



**PERCEIVED EFFECTIVENESS OF AGRICULTURAL EXTENSION AGENTS IN
ENHANCING INCOME-GENERATING ACTIVITIES AMONG CROP FARMERS IN
KWARA STATE, NIGERIA**

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ABSTRACT

The study assessed the effectiveness of agricultural extension agents in promoting income generation activities among crop farmers in Kwara State, Nigeria. Specifically, the study examined the roles of agricultural extension agents in promoting income-generation, assessed perceived effectiveness of agricultural extension agents and identified constraints militating against income generation activities. A two-stage random sampling procedure was used to select 268 crop farmers. Data were analyzed using descriptive statistics such as frequency, percentages, mean and standard deviation while inferential statistics (PPMC) was used to test the hypothesis. Results showed that 87.4% of the respondent's generated income from sales of farm produce while only few (0.7%) were involved in agro-chemical industries income generating activities. Common roles of Agricultural extension agents (AEAs) were that they provide advice on modern farming techniques and technologies that can increase farmers income ($\bar{x} = 1.44$) and networks for knowledge sharing and collaboration opportunities ($\bar{x} = 1.43$) while identifying and solving pest or disease issues that could affect my crop yields and income ($\bar{x} = 1.38$) was the least role among AEAs. Effectiveness of extension agents in promoting income generating activities was low with ($\bar{x} 1.19$). Major constraint was input cost ($\bar{x}=2.87$). Results indicate a significant positive correlation between sex, years of formal education, size of farm land, income realized per season and the effectiveness of extension agents in income generation at ($P<0.05$). It was concluded that effects of agricultural extension agents in enhancing income generation activities among crop farmers was low. The study recommends that extension agents policies fostering participation in income generation activities be inclusive to better the wellbeing of crop farmers.

Keyword: Role, Income-generation, Crop, Farmers, Extension, Worker.

INTRODUCTION

Nigeria's economy reliant significantly on agriculture, which is also a key factor in inclusive economic growth. The country's economy has historically been based on agriculture, which employs more than 35% of the workforce and makes a substantial contribution to rural livelihoods (World Bank, 2024). Beyond its traditional contribution to food production, agriculture plays a significant part in Nigeria's economic growth. It creates essential connections between sectors by acting as a significant supply of raw materials for manufacturing industries including food processing, drinks, and textiles. The importance of crop output in agriculture in changing an economy's social and economic structure cannot be overstated, according to the Central Bank of Nigeria (CBN, 2024). Crop production in agriculture has a significant impact on both the social and economic structure of Nigeria Ekine *et al.*, (2018). In Nigeria, agriculture is broadly divided into four sectors in Nigeria – crop production, fishing, livestock, and forestry with crop production being the largest segment accounting for about 87.6% of the sector's total output Oyeniran (2020). Arable crops farming is a significant sector of agriculture, with crops such as maize, soybeans, and cassava being grown for food and income.

It is worth noting that agricultural extension agents play a vital role in supporting agricultural practices in Nigeria with main objective of bridging the gap between researchers and farmers by disseminating up-to-date knowledge, technologies, and best agricultural practices Bichi *et al.*, 2023, Khamis *et al.*, (2025).

Extension agents provide guidance, advice, and hands-on training to farmers, helping them adopt new techniques, improve their farming methods, and increase their agricultural productivity.



Agricultural extension services serve as a bridge between scientific research and practical farming applications, ensuring that farmers receive up-to-date knowledge, skills, and technologies to improve their productivity and income (Okon *et al.*, 2020). By providing training, advisory services, and facilitating access to credit and markets to the crop farmers, agricultural extension agents (AEAs) also help the farmers to increase their farm yields, reduce post-harvest losses, and increase their income generation (Eze & Chukwu, 2021).

