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Extension Services and Sustainable Food Security in Central Senatorial District of Cross River State

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Abstract **Review Article**

This research investigated the relationship between Extension services and sustainable food security in Central senatorial District of Cross River State. Three hypotheses were formulated to guide the study. Descriptive survey design was used for the study; Purposive sampling technique was employed to select sample a total of 198 registered famers in Central Senatorial District of Cross River State who participated in the study. The instrument used for data collection was questionnaire titled: "Extension services and sustainable food security in Central Senatorial District area Questionnaire" (ESAGSFS) was used to elicit information from the respondents; whereas content validity was used to determine the instrument validity, while test-retest was used to determine the reliability of the instrument. The Statistical tool used for analysis was Pearson product Correlation, tested at 0.05 level of significance and .196 degree of freedom.The results obtained from data analysis revealed that in hypothesis one, two and three, there are significant relationship between credit facilitation and sustainable food security; and there is a negative correlation between marketing links and sustainable food security; even as there is a significant relationship between technology transfer and sustainable food security respectively. It was concluded that extension services delivered through adragogical extensionalia approaches have significant relationship with sustainable food security in Central Senatorial District of Cross River State. Finally, it was recommended that Extension workers should be regularly trained and retrained to update their knowledge on modern agricultural technologies, communication methods, and sustainable farming practices, skills which they should pass to the farmers through train the trainer approach.

Keywords: Food Security, Extension services, technology transfer, Sustainable farming Practices, farmers, Central Senatorial District.

Introduction

Food security is one of the most pressing global challenges, affecting millions of people across both developed and developing nations. The ability to produce, access, and utilize food in a sustainable manner determines not only human survival but also economic stability and social well-being. Extension services play a critical role in addressing food security by disseminating improved farming techniques, enhancing market linkages, promoting climate-resilient agriculture, and ensuring that

farmers have access to resources that sustain long-term productivity. A well-developed extension system strengthens food security by empowering farmers with the knowledge and tools necessary to increase yields, minimize post- harvest losses, and enhance nutritional outcomes. The connection between agricultural extension and food security is evident in its impact on farm-level decision- making, supply chain efficiency, and household dietary diversity (Romeo et.al., 2016). Research indicates that farmers receiving regular extension support increase their productivity by 20–40% compared to those without access to advisory services. Agricultural extension services not only improve food production but also influence the availability and affordability of nutrient-rich foods, reducing malnutrition and diet-related diseases. Strengthening extension networks ensures that food security interventions are knowledge-driven, data-backed, and locally adapted to meet the specific needs of farming communities. Tawo, Akwa, Ekpenyong and Emangha (2025) opined that Effective skills training is a cornerstone of technical vocational education and training, providing community members with hands-on experience and practical knowledge directly applicable to their chosen fields.

Food security is defined as a state in which all individuals have physical, social, and economic access to sufficient, safe, and nutritious food that meets their dietary needs for an active and healthy life. The Food and Agriculture Organization (FAO) categorizes food security into four fundamental pillars: availability, access, utilization, and stability. Each pillar must be addressed holistically to ensure that food systems are resilient, inclusive, and capable of sustaining global populations in the face of climate change, economic fluctuations, and social inequalities. Agricultural productivity alone does not guarantee good nutrition. Food security must be linked to nutritional security, ensuring that individuals have access to a balanced diet rich in essential micronutrients. Malnutrition remains a critical global issue, affecting nearly 820 million people, with deficiencies in iron, vitamin A, and zinc leading to severe health complications. Extension services are vita in integrating nutrition education into agricultural programs, ensuring that food production strategies align with dietary requirements. One of the key roles of extension services is promoting biofortified crops, which are enriched with essential vitamins and minerals to combat micronutrient deficiencies (Bouis et.al., 2017). Biofortified staples, such as iron-rich beans, vitamin A-enriched sweet potatoes, and zinc-enhanced wheat, have proven effective in reducing malnutrition. Studies show that households consuming biofortified crops experience a 30–50% improvement in nutritional status, highlighting the potential of nutrition-sensitive agriculture. Extension programs also advocate for kitchen gardening and household-level food production, encouraging families to grow fruits, vegetables, and herbs to supplement their diets. Research suggests that families engaged in home gardening programs increase their vegetable consumption by 40–60%, leading to better health outcomes. Training on food preservation techniques, hygiene practices, and dietary planning ensures that food remains nutritious from production to consumption.

