SOCIOECONOMIC DETERMINANTS OF YELLOW CASSAVA PRODUCTION IN ANAMBRA STATE, NIGERIA, WEST AFRICA.

***Ekpunobi, Charles Emeka1, Nwigwe, Akuchinyere Cecilia1 and Nkamigbo, Darlington Chineze2**

1Departmrnt of Agricultural Economics and Extension, Nnamdi Azikiwe University, Awka, Nigeria, West Africa.
2Department of Agricultural Technology, Anambra State Polytechnic, Mgbakwu, Nigeria, West Africa.

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Abstract – The study examined the socioeconomic determinants of yellow cassava production in Anambra State, Nigeria. Specifically, it described the socio-economic characteristics of the farmers; examine the influence of socioeconomic characteristics of the farmers and factors of production on the output of yellow cassava and identify the reasons that informed the farmers' choice of yellow cassava production. Multistage and simple random techniques were used to select 138 respondents and data collection was only on primary data using a structured questionnaire and was subjected to descriptive, inferential analysis and multiple regressions. The result showed the dominance of female in yellow cassava production, married and most of the producers were economically active and productive, high household size, 10 to 12 years of formal education and had hired labour as their major source of farm labour. The result of multiple regression shows that the value of (coefficient of multiple determination of 0.95) revealed that about 95% of the total variation of the dependent variables was explained by the independent variables. This means that about 5% of the variation in the dependent variable was not explained by variation in the independent variables. Findings also showed that 68.1% of the farmers embarked on yellow cassava production to increase their income. It was recommended that female yellow cassava farmers should be encouraged through financial and access to farmland, by relevant stakeholders and the challenge of insecurity occasioned by the activities of herdsmen should be checked and curtailed among others.

Keywords: Determinants, Yellow Cassava, Production.

INTRODUCTION

Cassava (Manihotesculenta) is a major staple food, a major source of energy in the diet of many Nigerians and can easily adapt to a wide range of climatic and soil conditions (Eze and Nwibo, 2015). According to (Oti, Olapeju, Dohou, Moutairou, Nankagninou, Komlaga and Loueke, 2011), cassava which is a starchy root crop, a major source of food security in Africa because of its ability to grow in low-quality soil, its resistance to drought and disease, and its flexible cultivation cycle. The crop is one of the few staple crops that can be produced efficiently on a small scale, without the need for mechanization or purchased inputs, and in marginal areas with poor soils and unpredictable rainfall (Food and Agricultural Organization, 2013). Nigeria is currently the largest producer of cassava in the world and the largest cassava market in Africa (Ijigbade, Fatuase andOmisope, 2014). According to Eguono (2014), the country produces approximately 45 million tonnes of cassava annually. However, the Nigerian cassava system is dominated by small-scale farmers' holding, cultivating an average of 0.5hectares (Eze and Nwibo, 2014). Cassava is important not just as a food crop but as a major source of income for the farmers and therefore contributes positively to poverty alleviation (Effiong, Effiong and Udo, 2015). Iyagba and Anyanwu (2012) regarded cassava as a magic crop in Nigeria as a result of the presidential initiative on cassava which has shown that the crop possesses the potential of eliminating food crisis and hunger thereby ensuring food security. Cassava is largely marketed and utilized in many processed forms in Nigeria. In Africa, cassava is currently utilized for human food, livestock feed and industrial usage (Oti et al., 2011). Estimates for the percentage of cassava used for industrial utilization range from 5 to 16% while the rest is used directly for human consumption (Itam, Ajah and Agbachom 2014). The study further noted that about 10% of its industrial demand consists of high-quality cassava flour used in biscuits and other confectioneries, dextrin, pre-gelled starch for adhesives, and starch for pharmaceuticals and seasonings. Its usefulness as a wide spectrum, ranging from the leaves to the roots which are

mostly used for animal feeds and food processing. Its uses in the industry and livestock feed, are well known and are gradually increasing, especially as important substitution becomes prominent in the industrial sector of the economy (Ijigbade, Fatuase and Omisope. 2014).

