GLOBAL JOURNAL OF ADVANCED RESEARCH
(Scholarly Peer Review Publishing System)

SOCIO-ECONOMIC DETERMINANTS OF SWEET POTATO PRODUCTION AMONG SMALL HOLDER WOMEN FARMERS IN EZZA SOUTH LOCAL GOVERNMENT AREA OF EBONYI STATE, NIGERIA.

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ABSTRACT

This study is an investigation on how sweet potato female farmers' socio economic characteristics affect their production in Ezza South, Local Government Area of Ebonyi state, Nigeria. The study sought to describe the socioeconomics characteristics of the female farmers, determine the effect of the female farmers' socioeconomic determinant factors on sweet potato production in the study area.. estimate the cost and return in sweet potato production and identify the problems faced by sweet potato farmers. One hundred and twenty farmers selected using multi – staged random sampling technique for the study. Structured questionnaire was used to elicit information from the respondents as related to the objectives of the work for analysis. Percentage, multiple regression analysis and Gross Margin analysis were used to analyze the objectives of the study. The results showed that most of the respondents were aged, had access to credit and well experienced in the vocation. The socio-economic factors that affect sweet potato production in the study area were household size, Level of education, farming experience and farm size. The major constraints to sweet potato production in the study area were poor access to creditl, high cost of transportation and vine shortage. The study recommended that credit should be made available to farmers at affordable collateral. More so, there is need to ensure access road to rural area and urban markets toavoid high cost of transportation which makes farmers to sell their product at the farm gate at a very cheap rate. Finally, there is also need to ensure the availability of improved varieties of sweet potato vine to farmer in order to put to end the extent of recycling of old and local varieties stocks in farmers possession in order to boost their production.

Key word: Socio Economic, Determinant, Sweet Potato, Production, Small holder Woman Farmers.

1. INTRODUCTION

In sub Saharan Africa, most women household depend on agriculture as their main source of income with the sector employing over three-quarters of the labor force but only accounting for 21% of Gross Domestic Product (GDP) (Edmond; 2007). These farmers

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cultivate different types of food and cash crops and among them is sweet potato. Sweet potato is believed to have originated from South /Central America and was brought into Africa by the Portuguese in 16th century (Agbo and Ene, 2012). Globally, sweet potato is the sixth most important food crop after rice, wheat, potatoes, maize and cassava, while in the developing nations it is the fifth most important food crop (Chukwu, 2013). China produces over 50% of the world's sweet potatoes, while Nigeria is the largest producers in Africa with total output of between 18-24 tons per hectare (Ukpabi, 2012).

As in Nigeria and other countries in sub-Saharan Africa, sweet potato is often referred to as female crop as women are responsible for producing 80% of the food, as opposed to men who tend to engage in cash crops production as income-generating activities for their households' upkeep (Mathew and Fatimah, 2006). It is consumed without much processing either eaten boiled, roasted or fried. The leaves and tender shoots of sweet potato (contain 8% starch, 4% sugar, 27% protein, vitamin and 56 mg carotene per 100 gram dry matter) are usually eaten boiled or incorporated in soup or stew (Kasaam and Stockinger, 2006). Industrially, its flour can be used to substitute wheat in bread making, blends 15-30% for pastries bakery, brewing of alcoholic drinks and sweeteners in non-alcoholic drinks (Nwokocha, 2009).

Nevertheless, the production of sweet potato in most sweet potato growing regions of the country are constrained by high cost of fertilizer, poor soil fertility, use of local varieties, pests and diseases problems, storage problem of sweet potato tubers, processing problem and land fragmentation that do not encourage mechanization (Agbo and Ene, 2012). Other problems include competition for land between agriculture and other infrastructural development and high cost of labour (Enyinnaya and Chilaka, 2012). The aforesaid scenario notwithstanding, sweet potato sector has lots of potentials for increased productivity in the country as the nation are blessed with rich and abundant sweet potato growing environments and numerous programmes and policies and improved varieties (Chukwu, 2013). Furthermore, cocoyam is capable of establishing ground cover very fast which enables it to suppress weeds such as stringa, control of soil erosion and maintenance of soil fertility which could attest to its high yield, (Purseglovm, 2004; Therberye, 2009).