Theoretical Framework

Human Capital Theory - Sir William Petty (1623)

Sir William Petty was an English Economist, and Philosopher. The concept of human capital is an old one. Perhaps the first to try to define and measure what now is called human capital theory. Sir William Petty was the prominent founder of political Arithmetic school of Economics and forerunner of applied econometrics; Petty was concerned with the main national socio-economic and political roles of human capital. He believed that labour was the father of wealth and that a measure of its value should be included in the estimation of national wealth. Petty's thesis was that factors other than land and population were important in determining the wealth of a nation. Petty originated many of the concepts still used in Economics today. He coined the term 'full employment', for example and stated that the price of land equals the discount, present value of expected future rent on the land. Human Capital theory is a theory of earnings, one of the major determinants of poverty. The theory explains

both individual's decision to invest in human capital (Education and training) and the pattern of individual's lifetime earnings. Individuals' different levels of investment in education and training entails costs both in the form of direct expenses (e.g. tuition) and foregone earnings during the investment period, so only those individuals who will be compensated by sufficiently higher lifetime fewer labour market opportunities such as women or minorities are less likely to invest in human capital. As a result, these women minorities may have lower earnings and may be more likely to be in poverty. Human Capital theory also explains the pattern of individual's lifetime earnings. In general, the pattern of individuals' earning is such that they start out low (when the individual is young) and increase with age (Becker, l975). Although earnings tend to fall somewhat as individuals near retirement. The human capital theory stated that earnings start out low when people are young because young people are more likely to invest in human capital and will have to forego earnings as they invest. Younger people are more likely to invest in human capital than older people because they have a longer remaining work life to benefit from their investment and their forgone wages and so cost investment are lower. Earnings then increase rapidly with age as skills acquired. Finally, as workers grow older, the place of human capital investment and thus productivity slows, leading to slower earning growth. At the end of a person working life, skills may have depreciated, and as a result of law of continuous human capital investment and the ageing process, the depreciation contributes to the countdown in average earnings near retirement age (Ehrenberg & Smith, l99l). Human capital theory is a theory of capital investment and labour market earnings.

The implication of this theory to the emphasizes the importance of investing in people through education, training, skills development, and health improvement to enhance productivity and economic growth. When applied to extension services and agricultural development, the theory highlights the crucial role of human resource development in achieving sustainable agricultural growth and food security.

Statement of the Problem

Despite the vast land in southern senatorial district of Cross River State, favorable rainfall patterns and long history of farming, agricultural productivity and household food security remain below their potential. Smallholder farmers in the area continue to experience low yields, post-harvest losses, limited adoption of improved inputs and practices, and periodic food shortages problems that persist even though government and non-government extension programmes have been active in the region. This apparent disconnect suggests that existing extension services may be inadequate in coverage, poorly matched to local needs, or constrained by weak logistics, funding, and farmer extension linkages. As a result, the anticipated contributions of agricultural development to income growth, rural employment and sustainable food security in Central senatorial district of Cross River State are not being realized.

More specifically, there is limited empirical evidence on (a) the extent to which extension services in Central senatorial district of Cross River State reach marginalized groups (smallholders, women and youth), (b) the quality and relevance of the technical advice, training and input support provided, and (c) how extension delivery modes (e.ga, contact farmers, group demonstrations, radio/ICT) influence adoption of improved technologies and sustainable farming practices. There is also inadequate information on institutional constraints including staff capacity, funding, coordination between agencies and private providers that may blunt the effectiveness of extension. Without clear data on these gaps, policy-makers and practitioners cannot design targeted interventions to boost productivity, reduce post-harvest losses, raise incomes, and achieve long-term food security in Central Senatorial District of Cross river State.

Therefore, this study seeks to investigate the relationship between credit facilitation, marketing links, technology transfer and sustainable food security in Central Senatorial District of Cross river State. It will identify the main bottlenecks in extension delivery, measure how extension contact and quality affect farmers' adoption of improved

practices and productivity, and show how these dynamics translate into household food security outcomes. The findings will provide an evidence base for improving extension strategies so that agricultural growth in Central Senatorial District of Cross river State becomes more inclusive and sustainable.

Statement of hypothesis

The following hypotheses were formulated to guide the study;

1) There is no significant relationship between Credit Facilitation and agricultural growth and sustainable food security in Central Senatorial District of Cross river State.
2) There is no significant relationship between Marketing Link and agricultural growth and sustainable food security in Central Senatorial District of Cross River State.
3) There is no significant relationship between Technology transfer and agricultural growth and sustainable food security in Central Senatorial District of Cross River State.