Since cassava is a widely-consumed staple food in Nigeria, it is considered a promising vehicle for bio-fortification to increase Vitamin A content and therefore dietary intake amongst the populace (Ilona, Bouis, Moursi, Palenberg, Oparinde, 2017). Yellow cassava is the product of bio-fortification targeted at increasing the vitamin A content of the tuberAdeola, Ogunleye, Bolarinwa, (2017). Bio-fortification is the use of traditional crop breeding practices or modern biotechnology to produce micronutrients dense stable crops to reduce micronutrient deficiency (Bouis, Hotz, McClafferty, Meenakshi, and Pfeiffer; 2011). Vitamin A is an important micronutrient essential for optimal health (Tumuhimbile, Namtebi, Turyashemerewa, Muyong, 2013). According to Bouis et al., (2011), bio-fortification of cassava with pro-vitamin A carotenoid is a potential mechanism for alleviating vitamin A deficiency. Food-based interventions focused on alleviating vitamin A deficiency in vulnerable populations have an edge over supplementation and fortification programmes, especially in rural areas. This is due to the fact that they can provide a sustainable source of a variety of nutrients without the recurring transport and administration costs associated with these other methods.

Consequently, in Nigeria, cassava has been specially targeted by National Root Crop Research Institute (NRCI) Umudike, and International Institute of Tropical Agriculture, (IITA), Ibadan. These agencies have jointly developed cassava, bio-fortified with Vitamin A, popularly known as yellow cassava. This is in order to complement the efforts of the government to check the deficiency of Vitamin A and malnutrition in the country Adeolaet al. (2017). Yellow cassava, therefore, provides major health benefits for consumers as it contains Vitamin A needed to combat various health challenges associated with Vitamin A Deficiency (VAD) (Frano, Woodhouse, Burnett, Burri, 2013). Yellow cassava has also been reported to be high yielding, resistant to major pests and diseases, and has shown a delay in the onset of post-harvest deterioration which can be helpful in acceptance of the crop for both farmers and consumers Adeola, Ogunleye, and Bolarinwa (2017).

Due to the enormous benefits that yellow cassava offers, the variety is increasingly being pushed to get to more smallholder farmers who are the major growers in Nigeria, for its production (Saltzman, Birol, Bouis, Boy, Moura, Islam, Pfeiffer, 2013). Specifically, the objective of this study was to identify the socioeconomic characteristics of the farmers, examine the influence of socioeconomic characteristics of the farmers and factors of production on the output of yellow cassava and identify reasons that informed farmers' choice of yellow cassava production.

MATERIAL AND METHODS

The study was carried out in Anambra State. The predominant occupations in these areas include farming, fishing, trading, craft, etc. It is situated on a generally low elevation on the eastern side of the River Niger sharing boundaries with Delta State to the west, Imo, Abia and Rivers State to the south, Enugu State to the East and Kogi State to the North. The state occupies an area of about 4,844 Km2, lies within longitude 50551 and 60421N. The annual rainfall ranges from 1400 mm in the North to 2500 mm in the south with a temperature of 250C-350C. The population of the State is 4,182,232 with 863 sqkm density (NPC, 2006). It consists of twenty-one (21) Local government areas (LGAs) and four agricultural zones.

The Population of the study was yellow cassava producers in Anambra State. According to the Anambra State Agricultural Development Programme, the state has eight thousand five hundred (8500) registered cassava producers. However, the list is not categorized into the different varieties of cassava produced. Pre- survey test carried out showed that about 5% (425) of the farmers produced yellow cassava. A multi-stage sampling technique was adopted in selecting a sample for the study.

Stage one, a simple random sampling technique was used to select three agricultural zones from the four agricultural zones of the state.

Stage two, a simple random selection technique was used to select four Local Government Areas from each of three agricultural zones totaling twelve LGAs.

Stage three, the simple random technique was used to select three Communities from each of the twelve LGAsmaking a total of thirty six communities.

Stage Four, respondents were selected from each of the thirty-six Communities except in Anambra zone where only two respondents each were selected in three Communities due to paucity of yellow cassava producers, while others were four. This made it a total of one hundred and thirty-eight respondents (138) which formed the sample size.

