

Analysis of demographic characteristics of “poor” and “non poor” cassava-based farmers in Cross River State, Nigeria

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Abstract

This study analyzed the demographic characteristics of cassava-based farmers in Cross River State. The specific objectives were to analyze the socioeconomic characteristics of cassava-based farmers and determine the number of poor and non poor cassava-based farmers. Data were obtained from structured questionnaires and personal interviews. Multi-stage pre-survey and random sampling techniques were adopted to select the sample size of 360 cassava-based farmers with a sample spread of 144, 108 and 108 for Calabar, Ikom and Ogoja agricultural zones. The socioeconomic characteristics were analyzed using descriptive analysis, percentages and frequency tables. The result from the socioeconomic analyses showed that, 47.09% of respondents had family sizes of 4-6 persons. While in terms of educational qualification, cassava farmers with FSLC category had 34.84% and 29.03% in the category of farmers within age bracket of 41-50 years. The result for farm sizes showed that, majority of farmers with less than three (< 3) hectares of land, were majority with 83.3%, and those who were able to access credit had 55.4%, number of extension visit was 59.6%. The female households were more prone to poverty of 40% and the males were 10% “non-poor”. Therefore, female farmers were prone to high level of poverty in Ogoja zone. Based on the findings it was recommended that policies that would enhance the income of cassava-based female farmers should be put in place and implemented in the State to help reduce their levels of poverty.

Keywords: Demographic, poverty, poverty line

Introduction

In recent times, the global focus has been on poverty eradication, increase food security status of individuals, climate change adaptation and mitigation,,

resource use allocation and efficiency as means of attaining food security and sufficiency (UNDP, 2014). The incidences of high rate of poverty, environmental degradation, food insecurity and resource inefficiency are

particularly devastating in developing countries and a lot of resources are being channeled towards programmes aimed at eradicating food insecurity, poverty and environmental degradation by international organizations and government of developing countries (UNDP, 2014).

The United Nation Development Programme had attributed the global crises to poverty and hunger due to inefficient resource allocation and utilization. (FAO, 2010). In Africa, an estimated 20 million or 27.4% of the people on continent are undernourished. This figure is expected to increase to 45% by 2020 (Salana, Kamara and Brixiva, 2010). Africa is ranked the second in terms of prevalence of poverty, food insecurity and hunger. This is due to the fact that, resources are underutilized despite its abundance (FAO, 2014).

In Nigeria, 60% of the estimated population of 160 million people is living below poverty line (World Bank, 2014). The 2014 Sustainable Development Goal (SDG) report stated that, the proportion of Nigerian population living below the hunger threshold increased from 30% to 35% between 2010 and 2014, which made

it difficult to achieve sustainable development goals. The first objective of the sustainable development goal was to eradicate extreme poverty and hunger among the citizens (FAO, 2010). The targets of sustainable development goals as spelt out could not yield the expected result, despite the huge resources budgeted to eradicate poverty. This is because, poverty perpetuates hunger, and hunger reduces productivity and in turn prevents people from producing or acquiring the inputs needed to boost production and increase output (Meier, 1973). Meier, 1973, asserted that, developing countries are poor, because productivity is low as a result of farmers' resource inefficiency.

Cassava has been identified as a comparative advantaged crop in Nigeria, the government initiated the Root and Tuber Expansion Programme (RTEP) with the emphasis on cassava production and exportation to increase GDP and ameliorate poverty. Nigeria with information from Bureau of statistics shows that Nigeria is the leading producer of cassava, producing 45 million metric tones in 2014 (FAO. 2014). Cassava remains predominantly produced tuber crop in South-South and Cross River in

particular. It has become the most stable crop being processed into garri, akpu, tapioca and cassava flour.

In the study on promoting the implementation of sustainable development goals in Akpabuyo Local Government (Agbachom & Amalu 2016) showed that demographic characteristics such as gender, farmer's age farm size, family labour, educational level and access to credit influenced poverty status of the further. In another study on the roles of women in household food security in Calabar South. Nwankiro (2015) showed that women were actively involved in improving food security status than the male counterpart. However, the above studies did not cover the entire state. Therefore, this study covered the entire state.

This study thus;

- i. Analyze the socioeconomic characteristics of the cassava-base farmers in Cross River State.
- ii. Determine the number of poor and non poor of cassava-base farmers in Cross River State.

Definition of terminologies

- i. Cassava-based farmers: Farmers predominantly into cultivation of cassava.

- ii. Demographic: Data relating to the population and different groups within it.

- iii. Poverty line: A line or benchmark income to show that people living below this line are absolutely poor.