Literature Review

In a study conducted by Stanley, Benard, Nancy, (2024) on the Role of Agricultural Extension Services in Enhancing Food Security among Smallholder Farmers in Uganda, using National Agricultural Advisory Services for a case study, the role of agricultural extension services, particularly those provided by the National Agricultural Advisory Services (NAADS) was explored. The study was aimed at investigating how the dissemination of agricultural knowledge and best practices could influence farmers' adoption of improved agricultural techniques to boost increased productivity and achieve sustainable food security. By employing a cross-sectional research design, the study gathered data from 400 smallholder farmers 200 users of NAADS services and 200 non-users using structured questionnaires and interviews to assess their engagement with extension services, satisfaction levels, and impacts on agricultural productivity and food security outcomes. The findings revealed that participation in NAADS services significantly improved crop yields, with 75% of users reporting enhanced productivity compared to only 30% of non- users, underscoring the effectiveness of extension services in facilitating the adoption of innovative farming practices. Furthermore, the marginal effects analysis indicated that NAADS participation was associated with a 25% improvement in food security, reinforcing the critical role of agricultural extension in fostering resilience against food shortages.

Khatri, Askari, Solanki, (2025) conducted a study on The Impact of Extension on Food Security and Nutrition. Studies indicate that smallholder farmers receiving extension support increase their yields by 20-50%, reducing food shortages and enhancing market stability. Strengthening climate-smart agriculture, post-harvest management, and supply chain efficiency ensures that food remains abundant and accessible. Economic measures such as subsidies, crop insurance, and targeted grants for smallholder farmers further reduce hunger by promoting agricultural innovation and risk management. Public-private partnerships, particularly in agribusiness investments and digital extension platforms, have expanded access to financial resources and market linkages, empowering farming communities. Policy reforms focused on nutrition-sensitive agriculture, data-driven decision-making, and resilience-building strategies contribute to long-term food stability. Global efforts by organizations such as FAO, IFAD, and WFP have demonstrated that agricultural extension-driven food security programs reduce malnutrition rates and improve household dietary diversity. Research shows that countries integrating extension- based food security initiatives experience up to 40% higher agricultural productivity and reduced vulnerability to climate change.

Zaichenko, V., Kononenko, L. (2025). The article is dedicated to the study of the problems of economic security of small agricultural enterprises in an unstable economic environment. The fundamental importance of ensuring economic security is emphasized, both for individual economic entities

and for the economic system, especially in the context of increasing global crises and digital transformation. Attention is focused on the specifics of agriculture, its dependence on natural factors, and the key role of small agricultural enterprises in ensuring food security and sustainable rural development. The vulnerability of small agricultural enterprises is highlighted due to insufficient material and technical support, low levels of staffing, high production costs, marketing problems, and geographical remoteness. It is substantiated that cooperation with agricultural extension services is a strategically important direction for ensuring sustainable rural development, the competitiveness of small agricultural enterprises, and ensuring economic security in modern economic conditions.

Olajide A. Aina and Adebayo A. Omoare (2023) investigated the influence of agricultural marketing on household food security among smallholder farmers in southwestern Nigeria. Using a cross-sectional survey of 420 farming households and applying multiple regression analysis, the study found that access to organized markets, timely market information, and competitive pricing significantly improved household food security. Farmers who participated in cooperative marketing recorded higher incomes and greater food availability than those who marketed individually. The study recommended strengthening rural market infrastructure and expanding digital market information systems.

Adabayo et al. (2022) examined the impact of market access on food security among rural households in Nigeria using data from the Nigerian Living Standards Survey. Employing an endogenous switching regression model, the researchers found that improved market participation significantly increased household dietary diversity and food consumption scores. The study concluded that reducing transportation costs and improving rural roads would enhance sustainable food security by increasing farmers' access to profitable markets.

Qaim (2020) studied agricultural commercialization and food security among smallholder farmers in several African countries. Using household survey data and econometric analysis, the study found that commercialization through improved marketing channels increased farm income, enabling households to purchase diverse and nutritious foods. The research concluded that better market integration contributes significantly to sustainable food security, particularly when supported by extension services and infrastructure.