Table 1.1: Sample size allocation

Agricultural Zones	LGAs	communities	Sample size allocation
Anambra Zone	Anambra West	Miata	2
	(6.4902° N, 6.7922°E)	Umuewelum	2
		UmuezeAnam	2
	Anambra East	Umueri	4
	(6.3093°N, 6.8673°E	Aguleri	4
		Igbariam	4
	Oyi	Nteje	4
	(6.2246° N, 6.8887°E)	Awkuzu	4
		Ogbunike	4
	Ayamelum	Omor	4
	(6·553553°N, 6.986939°E)	IfiteOgwari	4
		Igbakwu	4
Awka Zone	Awka North	Mgbakwu	4
	(6°12¹45.68N, 7°0419"E)	Isuaniocha	4
		Achala	4
	Awka South	Awka	4
	(6°09¹60.00"N, 7°0360.00"E)	Amawbia	4
		Nibo	4
	Dunukofia	Ukpo	4
	(6°16'20"N, 6° 5738"E)	Nawgu	4
		Ukwulu	4
	Njikoka	Abagana	4
	(6°11'3.12"N, 6°58'35.58"E)	Abba	4
		Enugwu-ukwu	4
Aguata Zone	Orumba North	Ajali	4
	(6"02'46N, 7"12'36E)	Ufuma	4
		Awa	4
	Orumba South	Umunze	4
	(5°58'0"N, 7°13'0"E	Ihite	4
		Ibughubu	4
	Aguata	Umuchu	4
	(6°01'0"N, 7°05'0"E)	Uga	4
		Umuona	4
	Nnewi South	Otolo	4
	(6°0'37.8684"N, 6°54'37.2420"E)	Uruagu	4
		Umudim	4
Total		138	

Values in parenthesis represent the Global position of the site

Method of Data Collection

Primary data used for the study were derived from a set of structured questionnaires and also subjected to descriptive and inferential analysis- mean, standard deviation percentages, frequency, and multiple regression.

Model Specification

The regression function analysis was used in four functional forms from which the lead equation was chosen on the basis of the values of the coefficient of Multiple Determination (R2) as well as the signs and significance of the regression parameters. This is stated explicitly as;

Y = a + b1X1+ b2X2 + e; as described by Akinbile (2015)

Y= Output

The regression function postulated for cassava production in the study area is shown in the explicit form using four functional forms; the linear, semi-log, double log and exponential. The four functional forms were evaluated using the ordinary least square method. The explicit forms of the functional forms are as follows:

Linear function

$Q= b0+b1SEX+b2AGE +b3HOUHLDSIZ +b4EDU +b5MEMBCOOP + b6YECASEX +b7 NOEXTVIS+ b_8CPM+ b_9CFAGCHE+ b_{10}NOCROPINT +b_{11}ACCFIN + b_{12}COSLAB+b_{13}FAMSIZ + b_{14}COSLAND + e$

Exponential function

$LogQ= b0+b1SEX+b2AGE +b3HOUHLDSIZ +b4EDU +b5MEMBCOOP + b6YECASEX +b7 NOEXTVIS+ b_8CPM+ b_9CFAGCHE+ b_{10}NOCROPINT +b_{11}ACCFIN + b_{12}COSLAB+b_{13}FAMSIZ + b_{14}COSLAND + e$

Semi-log function

$Q=b0+b1logSEX+b2logAGE +b3logHOUHLDSIZ +b4logEDU +b5logMEMBCOOP + b6logYECASEX +b7 logNOEXTVIS+ b_8logCPM+ b_9logCFAGCHE+ b_{10}logNOCROPINT +b_{11}ACCREDT + b_{12}logCOSLAB+b_{13log}FAMSIZ+ b_{14}logCOSLAND + e$

Double log

$LogQ= b0+b1logSEX+b2logAGE +b3logHOUHLDSIZ +b4logEDU +b5logMEMBCOOP + b6logYECASEX +b7 logNOEXTVIS+ b_8logCPM+ b_9logCFAGCHE+ b_{10}logNOCROPINT +b_{11}ACCREDT + b_{12}logCOSLAB+b_{13log}FAMSIZ+ b_{14}logCOSLAND + e$

