS baseline data.

## **6 STRATEGIES FOR NEP IMPLEMENTATION: HIGHLIGHTING APPROACHES AND MECHANISMS FOR EFFECTIVELY AND EFFICIENTLY IMPLEMENTING EXTENSION POLICY**

A perfect development model or approach may not exist. However, multiple options are available, and the choice hinges on numerous variables. It is essential, for instance, to have a clear definition of who plans (the institutional “pushers” [policy advocates in Cross River State]), for whom (the potential beneficiaries [farmers, especially smallholders]), who takes the initiative (innovative and creative frontline workers in the agricultural extension delivery arena), what the goals are (specific targets to achieve in the AIS), what the means are (understanding pathways and linkages), what the time frame is (duration of execution to track impact at scale), and what the sociopolitical environment is in the state. Other variables may also be critical, such as the source of funds or the project’s physical scope (Fue et al. 2017) and supporting external institutions (Sutherland et al. 2013; Klerkx 2016). Based on the multistakeholder consultative process and the key recommendations from the high-level workshop in Cross River State on September 19, 2019, we are able to propose the following strategies for the implementation of the NEP in the state.

### **Systematic Engagement of Multilevel Actors in the AIS**

The Cross River State government, through the Cross River State Ministry of Agriculture and Natural Resources and CRADP, will strongly encourage a pluralistic agriculture extension system and create an enabling environment to support this goal. This will involve broad, multilevel participation in planning and synchronization of development-related activities, and a robust partnership between stakeholders at the local level. Some of the key components of this system will include state-of-the-art communication technologies, along with contracting with other validated and certified extension service providers in the state for the delivery of extension services. The Cross River State government, through the relevant and “all-inclusive” institutions (agricultural and nonagricultural) will be the “watchdog” guiding all processes involving agricultural extension activities and will have ultimate responsibility (but a neutral external organization will double-check for consistency) for assessing and recording the impact of all agriculture extension programs in the state. Special attention will be paid to forming structures and mechanisms to empower the Cross River State government to direct the scope, implementation, and monitoring and evaluation of agriculture extension services with a focus on enhancing quality control and ensuring the quality of services delivered to rural farmers to avoid misinformation. Detailed roles and responsibilities will involve the sorting and gathering of agricultural knowledge and information with a view to enhancing the productivity of beneficiaries; the creation of simple extension messages and agricultural technology packages; establishing strong partnerships with research and education/training institutions, perhaps through REFILS, in the state; and forming sustainable alliances with development partners in and outside the state. The government will also focus on developing national human capacity to provide quality extension services to the large number of clients and encouraging the broad involvement of stakeholders in service provision.

### **Privatization and Commercialization of Extension Services Provision**

The creation of an encouraging and enabling environment by the Cross River State government, with the support of the Cross River State Ministry of Agriculture and Natural Resources, CRADP, and Ministry of Justice (to handle the legal aspect of contracts), for private extension service provision, as well as for commercialized agriculture production (including crops, livestock, and fisheries), processing, and marketing is key to achieving transformation in the state’s agricultural (extension) sector. The mechanism will necessitate, first, either purposive and direct financial support or (sub)contracting options to private community-based organizations, agriculture training institutions (preferably within Cross River State), and producer organizations to build capacity for extension service providers, and second, introducing procedures, such as extension services contracts, to encourage the private sector to take over extension service provision for established commodity-based commercial farms, and forming systematic models for

contracting extension services between private and public sector service providers. Therefore, as a basis for the planning of agriculture extension activities in Cross River State, it is important for the state government to organize stakeholder forums to identify commodities or subsectors with potential for privatization and commercialization of extension services provision. As an example, the consultative workshops that we organized in Cross River State in September 2019 revealed that the following commodities were expected to have potential for privatization and commercialization in Cross River State: rice, poultry, cassava, oil palm, aquaculture, maize, and cocoa. The government can also propose some incentives to attract private extension service providers, such as providing inducements such as tax breaks for the start-up phase, expediting land acquisition by private sector investors (creating awareness of existing rules and regulations), and providing research data and technical information through the establishment and operation of an agricultural knowledge and information system (AKIS).

### **Standardization, Coordination, and Quality Control of Extension Services Provision**

There may be significant interest in supplying agricultural extension services, but the important question to ask is: how genuine and qualified are the extension service providers? To start with, providers of agricultural extension services (especially in the private sector) must be reputable and recognized organizations that have professionally qualified staff in crop production, livestock production, fisheries, or animal health, and cross-cutting experience along the value chain. To ensure quality service, coordination and standards for providers of agricultural extension services will be set by the line ministries (Cross River State government with the support of the Cross River State Ministry of Agriculture and Natural Resources and CRADP) in close consultation with stakeholders. Some of the standards for the extension service providers will include professional capability (such as the level of education, skills, and experience of the technical staff); the requirement to have a plan for regular training of technical staff; requirements for availability of resources and capital, transparency, and strict procurement rules; adequate capacity in monitoring and evaluation; and an understanding of systematic value chain dynamics and the ability to cover cross-cutting issues within the AIS. All extension service providers will be responsible for providing quality extension services in that they must ensure that guidance and information they pass across to farmers (or other clients) is accurate and beneficial, and the performance of extension service providers will be monitored by the government. For coordination, we recommend the creation of an extension, research, and learning coordinating committee (ERLCC) in Cross River State. The role of the ERLCC is to reduce replication of effort and ensure that, jointly, the plans of agencies contributing to policy implementation in Cross River State address the needs of farming households and communities in a balanced way. It is at the level of the ERLCC where the preliminary commitment to partnership and coordination will be translated into joint executive action.

