MARKETABLE SURPLUS AND FARM HOUSEHOLDS' POVERTY STATUS IN LAGOS STATE, NIGERIA

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ABSTRACT

Poverty is an un-acceptable physiological and/or social deprivation of human well-being. Income generating livelihood is a sustainable factor of poverty alleviation and marketable surplus available to farm households is a source of income generation. This study examined marketable surplus and farm households' poverty in Ikorodu Local Government Area (LGA) of Lagos State. Simple random sampling was used in collecting data from 120 farm households. Data collected were analyzed using descriptive statistics, FGT index and regression models. Results showed that 82.5% of the household heads were male while 94.2% were married. Also, 58.3% of the farm households had low marketable surplus (LMS) while 41.7% had high marketable surplus (HMS). The LMS households had the highest proportion of poverty incidence (55.6%) than HMS households (44.4%). Furthermore, educational status ($p<0.05$), farm experience ($p<0.01$), poverty status ($p<0.01$) and farm size ($p<0.01$) were significant factors affecting marketable surplus of households in the study area. Consequently, poor farm households tend to have lower marketable surplus in the study area. The study therefore recommended capacity building for farmers by stakeholders to boost marketable surplus generation capability of farm households.

***Keywords**: marketable surplus, expenditure, households, poverty, capacity building.*

INTRODUCTION

Marketable surplus is the quantity of produce which is available for sale after meeting farm family needs, seed requirement, wages in kind as well as gift to relatives and friends (Zulu et al, 2007). The surplus available for sale varies from farm household to household for various reasons. In the case of food grains\crops; surpluses are generally low because most households depend largely on the cultivated crops as their staple food which varies from zero with large-holder farm households and 70 - 80% with small-holder farm households (Upender, 1999). Every agricultural commodity is produced for family need and for sale in the market to earn some cash (income) and thereby meet many farm family's requirements that are not satisfied on the farm.

Marketable surplus is the portion of the harvest that a farm household can sell in the market to earn a profit, reinvest in the farm or use to purchase household items (OECD, 1998). Thus, the concepts of marketable surplus and marketed surplus refer to the quantity of produce available for marketing and the quantity actually marketed. The principal difference is the time perspective; marketable surplus

is produce that a farm household currently has on hand to take to the market to earn revenue while marketed surplus is what is actually taken to the market to exchange for cash. The quantum of marketable surplus is influenced by factors operating both at the pre-production and post-production stages. The factors operating in the pre-production stage are those which determine the level of production i.e. physical area under the crop or animal, investment of resources including inputs, productivity of the crops or animals and expectations of monetary returns from the sale of the produce. The post-production factors include the demand for consumption, socio-economic conditions of the producers, price policies and price realization. The larger the quantity actually marketed, the greater the cash income to a farm household and the more the capacity of the household to meet the basic and adequate standard of living. Any household that is able to meet basic and adequate standard of living is usually regarded as living above poverty.

Poverty is a human condition characterized by sustained or chronic deprivation of resources, capabilities, choices, security and power necessary for the enjoyment of an adequate standard of living and other civil, cultural, economic, political and social right (UN, 2006). IBR&D (2000) defined poverty as an un-acceptable deprivation in human well-being that can comprise both physiological and social deprivation. Physiological deprivation of poverty includes the non-fulfillment of basic material or biological needs, including inadequate nutrition, health, education and shelter. The concept of physiological deprivation is thus closely related to, but can extend beyond, low monetary income and consumption levels. Social deprivation widens the concept of deprivation to include risk, vulnerability, lack of autonomy, powerlessness and lack of respect. Poverty can also be said to be a result of low level of assets, coupled with low returns (IBR&D, 1996; Adepoju *et al*, 2011).