Where Y is the total output in kg

Where

Q	=	Total output (in kg)
Py Q	=	Value of total output (in naira)
COLAB	=	Cost of Labour (in naira)
HOHLDSIZE	=	Household size (numbers)
COFERT	=	Cost of fertilizer (in naira)
SEX	=	Sex of respondents (Dummy 0 = male, 1 = female)
AGE	=	Age of respondents (years)
EDU	=	Educational level (years)
YCFAMEX	=	Yellow cassava farming experience in years
FAMSIZ	=	Size of yellow cassava farm (Number of plots)
ACCREDIT	=	Access to credit (Dummy 1 = yes, 0 = no)
NOEXTVIST	=	Number of extension visits
CPM	=	Cost/amount spent on planting material (in naira)
NOCROPINT	=	Number of crops in the intercrop
MEMBCOOP	=	Membership of cooperative/farmer organisation (Dummy 1 = yes, 0 = no)

COSTPEST	=	Cost of pesticides and herbicides (in naira)
COSTLAND	=	Cost/amount spent on renting/leasing land (in naira)
CFERTAGCHE	=	Cost/amount spent on fertilizer and agrochemicals
e	=	Stochastic error term (error term assume to have a zero mean and Constant variance).

RESULTS AND DISCUSSION

Socio-Economic Characteristics of Yellow Cassava Farmers in Anambra State.

The socio-economic characteristics in Table 2.1 showed that majority (52.9%) of yellow cassava farmers were males and this is as a result of land inheritance and enormous benefit the various offers. This agreed with Nkamigbo, Atiri, Gbughemobi and Obiekwe, (2015) who noted male dominance in maize production in Osun State. The result was however at variance with findings of Ebukiba (2010); Itam, Ajah and Agbachom(2014) and Effiong, Effiong and Udo (2015), who all noted the dominance of the female in cassava production in their areas of study. The result indicated that a good percentage of the respondents were still in their active years. This trend could be favourable for expansion of yellow cassava production in the area as the farmers still had many years ahead to engage in the venture. The result agreed with the findings of Effionget al.. (2015) and Omoregbee, Awhareno and Ekpebu (2013) who indicated that most of the producers were economically active and of productive ages hence a high prospect for agricultural information accessibility. Result of the study further showed that most of the farmers (73.2%) were married and this could signify a very good prospect for yellow cassava production in the study area.The result is in consonance withOkorie (2012) and Yuguda, Girei, Dire and Salihu (2013) who opined that family labour is a great source of agricultural labour. The result of the study also indicated that yellow cassava production in the study area was dominated by farmers who have a household size of 5-6 persons which stood at 41.3%. The result showed that a greater percentage (52.2%) of yellow cassava farmers had farming as their major occupation. The majority (35.6%) of the farmers as shown in the result have 10 to 12 years of formal education. And this could make innovation faster for expansion of production. Higher percentages, (50.7%) of the farmers as could be observed from the result of the study did not belong to a farmer group/cooperative. This does not point to a good outlook as it can be deduced that the majority of yellow cassava farmers were not taking advantage of the benefit inherent in cooperatives to boost their production. There are prospects for an increase in yellow cassava production in the State if the farmers could come together to form farmers' groups/cooperatives in order to derive the benefits associated with it. The result also indicated that a greater percentage (85.5%) of the farmers had access to extension services. This showed a very good outlook for yellow cassava production in the study area as the farmers are in the position to get every necessary support that extension services provide. It was observed that the majority (85.5%) of the farmers had hired labour as their major source of farm labour. This signified that yellow cassava production in the study area was providing a source of employment to people. The result showed that the majority (60.1%) of the farmers acquired their farmland through renting. This was a good signal for yellow cassava production as it signified that yellow cassava farmers in the State could be disposed to acquiring larger expanse of land on rent which would increase output, instead of relying on land acquired through inheritance which is often fragmented. The result is at variance with the finding of Yugudaet al., (2013) which showed that the majority (53%) of cassava producers acquired their land through inheritance in the study area.

Table 2.1: Distribution of socio-economic characteristics of yellow cassava farmers in Anambra State

Variables	Mean Output (kg)	SD	Frequency	Mean	PercentageSex
Male	5833.3	3460.2	72		52.2
Female	4327.3	9651.6	66		47.8
Age				34	
21-30	5022.2	2587.4	9		6.5
31-40	3776.2	2631.9	42		30.4
41-50	4500	6269.6	50		36.2
51-60	8072.7	12479.5	33		23.9
61-70	3466.7	923.8	3		2.2

