



INFLUENCE OF SOCIO-ECONOMICS FACTORS ON AGRICULTURAL COOPERATIVE LOAN ON COCOYAM-BASED FARMERS' PRODUCTION IN OGUN-STATE, NIGERIA

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ABSTRACT

The study examined the influence of socio-economics factors on agricultural cooperative loan on cocoyam-based farmers' production in Ogun-State, Nigeria. A multistage sampling technique was used to select 100 respondents. Data were collected using structured interview schedules and analyzed using descriptive and inferential statistics. The findings showed the farmers' average age was 41.5 years. The respondents had an average household size of 4 persons. The results also revealed that farming experience ($P<0.0$), age ($P<0.0$) and household size ($P<0.0$) had positive and statistically significant in influencing cocoyam production among respondents in the study area. The major constraining factors to cocoyam production were insufficient funds 70%, inadequate preservation facilities 68%, inadequate extension contact 65% inadequate storage facilities 62% and low research on cocoyam 57%, with a mean of 3.42, 3.40, 3.37 3.33 and 3.28 respectively. The study therefore recommended that farmers should cut down on some of the cost incurring variables. Government at all levels should help to train and educate cocoyam entrepreneurs in order to exhibit higher levels of entrepreneurial capabilities and efficiency leading to higher farm outputs. Farmers should also encourage themselves to establishment more cooperative societies so that they can have more access to cooperative credit

Keywords: Cocoyam, Farmers, Cooperative, Income, Loan, Enterprises

INTRODUCTION

Agricultural credit has over the years been identified as a major input in the development of the agricultural sectors in Nigeria, it is expected to play a vital role in agricultural development. The declined in the capital is viewed as more than just another resources such as labour, land, raw materials etc. (Eze and Ibekwe, 2017). Agricultural credit is considered an important factor for increased agricultural production and rural development, because it enhances productivity and promotes standard of living by breaking the vicious cycle of poverty of farmers (Adebayo and Adeola, 2018). Agriculture has continued to be an important sector for sustainable development, poverty reduction, attainment of household food-sufficiency and food-security at large in Sub-Saharan Africa (World Bank, 2008). This is based on the fact that large proportions of the populace are engaged in agricultural activities. Agriculture is considered the largest sector in Nigeria's economy. It is the largest non-oil export earner, a key contributor to wealth creation, poverty reduction, and the largest employer of labour (Central Bank of Nigeria, 2015). It employs 70 percent of the nation's labour force, contributes at least 40 percent of the gross domestic product and accounts for over three-quarters of the non-oil foreign exchange earnings (Ajekigbe, 2017). The agricultural GDP is made up by crops (85%), livestock (10%), fisheries (4%) and forestry (1%). The sector plays a very crucial role in the food security. Root and tuber crops which are among the most important groups of staple foods in many tropical African countries (Osagie, 2018) consistute the largest source of calories for the Nigeria population (Olaniyan *et. al.*, 2011). Cocoyam is second to cassava in terms of production in Cameroon and first in Ghana (Knipscheer and Wilson, 2010; Echebiri, 2014). In terms of volume of production. In trying to achieve a hunger-free society, neglected and underutilized crops have a key role to play. One of the neglected and underutilized crops is cocoyam. Cocoyam is an important root and tuber crop rich in carbohydrates. It is commonly grown in the middle belt and southern part of