Therefore, there is the need to assess the socioeconomic characteristics of the sweet potato farmers as it affect their performance in farming and their productivity in terms of profit accruing from sweet potato production in the study area. This could lead to formulation and implementation of polices that would enable them to improve on their performances.

The study could be justified in many ways; include through identification of problems limiting potato production, policy options could be instituted by government and researchers on how best to overcome the constraint to boost food security. Finally, this study is hoped to stimulate a wider interest in potato cultivation and possibly assist in attracting funds for expansion of its production to meet with the rising Nigerian population. Specifically, the objectives are to;

- ❖ Describe the socioeconomics characteristics of the female farmers?
- ❖ Determine the effect of the female farmers' socioeconomic determinant factors on sweet potato production in the study area..
- ❖ Estimate the cost and return in sweet potato production
- ❖ Identify the problems faced by sweet potato farmers.

Research Question

In view of the foregoing, the study is designed to answer the following research questions

- ❖ What were the socioeconomics characteristics of the female farmers?.
- ❖ What were the socioeconomic determinant factors to sweet potato production in the study area?
- ❖ What were the costs and return to sweet potato production
- ❖ What are the problems faced by sweet potato women farmer

2. THEORETICAL FRAMEWORK OF MULTIPLE REGRESSIONS

The multiple regression studies involve the nature of the relationship between a dependent variable and two or more explanatory variables. The techniques produce estimators of the standard error of multiple regressions and coefficient of multiple determinations. In implicit form, the statement that a particular variable of interest (y_i) is associated with a set of the other variables (x_i) is given as:

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$$y_i = f(x_1, x_2, \dots, x_k) \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(1)$$

where y is the dependent variable, and $x_i .. x_k$ is a set of k explanatory variables.

The coefficient of multiple determination measures the relative amount of variation in the dependent variable (y_i) explained by the regression relationship between y and the explanatory variables (x_i). the F-statistics tests the significance of the coefficients of the explanatory variables as a group. It tests the null hypothesis of no evidence of significant statistical regression relationship between y_i and the x_is against the alternative hypothesis of evidence of significant statistical relationship. The critical F-value has n and n-k-1 degrees of freedom, where n is the number of respondents and k is the number of explanatory variables. The standard error of regression coefficients is the measure error about the regression coefficients. The z-statistics is used in testing the null hypothesis that the parameter estimates are statistically equal to zero against the alternative hypothesis the parameter estimates the statistically different from zero. If the computed z-value exceeds the critical value, we reject the null hypothesis and conclude that the parameter estimates differ significantly from zero.

The nature of the relationship between an outcome variable (y_i) and a set of explanatory variables (x_i) can be modeled using different function forms. The four commonly used algebraic (functional) forms are: linear, log-linear or semi-log, linear-log, and power or double-log. The first functional form is the linear function expressed as:

$$y_i = b_o + b_i x_1 + b_2 + \dots + B_k x_k + e_1 \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(2)$$

where the b_is are the parameters to be estimated and e_i is the stochastic error term. The elasticity estimates of the linear function are given as $b_i x_i / y_o$ where x_i and y_i are mean values of x_i and y_i the second functional form is the log-linear or semi-log function expressed as:

$$y_i = \exp(b_o + b_i x_1 + \dots + b_k x_k + e_1) \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(3)$$

by taking the logarithm of both sides the function of expression (3) can be linearised as followings:

$$\ln y_i = b_o + b_1 x_1 + b_2 x_2 + \dots + b_k x_k + e_1 \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(4)$$