Poverty reduction is an important goal for government in many developing countries (Blackwood and Lynch, 1994) and in Nigeria, the goal of poverty reduction is synonymous with economic development and achievement of higher quality of life for all population groups. In many developing countries Nigeria inclusive, poverty is essentially a rural phenomenon as most of the impoverished people live in the rural areas where they derive their livelihood from agriculture (Onu and Abayomi, 2009). Though urban poverty exists and is also becoming an increasing concern, as reflected in the worsening trend in urban welfare indicators (Macours and Swennen, 2008; Yusuf et al, 2008; IBR&D, 2009; Tacoli, 2012; Bashorun and Fadairo, 2012), rural poverty is a much wider issue than the former (Ayinde, 2003; Akinleye et al, 2007; Olorunsanya and Omotesho, 2012). Investing in agriculture is key to reducing poverty and hunger in developing countries as well as an essential element in addressing the global food crisis (Timmer, 1988; Maxwell, 1994; Bresciana and Valdes, 2007; Cervantes and Brooks, 2008; Fan and Rosegrant, 2008; Byerlee, and Sadoulet, 2009; Cervantes and Dewbre, 2010). However, it has being argued that the more non-farm based a rural economy is the lower the poverty level (Cherdchuchai and Otsuka, 2006; Kijima et al, 2006; Awoyemi et al, 2011). This is simply because the less dependent a rural household is on farm income or the more diversified the household livelihood is away from agriculture, the lower the income inequality and poverty level among households (Awoyemi et al, 2011; Orishajinmi, 2013).

Nigerian agriculture is largely peasant in nature, characterized by production on small holdings and use of

simple tools or implements; hence, farm income dependent households are largely poor (Awoyemi et al, 2011; Shittu et al, 2014). In peasant agriculture, the bulk of agricultural produce is used for subsistence (Newman, 1977; Alam and Afruz, 2002) by the (poor) farm households, thereby reducing the marketed surplus component of farm marketable surplus. This is not unexpected in view of the findings of Davis and Zong (2002) that Chinese household's own-consumption of grain had a relatively strong negative influence on the marketable surplus of grain during the reform era in China. As a result, a reduced marketed surplus delimits the market participation of farm households which in turn reduces household's income earning capacity (Wickramasinghe et al, 2014). Thus a household with reduced earnings will likely be poor, thereby being unable to procure basic needs and consequently, because of poverty, satisfy mostly through household's needs through subsistence. Therefore, the vicious cycle continues until it is broken and the farm household liberated from the quagmire.

In view of the above, this study is to find answers to the following questions: What is the level of farm household marketable surplus in the study areas? What is the volume of farm household's marketable surplus given farm household's socio-economic characteristics? What factors influence marketable surplus of farm households in the study area?

Therefore, this study is to determine the linkage between farm households' poverty status and marketable surplus in Ikorodu Local Government Area of Lagos State.

Table 1: Distribution of Households by Socio-economic Characteristics

Variable	Frequency (120)	Percentage
Age(years)		
≤30	4	3.3
31 – 40	32	26.7
41 – 50	45	37.5
51 – 60	30	25.0
≥61	9	7.5
Sex		
Male	99	82.5
Female	21	17.5
Marital Status		
Single	2	1.7
Married	113	94.2
Divorced	2	1.7
Widow	3	2.5
Educational level		
No formal education	16	13.3
Primary	30	25.0
Secondary	69	57.5
Tertiary	5	4.2
Farming experience		
≤10	17	14.2
11 – 20	53	44.2
21 – 30	23	19.1
31 – 40	18	15.0
≥41	9	7.5
Household Size		
≤4	13	10.8
5 – 8	74	61.7
9 – 12	25	20.8
13 – 16	4	3.3
≥17	4	3.3

Source: Field Survey, 2012.

MATERIALS AND METHODS

Study Area

The study was carried out in Ikorodu Local Government Area (LGA) of Lagos State. Lagos State is the second most populous State in and economic hub of Nigeria (Omonijo et al, 2007) while Ikorodu LGA is the largest rural LGA and second largest of the twenty in Lagos State. It stretches over 22 kilometers on longitude $20^{o}53'$ and 20^{o} 00' East respectively as well as latitude 60^{o} 12' and $60^{o}2$ North (LSMC&D, 2012). The LGA has a land mass of about 161.95 kilometers making it the second largest LGA in the State (NPC, 2006). Ikorodu LGA lies about 36kilometers North-East of the city of Lagos and 26 kilometers from Ikeja, the state capital. It has boundaries with Ogun State to the North, the extensive Lagos lagoon to the south, Kosofe LGA to the West and Epe LGA to the East (LSMC&D, 2012). Like most parts of Lagos State, Ikorodu LGA is a veritable lowland region with relatively flat undulating features, stretching about 18 kilometers from East to West along the Lagos lagoon front (LSMC&D, 2012).