Income-generating activities (IGAs) play a crucial role in the social and economic empowerment of crop farmers. The activities provide the farmers with financial independence, increase their decision-making power, and improve their overall well-being, hence contributing to both individual and community development. Income generations activities are actions taken by crop farmers to increase their income, improve livelihood and ensure financial sustainability. These activities, in crop farming is influenced by various factors, including access to credit, use of improved inputs, market linkages, and adoption of climate-smart agriculture (World Bank, 2021). The need to address the effectiveness of agricultural extension agents in promoting income-generation among crop farmers in Nigeria is germane to proffer answers to rural poverty and food insecurity among farmers which will enhance improve income, productivity and welfare of farmers. It is against this background that the study assessed the effectiveness of agricultural extension agents in enhancing income generation among crop farmers in Kwara State, Nigeria.

The specific objectives were to;

- i. identify the income-generating activities of the respondents;
- ii. examine the roles of agricultural extension agents in promoting income-generation;
- iii. assess the perceived effectiveness of agricultural extension agents in promoting income generation; and
- iv. identify the constraints to income generating activities among crop farmers

METHODOLOGY

Study Area

The study was carried out in Kwara State, Nigeria. The state is located in the North central geopolitical zone of Nigeria. It lies between longitudes 2°30'E and 6°25'E and latitudes 7°45'N and 9°30'N and has a total landmass of 32,500 Km². Kwara State, located in the North-Central region, has 16 LGAs and a population of approximately 2,365,353 in 2006 with a projected population of 4.25 million people in 2026. (NPC,2026). The state shares local boundaries with Ekiti, Oyo, Osun, Kogi, Niger states and international boundary with the Republic of Benin. Kwara State is made up of sixteen (16) Local Government Areas (LGAs) with Ilorin as its capital (Falola *et al.* 2020) The state is made up of 16 Local Government Areas with an annual rainfall range from 800mm to 1500mm per annum. The annual rain fall pattern across the state extends between the months of April and October with minimum temperature ranging from 21.1°C to 25°C while maximum average temperature ranges from 30°C to 35°C (Kwara State Agricultural Development Programme, 2024). The predominant crops grown in Kwara State are groundnut, sorghum, cassava, yam, cowpea, maize, yam, rice and livestock reared include poultry, goats, sheep and cattle (Adewumi, 2021)

Sampling Procedure and Sample Size

A three-stage random sampling procedure was used for the study. The first stage involved a random selection of 20% of the 16 four Local Government Areas which gave 4 LGAs (Ilorin East, Ilorin West, Ifelodun and Asa). In the second stage, a random selection of two (2) communities from the four selected LGAs was done arriving at a total number of 8 communities. In the third stage, with the aid of local leaders and extension agents in the Local Governments, a list of crop farmers was generated which formed the sample frame. 50% of the respondents in the sample frame were randomly selected from each of the local governments areas to give a total of 268 respondents

Data Collection and Analysis

The Instrument for Data Collection was a structured interview schedule. The instrument was used to elicit information on the socio-economic characteristics of the respondents, to generate responses on the various types of income-generating activities of the respondents, obtain information



on the roles of agricultural extension agents in promoting income-generation, assess the perceived effectiveness of agricultural extension agents in promoting income generation, and also identified the constraints to to income generating activities among crop farmers.

The data collected were analysed using descriptive statistics such as percentages, mean scores, and frequency distributions. Respondents' socioeconomic characteristics were measured with the use of descriptive statistics. Perceived effectiveness of agricultural extension agents in promoting income generation among arable farmers in Kwara State was measured using, three-points Likert type scale, very effective (3) Effective (2) Not effective (1). The mean score was determined and the mean score was calculated benchmark of 2, any role below 2 is considered as not effective while roles equal to 2 or above 2 are considered as effective. Role of agricultural extension agents in promoting income generation among Arable Cop Farmers in Ilorin East, Kwara was measured using, four-points Likert type scale, which is as follows; strongly agree (4) agree (3) disagree (2), strongly disagree (1) The mean score was calculated and a benchmark of 2.5 was determined, any role below 2.5 is considered as underperformed while roles equal to 2 or above 2 are considered as well perform. Constraints faced by Arable Crop Farmers in income generating activities was measured using, three-points Likert type scale, very severe (3), severe (2), Not severe (1) inferential statistics used was the Pearson's Product Moment Correlation, which was used to test the significant relationship between selected socio-economic characteristics and effectiveness of extension agent in income generation