Where e is the error term. The coefficient of elasticity given by $b_k x_k$

The third form is the linear-log function expressed as:

$$\exp(y_i) = \exp(b_o + e_1)[x_1^{b1} x_2^{b2} \dots x_k^{bk}] \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(5)$$

3. MATERIALS AND METHODS.

The study was conducted in Ezza North Local Government Area (LGA) of Ebonyi State, Nigeria. The LGA is located between longitude 7°31 and 7°31E, of Greenwich Meridian and latitude 5°41 and 6°45N of Equator. It covers an area of about 305km^2 with population of about 145, 619 people (NPC, 2006). It is bounded in the North by Ebonyi Local Government Area and Ohaukwu Local Government Areas, in the East by Ezza South L G A and Abakiliki LGAs, in the South by Ohaozara LGA. and West by Ishielu L GAs. The area is endowed with minerals, and has tropical climate with annual rainfall of about 1800mm - 2000mm, mean temperature of about 28°C - 42°C and relative humidity of 65%. The main crops cultivated in the area are rice, yam and cassava. They also engaged in livestock production such as sheep, goat, pig and poultry. The people also engage in other economic activities such as hunting, tailoring, barbing, petty trading mechanics, saloon and civil services.

Multi-stage random sampling technique was used to select towns, villages and farmers. In the first stage, 4 towns were selected out of 6 towns. In the second stage, 6 villages out of 8 were randomly selected, totaling 24 villages. In the third stage, five sweet potato female farmers were selected from each village by the list provided by the extension agent of Agricultural Development Programme(ADP). This brought to a total of 120 sweet potato famers for detailed study. Structured questionnaire and oral interview were used to collect information as related to the study.

The objectives **I** and **IV** were analyzed using percentage response and frequency distribution.

The objective **iii** was captured using Gross Margin analysis. The Gross Margin = total revenue – total variable cost. The Net farm income = total gross margin + total fixed cost.

The multiple regression model used to address objective iii and was specified implicitly as:

$$Y = (X_1, X_2, X_3, X_4 \ X_5 X_6 X_7, X_6 X_{7+\ldots e}) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(1)$$

Y = Output of Sweet potato (kg)

X_1 = Age of the Farmers (years)

X_2 = Level of Education (years).

X_3 = cost of planting material (bundle)

X_4 = years of experience (years)

X_5 = labor employed in man days

X_6 = House hold size (no)

X_7 = quantity of fertilizer used in kilogram

X_8 = Farm size (ha)

E = error term

Four functional forms of the multiple regressions were employed in order to select the one that has provided the best fit. The functional forms tried were:

Linear function

$$Y = b_0 + b_1 x_1 \ b_2 x_2 + b_3 x_3 + b_4 x_4 + b_5 x_5 + ei \ \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \ (9)$$

Double log function:-

$$\ln(y) = \ln b_0 + b_1 \ln x_1 + b_2 \ln x_2 + b_3 \ln x_3 + b_4 \ln x_4 + b_5 \ln x_5 + ei \ \ldots\ldots\ldots\ldots \ (10)$$

Semi log

$$Y = \ln b_0 + b_1 \ln x_1 + b_2 \ln x_2 + b_3 \ln x_3 + b_4 \ln x_4 + b_5 \ln x_5 + ei \ \ldots\ldots\ldots\ldots\ldots \ (11)$$

Exponential function

$$\ln Y = b_0 + b_1 x_1 + b_2 x_2 + b_3 x_3 + b_4 x_4 + b_5 x_5 + ei \ \ldots\ldots\ldots\ldots\ldots..\ldots\ldots\ldots \ (12)$$

The choice of the best functional form was based on the magnitude of the R^2 value, the high number of significance, size and signs of the regression coefficients as they conform to *apriori expectation*.

Net farm income was used to address the profitability of sweet potato production in the study area.