70 & above	3600	-	1		0.8	
Marital Status						
Single	3875	2848.4	9		6.5	
Married	5468.6	8286.2	101		73.2	
Divorced	7333.3	4618.8	3		2.2	
Widowed	3936	4714.8	25		18.1	
Household Size				5		
1-2	3589.5	2491.3	19		13.8	3-4
	4547.8	5555.4	46		21.1	
5-6	4094.7	3539.4	57		41.3	
7-8	13385.7	18270.4	14		10.1	
9-10	5500.0	4949.7	2		1.4	
Major Occupation						
Farming	6038.9	9180.4	72	52.2		
Trading	4767.6	6123.8	37		26.8	
Civil Service	2920.0	1888.0	15		10.9	
Artisanship	5139.1	7468.8	14		10.1	
Years in school				10		
1-3	5533.3	1747.4	11		8.0	
4-6	5144.8	5158.3	29		21.0	
7-9	3920	3524.4	15		10.9	
10-12	6920	12214.3	41		29.7	
13-15	3292.3	2398.8	25		18.1	
16-18	4387.5	5027.1	16		11.6	
22-24	5777.8	3851.5	1		0.7	
Membership of farmers' group/cooperative						
Those that are members	6894.1	9411.2	68		49.3	
Those who are not	3382.9	4332.5	70		50.7	
Years spent in cassava farming		14		1.79		
4 years and below	-	-	19		13.8	
5-9	800	-	39		28.3	
10-14	1665.4	505.2	27		19.6	
15-19	3100	1222.5	17		12.3	
20-24	5551.7	6774.7	20		14.5	
25-29	9920.0	13089.2	8		5.8	
30-34	1120	8292.9	3		2.2	
35-39	6520	2512.5	3		2.2	
45-49	18400	5656.9	2		1.4	
Access to extension services						
Those that have access	5345.8	7998.9	118		85.5	
Those that don't have	3740.0	2528.5	20		14.5	
Farm size			4		3.95	
2			69		50.0	
5			56		40.6	
8			7		5.1	
14			1		0.7	
16			1		0.7	
17			1		0.7	
20			2		1.4	
32			1		0.7	
Main source of farm labour						
Inheritance	3446.8	3278.7	47		34.1	
Lease	8500.0	11376.7	8		5.8	
Rent	5773.5	8542.2	83		60.1	
Main source of capital						

Personal saving	4023.7	4723.7	93		67.4
Banks/financial instit.	9844.4	13086	27		19.6
Informal lenders	3835.3	4955.9	17	12.3	
Cooperatives	4000	-	1		0.7

Field survey, 2019

Influence of Socio-Economic Characteristics of the Farmers and Factors of Production on Yellow CassavaOutput in Anambra State.

Among the outputs of the four functional forms tried with the data, that of linear function was the best in terms of number of significant variables, value of F-statistics, R^2, R^2 adjusted and Durbin-Watson statistic and was chosen as the lead equation. The equation is given as:

Y = -4818.015–477.901SEX + 233.417Age + 104.655HOUHLDSIZ + 49.846EDU + 455.580MEMBCOOP+ 149.508YECASEX +58.081NOEXTVIS+ 0.013AMSPM+ 0.016CFAGCHE+ 562.727NOCROPINT +131.448ACCCRED + 0.021COSLAB+1273.024FAMSIZ -0.097COSLAND + e

The value of R^2 (coefficient of multiple determination of 0.953) revealed that about 95% of the total variation of thedependent variables was explained by the independent variables. This means

That about 5% of the variation in the dependent variable was not explained by the variation in the independent variables, that is a stochastic error. The F statistic value of 87.854 was statistically significant at 1% level of probability. This indicated that the socioeconomic variables together significantly influenced the output and that of the regression was a good fit. Out of the fourteen variables included in the model, five (cost/amount spent on planting, number of crop intercrop, labour cost, farm size and land leasing), statistically and significantly influenced the output of yellow cassava production earned by the respondents in Anambra State. The coefficient of cost of planting material had positive and statistically significant effect on output at 5% significant level. This implies that as farmers increases the planting materials, output is bound to increases. Producers could, therefore, procure additional planting materials for available land space being cultivated. The coefficient of a number of crops in the intercrop had a positive and statistically significant effect on output at 5% significant level. This agrees with Nkamigbo et al (2015) who stated that intercropping encourages high soil fertility, yield stability, security, and higher profitability due to higher combined returns per unit area of land. The effect of labour input was also positive and significant, indicating that it is another very crucial input in yellow cassava production. The positive sign of co-efficient of farm size implies that a direct relationship exists between farm size and output level. This agrees with Okeke, Nkamigbo and Chukwuji (2013) who stated that small farm size generates small output and large farm size generate higher output to farmers. The coefficient of cost/amount spent on renting/leasing land had a positive and statistically significant effect on output at 1% significant level.

