

Determinants and Profitability Status of Cassava Entrepreneurs' in Akwa Ibom State.

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Abstract

The study examined the determinants and profitability status of cassava farmers' in Akwa Ibom State. A multistage sampling technique was used to elicit information from 100 respondents with the help of well structured questionnaire on socioeconomic characteristics and other relevant variables for the study. Both descriptive and net income analysis were used to analyse the data. Results showed that majority of the respondents were between the 41-50 years and greater percent were females(64%), most of the respondents(78%) have formal education, with 7 years and above farming experience . having a family size of 4.5 Of (86%) people and operating on a farm holding of less than 2.4 ha. The value of R^2 and the sign of estimate. Result yielded R^2 value of 0.8417 indicating that about 84.17% of the variability in farmers income was explained by the variable included in the model. The F statistics (-42.53^{xxx}) and the constant term were significance indicating the overall significant of the model. It was therefore recommended that male farmers most especially the younger ones be encouraged by creating more enabling environment in order to embrace farming as business

Key words: determinants, profitability, net income, variables and cassava

Introduction

Cassava (*Manihot Esculentuz* Crantz) is an important root crop in Nigeria. Nigeria is the largest producer of cassava in the world. Currently, production of cassava is put at about 34 metric tons. Cassava serves as food for man as well as in feeding livestock animals.

Man consumes over two thirds of the total production of cassava roots in various forms and the remainder is used as animal feed. The starchy, thickened storage roots are valuable source of inexpensive calories (Awoyinka,2009).

Cassava roots are consumed raw, boiled or processed into cassava flour which is used in

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many industries. Leaves are used as vegetable and can be harvested periodically throughout the growing season (Nwaiwu et al, 2010). As a result of its use as an industrial crop, cassava has been categorized as a cash crop. Cassava as an important crop with huge potential and has gained the attention through the launching of “Presidential Initiative on Cassava Production in Nigeria” which was inaugurated with the aim of achieving on annual basis five billion dollars from export of cassava.

In spite of the various uses cassava is known for, as an agent of self-sufficiency in food production, the gain derived from its production by rural farmers is still not sufficient to keep the resource poor farmers above poverty line. The socio economic characteristics and resources of individual households have been identified as basic factors influencing the food security status of households (Sanusi et al). When the returns from agricultural production is not be equated to the investment, agricultural production will be left in the hands of the elderly or the non-educated ones who cannot make decision.

Efforts aimed at increasing cassava output to meet the demand for output cannot be properly directed unless the costs and returns of cassava production are determined. For cassava production to attain its potential in area of ensuring food security, is important that the socio economic conditions of cassava producers must be known and their profitability be examined. It is to

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this end that this paper aims at examining the **Determinants and Profitability Status of Cassava Entrepreneurs’ in Akwa Ibom State.** Nigeria. The specific objectives of the study were to; examine the socio economic characteristics of cassava farmers in the study area; determine their profitability status of farmers in the study area and determinants of farmers’s income

Methodology

The study was conducted in the oil block zones and non-oil block zones of some Local Government Areas in Akwa Ibom State. Akwa Ibom State is the nation’s third largest petroleum producer (NNPC, 2014). The state has a population of 3.9 million people, as of 2006 with a density of 35 persons per square meter, (NPC, 2006). Akwa Ibom State is situated between latitudes $4^{\circ}32^1$ N and $5^{\circ}3^1$ N and longitude $7^{\circ}25^1$ E and $8^{\circ}25^1$ E and situated between Cross River, Rivers and Abia State on the South Eastern Nigeria sandy deltaic coastal plain. It has a total area of 8412km^2 , a shoreline of 129km long and encompasses the Qua Iboe River Basin, the eastern part of the lower Cross River Basin and the eastern half of the Imo River estuary (NES, 2000).

The Study adopted multi-stage sampling technique in selecting respondent. The first stage involved the purposive selection of six (5) local government areas from seventeen local government areas of the state. Secondly, four (4) communities will be randomly selected from each of the selected

local Government area, five (5) cassava farmers will be randomly selected from each the selected communities, given us a total of 100 respondents. Objective (i) which was to examine the socio-economic characteristics of the respondents in the study areas was analyzed with descriptive statistic such as frequencies, means and percentages; objective (ii) which was to estimate the cost-return ratio of cassava farmers in the study area was analysed using Net income analysis and objective (iii) which was to estimate the determinants of farmers's income was realized by multiple regression analysis. For objective (ii) which was estimate the cost-return ratio of cassava farmers in the study area was analysed with Net income analysis. This is stated as;

$$NI = TR - TC$$

The results show that 53.33% and 46.67% of the farmers were females and males respectively. This implies that women constitute a greater percentage of those involved in cassava cultivation in the state. This indicates that cassava production is not gender exclusive but is mostly carried out by the female folk. Findings from the study also showed that 22.50% of the respondent did not attain any form of formal schooling while most (34.17%) attained primary and secondary levels each. Educated farmers are expected to be more receptive to improved farming techniques. While farmers with low level of education or without education would be less