Materials and methods

Cross River State occupies an area of about 22,342.176 square kilometers. It is located on latitudes $5^{\circ}32'$ and $4^{\circ}27'$ North, longitudes $7^{\circ}50'$ East and $9^{\circ}21'$ East. Cross River State is bounded on the North by Benue, in the South Akwa Ibom State and Bight of Bonny, in the West by Ebonyi and Abia States, while in the East by Republic of Cameroon. The soils of Cross River State are utisol and alfisol but predominantly utisol, suitable for arable crops production and about 3,888, 966 people inhabit the area of which the Efiks, Ejagham and Bekweras are the major ethnic groups (GIS, 2016).

Sampling Techniques and size

The population for the study was seven hundred and twenty (720) active registered cassava-based farmers with eighty communities in Agricultural service department, Ministry of Agriculture, Cross River State. Multi-stage sampling techniques were adopted

in the sampling procedure. The following were the multi-stage sampling techniques adopted in the sampling procedure considering the three agricultural zones.

Stage one: Ten (10) local government areas were randomly sampled.

Stage two: Forty (40) communities were sampled from the local government within the zones

Stage three: Using sampled size calculator (40) communities across the zones were randomly selected and sampled size spread was as follows: Calabar (144), Ikom (108) and Ogoja (108).

Stage four: Nine (9) sampled cassava farmers were randomly selected from the 40 communities; giving a total 360 respondents, but 312 were retrieved and analyzed.

Data collection

The data for the study were obtained from a cross section of cassava-based farmers. The instruments for the collection of data were a set of structured questionnaires. The questionnaires were designed based on study objectives.

Data analysis

Frequency tables, percentages, means and standard deviations were used to

determine the socioeconomic status of farming households. The second objective was analyzed using standard Foster Greer and Thorbecke Model (FGT).

The model handles this objective appropriately. Farmers' income was used as a measure of poverty. The major requirement was the choice of an appropriate poverty line in which case, the classical method of poverty line was employed and this involve, drawing a line at 50% of the middle income or consumption range in the zones. Therefore, the FGT index was used for poverty head count and severity. The poverty line was based on the expenditure of the households. Two third (2/3) of mean per capita household expenditure (MPCHE) was used as poverty line.

The MPCHE was obtained by dividing the total of all individual household per capita expenditure by the number of household surveyed. The choice of this method of calculating poverty is because of its ease of calculation.

Therefore, the FGT (1984) model included the head count ratio (P_0). This is the simplest and easiest measure of poverty. The Foster, Greer and Thorbecke (FGT) model is given as:

$$P_{\infty} = \text{poverty} = P_{\infty} = \sum[(z-y)]^{\infty} \quad \text{-----}$$

4.1

head count z

$$\text{Where } \infty = 0, P_0 = 1/n \sum[(z-y)]q/n \quad \text{-----}$$

4.2

 z

The FGT index is explained as:

Where:

N = Total number of sampled household

Y = Daily per capita expenditure of household

I = Individual household

Z = Poverty line 2/3 mean per capita expenditure of household

 ∞ = Takes a value of 0, 1 or 2 for head count

q = the number of the sampled household

z-y = the proportionate shortfall below the poverty line

the female farmers with the same 50% using sampled calculator. This was in line with the findings of Ugbaja and Chidebelu (2012) who reported active participation of male and female in equal proportion in cassava farming in their study.

In the age category of 41 – 50 years, which represents the economically active and productive age, the percentage was 29, in this category as analyzed. This was in line with the findings of Abam (2010). In terms of educational level of the respondents, 34.8% had first school leaving certificates (FSLC) indicating that majority were in these categories and have not gone beyond FSLC. The minority fell within the category of B.Sc/HND with percentage of 16.7%. This indicates that, those in cassava farming were predominantly with First School Leaving Certificates. Cassava cultivation from the descriptive analysis does not require skilled labour but energetic farmers, because it is a tedious occupation.

Considering family size, the result from descriptive analysis indicates that, 47.1% of the cassava producers had family size of 4 – 6 persons, as majority, while 2 – 3

Results and discussion

Demographic Characteristics

Table 1 shows the distribution of cassava farmers according to their sex, age, educational level, household size, access to credit, extension visit and income. The results from the descriptive analysis indicated that, 156 of the cassava-based farmers which was 50% represented the male cassava farmers and 156 represented

persons constituted 23.5%, this corroborated with Effiong (2005) in his study on efficiency of cassava production in AkwaIbom State reported that, relatively large household size enhanced the availability of family labour, which reduces constraints on labour cost in agricultural production. This is the basis of family labour, which little or no cost is involve because they are under the same roof and eat from the same pot.

The analysis indicate that, in terms of access to credit, 173 respondents which represented 55.5% did not have access to credit while 44.6% gained access to credit. In considering extension visits, 59.6% did not have access to extension visit indicating a low cassava output among the cassava-based farmers. Finally, 38.8% represented cassava farmers whose income was between of 201-400 thousand per cropping season. The low income might be due to small farm size and inconsistence in extension visits.