Food and Agriculture Organization of the United Nations (2023) reported that efficient food marketing systems are essential for achieving sustainable food security. The report noted that countries with efficient value chains, storage facilities, and transportation networks experience lower food losses and more stable food supplies. It further emphasized that digital marketing platforms and farmer cooperatives have become effective tools for improving market access and reducing poverty among rural households.

Abanbeshie, Virginia, & Akwa, (2025) Traditional Media and Implementation of Community Projects in Akpabuyo District of Cross Rive State. The study's goal is to investigate traditional media and community project execution in Akpabuyo Local Government Area. In order to accomplish this, three research questions and three hypotheses were formulated to direct the investigation. the literature was reviewed conceptually, theoretically, and empirically in accordance with the sturdy's sub variables. the study used a survey research design and a purposive and stratified sampling technique to choose its sample. 416 respondents in all, or 20% of the population, were chosen for the study. The findings demonstrated a strong favorable correlation between the execution of community projects and the usage of town criers, village town hall meetings, and local radio. Recommendations and implications were given in light of the study's results and conclusion.

International Food Policy Research Institute (2022) conducted a study across Sub-Saharan Africa and found that farmers with better access to agricultural markets recorded significantly higher productivity and household food security than those in isolated rural communities. The study emphasized that investment in rural infrastructure, market information services, and agricultural value

chains enhances sustainable food systems and strengthens resilience against food shortages.

Afolami C. A. et al. (2021) examined the relationship between agricultural marketing efficiency and food security among maize farmers in southwestern Nigeria. Using stochastic frontier analysis, the study found that marketing efficiency positively influenced farm profitability and household food security. Farmers with better access to transportation, storage facilities, and organized markets achieved higher productivity and reduced post- harvest losses.

Similarly, World Bank (2024) observed that improving agricultural marketing systems is one of the most effective strategies for achieving sustainable food security in developing countries. The report highlighted that investments in rural roads, digital agricultural marketplaces, warehousing, and cold-chain logistics reduce food waste, improve farmers' incomes, and enhance consumers' access to affordable food.

Food and Agricultural organization of United Nations (2023) reported that the transfer of improved agricultural technologies, including climate-smart farming practices, improved seed varieties, precision agriculture, and digital advisory services, has significantly enhanced food production in developing countries. The report noted that farmers who adopted these technologies experienced higher productivity, improved household incomes, and greater food security. It emphasized that technology transfer should be supported by effective extension services, farmer training, and access to credit to maximize its impact on sustainable food systems.

Matin (2020) investigated the contribution of agricultural innovation and technology adoption to food security among smallholder farmers in developing countries. The study found that the adoption of improved seeds, fertilizers, irrigation technologies, and mechanization significantly increased farm productivity and household food consumption. The research further revealed that technology transfer contributed to poverty reduction by increasing farmers' incomes and improving access to nutritious food.

Similarly, Afolami C. A. et al. (2021) investigated the adoption of improved maize production technologies among Nigerian farmers. Using survey data and regression analysis, the study reported that access to improved technologies significantly increased maize output and household food availability. The study also found that extension contacts, educational attainment, and access to credit positively influenced technology adoption.

Adebayo Ogunniyi et al. (2022) investigated the effect of agricultural credit on household food security among rural farming households. Using an endogenous switching regression model, the study found that farmers who obtained formal agricultural credit achieved significantly higher crop yields, farm incomes, and food consumption scores than those without access to credit. The researchers recommended expanding government-supported agricultural credit schemes and strengthening rural financial institutions.

Oluyole (2022) reported that technology transfer initiatives under agricultural transformation programmes have improved food production across several African countries. The report noted that improved seed systems, digital extension platforms, irrigation technologies, and mechanization services enhanced agricultural productivity and strengthened food security among rural households. It recommended sustained investment in agricultural innovation systems and stronger collaboration between research institutions and extension agencies in reducing hunger.

International Food Policy Research Institute (2023) examined the relationship between agricultural finance and household food security across Sub-Saharan Africa. Using panel household data and econometric analysis, the study found that access to formal agricultural credit significantly improved farm investment, crop productivity, and dietary diversity. The report concluded that credit facilitation enables farmers to adopt productivity-enhancing technologies, thereby strengthening long-term food security and rural livelihoods.

Similarly, Afolami C. A. et al. (2021) assessed the impact of agricultural credit on maize production and household food security in southwestern Nigeria.