The vegetation of the area falls within forest savannah and tropical forest found along river course. The climate follows the usual tropical feature with bimodal rainfall pattern of two rainfalls ranging between 1,145mm and 1,275mm with most of the rainfall occurring from March to October while the dry season occurs mostly from November to February (NBS, 2011). The maximum temperature ranges from 24.3^{0} C to 28.5^{0} C while minimum temperature ranges from 15.8^{0} C to 20.0^{0} C (NBS, 2011). The study area is a vast area of fertile land for cultivation of arable crops and cash crops with most inhabitants being farmers noted for arable crops, vegetable, livestock fishing and non-fishing activities (LSMC&D, 2012).

Source of Data and Sampling Technique

The primary data used for this study were generated using pretested, structured questionnaire guides administered to the head of farm households in the study area. The information obtained include household size, income and expenditure as well as household head's age, marital status, level of education. Simple random sampling technique was used to select respondents for the study. The list of 15,315 farm families in Ikorodu LGA obtained from Lagos State Ministry of Agriculture and Cooperatives (LSMAC) and Lagos State Agricultural Development Authority (LSADA) formed the sampling frame. Thirty (30) farm families were randomly selected from four randomly selected villages (Imota, Igbogbo, Odogunyan and Ikorodu) in the LGA. Thus a total of one hundred and twenty (120) respondents were sampled for the study.

Analytical Technique

The analytical tools used were descriptive statistics, Foster, Greer and Thorbecke (FGT) index and multiple regression models. This involves the use of frequency tables, mean and percentages. It was used to present respondent's socio-economic characteristics such as age, marital status, educational qualification, farming experience and sex of the farm household's head as well as household size and marketable surplus income.

Categorization of Marketable Surplus

Marketable Surplus is the amount of produce which is available for sale after deducting quantity for family needs, seed requirement, wages in kind, gift to relatives and friends as well as quantities

physically lost. The surplus available for sale varies from one farm household to another for various reasons. It is computed by the formula:

*MS = A – B ---------- (i)

where:

A = gross (total) farm output

B = quantity of produce:- due to physical losses, consumed by farm family, retained for seed/planting material, retained as feed for farm animals, used as gift and payment in kind.

MS = marketable surplus

Categorization: The farm households were classified into low marketable surplus income (LMS) and high marketable surplus income (HMS) categories based on the mean marketable surplus value. That is, any farm household with marketable surplus below the mean value was grouped into LMS category and any with marketable surplus above the mean value was grouped into HMS category.

FGT Index

The FGT measure was used to determine the level of poverty among various categories of farming households in the study area (Foster Greer & Thorbecke, 1984). These are the head count index (P_0), poverty gap index (P_1) and poverty severity index (P_2). These measures respectively relate to different dimensions of the incidence of poverty, i.e. the prevalence of poverty (P_0), the depth of poverty (P_1) and the severity of poverty (P_2) at a point in time in the study area. The FGT index is based on this mathematical formula:

$$P_\alpha = \frac{1}{n}\sum_{i=1}^{H}\left(\frac{Z-Y}{Z}\right)^{\alpha} \text{ ---------- (ii)}$$

where:

Z = absolute poverty line

N = the number of people in reference population.

H = the number of poor [below poverty line].

Y = average Household Monthly per capita expenditure

α = poverty index which takes value of 0, 1 and 2.

When α = 0, the Poverty Index (PID) becomes Head Count Ratio or Poverty Incidence Index (HCR or PII). This is the proportion of people below the poverty line; it is used to calculate the number of households whose members have per capita income below the poverty line. When there is no aversion to poverty. It is stated as:

$$P_0 = \frac{H}{n} \text{ ---------- (iii)}$$

When α = 1, PID becomes the poverty gap index (PGI). Poverty gap is the aggregate short fall of income of the household from the specified poverty line. It measures the proportion of the poverty line that the average poor require to attain to (at least) be on the poverty line.