Where;

NI = Net income

TR = Total returns

TC = Total cost

Results and Discussion

The socio economic characteristics of the respondents in table 1 showed that majority of the respondent (25.83) were between the ages of 41-50 years. About 20.83% of the respondents were between 31-40 years. This shows that majority of farmers were still active. Age is said to be a primary latent characteristic of adoption decisions (Bonabona-Walhi, 2002; Nwaru, 2004; Nwawusi et al., 2007). Agwu and Anyaechie (2007) found out that the ability of a farmer to bear risk, be innovative decreases with age.

receptive to improved farming techniques (Okoye et al., 2004 and Ajibefun and Aderinla, 2004). The results further showed that majority of the farmers were into full time farming while 40.00% were part time farmers. Full time farmers are expected to treat farming as business by applying improved farming practices and informed management decisions on their farms. The results show that majority (76.67%) of the farmers do not belong to any cooperative societies while 23.33% were members. Farmers who belong to cooperative societies are expected to access more fertilizer because of the present fertilizer policy where

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farmers are encouraged to form cooperative to enhance easy access to fertilizer.

Table 1: Socio-Economic Characteristics of Cassava Entrepreneurs' in Akwa Ibom State.

AGE	FREQUENCY	PERCENTAGE
<21	2	2.00
21-30	5	5.00
31-40	18	18.00
41-50	23	23.00
51-60	30	30.00
>60	22	22.00
GENDER		
MALE	46	46.00
FEMALE	54	54.00
EDUCATIONAL ATTAINMENT		
NO SCHOOLING	21	21.00
PRIMARY	39	39.00
SECONDARY	31	31.00
TERTIARY	9	9.00
OCCUPATIONAL STATUS		
FULL TIME FARMING	71	71.00
PART TIME FARMING	29	29.00

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MEMBERSHIP OF COOPERATIVE		
MEMBER	22	22.00
NON-MEMBER	78	78.00
HOUSEHOLD SIZE		
1-3	26	26.00
4-6	41	41.00
7-9	25	25.00
>9	3	3.00
FARMING EXPERIENCE		
1-10	21	21.00
11-20	56	56.00
21-30	18	18.00
>30	5	5.00
FARM SIZE		
<1	14	14.00
1-1.9	34	34.00
2.0-2.9	52	52.00

Source: field survey 2021

The result from table 1 showed that 38.33% and 30.83% had household size range of 4-6 and 7-9 persons. This shows that the study area is dominated by respondents with large households, Effiong (2005) and Idiong (2005) reported that a relatively large household size enhance the availability of labour. About

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52.50% of the farmers had farming experience between 11-20 years while 9.17% had more than 30 years of farming experience. This implies that the farmers have long years of farming experience.

About 35.83 % of the respondent had farm size of 1-1.9ha while majority (47.50%) of the farmers operate on farm holdings of about 2-3ha. This shows that they are smallholder farmers. Farm size affects adoption costs, risk perceptions, human capital, credit constraints, labour requirements, tenure arrangements and more. With small farms, it has been argued that large fixed costs become a constraint to technology adoption (Abara and Sing, 1993) especially if the technology is c

Table 2: Cost and returns analyses of cassava production in Akwa Ibom State per hectare

Item	Qty	Price	Total
A-Revenue			
Roots	17,295.95	24.32	420,635.07
Stem	420	350	147,000.00
Total			567,635.07
B-variable costs			
Fertilizer	125	150	18,750.00
Herbicide	3.00	1,800	5,400.00
Cassava stems	98	350	34,300.00
Total			58,450.00
Land clearing	23.48	1,500.00	12,975.00
Land preparation	36.50	1,500.00	54,750.00
Stem preparation	4.71	1,400.00	6,594.00
Planting	8.65	1,500.00	35,220.00
Weeding	82.17	1,500.00	123,255.00
Herbicide application	2.60	1,200.00	3,120.00
Fertilizer application	13.67	1,500.00	20,505.00