RESULTS AND DISCUSSION

Socio-economic Characteristics of the Respondents

Results on Table1 showed that the mean age was 39 years, indicating that majority of the respondents were still in their prime age and such they possess the ability and the strength to carry out various agribusiness activities as age does not seem to be a barrier, the research negate a study in Nigeria found that older farmers were more likely to adopt new technologies and practices when exposed to extension services, compared to younger farmers (Adeola *et al.*, 2022). Also, the results revealed that farmers have an average year of schooling of 4. This implies that the crop farmers in the study have low level of education. This affirms the findings of Kayode *et al* (2024) which reported that the average years of formal education among cocoa farmers in Kwara state is 5.4. About 69.7% have no access to extension officer or change agent, Similar findings have been reported by Kayode *et al.* (2022) and Akande *et al.*, (2022) that low frequency of extension contact could hurt farmers' knowledge and adoption of improved farming practices. The average income generated by the crop farmers was found to be #844,962.69 (528.10 USD) per planting season. This result suggests that income realized on farming activities is low and this necessitates that farmers need to diversity and look for other sources of income generating activities to argument their well-being. This confirms the findings of Ogunniyi, (2021). that income per season among smallholder farmers in Nigeria is low. The average years of farming experience of the respondents was found to be 10 years. The average farm size of the study was 5.6 hectares. The study shows that 69.7% of the respondents do not have access to extension agents. This implies that contact with extension agents implies limited access to agricultural advice and income generating activities.



Table 1: Socio-economic Characteristics of the Respondents (n = 268)

Variable	Categories	Percentage	Mean
Age (years)	< 35years	35.1	38.79 = 39 years
	35 - 50 years	35.8	
	> 50 years	29.1	
Sex	Male	80.5	
	Female	19.4	
Marita; status	Married	61.9	
	Otherwise	38.1	
Years of formal education	no formal education	4.5	3.19 = 3 years
	Basic education	50.7	
	Primary education	12.7	
	College	3.0	
	Tertiary education	29.1	
Income per season (naira)	<= 500000	68.6	844,962.69
	500001 – 1000000	11.9	
	1000001 – 1500000	7.4	
	1500001 – 2000000	2.2	
	2000001 – 2500000	2.9	
	> 2500001	6.7	
Farming experience (years)	≤ 10	42.5	9.94 = 10 years
	11 – 20	33.6	
	> 20	23.9	
Farm size	< 5	69.4	5.66 ha
	6 – 10	21.6	
	>10	9.0	
	Access to extension agent	No	
	Yes	30.3	

Source: Author Field survey, 2025

Income Generating Activities among Crop Farmers in Kwara State

Results in Table 2 reported the income generating activities respondents involved in aside from being crop farmers. The result in Table 2 revealed that 87.4% of the respondent's generated income from sales of farm produce while only few (0.7%) were involved in agro-chemical industries income generating activities. Others generated income from food processing (51.8%). This implies that respondents derived income from sales of arable crops which corroborates the findings of Coster *et al.* (2021) who found out that 60% of the rural farming households in Oyo State, Nigeria derived their income from arable crop farming. This result implies that crop farmers in Kwara state are involve in diverse income generating activities which may be due to the fact that money realize from crop production may not be sufficient to sustain the household and meets other demands.