Gross Margin analysis = G.M. = TR − TVC   …….……1

i.e. G.M $= \sum_{1-1}^{n} P_1 Q_1 - \sum_{j-i}^{m} r_i x_i$ …….....… 2

The Net farm income can be calculated by Gross Margin less fixed input. The Net Farm Income can be expressed as thus:

NFI $= \sum_{1-1}^{n} P_1 Q_1 - \left[\left(\sum_{j-i}^{m} r_i x_i \right) + k \right]$ ………...3

Where: GM = Gross margin (₦), NFI = Net Farm Income (₦), P1 = Market (unit) price of output (₦), Q = Quantity of output (kg), ri = Unit price of the variable input (kg), xi = quantity of the variable input (kg) , K = Annual fixed cost (depreciation) (₦), i = 1 2 3 …….. n,   j = 1 2 3

4. RESULTS AND DISCUSSION

In Table 1, most (66. 7%) of farmers interviewed were between the age range of 41-50 years, indicating that old people are more into sweet potato production. This age class is often conservative to technology adoption as well as cannot withstand the rigor and strains in farming. These inadequacies are capable of affecting their production and productivity. This contradicts the findings of Onyenweaku, et al (2010), whose finding was dominated by young energetic and enterprising individuals. In Table 1, majority (83.33%) of the farmers interviewed was female and the male farmers were 16.67%. This finding gives credence to the popular axiom that crop like sweet potato is gender stereotyped in many developing countries of the world. Nevertheless, because of economic hardship and other circumstances, this scenario is gradually fading out (Kassam and Stockinger, 2006). In Table 1 ,revealed that 73.33% of the respondents were married, while 13.33 were single. Married people are often associated with children who could be used in accomplishing certain agricultural activities in the farm; especially where they are of labor age. This assertion agrees with Edumond (2006). Most (90%) of the respondents were educated and only 10% had no formal education. Educated people are often prudent in scarce resources use for high yield to be attained in their farming activities.

In addition, 81.67% of the farmers studied had no access to credit and 18.33% do not . The high interest rate often associated with commercial bank loans, lots of beaurocractic process involve in loan procuring loan and short term repayment of loan could be cited to explain the poor access to credit by most farmers interviewed (Enyinnia and Chinaka 2012). The Table moreover indicated that 81.7% of the respondents had farming experience of 1-10 years. This infers that the sweet potato producing farmers in the study area were well experienced in potato cultivation. FAO (2006) opined that long years of farming experience help farmers to set realistic targets. Furthermore, 81.7% of respondents had farm size less than 2 hectares, while 2% cultivated above 4 hectares. This result conform to the prior knowledge that most farmers in developing countries are largely small scaled in their operations with the farms not only small but scattered, hence making mechanization very difficult (Therberye, 2009). Also, most (66.67%) of the respondents used family labor in their farms, followed by hired labour (16.67%), while the least (3.33%), communal labour. The higher proportion of farmers that were associated with family labor use could be linked to high cost of labor which is occasioned by ferminalization of agriculture and youth migration to urban areas in pursuit of white collar job. This finding concurred with Ume, et al,(2010).

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Table 1. Distribution of respondent according to socioeconomic characteristics.

Variable	Frequency	Percentage%
Age		
21-30 yrs	10	
31-40 yrs	10	16.67
41-50 yrs	17	16.67
51-60 yrs	15	28.33
61 and above	8	25.00
		13.33
Gender		16.67
Male	10	83.33
Female	50	
Total	60	100%
Marital status		
Single	9	13.33
Married	44	73.33
Divorced	2	3.33
Widowed	6	10.00
Educational level		
No formal education	6	10.00
primary school	20	33.33
Secondary school	31	51.67
tertiary education	3	5.00
Total	60	100%
Credit		
	49	
No		81.67
Yes	11	18.33
Farming experience		
1-10 years	49	81.67
11-20 years	8	13.33
21 and above	3	5.00
Total	60	100%
Farm size		