### **Practicable, Demand-Driven Approaches**

The main principles of demand-driven agricultural extension service delivery systems are that services shall be driven by user demand, service providers shall be accountable to users on the basis of services rendered, and users shall have a free choice of service providers. The indicators for success for demand-driven agricultural extension service delivery systems are that farmers have access to agricultural advisory services and use these services, farmers have increased income from agricultural production, and there is increased competition among agricultural advisers. Preconditions for success are enabling policies and public sector commitment to the transition. In demand-driven extension, extension service providers' role is to provide the services and technical advice demanded by clients. The main avenue for establishing farmers' needs is through the initial participatory planning and needs assessment (possibly through the collection of key baseline data), which is expected to be carried out by extension service providers together with key

stakeholders when initiating extension work in a community. It is important to state that farmer-extension-research linkages become crucial in a demand-driven extension system as a way of directing research toward issues relevant to farmers' needs.

## 7 IMPLICATIONS AND GOALS OF THE NEP

### **Monitoring, Evaluation, and Learning System**

An institutional structure for supporting the AIS through monitoring, evaluation, and learning (MEL) and impact assessment will be critical to reshaping agricultural extension delivery systems in Cross River State. Monitoring of the timeliness and quality of the delivery of services, and joint impact assessment by farmers' groups and extension workers, specifically at the state level, with the assistance of subject-matter specialists along priority value chains and commodities, is desirable to track the growth and development of the AIS in Cross River State. One of the consultative meeting participants said that "sustainable productivity of the agricultural innovation system in the state depends on the effectiveness of the monitoring, evaluation, and learning system of the extension delivery." He further added that misplaced priorities of the extension officers should be monitored. He stressed that extension officers should be used only for extension services purposes, rather than using some as loan collectors or input suppliers. Therefore, the NEP will perform well in Cross River State if the MEL system is developed and well-structured to track and record activities in line with the results-based management approach. It is imperative that the MEL system have qualified field staff (for example, enumerators) with functional equipment for proper data collection, aggregation, analysis, and management. Another consultative meeting participant suggested that developing the capacity of the MEL unit staff with appropriate skills to use software such as GIS, Tableau, STATA, and NVivo will be necessary to generate feedback for policy matrix analysis.

### **Funding Mechanisms for Agricultural Extension**

A majority of Cross River State farmers engage in small-scale subsistence farming; hence, using charges or levies for "common goods" such as general agricultural extension information may not be economically feasible and would be difficult to enforce. However, partial cost recovery may be presented as a pathway for promoting a more demand-driven system and serving as an important entry point and transitional stage toward evolving a market for fee-for-service agricultural extension in the state. Improving livelihood outcomes (increased welfare and food security, reduced poverty) should be the priority of public funding, whether services are provided by government agencies or contracted out to private sector organizations.

The principle of financial participation in financing extension services is key for adequate delivery. The participation of producers/users in financing extension, even to a modest degree, is essential if they are to be heard when they ask for good-quality services that are responsive to their needs. The private sector can, however, be organized and mobilized to provide private extension services to support commercial farmers and farmers with marketable output for whom extension services are profitable. The financial participation of users in extension services can be organized in a variety of ways: direct payment for services; indirect payment through the membership fees of producer organizations; indirect payment via levies on produce processed or marketed, for example, by a subsector organization or a private company; or indirect payment via tax revenues raised from agriculture and livestock produce, such as export taxes and local taxes on the movement of produce. When publicly financed extension services are contracted out, the role of government changes from that of implementing agency to that of quality controller, overseer, and provider of training and technical information to the agencies contracted. The inclusion of private sector entities in the extension delivery process is seen as holding great promise for the advancement of pluralism, democratization, and institutional efficiencies.