Table 3.1: Influence of socio-economic characteristics of the farmers and factors of production on output of the crop in Anambra State

Variable	Linear [1]	Semi log	Exponential	Double log	Decision
Intercept	-4818.015	-14565.769	2.766	1.492	
	(-5.356)***	(-21.679)***	(23.175)***	(2.826)***	
Sex (SEX)	-477.901	6.328	-0.011	-0.06	
	(-1.517)	(0.008)	(-0.266)	(-0.116)	Accept
Age (AGE)	233.417	4986.626	-0.14	0.100	
	(1.564)	(2.259)**	(-0.266)	(0.748)	Reject
House hold size	104.655	-	0.018	-0.003	
(HOUSIZ)	(1.153)	-	(1.488)	(-0.055)	Reject
Years of educ	49.846	-108.998	0.018	0.084	
(EDU)	(0.639)	(-0.85)	(1.488)	(1.935)	Reject

Membership Of farmers' Group/Coop. (MEMBCOOP)	455.580 (1.088)	--1413.615 (-1.297)	0.105 (1.890)	0.64 (1.023)	Reject
YC Farming Exp. (YCFAMEXP)	-149.508 (0.917)	3423.923 (-1.361)	0.98 (4.521)***	0.07 (0.142)	Accept
No. Ext Visits (NOEXTVISITS)	58.081 (1.009)	619.313 (0.214)	0.005 (0.590)	-0.104 (-2.223)**	Reject
Cost/Amount spent on Planting Material (CPM)	0.013 (2.824)**	1186.034 (0.763)	9.300 (1.553)	0.219 (3.432)***	Reject
Cost/Amount spent On Fert.and agrochemicals (CFAGCH)	0.016 (1.340)	530.374 (1.593)	2.050 (1.320)	0.228 (3.432)***	Reject
No. of crops inte. (NOCROP)	562.727 (2.654)**	5564.457 (-2.097)**	0.015 (0.532)	-0.048 (-0.896)	Reject
Access to Credit (ACCRDT)	131.448 (0.300)	2144.616 (2.097)**	0.35 (0.600)	-0.008 (-0.126)	Reject
Amount spent on Labour (COSTLAB)	0.021 (4.913)***	197.577 (0.282)	2.36 (0.421)	-0.38 (-0.833)	Reject
Farm Size (FARMSIZ)	1273.024 (12.816)***	17252.422 (8.573)***	0.053 (4.028)	0.726 (15.442)***	Reject
Cost/Amount spent on renting/ Leasing Land (COSTLAND)	-0.097 (-3.394)***	-490.769 (-1.957)	4.767 (1.258)	0.082 (1.430)	Accept
R^2	0.953	0.717	0.834	0.851	
F stat	87.854***	12.700***	21.958***	30.654***	
Sample size	138	138	138	138	

Source: Computed from the Field Survey Data, 2019

Figures in parenthesis are t- ratios. *** Significant at 1%; ** Significant at 5%.

Reasons that Inform Farmers' Choice of Yellow Cassava Production in Anambra State.

Table 4.1 showed that 68.1% of the farmers embarked on yellow cassava production to increase their income, 63.8% did in order to cultivate cassava variety they can sell the stem and make more money, while 57% of them noted that they embarked on the production of yellow cassava so that they can process and get cassava products rich in vitamin A which they can sell to consumers. Part of why 31.2% of the farmers went into production was in order to cultivate nutritious cassava for family's consumption. These clearly showed the various reasons that informed farmers' choice of yellow cassava production in the State. These reasons, and the ability or inability to meet them, no doubt would have great implications on yellow cassava output in the State. It, therefore, becomes imperative for all stakeholders to put in place, mechanisms that would ensure that these reasons are realised so that yellow cassava production in the State can be sustained. More people should be exposed to these reasons so they could be attracted and encouraged to cultivate yellow cassava. This would further expand production of the crop in the State.