Where α = 2, PID becomes poverty severity index (PSI). It gives more weight to the poverty gap of the poorest. The closer the value is to 1, the harder the household poverty condition.

Multiple Regression Models

This analysis was used to determine the socio-economic factors influencing marketable surplus in the study area. Implicitly, the model can be expressed as:

$Y_i = f(X_{ij}, \mu_i)$ ---------- (vi)

where:

Y_i = Marketable surplus (₦)

X_{ij} = Vector of socio-economic variable of household

μ_i = Random error term

The estimated functional forms were linear, semi- and double-logarithms functions. The lead equation was chosen based on coefficient of multiple determination (R^2), t-statistic, f-statistic as well as the *a priori* sign and magnitude of the coefficients. The explicit functions are:

Linear Functional Form

$Y = b_o + b_1X_1 + b_2X_2 + b_3X_3 \ldots\ldots\ldots + b_{11}X_{11} + \mu$ ……..…. (vii)

Semi-log Functional Form

$Y = \ln b_o + b_1 \ln X_1 + b_2 \ln X_2 + b_3 \ln X_3 \ldots\ldots + b_{11} \ln X_{11} + \mu$ …... (viii)

Double-log (Cobb-Douglas) Functional Form

$\ln Y = \ln b_o + b_1 \ln X_1 + b_2 \ln X_2 + b_3 \ln X_3 \ldots\ldots.. b_{11} \ln X_{11} + \mu$ …….. (ix)

where:

$Y = Y_i$ = as defined previously
X_1 = Gender of household head (1 if male, 0 if female)
X_2 = Age of house head (years)
X_3 = Marital status of household head (1 if married, 0 otherwise)
X_4 = Educational qualification of household head (number of years spent in school)
X_5 = Farming experience (years)
X_6 = Off-farm activities (1 if yes, 0 otherwise)
X_7 = Poverty status (1 if poor, 0 if non-poor)
X_8 = Farm size (ha)
X_9 = Household size (persons)
$\mu = \mu_i$ = as previously defined.

RESULTS AND DISCUSSION

Socio-economic Characteristics of Farm Households in the Study Area

Table 1 presents a description of respondent household's socio-economic characteristics such as household size and household head's farming experience. Most (67.2%) of the household heads were not more than 50 years old with few (7.5%) being 61 years or more in age while the average age was approximately 47years. Hence, majority (92.7%) of the household heads were within the productive or active age bracket. Household heads that are within the active age category usually have abundant energy to expend in farm operations. Moreover, this (age) influence the decision making process of farmers with respect to risk aversion which impacts on production, income generation and poverty reduction.

Majority (82.5%) of the households were headed by males while few (17.5%) were headed by females. This implies that there were more men than women in farming in the study area. Furthermore, 1.7%, 94.3%, 1.7% and 2.5% of farm households were headed by single, married, divorced and widowed heads respectively. This means that households headed by married heads were more involved in agricultural activities in the study area and family labour would be available to complement hired labour.

Majority (86.7%) of the household heads had some level of formal education while 13 3% had no formal education. Education has been proved to be a determinant of the ability of farmers' in harnessing available opportunities to improve production practices. It is known to affect the level of exposure to new ideas, adoption of innovations and managerial capability in production. Thus the level of education of farmers can enhance marketable surplus, which is germane in reducing household poverty level. Most (77.6%) of the farm household heads had up to three decades experience in farming while 7.5% had more than four decades of farming experience. This is expected to impact household production and productivity level with a positive consequence for marketable surplus and, hence, poverty reduction.