0.01-1.00	49	81.67
1.01-2.00	6	10.00
2.01-3.00	3	5.00
3.01-4.00	2	3.33
Total	60	100%
Labour use		
Family	40	66.67
hire	10	16.67
communal labor	2	3.33
family labor hire	8	13.33
Total	60	100%

Source: Field survey; 2015

Based on statistical and econometric criteria, Double log production function was chosen as lead equation as shown in Table 2. The coefficient of determination (R^2) was 0.751, implying that 75.1% of the variation in the output of the farmers were accounted by various input included in the model, while the remaining 24.9% were due to error term. The statistical test of the coefficient of education was negative and significant at 1% probability level. This is contrary to a priori expectation that the more educated one is, the more likelihood of the increase in his farm outputs. This finding is in line with Malthew and Fatiomoh (2006), who reported that high level of school attendant could reduce the desire for farming in preference to salaried employment instead. Onwuka et al, (2009), opined that educational status informed the type of job and standard of living one had and this could impact directly on the farmer's production through among others, unlocking the natural talent and inherent enterprising qualities of the farmers.

As expected, the coefficient of household size was positive in agreement with a *priori* expectation that the larger the household size, the more probability of increase in farmers' output. This is desirable and of great importance in most developing countries, since most rural households relied more on members of the households than hired labour to work in their farms in order to save money that would had been paid to hired labour. More so, many poorer households according to Chukwu (2013) engage their members into hired labour in order to generate income for improvement of family welfare. However, Nwokocha (2009) emphasized that the impact of household size to agricultural production depends on the magnitude, age structure and available farm labour among members. In line with a priori knowledge, the co-efficient of farming experience had direct relationship with farmers' output and significant at 10% alpha level. The aftermath of the farming experience as noted by Agbo and Ene, (2011) is to optimize the farmers` capacity to maximize their output and profit at minimum cost. This can be achieved through efficient use of resources at their disposal. The co-efficient of number of dependent was positive variable and has no significant. Surprisingly, the coefficient of credit was negative and significant at 5% significant. The negative sign of the variable could be explained by poor access of the farmers to credit facility and diversion of agricultural credit to nonfarm uses . Ume et al (2012) made similar finding. Fertilizer coefficient was negatively related to the output of sweet potato women farmers at 5% significant level of alpha. This implied that as the price of fertilizer increases, the fewer quantity of it being used by the farmers, consequently low outputs result. .The coefficient of farm size was positive and significant at 1% alpha level. This implies that with all things being equal, the higher the farmers' farm sizes the more output of sweet potato being produced. Iheke (2006) reported that farm size played an important role in farm success because it reflects the availability of capital, access to credit and even good management ability for higher production .

Table 2. Multiple regression result

VARIABLE	LINEAR	EXPONENTIAL	DOUBLE LOG	SEMILOG
Constant	271.017	5.587	6.056	399.018
	(3.763)***	(15.583)***	(7.209)***	(2.418)**
Gender				
	4.912	-0.005	-0.028	-3.682
Age	(0.184)	(-0.040)	(-0.123)	(-0.082)
Labour	-0.812	-0.004	-0.295	-111.996
	(-2.603)**	(-0.868)	(-3.138)***	(-3.580)***
Household size				
	-47.207	-0.265	-0.676	-122.300
Level of education	(-2.634)**	(-2.971)***	(-2.453)**	(-2.261)**
Fertilizer	12.488	0.077	0.311	56.002
	(1.528)	(1.893)*	(2.338)**	(1.474)
Farming experience				
Fertilizer	0.662	0.003	-0.259	-127.563
	(4.662)***	(0.234)	(-4.796)***	(-4.933)***
Planting material				
Farm Size	5.150	0.026	0.150	30.934
	(0.820)	(0.827)	(-2.629)**	(0.663)
R²				
	-5.342	-0.027	-0.310	-64.234
	(-1.907)	(-1.906)*	(-2.098)*	(-2.214)**
F – value				
	0.432	0.410	2.045	
	(0.511	(1.001)	(3.4471)***	0.521
				(0.901)
	2.004	0.607	1.669	0.412
	(1.790)*	(2.006)**	(0.444)	(1.007)*
	2.999			
	(1.321)*	2.543	0.611	
		(2.650)**	(3.900)***	0.413
	0.605			(3.009)***
		0.654	0.751	
				0.745
	2.218**			
		2.501**	5.935***	
				2.881**

