



## Assessment of Cassava Production in Ngor-Okpala Local Government Area, Imo State, Nigeria

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### ABSTRACT

*The study assessed the production of cassava in a Government area of Imo State. The specific objectives were to: identify socio-economic characteristics of the farmers; identify their cropping system; determine cost and returns of cassava production; and identify problems of production. To achieve these, a sixty cassava farmers was selected. A set of structured questionnaire was the instrument for data collection. Data collected were analyzed using descriptive and inferential statistics. Results showed that on socio-economic, the mean age of the farmers was 36.32 years, and they were mostly males (55%) and had mean house hold of 7 persons. They had mean farm size of 2.7 plots and were well educated. The cost and returns analysis showed that for every ₦1.00 invested they made 63kobo, which shows that cassava production was profitable and economically viable. Their major cropping system was sole cropping. Sex variable, farm size and experience were statistically significant at 10%, 1% and 5% levels respectively. Major problems of production were high cost of inputs and inadequate funds. It is recommended that farmers should form production cooperative society to forestall the problems of inadequate fund.*

### INTRODUCTION

Cassava (*Manihot esculenta*) is a dicotyledonous perennial shrub. It is one of the most common crops of humid tropics growing up to 4 meters or more in height and belongs to the family *Euphorbiaceae*. It is commonly grown in the tropics for its starchy tuberous root that is mainly consumed by humans and animals. It also used as raw materials for industry (Nweke, 2004). Africa produces over 54% of the worlds' cassava, with Nigeria taking the global lead with a production of about 54.8million metric tonnes in 2014 (FAO, 2014). Nigeria's average yield of 7.7 metric tonnes per hectare, is very low compared to the 23.4 metric tonnes and 22.2 metric tonnes average yields per hectare produced respectively in Indonesia and Thailand, the other leading cassava producers in the world (FAO, 2014). Nigeria has consistently maintained its position as the world's largest producer of cassava, accounting for 18% and 35% of the total cassava output in the world and in Africa, respectively. The global production trend put the country's annual production figure at about 38million tones in 2010 (FAOSTAT, 2013). Despite the potential of cassava in addressing the increasing food demand of the growing population in Nigeria as well as its diverse uses, studies (IITA, 2011; Ogunleye *et al.*, 2014) have shown that the yield and profit acquired from cassava farming among small holder cassava farmers in Nigeria remained incredibly low. One of the major constants to increased productivity and profitability among small holder cassava farmers is the absence of appropriate policies, programmes and local institutions that could help to mobilize production resources, induce and encourage the adoption of improved technologies and guarantee secured markets for their products (ICA, 2010; NSSP, 2011). In Ngor-opkala cassava crop farming has been in existence for a very long time, but cassava farmers are still having some challenges in terms of low productivity. The cassava farmers in Ngor-Opkala Local Government Area are faced with



lack of credit facilities, inadequate lands, lack of fertile lands, lack of improved varieties of cassava cutting and illiteracy.

### Objectives of the Study

The study is to assess cassava production in Ngor-okpala Local Government Area. Specific objectives are to: describe the socio-economic characteristics of cassava farmers in the study area; identify the farming systems of the farmers in the study area; determine the cost and returns of cassava production in the study area; identify the problems militating against cassava production in the study area;

### METHODOLOGY

The data collected was subjected to both descriptive and inferential statistical analysis. Descriptive statistics include frequency distribution, mean and percentage, while inferential statistics include multiple regression analysis. Objectives i, ii, iv, were analyzed using mean frequency distribution and percentages. Objective iii was analyzed using costs and return analytics formula which is  $\Omega = TR - TC$ .

Where

$\Omega$  = profit

TR = total revenue/returns

TC = total costs

Hypothesis was tested using ordinary least square (OLS) regression implicitly stated

as:

$$Y = f(x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8, x_9, e_i)$$

Where

Y = Profit

$X_1$  = Age (years)

$X_2$  = Sex (male = 1/ female = 0)

$X_3$  = Education (years)

$X_4$  = occupation (farming = 1 otherwise = 0)

$X_5$  = farm size (ha)

$X_6$  = Experience (years of being in farming)

$X_7$  = household size (number)

$X_8$  = Price (₦).