Table 2: Income Generating Activities among Crop Farmers in Kwara State

Income generating activities	Frequency	Percentage
Sales of farm produce	236	87.4
Food Processing	139	51.8
Textile and clothing production using natural fibers (cotton and silk)	14	5.2
Animal feed manufacturing	12	4.4
Handicrafts production using agricultural materials	40	28.9
Cosmetic manufacturing using natural ingredients like plant oil	12	4.4
Tie and dye industry	8	3.0
Agro-chemical industry	2	.7
Making of groundnut and palm oil (red oil)	52	19.3
Herbal medicine production	50	18.5
Beverage production	8	3.0
Seed processing and storage industry	12	4.4



Roles of Agricultural Extension Agents in Promoting Income Generation

The result in Table 3 showed the mean ranking of the roles of agricultural extension agents in promoting income generation among the respondents. From the table, agricultural extension agents (AEAs) provided advice on modern farming techniques and technologies that can increase farmers income ($\bar{x} = 1.44$) was ranked first, agricultural extension agents with other farmers or agricultural networks for knowledge sharing and collaboration opportunities ($\bar{x} = 1.43$) was ranked second while AEAs assisted in diversifying my crops or introducing new high-value crops increase my income ($\bar{x} = 1.38$) and AEAs helped in identifying and solving pest or disease issues that could affect my crop yields and income ($\bar{x} = 1.38$) were both ranked 9th.

This result explains that agricultural extension agents provided additional support to enhance crop farmers’ income generation in the study area as found in a similar study by Lwanga (2025) who reported that extension services provide critical services to crop farmers. However, the implication of this result is that though the extension agents are doing their numerous roles, they are been constraint with some limitation which has hindered their maximum role performance as shown in Table 5 of this research.

Table 3: Distribution of Respondents based on the Roles of Agricultural Extension Agents in Promoting Income Generation

Roles of extension agents	Mean	Rank
guided on improving crop productivity and profitability	1.42	3 rd
provided advice on modern farming techniques and technologies that can increase my income	1.44	1 st
helped in accessing credit or financial resources to invest in farming activities	1.40	4 th
conducted training sessions or workshops to enhance your knowledge and skills in agriculture and income generation strategies	1.40	4 th
introduced new markets or marketing strategies to sell your agricultural products at better prices	1.40	4 th
assisted in diversifying my crops or introducing new high-value crops to increase your income	1.38	9 th
helped in identifying and solving pest or disease issues that could affect my crop yields and income.	1.38	9 th
Connected with other farmers or agricultural networks for knowledge sharing and collaboration opportunities	1.43	2 nd
provided additional support to further enhance your income generation as an arable crops farmer	1.39	8 th
provided support for income generation on the farm	1.40	4 th

(Bench mark mean =2.5)

Perceived Effectiveness of Agricultural Extension Agents in Promoting Income Generation among Crop Farmers

Results in table 4 shows the extent of effectiveness of agricultural extension agents in enhancing different income generating activities among crop farmers. The mean scores ranged from 1.38 to 1.44, indicating a low level of effectiveness. The findings suggest that agricultural extension agents play a crucial role in promoting income generation among crop farmers, particularly in providing advice on modern farming techniques and technologies, connecting farmers with other networks, and guiding on improving crop productivity and profitability (Oluwakemi *et al* 2024). The benchmark score of 2.0 suggests that a score above 2.0 indicates effectiveness, while a score below 2.0 indicates not effectiveness. Since the mean scores are below 2.0, it can be concluded that agricultural extension agents are not effective in promoting income generation among arable farmers. The findings suggest that agricultural extension agents may need to re-evaluate their strategies and approaches to better support income generation among crop farmers. This could involve providing more practical and relevant training, connecting farmers with other networks and resources, and providing additional support to enhance income generation,



Table 4: Distribution of Respondents According to Effectiveness of Agricultural Extension Agents in Promoting Income Generation among Crop Farmers

Effectiveness	Mean
AEAs provides guidance on improving crop productivity and profitability	1.19
AEAs sensitizes us on the use modern farming techniques and technologies that can increase our income	1.19
AEAs helps in accessing credit or financial resources to invest in our farming activities	1.16
AEAs conducts training or workshops to enhance knowledge and skills in income generation strategies	1.16
AEAs introduces new markets strategies to sell agricultural products	1.13
AEAs assist in introducing new high-value crops to increase your income	1.16
AEAs helps in identifying and solving pest or disease issues that could affect your crop yields and income?	1.14
AEAs improve networking and collaboration opportunities	1.17
AEAs provide additional support to further enhance your income generation as arable crop farmers	1.16
AEAs provide technical support for income generation on your farm	1.15

Bench mark score = 2.0; 0 -1.99 = Not effective; 2.00- 3.00 = Effective.