Source; Field Survey, 2015

*, **, and *** implies significance at 10%, 5% and 1% respectively

Table 1 shows the cost and returns in sweet potato production in study area. The cost elements in potato production were basket, cutlass and hoe and their depreciation values were #100, #600 and #300 respectively. Land was not valued because it is communally owned. An average of 70 bundles of vine cutting of 40 cutting per bundle was used in the production of a hectare of potato. Therefore, expenditure on potato vine cutting per hectare was #21,000 with about 4 bags (200kg) of NPK fertilizer costing #24,000 at #6,000 each was applied per hectare. The total cost of physical input was #48,000. Miscellaneous, such as transportation cost #3,000, constituted 3% of the total cost of the sweet potato production. The nearness of farms to farmers' homes resultS in low transportation cost as most farmers' outputs are conveyed by head and wheel barrow. A total of 376 man hours equivalent were used to produce one hectare of sweet potato. Land preparation had the highest man hours of 96, followed by weeding, 80 man hours, fertilizer application,

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56 man hours, while planting was the least 40 man hours. Wage rate varied with the nature of farm operation. Clearing attracted #1,500 per man-day, land preparation; #2,000, planting; #800 and harvesting #1,000. The total cost of labor was #60,250, which was about 54.8% of total cost of production. This implies the importance of labor in sweet potato production as the level of farmers' profits depends largely on how well labor is managed. This finding is in consonance with Ume, et al (2010), who opined that labor cost constitute more than two-third of total cost of production. Cost and return a total of 6,000kg of tuber hervested per hectare and this yielded the market value of #347,500. Taking away the total variable cost from the total revenue generated, the gross margin on sweet potato was #21,0022.5. the net farm income was #20,9022.5. the return per investment was #1.50k which means that in every #1 invested in sweet potato production, #1.50k would be realized.

Table 3 Cost and return on potato production

Items	Units	quantity	Cost permit	Total cost	revenue
Revenue	Tubers	6500	60		33,500
Vine	Bundle	40	250		<u>10,000</u>
Planting material	Bundle	70	420	21,000	347,500
Fertilizer	Kgbags4	200	6000	24,000	
Miscellaneous				3000	
(transportation)		6810		48,000	
Total physical cost					
Labor clearing	Md 6	(48)man hrs	1,500	9000	
Land					
preparation	Md 12	(96)man hrs	2,000	24,000	
Planting	Md 3	(40)man hrs	800	4,000	
Weeding	Md8	(80)man hrs	1,000	11,000	
Fertilizer application	Md 5	(56)man hrs	750	5,250	
Harvesting	Md 4	(56)man hrs	1000	7,000	
Total variable cost					
	38	376	7150	60250	

Total physical cost = 48,000   = 108250 => total variable cost
Total labor cost = 60250

Bank lending rate 27% = $\underline{27}$ × 108250   = 29227.5
                                        100
TVC = 29227.5 = 108250 = 137477.5 (total cost BCR).

GM = TR – TVC = 347,500 – 137477.5 = 210022.5

Total fixed cost depreciation on (hoe, cutlass and basket) = #1000

Total cost (TVC + Depreciation) = 137477.5 + 1000 = 138477.5

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Total farm income = TR – TC = 347,500 – 138477.5 = 209022.5

Return on investment (BCR) = $\underline{NFI} = \underline{209022.5} = 1.50.$
                                                            TC   138477.5

Source: Field survey 2015.