Using survey data and multiple regression analysis, the study found that access to institutional credit significantly increased farm output and household food availability. Farmers who received credit invested more in quality inputs and achieved higher productivity than those relying solely on personal savings.

Abanbeshie, Virginia, & Akwa, (2025) conducted a study on Market Women's Cooperative and the Promotion of Business Ventures in Calabar Municipality, Cross River State. The study adopted an expost - facto research design was used. A census sampling was to select a total sample of two hundred and thirty-seven (237) market women for the study. The main instrument used for data collection was a structured questionnaire. The instrument was validated and the reliability of the instrument was properly established using Cronbach alpha whose coefficient was high and adjudged to be consistent. Data were analysed using simple regression analysis at .05 level of significance. Based on the findings, the study recommends that Market women should ensure that they encourage saving among co-operators so as to help them in the time of financial needs. While Cooperative societies should ensure that loans are provided to members having financial crises in order to help them fund their business the study adopted an expost facto research design was used. A census sampling was to select a total sample of two hundred and thirty-seven (237) market women for the study. the main instrument used for data collection was a structured questionnaire. The instrument was validated and the reliability of the instrument was properly established using Cronbach alpha whose coefficient was high and adjudged to be consistent. Data were analysed using simple regression analysis at .05 level of significance. Based on the findings, the study recommends that Market women should ensure that they encourage saving among co-operators so as to help them in the time of financial needs. While Cooperative societies should ensure that loans are provided to members having financial crises in order to help them fund their business.

Methodology

The research design adopted for this study is the survey Descriptive design. Purposive sampling technique was used to selected famers; 198 Famers were sampled out of a population of 1142 (one thousand one hundred and forty- two) Registered famers in Central Senatorial District of Cross River State. The sample consisted of 119 females and 79 males with age range from 25 to 59 years, one test instrument titled: “Extension services and agricultural growth and sustainable food security in Central Senatorial District Questionnaire” (ESAGSFS) was administered to participants to elicit responses from them. A total of 198 copies of questionnaire were collected and Pearson product correlation was used as the statistical tool was used to analyze the data collected.

Presentation of results

The responses obtained from the participants were analyzed based on the following hypotheses:

Hypothesis One: There is no significant relationship between Credit facilitation and sustainable food security in Central Senatorial District of Cross River State.

Table 1. Pearson Product Moment Correlation analysis of the relationship Credit Facilitation and sustainable food security in Central Senatorial District of Cross River State (N=198).

Variables	Mean	SD	r-valve	p-level
Credit Facilitation (X)	13.38	2.75	0.185*	.009
Sustainable food security (Y)	14.09	3.02		

*Significant at .05 alpha level. df = 196

The result in Table 1 revealed that the mean score obtained by the respondent as regards credit facilitation was 13.28 with a standard deviation of 2.75 while they had a mean score of 14.09 with a standard deviation of 3.02 as regards sustainable food security. The result also revealed that the calculated r-value of 0.185 with a p-value of .009 is statistically significant since the p-value is less than .05. Hence, the null hypothesis which states that there is no significant relationship between credit facilitation and sustainable food security in Central Senatorial District was is rejected. With the obtained r-ratio of 0.185, it means that there is a significant positive relationship between credit facilitation and sustainable food security.

Hypothesis Two: There is no significant relationship between marketing link and sustainable food security in Central Senatorial District of Cross River State.

Table 2. Pearson Product Moment Correlation analysis of the relationship Marketing Link and sustainable food security in Central Senatorial District of Cross River State. (N=198).

Variables	Mean	SD	r-valve	p-level
Marketing Link (X)	11.94	1.66	-0.147*	.039
sustainable food security (Y)	14.09	3.02		

*Significant at .05 alpha level. df = 196

The result in Table 3 revealed that the mean score obtained by respondents as regards Marketing link was 11.94 with a standard deviation of 1.66 while they had a mean score of 14.09 with a standard deviation of 3.02 as regards Sustainable food security. The result also revealed that the calculated

r-ratio of-0.147 with a p-value of.039 at 196 degrees of freedom is statistically significant since the p-value is less than .05. Hence, the null hypothesis which states thatthere is no significant relationship between marketing link and sustainable food security was rejected. With the obtained r-ratio of -0.147, it means that there is a significant negative relationship between marketing link and food security, indicating that the more the marketing link being put in place, the more the food production in southern senatorial district of Cross River State and vice versa.