Table 2 showed the “poor” and “non poor” cassava-based farming households in Cross River State analyzed according to gender and zone. In Calabar zone, the numbers of poor for female and male headed household farmers were 26 and

21, while non poor were 30 and 35, respectively. There was no significant difference recorded. In the gender category of “non poor”, the male cassava-based farmers recorded 35 farmers, who were higher than the female farmers who were 30, and there was no significant difference. This was contrary with the findings of Agbachom and Amalu (2016) who reported high number of poverty among female cassava-based households in Akpabuyo Local Government Area of Cross River State.

Table 3 shows the poverty depth (P_1), poverty severity (P_2) of male and female cassava farmers in the three agricultural zones of Cross River State. There was high poverty depth of 23% and 50% among the females in Calabar and Ikom zones but was reduced in Ogoja zone. The poverty severity in Calabar and Ikom zones among the female cassava farmers was high as Calabar had 14% and Ikom 36% compared to the male cassava farmers with 4% and 10% in Calabar and Ikom zones respectively. In Ogoja zone, it was less both in male and female cassava farmers. The reason might be due to reduce output due to small farm sizes and lack of extension visits for innovative skills.

In Ogoja zone, the male cassava headed households were higher with 30 of the male farmers being non-poor compared to the female farmers with 10 as being non poor as well. There was significant difference at 5% level. This concluded that, in Ogoja zone, the male headed households were less prone to poverty than the female headed households.

Considering gender for the poor category between all zones, the number of male and female were: 58 and 89 and for the non poor, the number of male and female were: 98 (62.82%) and 67 (42.94%), respectively; and this was significant at 5% level. This agrees with the findings of Onwubuke (2014) who reported that male cassava households in Calabar municipality and Calabar south were less prone to poverty than female headed households.

Recommendations

Based on these research findings, the following recommendations were made:

- i. Policies that would encourage the young, active and productive farmers to take career in cassava farming should be made and implemented..

- ii. Incentives that enhance the income of women in Agriculture and alleviate the high rate of poverty among female farmers should be provided by government and non-governmental organizations..

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Table 1. Distribution of Socioeconomic Characteristics of
Cassava-based Farmers in Cross River State

	Demographic characteristics	Frequency	Percentage (%)
1	Sex:		
	Male	156	50
	Female	156	<u>50</u>
			100
2	Age of farmer (years)		
	< 30	48	15.5
	31 – 40	74	23.9
	41 – 50	92	29.0
	51 – 60	34	10.9
	61 – 70	26	8.4
	> 70	38	<u>12.3</u>
			100
3	Educational qualification		
	(school years)	108	34.8
	FSLC	100	32.3
	SSCE/WAEC	50	16.1
	ND/NCE	54	<u>16.8</u>
	HND/B.Sc		100
4	Household size (number)		
	1 – 3	73	23.5
	4 – 6	146	47.1
	7 – 10	57	18.4
	11 and above	36	<u>10.9</u>
			100
5	Farm size (Hect)		
	< 3	73	23.5
	4 – 7	146	47.1
	8 – 11	57	18.4
	> 11	36	10.9
6	Access to credit:		
	NO	173	55.5
	YES	139	44.6
7	Extension visit		
	No	186	59.6
	Yes	126	40.4
8	Income (‘000)		
	< 200,000	116	37.2
	201 – 400	118	38.8
	401 – 600	50	16.0
	601 – 800	22	7.1
	801 – 1000,000	3	1.0
	> 1m	3	

Source: field survey; 2018

Table 2. Number of “poor” and “non poor” cassava-based farmers according to zones and gender in Cross River State

	Calabar zone			Ikom zone			Ogoja zone			All zone		Total	
Gender:	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	M	F
“Poor”	21	26	= 47 ^a	17	23	= 40 ^a	20	40	= 60 ^b	58	89	147 ^a	
“Non-poor”	35	30	= 65 ^b	33	27	= 60 ^b	30	10	= 40 ^a	98	67	165 ^b	
Total	56	56	= 112	50	50	= 100	50	50	= 100	156	156	312	

Source: field survey, 2018

*Note: Number of poor and non poor with different alphabets as superscripts are significantly different as ($P < 0.01$ and $P < 0.05$) with sample z-test between poor and non poor.**Table 3.** Poverty status of cassava-based farmers in Cross River State

Poverty	Calabar zone	Ikom zone	Ogoja zone
Poverty depth (P_1)	0.2038	0.3960	0.0536
Male	0.1069	0.1804	0.1624
Female	0.2365	0.5038	0.06099
Poverty severity (P_2)	0.1222	0.2771	0.06099
Male	0.0424	0.1070	0.0183
Female	0.1491	0.3622	0.0753
Average income (₦)	72,281	66,931	67,885
Poverty line (₦)	48,187	44,620	46,105

Source: field computation, 2018.