Evaluation of Household's Marketable Surplus

Table 2 presents a description of respondent household's marketable surplus. An appreciable proportion (10.8%) of the farm households had annual marketable surplus income that was less than or equal to ₦99,999 (US$666.66) i.e. a monthly marketable income of ₦8,333.25 (US$55.56), which translates to ₦273.97 (US$1.85) per day. However, the highest proportion (11.7%) of the farm households had annual marketable surplus income of ₦100,000 - ₦114,000 (US$666.67 - US$760.00) i.e. ₦8,333.33 - ₦9,500 (US$55.56 - US$63.33) per month or ₦273.97 - ₦312.33 (US$1.83 -

US$2.08) per day. A lower proportion (6.7%) of the households had ₦115,000 - ₦129,000 (US$766.67 - US$860.00) marketable surplus income/annum i.e. ₦9,583.33 - ₦10,750.00 (US$63.89 - US$71.67) or ₦315.07 - ₦353.42 (US$2.10 - US$2.36) per day. However, 65.8% of the households had annual marketable surplus income that was not less than ₦145,000 (US$966.67) i.e. ₦12,083.33 (US$80.56) per month or ₦397.26 (US$2.65) per day. This finding is in line with that of Onyenobi et al (2014) on farm household marketable surplus in Imo State Nigeria. The result shows that a good proportion (65.8%) of the household obtained revenue (income) from marketable surplus that could place them above the poverty level using the World Bank bench mark of less than US$2 per day (IBR&D, 2011). Equally, the mean marketable surplus of ₦253,764.35 (US$1,691.76) per annum or ₦8,48.81 (US$56.39) per month or ₦695.24 (US$4.63) per day implies the possibility of the respondents household been above the World Bank poverty level bench mark.

Table 2: Distribution of households by marketable surplus income*

Marketable Surplus		Frequency	Percentage
NG₦	**US$**		
≤99,999	≤666.66	13	10.8
100,0 00 – 114,000	666.67 – 760.00	14	11.7
115,000 – 129,000	766.67 – 860.00	8	6.7
130,000 – 144,000	866.67 – 960.00	6	5.0
145,000 – 159,000	966.67 – 1,060.00	4	3.3
160,000 – 174,000	1,066.67 – 1,160.00	5	4.2
175,000 – 189,000	1,166.67 – 1,260.00	2	1.7
190,000 – 204,000	1,266.67 – 1,360.00	3	2.5
205,000 – 219,000	1,366.67 – 1,460.00	2	1.7
220,000 – 234,000	1,466.67 – 1,560.00	9	7.5
235,000 – 249,000	1,566.67 – 1,660.00	7	5.8
250,000 – 264,000	1,666.67 – 1,760.00	3	2.5
265,000 – 279,000	1,766.67 – 1,860.00	3	2.5
280,000 – 294,000	1,866.67 – 1,960.00	2	1.7
295,000 – 309,000	1,966.67 – 2,060.00	3	2.5
310,000 – 324,000	2,066.67 – 2,160.00	2	1.7
325,000 – 339,000	2,166.67 – 2,260.00	4	3.3
340,000 – 354,000	2,266.67 – 2,360.00	3	2.5
355,000 – 369,000	2,366.67 – 2,460.00	4	3.3
370,000 – 384,000	2,466.67 – 2,560.00	2	1.7
385,000 – 399,000	2,566.67 – 2,660.00	4	3.3
400,000 – 414,000	2,666.67 – 2,760.00	3	2.5
415,000 – 429,000	2,766.67 – 2,860.00	4	3.3
430,000 – 444,000	2,866.67 – 2,960.00	2	1.7
445,000 – 459,000	2,966.67 – 3,060.00	3	2.5
≥460,000	≥3,066.67	5	4.2
Total	***-***	***120***	***100.0***
Mean	***253,764.35***	***-***	***-***

NG₦150 ≡ US$1
Source: Field Survey, 2012

Table 3 presents the households' marketable surplus income. More than half (58.3%) of the households had low marketable surplus income. This implies that an appreciable proportion (about 60%) of farm households in the study area had

low quantity of farm produce for sale in the market. This is in concord with the findings of Falola et al (2013); Onyenobi et al (2014); Bwala and Tiamiyu (2015). Furthermore, the LSMC accounted for only one-third (31%) of household's mean marketable surplus income in the study area.

Table 3: Distribution of households by marketable surplus category

Category	Frequency	Percentage	Mean	Percentage
LMSC	70	58.3	214,402.21	30.6
HMSC	50	41.7	486,238.80	69.4
Total	**120**	**100.0**	**700,641.01**	**100.0**

Source: Field Survey, 2012.