Table 4.1: Reasons that inform farmers' choice of yellow cassava production

Reasons	Frequency	Percentage
To increase income	94	68.1
To increase cassava yield	9	6.5
To increase sale of cassava	19	13.8
To cultivate nutritious cassava for Family's consumption	43	31.2
To cultivate cassava that producers can Sell stem and make more money	88	63.8
To cultivate cassava that the tubers do not Spoil easily upon harvesting	13	9.4
To cultivate cassava that producers can easily Sell on contract to processors who need them	70	50.7
To cultivate cassava that producers can process And get cassava products rich in vitamin A and Sell to consumers	79	57.2
To cultivate cassava that producers can export Outside the country	3	2.2

Multiple responses .Field survey, 2019

Summary

Findings on the socioeconomic characteristics of the farmers showed that the majority (52.9%) of yellow cassava farmers were males, while the farmers between the ages of 41-50 years dominated the production of the crop. The mean age of yellow cassava farmers in the State was 34 years. The study also showed that the majority (73.2%) of yellow cassava farmers were married while majority (41.3%) had a household size of 5-6 persons, while the mean household size was 5 persons. The majority (52.2%) had farming as their major occupation. The mean number of years yellow cassava farmers had spent in cassava farming was 14 years. The majority (35.6%) had spent 20-22 years in formal education. The result also showed that the mean number of years the farmers spent in formal education was 10 years, while the mean size of the yellow cassava farm in the State was 4 plots.

The lead equation was chosen based on its fulfilling certain apriori economic expectations with respect to signs and magnitude of the regression coefficients. Its selection was also based on the number of significant variables. The value of (coefficient of multiple determination of 0.95) revealed that about 95% of the total variation of the dependent variables was explained by the independent variables. This means that about 5% of the variation in the dependent variable was not explained by variation in the independent variables. The result of the study carried out to identify the reasons that informed the farmers' choice of yellow cassava production showed that 68.1% indicated the need to increase income and 63.8% embarked on production in order to cultivate cassava that they can sell the stem to make money.

Conclusion

The study established that yellow cassava production was a profitable venture in the study area and hence, has the capacity to attract investors in the sub-sector. Yellow cassava farmers in the State have various and varying reasons that informed their choice of embarking on the production of the crop. The study recommended that female yellow cassava farmers should be encouraged through financial and access to farmland, by relevant stakeholders. This would ensure that the gap in the number of males and females; and their output are closed. Investors should be encouraged to set up industries that would enter into contracts with yellow cassava farmers in the State in order to buy off their produce and process them into value-added products. The challenge of insecurity occasioned by the activities of herdsmen should be checked and curtailed.