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Harvesting	63.55	1,500.00	95,325.00
Transportation			9,257.00
Total			361,001.00
Total variable cost			419,451.00
C-fixed costs			
Hoe	6	400.00	2,400.00
Machete	5	1800.00	9,000.00
Knife	4	250.00	1,000.00
Basin	5	500.00	2,500.00
Spade	4	2,500.00	10,000.00
Total			24,900.00
Depreciated (10 years) total fixed costs			2,490.00
Total costs (B+C)			422,031.00
Gross margin (A-B)			148,184.00
Profit (A-B-C)			145,604.07
BCR = Revenue/TC			1.35:1.00

Source: Field survey, 2021

2 Cost and Returns Analysis of Cassava Production per hectare in the Study Area: The results in Table 2 showed the profitability analysis of cassava production in the study area. The results showed a total revenue of N567635.07 (N420,635.07 from cassava roots and 147,000.00 from sale of

stems). The total variable costs generated was N419,451.00 and total fixed cost of N2,490.00. A gross margin and profit estimates of N148,184.00 and N145,604.07 respectively were generated.

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ESTIMATES OF THE DETERMINANTS OF CASSAVA ENTREPRENEURS' INCOME IN AKWA IBOM STATE

Multiple regression estimate for the determination of farmers' income in the study area;

Result of the multiple regression analysis that was used to estimate factors affecting income of farmers as presented in Table 3 below the three functional forms that were estimated, the double log form was chosen as the lead equation based on the value of R² and the sign of estimate. Result yielded R² value of 0.8417 indicating that about 84.17% of the variability in farmers income was explained by the variable included in the model. The F statistics (-42.53^{xxx}) and the constant term were significance indicating the overall significant of the model. Of the eleven variables that were included in the model, 7 were significant with varying signs. While, farm experience, education, farm distance, number of tools, farm size were positive and significantly increase farmers income at 1, 10, 1, 1,1, 1 percent level of significances,

government assistance and farming system were negative and significantly reduced farmers income at the 1% probability levels, respectively. The positive significance for farming experience is in order because experienced farmers aside being so knowledgeable in farming time and season are also well vested with the cultural practices.

The positive sign for education is also justified because educated farmers will always have prompt access to information regarding new farming inputs and will adopt them. The negative sign for the number of boats and fishing nets acquired is justified in that both are fishing inputs that can be used to enhanced outputs. Fishermen with several boats and bundles of nets have higher chances of boosting their catch, sales and income than their counterparts with few fishing gears.

The negative sign for government assistance reveals the poor support of government to cassava farmers in the study area. Poor government support will reduce output of cassava.

TABLE 3 DETERMINANTS OF FARMERS'S INCOME

VARIABLE	LINEAR	SEMI-LOG	DOUBLE LOG
GENDER	-41949.81 (-1.22)	-0.0017724 (-0.03)	-0.0183352 (-1.07)
AGE	-30.09355(-0.03)	0.0045547(2.30)	0.2649812(1.66)

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MARITAL STATUS	2897.79(0.53)	-0.0043479(-0.43)	-0.0112197(0.56)
HOUSEHOLD SIZE	11866.24(2.33)**	0.0055969(0.59)	0.1289096(1.60)
FARMING EXPERIENCE	14046.24(2.60)**	0.0154633(1.54)	0.3292376(2.83)**
EDUCATION	19609.69(0.52)	0.0173853(2.45)**	0.02149694(1.77)*
FARM DISTANCE	24062.93(4.86)***	0.0316491(2.86)**	0.4116394(3.59)***
NUMBER OF TOOLS	48459.07(3.20)***	0.0997321(3.53)***	0.1016867(4.85)***
LAND SIZE	32535.32(7.45)***	0.0281631(3.46)***	0.673835(5.19)***
GOVERNMENT ASSISTANCE	-247777.29(0.69)	-0.3569736(-5.37)***	0.0751838-3.94)***
FARMING SYSTEM	-108731.8(-3.57)***	-0.01935058(-3.41)***	-0.0644575(-4.13)***
CONSTANT	-196217.4(-2.86)**	4.52742(35.37)***	3.295737(10.33)***

R²=0.8295

F (11,88) = 38.92***

0.7530

0.8417

24.39***

42.53***



Conclusion and recommendation

From the findings of the study, it was observed that majority of the farmers are active and young, that greater percent where female .It was therefore recommended that male farmers most especially the younger ones be encouraged by creating more enabling environment in other to

embrace farming as business. The profitability analysis proofed that cassava farming is a profitable venture in the study area. It recorded a gross margin of 148,184.00 per ha. The benefit cost ratio shows that for every one naira invested in the enterprise, a profit of 1.35kobo will be realised.

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