### **Agricultural Knowledge and Information Management in Extension**

The new face and phase of agricultural extension has shifted from the traditional technology transfer paradigm to a broader phase of improving diverse channels for promoting communication links between key actors (that is, stakeholders, farmers, and extension agents) in agriculture, with a view to developing knowledge<sup>12</sup> and information sharing, learning, and ultimately the AIS in terms of practices and technologies (Ingram and Morris 2007; Ingram 2008; Ward and Chapman 2008; Sutherland et al. 2013; Klerkx 2016). Essentially, the types of knowledge and ideas emerging from the relevant players in the agricultural extension corridor differ significantly; therefore, the extension system should be constructively designed to allow a wide variety of knowledge to flow between smallholder farmers, key stakeholders, and extension officers in the AIS via an appropriate mix of different methods and communication media. Extension agents should also manage knowledge in such a way that they keep themselves up-to-date and deliver the best possible support to farmers. The workshop participants were on the same page, as many agreed that “agricultural knowledge and information management is an institutional structure supporting agricultural innovation systems.” Therefore, the participants recommended that a well-functioning AIS should establish an AKIS.

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<sup>12</sup> Agricultural extension knowledge is defined as the combination of data and information on agriculture, to which is added expert opinion, skills, and experience within the AIS. Knowledge is the integration of information, ideas, experience, intuition, skill, and lessons learned that creates added value for a firm (Dana et al. 2007).

## 8 CONCLUDING REMARKS

Agricultural extension programs have been one of the main channels for addressing rural poverty and food insecurity in developing countries such as Nigeria, thanks to these programs' potential to transfer technology, promote innovation dynamism, support rural adult learning, assist farmers in problem-solving, and actively involve farmers in the AKIS. Extension programs and interventions that will succeed in achieving significant impacts in terms of behavior and practice changes, as well as agricultural productivity increases, will do so as a result of suitable policy formulation and an effective implementation process. Ultimately, agricultural extension reform requires policy vision and determination, and a state-level strategy that can be implemented. This study was carried out to document the issues, challenges, constraints, and potential solutions and opportunities encountered in implementing the NEP in Nigeria at the state level, using a mixed methods approach in the context of Cross River State.

We have documented interesting insights from the multistakeholder consultative process and reported descriptive results from the quantitative assessment of access to extension services in Cross River State. These results show that, generally, there is low access to agricultural extension services across commodities and their respective value chains. From the multistakeholder engagement, we found that collaboration and partnership between private and public extension service providers will be key to developing sustainable extension, advisory, and support services in Cross River State. The participating stakeholders see no synergies or interactions between the stakeholders in the state and therefore strongly advocate for a pluralistic extension approach. The stakeholders reported that there is little or no political will in the state government to provide extension funding; hence, sustainable funding levels cannot be reached if the government is the sole provider of financing for extension services. One of the central impediments in establishing a well-functioning pluralistic agricultural extension mechanism in the state, as noted by the stakeholders, is the absence of effective coordination to assess quality among the various agencies involved in the delivery of agricultural extension services. Additionally, we found that there is a weak AKIS, which has been affecting the delivery of extension services in the state.

Echoing the suggestion of the stakeholders, we recommend the establishment of an efficient AKIS to ensure that all stakeholders are actively involved the generation, storage, access, and exchange of relevant information and knowledge that will be of benefit to the farmers in Cross River State. We posit that funding for agricultural extension services can be provided through decentralization, involvement of farmers' associations and NGOs, contracting out of extension services, public-private partnerships, privatization, and embedding advisory services in other types of contracts. This approach can help eliminate the bottleneck of inadequate funding and reduce the burden of financing AIS by the public sector alone. Therefore, decentralization of the planning process in agricultural extension and preparing independent and flexible plans of action for the local level is the recommended approach for effectively, efficiently, and successfully implementing the NEP at the state level.

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## APPENDIX

**Table A.1 Options for providing and financing agricultural advisory services**

<b>Financing Provision of service</b>	<b>Public sector (various levels of decentralization possible)</b>	<b>Private sector: farmers (individuals)</b>	<b>Private sector: companies</b>	<b>Third sector: nongovernmental organizations (NGOs)</b>	<b>Third sector: farm- based organizations (FBOs)</b>
<b>Public sector (various levels of decentralization possible)</b>	(1) Public sector extension (various degrees of decentralization)	(5) Fee-for-service extension provided by public sector	(9) Private companies contract public sector extension agents	(11) NGOs contract public sector extension agents	(15) FBOs contract public sector extension agents
<b>Private sector: companies</b>	(2) Publicly financed contracts or subsidies to private sector extension providers	(6) Private extension agents, farmers pay fees	(10) Information provided with sale of inputs or purchases of outputs	(12) Extension agents from private companies hired by NGOs	(16) FBOs contract extension agents from companies
<b>Third sector: NGOs</b>	(3) Publicly financed contracts or financial support to NGOs providing extension	(7) Extension agents hired by NGOs, farmers pay fees		(13) Extension agents hired by NGOs, service provided free of charge	
<b>Third sector: FBOs</b>	(4) Public financial support supplied to FBOs providing extension	(8) Extension agents hired by FBOs, farmers pay fees		(14) NGOs finance extension agents who are employed by FBOs	(17) Extension agents hired by FBOs, service free to members

**Source:** Ferroni and Zhou (2012), adapted from Birner and Anderson (2007), and Birner et al. (2006),

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