Constraints Faced by Crop Farmers in Income Generating Activities

Results in Table 5 shows the constraints militating against crop farmers in income generating activities. High input costs ranked 1st with mean 2.87. This suggests that the high cost of inputs is a significant constraint for arable farmers. Followed by inadequate capital which ranked 2nd with the mean 2.68. Next to it is changes in climate change which ranked 3rd with mean 2.53. The findings implies that crop farmers do face significant challenges in practicing income generating activities and as much as these constrains remain, the role of the extension agents in income generating activities among crop farmers may be challenging. This concurs with the findings of Adeniyi (2021) who analyzed that these constraints have significant impact on the income generation and profitability of arable crop farmers.

Table 5: Distribution of Crop Farmers Based on Constraints Faced in Income Generating Activities

Constraints	Mean	Rank
Changes in weather patterns and climate impact the income generation of arable crop farmers.	2.53	3rd
Accessing markets to sell their crops.	1.97	5th
Input costs such as seeds, fertilizers, and pesticides affect the profitability of arable crops farming	2.87	1st
Inadequate capital	2.68	2nd
Competition from larger agricultural corporations impact the income of small-scale arable farmers.	1.08	10th
Obtaining necessary certifications and licenses for their crops.	1.09	9th
Fluctuating market prices affect the income stability of arable farmers	1.27	7th
Government policies and regulations play in hindering or supporting the income generation of arable farmers.	1.95	6th
Limited access to modern technology and agricultural machinery impact the productivity and income of arable farmers	2.19	4th
Selling at fair price	1.19	8th

Relationship between Socio-economic Characteristics and Role of Extension Agent in Income Generation

Result of Pearson product moment correlation coefficient in Table 5 shows the relationship between respondent's socio-economic characteristics and the effectiveness of extension agent in income generation. The result shows a significant positive correlation between sex and the effectiveness of extension agents in income generation ($r = 0.221$, $p\text{-value} = 0.010$). This suggests that there is a significant relationship in the effectiveness of extension agents in generating income between a



particular sex. Also, there is a significant positive correlation between years of formal education and the effectiveness of extension agents in income generation ($r = 0.277$, p -value = 0.001). This implies that farmers with more formal education tend to benefit more from the services of extension agents in generating income. There is a significant positive correlation between size of farm land and the effectiveness of extension agents in income generation ($r = 0.251$, p -value = 0.003). This suggests that farmers with larger farm land tend to benefit more from the services of extension agents in generating income. There is a significant positive correlation between income per season and the effectiveness of extension agents in income generation ($r = 0.326$, p -value = 0.000). This suggests that farmers who earn more per season tend to benefit more from the services of extension agents in generating income.

Table 6: Relationship between Selected Socio-economic Characteristics and Role of Extension Agent in Income Generation

Variables	Correlation co-efficient (r)	p Value	Decision rule
Age	-0.027	0.760	Not significant
Sex	0.221*	0.010	Significant
Access to extension agents	-0.093	0.285	Not significant
Years of formal education	0.277**	0.001	Significant
Household size	0.171	0.066	Not significant
Years of farming experience	0.145	0.094	Not significant
Size of farm land	0.251**	0.003	Significant
Income per season	0.326**	0.000	Significant

CONCLUSION AND RECOMMENDATION

The study concluded that though crop farmers engage in diverse income generation activities to improve crop productivity and profitability. The effectiveness of agricultural extension agents on income generation among the farmers is low. This may be due to constraints as identified in the study. The study recommends that there should be more sensitization for both farmers and extension agents on income generation activities considering the complex factors that influence farmers' adoption of new agricultural practices, including the role of social networks, market access, and policy environments. Also, governments and other relevant stakeholders should invest in agricultural extension services, recognizing the critical role that agricultural extension agents play in promoting agricultural development and income generation among crop farmers.

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