Nigeria. The two major types of cocoyam grown in Nigeria are *Colocasia esculentum* and *Xanthosoma sagittifolium* (Abdulrahman *et.al.*, 2015). It can grow in combination with other food and tree crops which are mostly practised in Nigeria by smallholder farmers. Almost all part of cocoyam is edible although it is widely grown for edible roots. The leaf of cocoyam is used in preparing soup in Nigeria, especially among south-east farmers. Cocoyam is medicinal and good for the body. Despite the nutritional and other advantages of cocoyam over some tuber crops, it remains neglected and underutilized with a low level of commercialization in many parts of Nigeria. This could be due to insufficient information about its profitability. The profitability of cocoyam is of importance as this is likely to influence farmers' decisions to increase the cultivation of cocoyam. It is also possible that farmers are faced with certain constraints that may hinder them from going into the cultivation of cocoyam on a large scale (Omotesho *et.al.*, 2020). Food is a basic need of life and a source of nutrition required for a healthy life. Meeting the food demand remains a major challenge globally as the world population keeps increasing far beyond the food production rate. Issues such as ending world hunger, eradicating poverty, and assurance of food and nutrient security have remained on the front burner influencing world policies over the years (Omotesho, 2020). Africa is the world's most food-insecure continent, with relatively high and widespread inequalities, high rates of malnutrition and poverty, low rural incomes, and a worsening food trade balance. According to FAO (2019), out of the 39 currently food-insecure countries in the world, 31 are in Africa. More than 250 million people constituting about 20% (almost four times that of any other region in the world) of the African continent's population suffer from severe food insecurity (FAO, IFAD, UNICEF, WFP & WHO. 2020). It can be processed into cocoyam flour, can be consumed in various forms when boiled, fried, pounded or roasted and can also be processed into chips which have a longer shelf life (Ozor, 2023). The leaves are used as vegetables in preparing soup in various parts of the world (Asadu, 2016). It is highly recommended for diabetic patients, the aged, and children with allergy and for other persons with intestinal disorders (Onwubuya and Ajani, 2022), while the leaves are good source of folic acid, vitamin C, riboflavin and vitamin A (Ozor, 2023). The broad objective of this study is to examine the Influence of socio-economics factors on agricultural cooperative loan on cocoyam-based farmers' production in Ogun State, Nigeria. The specific objectives of the study is to: examine socio-economics characteristics of cocoyam cooperative farmers, determine the influence of socio-economics factors on the farmers production and constraints facing cocoyam cooperative farmers and possible solutions to the identified problems.

METHODOLOGY

Study Area

The study was carried out in Ogun State South-West, Nigeria. The study area has twenty (20) Local Government Areas in South Western Zone of Nigeria. Ogun-State has its headquarters in Abeokuta. It was created on the 3rd of February, 1976. The total population of the State is one of the state is 7,445,457 (NPC, 2015). The state lies between longitudes 2°E and 5°E East of the Greenwich Meridian, 6°45" and 8°15" North of the Equator. This means that the state lies entirely in the tropics. It is bounded in the North by Osun-State; in the East by Ondo State; in the West by republic of Benin. Lagos State and in the East by the Atlantic Ocean. It was delineated from the former Western State, encompassing Ijebu, Remo, Yewa and Egba Divisions. The people are mostly subsistence farmers, traders and a high forest zone (or rain forest) is found in the south, while the northern fringes are mostly sub-savannah forest. The climate is tropical with two distinct seasons viz the rainy season (April-October) and the Dry season (November - March). The temperature throughout the year ranges between 210C-290C while humidity is relatively high. The annual rainfall varies from 2.000mm in the southern parts to 1150mm in the northern areas. Extensive fertile soil suitable for agriculture with sub- savannah forest suitable for cattle grazing in the Northern fringes. Vast forest resources, variety of timber species e.g. Teak, Gmelina, Mansonia e.t.c. Other cash crops grown in the state include cocoa, kolanut, palm oil etc. About 20% of its total area is constituted of forest reserve suitable for livestock.



Sampling Technique and Sampling Size

A multi-stage sampling technique was used in selecting the respondents. In the first stage, two (2) Local Government Areas (Ijebu-North and Ijebu-East local government area) from Ijebu division were selected due to their substantial cocoyam production activities. Subsequently, five (5) towns/villages were randomly chosen from each the of earlier selected local government area. In the final stage, twelve (12) Cocoyam based farmers were purposefully selected from each community. One hundred and twenty questionnaires was distributed to them, out of the 120 questionnaires distributed one hundred and seven (107) were returned but seven (7) were discarded due to insufficient information which resulting in a total sample size of one hundred questionnaires used for the study.