Table 4 shows the mean marketed surplus, subsistence consumption and produce given out as gift for both LMS and HMS household categories. The total mean annual farm income for LSM category was ₦214,402.21 (US$1,429.35) while that of HSM category was ₦486,038.80 (US$3,240.26). In both categories, about half of the marketable surplus were consumed (43.5% for LMS, 40.1% for HMS) and given out as gifts (12.1% for LMS, 5.9% for HMS). However, while LMS households marketed 44.4%, HMS households marketed 53.9%. Consequently, this could impact negatively on the ability of households to earn income from market participation with their produce given the level of output being traded in the market by the households. Hence, achieving a livelihood above poverty level could be compromised.

Table 4: Distribution of household's output income by marketable surplus category

Category	Mean	Percentage
LMS		
Marketed surplus (₦)	95,231.36	44.4
Consumption (₦)	93,170.96	43.5
Gift (₦)	25,999.89	12.1
Total (₦)	***214,402.21***	***100.0***
HMS		
Marketed surplus (₦)	263,924.80	53.9
Consumption (₦)	196,366.00	40.1
Gift (₦)	28,948.00	5.9
Total (₦)	***486,038.80***	***100.0***

Source: Field Survey, 2012

Household's Poverty Status

This sub-section highlighted how households' characteristics are related to household poverty level. It presents the poverty indices such as poverty incidence, gap/depth and severity. The monthly mean *per capita* expenditure was estimated at ₦3,726.73 or ₦124.22 per day from which 2/3 mean *per capita* expenditure (₦2,795.05 per month or ₦93.17 per day) was calculated and adopted as poverty line for this study. Any household that spent below the poverty line (i.e. ₦2,795.05 monthly or ₦93.17 daily) was classified as

poor while any household that spent ₦2,795.05 monthly (₦93.17 daily) or more was classified as non-poor. Expenditure has been known to play a very important role in the poverty level of household because it shows the true actual income level and more preferable to income since incidental incomes like remittances and gifts, which do not occur regularly, are also part of household income (Borooah and McGregor, 1991; Nathan and Lawrence, 2005).

Marketable Surplus and Poverty Analysis

Table 5 reveals that 7.5% of the respondent farm households in the study area were poor with 58.3% of the poor farm households falling into LMSC. The table equally revealed that there was no significant difference between the proportions of poor households in both LMSC and HMSC. However, the poverty gap and severity (0.2397 and 0.0973 respectively) were higher in HMSC than in the LMSC (0.1971 and 0.0816 respectively). The poverty gap/depth index implies that an average poor farm household from the LMSC required ₦550.90 monthly (₦18.36 daily) to close the poverty gap while those from HMSC required ₦669.97 monthly (₦22.33 daily). The respondent household poverty severity index, in the study area, were 0.0816 (8.2%) for LMSC and 0.0973 (9.7%) for HMSC. The closer the value is to 1 (100%), the higher the severity of poverty i.e. higher value of poverty severity implies a high proportion of the poorest of the poor. Therefore, poverty severity is higher among the HSMC than the LSMC in the study area.

Table 5: Distribution of households by marketable surplus and poverty status

Poverty Index		LMSC		HMSC		Overall	
		Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Poverty Incidence (P_0)	*Non-Poor*	25	64.1	14	35.9	39	32.5
	Poor	45	55.6	36	44.4	81	67.5
Chi-square Statistic		***0.791***		***p = 0.374***		-	
Poverty Gap (P_1)		0.1971		02397		0.2149	
Poverty Severity (P_2)		0.0816		0.0973		0.0881	

**LMSC ⇒ low marketable surplus category, *HMSC ⇒ high marketable surplus category.*

Source: Field Survey, 2012

Determinants of Household's Marketable Surplus

Multiple regressions models were used to estimate the influence of socio-economic characteristics on household marketable surplus in the study area. The lead equation[+] adopted was the double-log (Cobb-Douglas) function (i.e. equation ix). The estimated equation is presented in Table 6.Years of formal education of household head had a direct effect on marketable surplus ($p<0.05$) and this implies that a year increase in schooling of household head would increase the marketable surplus income generated by the farm household by 7.9%. Education is crucial as it provide skills and abilities for farmers to source productive resources and thereby increase production (Shittu et al, 2014). Also, household head's farming experience had direct effect on marketable surplus income ($p<0.01$); implying that a year increase in farming experience of household head would increase the marketable surplus (income) available to the household by 32.5%.