REFERENCES

1. Adeola, R.G., Ogunleye, K.Y., and Bolarinwa, I.F. (2017). Yellow cassava attributes influencing Its utilization among cassava processors in Oyo State. International Journal of Environment Agriculture and Biotechnology, 2,(5), 2650-2658.
2. Akinbile, L.A. (2015). Application of linear regression analysis in agricultural extension research. In: M.C. Madukwe (ed.) A Guide to Research in Agricultural Extension. Agricultural Society of Nigeria (AESON), Agricultural and Rural Management Training Institute, Ilorin, Nigeria.
3. Bouis, H.E., Hoty, C., McClafferty, B., Meenakshi, J.V., Pfeiffer W.H. (2011). Bio-fortification: A New Tool To Reduce Micronutrient, 31-40.
4. Ebukiba, E. (2010). Economic analysis of cassava production (farming) in Akwa Ibom State. Agriculture and Biology Journal of North America, 1(4), 612-619.
5. Effiong, J.B., Effiong, G.B., and Udo, U.A. (2015). The socio-economic determinant of production of pro-vitamin A cassava varieties by farmers in EtimEkpo Local Government Area,
6. Akwa Ibom State, Nigeria. Global Journal of Pure and Applied Sciences, 21, 105-111.
7. Eguono, I. (2014). A look at cassava production in Nigeria.International Journal of Agricultural Sciences 5 (5), 818-819.
8. Eze, A.V. and Nwibo, S.U. (2014). Economics and technical efficiency of cassava production in IkaNorth East Local Government Area Delta State, Nigeria. Journal of Development and Agricultural Economics, 6(12): 429-436.
9. FAO (2013) Food and Agricultural Organization. Save and Grow Cassava. A Guide to sustainable production Intensification, 1-142.
10. Frano, M.R., Woohouse, L.R., Burnett, D.J., Burri, B.J. (2013). Bio-fortified cassava increases B- carotene concentration in the TAG-rich plasma layer of American women. British Journal of Nutrition, 110, 310-320.
11. Ijigbade, J.O, Fatuase, A.I and Omisope, E.T. (2014). Conduct and profitability of gari Production increased food security in Ondo State, Nigeria. IOSR Journal of Humanities and Social Science, 19(7), 89-95.
12. Ilona, P., Bouis H.E., Moursi, M., Palenberg, M. and Oparinde, A. (2017). Vitamin A cassava in Nigeria: crop development and delivery. African Journal of Food, Agriculture, Nutrition andDevelopment, 17(2), 12000-12025.
13. Isibor, A.C. and Nkamigbo D.C. (2019). Economic determinants of loan repayment to large and small scale farmers-beneficiaries of the bank of agriculture loans from 2010-2016 in Anambra State. International Journal of Agriculture Policy and Research, 7 (4), 91-99.
14. Itam, K.O., Ajah, E.A. and Agbachom, E.E. (2014). Analysis of determinants of cassava production and profitability in Akpabuyo Local Government Area of Cross River State,
15. Nigeria. International Business Research, 7(12).Canadian Center of Science and Education. Available online on Http:// dx.doi.org/10.5539/1br.v7nl12p128
16. Iyagba, A.G. and Anyanwu S.O. (2012).Problems and prospects of cassava production in Rivers State, Nigeria: A case study of Oyigbo local government area. Agriculture and Biology Journal of North America, 3(7), 296-301.
17. Nkamigbo, D.C., Atiri O.A., Gbughemobi B.O., and Obiekwe, U.C. (2015). Comparative analysis of costs and returns in hybrid and nonhybrid maize production in Osun State, Nigeria. Journal of Agric and Vet Sci, 7(2), 55-69.
18. NPC (2007).Report of Nigeria'sNational Population Commission on 2006 census. Population and Development Review, 33(1), 206-210.
19. Okorie, O.J. (2012). Level of adoption of improved cassava varieties and the profitability
20. Ofcassava production in Enugu State, Nigeria. A dissertation submitted to the Department of Agricultural Economics, University of Nigeria, and Nsukka.
21. Okeke, D.C., Nkamigbo, D.C. and Chukwuji, C.O. (2013). Economics of legumes based intercropping systems in Anambra State. Journal of Vocational and Technical Education, 1(8), 125-131.
22. Omoregbee, F.E., Awhareno, U.S. and Ekpebu I.D. (2013).An empirical analysis of cassava
23. Farmerssocio-economic characteristics and their access to agricultural information in Delta State, Nigeria. IOSR Journal of Humanities and Social Science, 9(1) 11-18. Available on www.iosrjournals.org.
24. Oti, O., Olapeju, O., Dohou, S., Moutairou, E., Nankagninou, D., Komlaga, G.A., and Loueke,

25. G.M.,(2011).Training Manual Processing of Cassava into Garri and High-Quality CassavaFlour in West Africa. Asiedu, E., Kone, A., Konan, K., andRamchander, S, (Ed). Available onwww.coraf.org.
26. Saltzman A., Birol, E., Bouis H.E., Boy, E., DeMoura, F.F., Islam, Y., and Pfeiffer W.H.,
27. (2013). Bio-fortification: Progress Towards A More Nourishing Future.Global Food Security.2(1) 9-17.
28. Tumuhimbise, G.A., Namtebi, A., Turyashemerewa, F., and Muyong J. (2013).Provitamin A
29. Crops: Acceptability, Bioavailability, Efficacy, and Effectiveness. Food and NutritionScience, 4(4), 430-435.
30. Yuguda, R.M., Girei, A.A., Dire, B., and Salihu.M. (2013).Socio-economic factors and constraints influencing productivity among cassava farmers in Taraba State, Nigeria.
31. International Journal of Advances in Agricultural Science and Technology,1(1), 1-15.