Data Collection

The data collected through the utilization of both primary and secondary data sources. Primary data was obtained through the administration of well structured questionnaire and oral interviews to extract pertinent information from the respondents. Both descriptive and inferential statistics were used to analysed the data. Descriptive statistics includes frequency distribution tables, mean, and percentage, was used to analysed socio-economics characteristics of cocoyam cooperative farmers, identify problems facing cocoyam cooperative farmers and possible solution to the identified problems. Inferential statistic such as linear regression was used to analysed the influence of socio-economics factors on the cocoyam farmers' production.

Analytical technique

Examine Effects of Socio-economics Characteristics on Cocoyam-based Production.

Linear regression was used to determine effects of socio-economic characteristics on cocoyam production.

The model is specified as

Where:

Y_i = Value of goods sold (Naira)

Simple linear form:

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \dots \beta_{10} X_{10} + \epsilon_i$$

X_1 = Age (years)

X_2 = Sex

X_3 = Education attainment (years)

X_4 = Household size (numbers)

X_5 = Farm distance (km)

X_6 = Cooperative membership (years)

X_7 = Farming experience (years)

X_8 = Occupation

X_9 = Marital status

X_{10} = Monthly income (₦)

ϵ_i = Error term

RESULTS AND DISCUSSIONS

3.1: Socio-economic Characteristics of Cocoyam Cooperative Farmers in the Study Area

The results revealed that, 14% of the respondents were 20 years or below while 10%, 31%, 25% and 20% of the respondents were aged between the age of above 50, 20-30, 31-40 and 41-50 years, respectively. Additionally, (90%) of the respondents were in their active age brackets and prime working age, demonstrating physical strength to work productively. The results also revealed that majority (77%) were married while (33%) were single this, implied that majority of the respondents were married and they have family responsibilities. the findings is in agreement with Tijani and Bakari, (2014), who indicated that majority of the respondents 90.4% were married and they have family to take care). This suggested that they carry family responsibi. The study also showed that 49% of the cocoyam-based farmers had secondary education, While 21% had attended primary, while 15% also had tertiary education and those with no formal education were 15% also respectively. The



results showed that majority of the respondents were educated, enabling them to read and write, enhancing their ability to generate more income from their business. Moreover, the study showed that majority (66%) of the respondents practiced Christianity while 25% practiced Islam, and 9% were traditional believers. This indicated a diverse religious landscape among the farmers. The findings revealed that 30% of respondents had less than 4 individuals as family members, while 45% and 25% had between 4 and 6, and 7 and above members as their household size. The implication is that a moderately sized household among the farmers. In terms of experience in the farming activities. The results in Table 1 indicated that less than half (47%) of the respondents had 5 years or less of experience while 25%, 13%, 10% and 5% had between 6 and 10 years, 16 and 20 years, 11-15 and 21 and above years, experience in their cocoyam farming, respectively. This indicates that most of them possess significant experience in their farming operation. The majority (72%) of the respondents were engaged in full-time cocoyam farming activities as their main occupation, while (22%) viewed cocoyam farming business as secondary source of income. This implies that less than (25%) of them have additional income sources beyond cocoyam-based farming. Apart from cocoyam farming, respondents also engaged in other farming activities and other non-farming activities. The results also showed that 18% and 17% of the respondents were traders, civil servants respectively, while majority (65%) of them also were engaged in other farming business such as poultry farming and crop production. Table 1 also showed that majority (57%) of the respondents realized less than ₦50,000 per month, while 28%, 8% and 7% earned between ₦50,000 and ₦100,000, and ₦100,001-₦150,000 and, ₦150,001 and above, respectively. This suggests that the income derived from cocoyam farming operations by the respondents is still relatively low and live in poor condition. This result is consistent with the findings of Ozor (2023) who concluded that majority of the farmers' income realized per month from farming is very low.