$X_9$  = quantity (kg)

$e_i$  = error term

## RESULTS AND DISCUSSION

### Cost and Returns of Cassava Production

Cost and returns of an average cassava farmer is contained in Table 4.8. It shows that a farmer spent an average of ₦27, 580 for cassava production in a year and realized a sum of ₦45, 000. The farmer therefore made a net return of ₦17, 420. This shows that cassava production in the study area was profitable. The cassava production was also economically viable because for every ₦1.00 invested in the business, the investor made a surplus of 63kobo.



**Table 1: Costs and Returns of Cassava Farmer**

Item	Amount
Revenue (15bags x 3000)	45,000.00
Cost	
Variable cost	
Labour (clearing, cultivation, weeding, harvesting)	11,966.67
cuttings (3bundles x ₦800.00)	2,400
Fertilizer (3paints X ₦1200)	3,600
Pesticide	2,200
Marketing (Transport)	2,300
Total variable cost	22,466.67
Fixed cost	
Land (rent)	2,150
Interest on loan	666.67
Depreciation provision	2,296.67
Total fixed cost	5,113.34
Total cost (22466.67 + 5113.34)	27,580.01
Net returns (A-B)	17,420
Returns On Investment (ROI)	0.63 or 63%

Source: field survey, 2018

### Determinants of Net Returns of Cassava Farmers

The finding in Table 4.10 contains information about an estimated multiple regression model relating socio-economic characteristics of cassava farmers and their net returns. The model was estimated in four functional forms. The double log form was chosen as lead equation. It provided the best fit and has the highest number of significant variables. The coefficient of determination ( $R^2$ ) of 0.58 shows that up to 58% variations in the net returns were explained by the set of socio-economic characteristics of the farmers significant at 10% level. Farm size was significant at 1% level while experience was significant at 5% level. The variables being significant at 1% show that they influenced the net returns of the farmers so much. The coefficient of age, sex, farm size and experience were positively related to net return. Education, occupation type and household size were negatively related to net returns indicating that increases or changes in them decreased net returns of the farmer. The F-ratio was statistically significant at 1% showing the overall significant of the model.

**Table 2 Estimated Parameter of Cassava Production**

Variable	Linear	Exponential	Semi-log	Double log
Constant	8550.976 (4.593)***	9.231 (85.81)***	2315.35 (0.442)	8.87 (29.68)***
Age ( $x_1$ )	33.353 (1.203)	0.002 (1.178)	1097.615 (0.928)	0.058 (0.858)
Sex ( $x_2$ )	-22.363 (-0.196)	0.000 (0.050)	2307.80 (1.646)	0.146 (1.83)*



Education ( $x_3$ )	-20.244 (-0.288)	-0.001 (-0.284)	-57.25 (-0.076)	-0.002 (-0.040)
Occupation ( $x_4$ )	83.552 (0.152)	0.003 (0.083)	-539.54 (-0.397)	-0.040 (-0.517)
Farm size ( $x_5$ )	1460.04 (7.086)***	0.086 (7.212)***	4149.88 (5.66)***	0.245 (5.84)***
Experience ( $x_6$ )	310.819 (2.341)**	0.019 (2.46)**	2043.02 (2.183)**	0.124 (2.32)**
Household size ( $x_7$ )	-86.431 (-0.544)	-0.005 (-0.578)	-116.883 (-0.159)	-0.005 (-0.116)
R <sup>2</sup>	0.576	0.587	0.561	0.583
F – ratio	10.08***	10.575***	9.292***	10.17***

Significant levels:- 10%, 1%, 5%.

Source: Field Survey, 2018.

### Constraints of Cassava Production

The result in Table 4.11 Shows information about constraints of cassava production as perceived by the farmers; high cost of inputs ranked first among the problems. This was followed by lack of fund for production. The producers also ranked inadequate land for cassava production third among the problems. Incidence of diseases and pests was ranked lowest among the problems.

**Table 3: Distribution of the Farmers According to Perceived Constraint of Production**

Constraints	Frequency	Percentage
High cost of inputs	51	85.00
Lack of fund	48	80.00
Inadequate land	44	73.33
High cost of labour	41	68.33
High cost of transportation	40	66.67
Inadequate extension contact	37	61.67
Low soil fertility	29	48.33
Lack of collateral	22	36.67
Poor road infrastructure	18	30.00
Diseases and pests	9	15.00

Source: field survey, 2018

### CONCLUSION

The study on assessment of cassava production had shown that cassava production was not only profitable but also worthwhile investing in. It also evidential that profitability of cassava production is related to farmers' socio-economic characteristics and farmer's expertise determined their level of profit.



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