       N.B kg =kilogram, MD =man-day.

Table 4 revealed that credit problem was reported by 66.67% of the respondent. Credit is used to purchase input and payment labour(FAO, 2006).Moreover, land scarcity was reported by 43.33% of the respondents. The scarcity of land in the study area could be related to method of land tenure holding which results in the smallness and scartteredness of cultivated land, which impair mechanization and commercialization of agriculture (Ume et al, 2010). More so High cost of labor was reported by 53.33% of the sampled farmers. High cost of labour is as a result of youth migration to urban area in search of white-collar job and the few youths that are left behind charges high to meet up with urban counterpart (Nwokocha, 2009). Also, shortage of vine was reported by 46.67% of the respondents. As well, high cost of fertilizer (55%) was incurred by the respondents as reported in table 4. Fertilizer is important in boasting farmers' production but the diversion of the resources to the neighboring state and black market of the resource , made fertilizer very scarce at farm level (Onyeweaku et at, 2010). Lack of storage was reported by 55% of the respondents. The problem of storage makes the industrial uses of sweet potato very difficult and the product seasonal.

Furthermore, high cost of transportation was complained by 48.33% of the sampled farmers as shown in table 4. This is as result of poor road network in many rural areas where farming takes place and this effect transportation of the farmers' products (sweet potato) to the markets and farmers' home very difficult and costly. Transportation problem makes some farmers to sell their products at cheaper rate at the farm gate(Ukpabi, 2012). Finally, market problem was encountered by 48.33% of sampled farmers. Market problems involve availability of the market, nearness to the market and availability of customers to purchase the product of the particular market(Tewe et a l 2012).

Table 4; Constraints to Sweet Potatoes production

Variable	Frequency	Percentage
Credit	42	76.7
Land Scarcity	42	70
High cost of Labour	38	63.3
Shortage of vine	36	60
High cost of fertilizer	34	56.7
Lack of storage	32	53.3
High cost of transportation	28	45.7
Marketing Problem	14	23.3

*Multiple response

Source; Field, Survey; 2015

5. CONCLUSION AND RECOMMENDATIONS

Based on the results, the following conclusions were deduced

    a)   Most of the respondents studied were above 40 years of age and above, predominantly females and small scaled in their farming operations and are fairly educated.

b)   The socio-economic characteristics that were positive and significant at varied level of significant to the farmers' output were household size, level of education and farming experience, farm size and fertilizer.

c)   Sweet potato was profitable in the study area.

d)   The major constraints of sweet potato production were capital, lack of storage facilities,

e)   high cost of fertilizer and high cost of transportation.

Based on the results obtained from the study the following policy considerations and recommendations are deduced;

a)   There is need to ensure the availability of improved varieties of sweet potato to the farmers to curtail the extent of recycling of old and local varieties stocks in farmers possession, which has genetically broken down and sources of pest and disease transfer, thereby affecting their yields.

b)   Labor saving device such as hand driving plough should be developed and be disseminated to farmers in order to reduce high labor cost.

c)   Adult education, seminars and conferences should be organized by appropriate bodies to equip farmers in good managerial skills and rational decision making ideas to enhance their production and productivity.

d)   Policy options aimed at improving the rural infrastructure to discourage urban-rural migration of energetic youths that would serve as source of labor should be implemented.

e)   Credit should be made available to farmers through micro-finance bank, agricultural credit scheme and any other government agencies and cooperate bodies at reduced interest rate and affordable collaterals.

f)   More extension agents should be employed and policy aimed at providing motivations to extension agents for effective dissemination of innovation to the farmers.

g)   Finally, access road; the road to the farm should be motorable to reduce difficulty and high cost of transporting agricultural products to the market or home for various uses.

6. ACKNOWLEDGEMENT

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