Table 1: Socio-economic Characteristics of Cocoyam Farmers

Variables	Options	Frequency	Percentage (%)	Average
Age (years)	< 20	14	14.0	41.5 years
	21 – 30	31	31.0	
	31– 40	25	25.0	
	41– 50	20	20.0	
	50 & above	10	10.0	
Marital status	Single	23	23.0	35 years
	Married	77	77.0	
Educational levels	Primary education	21	21.0	35 years
	Secondary education	49	49.0	
	Tertiary education	15	15.0	
	No formal education	15	15.0	
Religion	Christians	66	66.0	5 persons
	Muslims	25	25.0	
	Traditionalist	9	9.0	
Household size	< 4	30	30.0	5 persons
	4-6	45	45.0	
	7 & above	25	25.0	
Years of Experience	< 5	47	47.0	8 years
	5 – 10	25	25	
	11 – 15	10	10.0	
	16-20	13	13.0	
	20 & above	5	5.0	
Mode of occupation	Full-time	72	72.0	8 years
	Part-time	28	28.0	
Occupation	Trading	18	18.0	8 years
	Civil servants	17	17.0	
	Other	65	65.0	
	Farming operation			
Monthly Income (₦)	< ₦50,000	57	18.1	₦287,540
	₦50,001-₦100,000	28		
	₦100,001– ₦150,000	8	6.0	
	₦150,001 & above	7	14.9	
Total		100	100.0	

Source: Field Survey, 2025.

Effects of Socio-economics Characteristics on Cocoyam Production

The results shown that six (6) out of nine (9) variables that were regressed to measure effects of socio-economic characteristics on cocoyam-based production were statistically significant. The R^2 from the regression function estimated was 0.789 which shown that the value of 79.0%. The estimated R^2 value showed that 79% of the variations were explained by the explanatory variables included in the model. Age, households and farming experience were positive and statistically significant at ($P < 0.01$). Which implies that a unit increase in any of the above three variables will lead to increase in cocoyam production in the study area and vice-versa. The results also showed that sex and educational levels were exhibited positive and statistically significance at ($p < 0.05$) and marital status was also negative and statistically significant at ($p < 0.05$) while monthly income, cooperative membership and occupation displayed no significant. This showed that as farmers experience increases the more they have capability to make their business productive, this further revealed that positive regression coefficient of number of years spent in their production will surely lead to an increase in net farm income (NFI). Undoubtedly, this also shown that the longer the cocoyam-based farmers stay in the business the more experience, efficient and effective they are negative sign of marital status suggest that marry more wivies by the male farmers may lead to increased in farmers



expenses. While the monthly income that had no significant showed that Cocoyam-based farmers need to be pro-active in their farming business to increase their income.

Table 2: Effects of Socio-economics Characteristic on Cocoyam Production

Variables	Regression Co-efficient	Standard Error	T-value
Constant terms	2.779	0.336	9.994***
Gender	1.013	0.008	1.967**
Age	1.201	0.002	6.423***
Formal education	-0.018	-0.009	2.210**
Household size	0.121	0.006	5.211***
Monthly income	1.777	1.956	0.534
Cooperative membership (years)	-1.011	5.662	0.011
Farming experience	0.455	0.114	5.554***
Occupation			
Marital status	0.266	1.099	-0.444
F= 0.7651	-3.078	1.544	-2.230**
R - square = 0.7890			
F-Statistics =82.911***			
Df ₁ = 97 Df ₂ = 2			

Source: Field Survey, 2025. Asterisk *, ** & *** represent 10%, ** 5%, *** 1% significance levels respectively.

Constraints Encountered by Farmers in Cocoyam-based Production in the Study Area

Any challenges scoring below the average (< 2.50) on the Likert-type scale are considered as not severe constraints, while those equal to or above the average score of (2.60) are classified as severe constraints. The results showed the mean ratings of the factors affecting the cocoyam-based farmers in the study area. The major constraints identified was inadequate fund, inadequate preservation facilities, inadequate extension contact and poor storage facilities with a mean of 3.42, 3.40, 3.37 and 3.33 respectively, which were ranked 1st, 2nd, 3rd and 4th. The results also showed that low research on cocoyam was ranked 5th with mean of 3.28 while inadequate credit facilities (3.19), inadequate improved varieties of cocoyam (3.19), low income (2.86), transportation problem (2.68) and high cost of labour were placed 6th, 7th, 8th, 9th and 10th respectively as severe constraints to cocoyam production in the study area. This implies that ten (10) problems were regarded as severe constraints out of fifteen (15) problems identified while only five (5) problems facing cocoyam farmers were not severe which included inadequate good roads (2.57), high cost of inputs (2.43), restrictions on land usage by land tenure (2.20), poor marketing (2.11) and incidence of pests and diseases (2.09), were positioned as 11th, 12th, 13th, 14th and 15th respectively and they were all classified as not severe constraints due to their scores below the average threshold.