Furthermore, farm size had direct effect on marketable surplus ($p<0.01$). This implies that the larger the farm size, the larger the output and, hence, marketable surplus (income). In fact, a 1 hectare increase in farm size would increase marketable surplus by 100.5%. However, poverty status had an indirect relationship with marketable surplus income ($p<0.01$). This indicates that the non-poor earned more surplus than the poor.

Table 6: Determinants of household marketable surplus

Variable	B-Estimate	Standard Error	t-value	p-value
Constant	6.215***	1.317	4.719	0.000
Sex	0.115	0.135	0.852	0.314
Age	-0.020	0.241	-0.083	0.754
Marital status	0.071	0.195	0.364	0.655
Education year	0.079**	0.055	1.436	0.045
Farming experience	0.325***	0.120	2.708	0.009
Off-farm activities	0.115	0.075	1.533	0.155
Poverty status	-0.250***	0.081	-3.086	0.004
Farm size	1.005***	0.145	6.931	0.000
Household size	-0.131	0.125	-1.048	0.290
R^2	0.677	-	-	-
Adjusted R^2	0.587	-	-	-
F- Statistics	15.572***	-	-	-

*****Significant 1%, **Significant 5%, **Significant 5%.**

CONCLUSION

Analysis shows that in Ikorodu Local Government Area of Lagos State, marketable surplus (income) of farm households is greatly influenced by the poverty level of the households. Furthermore, farm size, farming experience and the education level of the household heads were other factors that significantly determine marketable surplus in the study area.

Hence, if high marketable surplus is to be achieved in the LGA, Farmers need be educated through e the use of adult literacy arrangement. . Also, vocational trainings particularly on business management skills should be implemented to enhance farmers' experience in order to achieve substantial (marketable) surpluses in farming enterprises. Moreover, poverty alleviation programmes need be established/strengthened to assist farm households generate substantial marketable surplus, thereby enhancing household market participation.

LIMITATIONS OF THE STUDY

i. Farm households do not keep written records. Hence, information used in this study relied on farmers' memory recall.
ii. The definition of MS is duration specific within agricultural season (lean season or harvest period or post planting). However, the data utilized in this study was not restricted to any particular agricultural season.

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APPENDIX

Table A1: Summary of regression model analysis result

Model	b_0	b_1	b_2	b_3	b_4	b_5	b_6	b_7	b_8	b_9	b_{10}	b_{11}	Adj-R^2	F-Stat.
Linear	-861.40	-459.85*	152.8	5.77	654.9	-39.31	27.46	17.72	1397.9***	0.01***	-0.01	3233.00	0.49	11.30***
(t-value)	(-1.13)	(-1.88)	(0.55)	(0.33)	(1.60)	(-0.81)	(1.09)	(1.21)	(8.08)	(3.03)	(-0.99)	(1.62)		
Semi-log	-12349.66	-535.92**	-0.19	414.75	23.42	-185.28	241.73**	498.39	2683.83***	891.91***	135.25	304.10	0.56	14.69***
(t –value)	(-3.83)	(-2.42)	(0.00)	(0.98)	(0.03)	(-0.57)	(2.08)	(1.64)	(7.50)	(4.50)	(1.24)	(1.65)		
Double- log	6.32	-0.27***	0.11	0.07	0.02	-014	0.09*	0.35***	1.06***	0.34***	0.06	0.11	0.58	15.79***
(t-value)	(4.72)	(-2.98)	(1.01)	(0.39)	(-0.07)	(-1.04)	(1.87)	(2.77)	(7.10)	(4.15)	(1.23)	(1.44)		

*** Sig. at 1%, **Sig. at 5%, *Sig. at 10%