Hypothesis Three: There is no significant relationship between Credit Facilitation and sustainable food security in Central Senatorial District of Cross River State.

Table 3. Pearson Product Moment Correlation analysis of the relationship Technology transfer and sustainable food security in Central Senatorial District of Cross River State (N=198).

Variables	Mean	SD	r-valve	p-level
Technology transfer (X)	13.38	2.75	0.185*	.009
sustainable food security (Y)	14.09	3.02		

*Significant at .05 alpha level. df = 196

The result in Table 3 revealed that the mean score obtained by respondents as regards Technology transfer was 13.28 with a standard deviation of 2.75 while they had a mean score of 14.09 with a standard deviation of 3.02 as regards Sustainable food security. The result also revealed that the calculated r-ratio of 0.185 with a p-value of .009 at 196 degrees of freedom is statistically significant since the p-value is less than .05. Hence, the null hypothesis which states that there is no significant relationship between technology transfer and sustainable food security was rejected. With the obtained r-ratio of 0.185, it means that there is a significant positive relationship between technology transfer and sustainable food security, indicating that the more the technology is been introduced into southern senatorial district of cross river state are uninvolved, the higher the food security.

Discussion of findings

The findings of this study with respect to hypothesis one indicated that there is a significant relationship between Credit facilitation and sustainable food security. This study confirms the views of Khatri, Askari, Solanki, (2025) conducted a study on The Impact of Extension on Food Security and Nutrition. Studies indicate that smallholder farmers receiving extension support increase their yields by 20-50%, reducing food shortages and enhancing market stability. Strengthening climate-smart agriculture, post-harvest management, and supply chain efficiency ensures that food remains abundant and accessible.

The findings of this study with respect to hypothesis two indicated that there is a significant relationship between marketing link and sustainable food security. This study confirms the views of Nancy, Stanley, Benard and Nancy (2024), Role of Agricultural Extension Services in Enhancing Food Security Among Smallholder Farmers in Uganda. A Case Study: National Agricultural Advisory Services. Participation in NAADS services significantly improved crop yields, with 75% of users reporting enhanced productivity compared to only 30% of non-users, underscoring the effectiveness of extension services in facilitating the adoption of innovative farming practices. Furthermore, the marginal effects analysis indicated that NAADS participation was associated with a 25% improvement in food security, reinforcing the critical role of agricultural extension in fostering resilience against food shortages. And also, with the view of Abanbeshie, Virginia, & Akwa, (2025) conducted a study on Market Women's Cooperative and the Promotion of Business Ventures in Calabar Municipality, Cross River State.

The findings ofthis study with respect to hypothesis three indicated that There is a significant relationship between technology transfer and sustainable food security. This study confirms the views of Zaichenko, V., Kononenko, L. (2025). The article is dedicated to the study of the problems of economic security of small agricultural enterprises in an unstable economic environment. The fundamental importance of ensuring economic security is emphasized, both for individual economic entities and for the economic system, especially in the context of increasing global crises and digital transformation.

Conclusion

Based on the findings ofthe study, it was concluded that extension services play a vital role in enhancing agricultural growth and achieving sustainable food security in Central senatorial district of Cross River State. Through effective dissemination of improved farming techniques, modern technologies, and innovative practices, extension agents help farmers increase productivity, reduce post-harvest losses, and adopt environmentally sustainable methods of production. The study reveals that the availability, accessibility, and quality of extension services directly influence farmers' knowledge, attitudes, and adoption of improved agricultural practices. However, challenges such as inadequate funding, poor infrastructure, limited manpower, and low farmer participation often hinder the effectiveness of these services. To achieve lasting agricultural growth and food security in area, it is essential to strengthen the extension delivery system through proper funding, regular training of extension workers, provision of modern communication tools, and strong collaboration between government agencies, non-governmental organizations, and local communities.

Ultimately, a well-coordinated and adequately supported extension service will empower farmers, boost productivity, and ensure sustainable food availability for the growing population in Central senatorial district of Cross River State.

Recommendations

Based on the findings ofthe study, the following recommendation was made:

1. Literacy Faming should be encouraged among famers in order to boot their knowledge on different kinds of modern technology used presently in farming.
2. Extension workers should be regularly trained and retrained to update their knowledge on modern agricultural technologies, communication methods, and sustainable farming practices.
3. Agricultural loans should be made available and easily access through the

Bank of agriculture so it will help famers in sustainable farming.

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