Table 3: Constraint Faced by Cocoyam-based Farmers in the Study Area

Constraints	Very severe Frequency	(%)	Severe Frequency	Severe Frequency	Not severe (%)		Rank	Mean
High cost of Inputs	50	50.0	33	33.0	17	17.0	12 th	2.43
Poor marketing	34	34.0	45	45.0	21	21.0	14 th	2.11
Inadequate finance	70	70.0	23	23.0	7	7.0	1 st	3.42
Inadequate preservation facilities	68	68.0	22	22.0	10	10.0	2 nd	4.252 3.40
Inadequate credit facilities	60	60.0	24	24.0	16	1.6	6 th	3.19
Low Income	57	57.0	25	25.0	18	18.0	8 th	2.86
Transportation problem	56	56.0	22	22.0	22	22.0	9 th	2.68
Restrictions of land usage by land tenure	45	45.0	33	33.0	22	22.0	13 th	2.20
High cost of labour	55	55.0	28	28.0	17	17.0	10 th	2.63
Pests and diseases	30	30.0	38	38.0	32	32.0	15 th	2.09
Low research on cocoyam	61	61.0	27	27.0	12	12.0	5 th	3.28
Inadequate of extension contact	65	65.0	25	25.0	10	10.0	3 rd	3.37
Inaccessible to good roads	51	51.0	24	24.0	25	25.0	11 th	2.57
Poor storage facilities	62	62.0	21	21.0	17	17.0	4 th	3.33
Inadequate of improved varieties	60	60.0	29	29.0	11	11.0	6 th	3.19

Source: Field Survey, 2025. VS = Very Severe, S = Severe, NS = Not severe.

Respondents' Perception on Possible Solutions to Constraints Facing Cocoyam-based Farmers

Provision of preservative facilities, improved varieties of cocoyam, Low labour cost, provision of storage facilities, adequate credit facilities and high research on cocoyam were all agreed as suggested solutions to some constraints faced cocoyam production in the study area. Repair of bad road and frequent extension agents contact. Access to loan were really disagreed as solution to some challenges encountered by the respondents as reviewed by researcher.

Table 4: Possible Solutions to some Constraints Facing Cocoyam-based Farmers in the Study Area

SOLUTIONS	MEAN RESPONSE	RANK	DECISION
Provision of preservative facilities	1.90	1 st	Agreed
Adequate credit facilities	1.19	5 th	Agreed
Low labour cost	1.63	3 rd	Agreed
High research on cocoyam			
Frequent extension contact	1.09	6 th	Agreed
Provision of storage facilities	0.56	8 th	Disagreed
Repair of roads	1.31	4 th	Agreed
improved varieties of cocoyam	0.90	7 th	Disagreed
	1.70	2 nd	Agreed

Source: Field Survey, 2025. *Multiple response



CONCLUSION AND RECOMMENDATIONS

The study concluded that farming experience, age and household size were positive and statistically significant factors that influencing cocoyam production in the study area. Also cocoyam production in the study area was constrained by insufficient funds, inadequate of preservation facilities, inadequate of extension contact, poor storage facilities and low research to mention few. Therefore, the study recommended that farmers should reduce their expenses on farm inputs, government should let the extension agents under go research on good findings on corms improved varieties and also empowered them to train and educate cocoyam farmers by organizing seminars in all the three (3) tiers of governments to help them providing improved varieties for the farmers in order to exhibit higher levels of business capabilities and efficiency leading to higher farm yields, better productivity, food security and poverty alleviation among cocoyam-based farmers. Some of the challenging factors facing cocoyam farmers should be addressed properly

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