NIGERIAN AGRICULTURAL JOURNAL
ISSN: 0300-368X
Volume 53 Number 3, December 2023 Pg. 452-459
Available online at: http://www.ajol.info/index.php/naj
https://www.naj.asn.org.ng

Determinants of Poverty Severity among Cassava Farmers in Uyo Agricultural Zone, Akwa Ibom State, Nigeria

*Akpaeti, J.A, Okon, S.U and Archibong, N.D.

Department of Agricultural Economics and Extension, Akwa Ibom State University, ObioAkpa Campus, P.M.B. 1167, Uyo, Akwa Ibom State, Nigeria
Corresponding author's email:: aniekanakpaeti@aksu.edu.ng

Abstract
The study assessed the determinants of income poverty of cassava farmers in the Uyo Agricultural Zone. It specifically examined the socio-economic characteristics of the cassava farmers and determined their income poverty status and factors influencing the income poverty status of the cassava farmers in the study area. The multistage and purposive selection was done to obtain 165 cassava farmers across the agricultural zone. Data were collected using a structured questionnaire. The data obtained were analysed using descriptive statistics, Foster Greer Thorbecke (FGT) and a probit regression model. The majority (72.1%) of the farmers are between the ages of 21-40 years with a mean age of 35 years. Marital status shows that there are slightly more single farmers (49.1%) than married (44.2%) or even those separated (3.0%). Results of poverty incidence analysis indicate that the poverty headcount is found to be 0.74, 0.47 and 0.29 for those who produce for consumption alone, and sales alone as well as those who produce for both sales and consumption respectively which implies that only 29% of respondents who produce for both sales and consumption are impoverished, compared to 74% of respondents who solely create for consumption. The poverty depth index of the respondents was found to be 0.28, 0.13 and 0.12 for those who produce for consumption alone, and sales alone as well as those who produce for both sales and consumption respectively. The implication is that to reach the poverty line, cassava farmers must earn an additional 28.0%, 13.0%, and 12.0% of their mean annual farm income, respectively. It is also found that the respondents have a poverty severity index of 0.17, 0.08 and 0.07 for those who produce for consumption alone, and sales alone as well as those who produce for both sales and consumption respectively. This shows that the respondents who produce only for consumption are more of the poorest people (17%) than those who are selling (8%) or producing for both sales and consumption (7%). The result of probit regression showed that fertilizer use, net income, household size, participation in cassava farming, labour cost, access to credit and access to extension agents were the determinants of income poverty of cassava farmers in the study area. Hence, Government should provide adequate credit facilities for cassava farmers as this would increase their scale of production as well as their income thereby reducing income poverty in their households; there is a need to enlighten the farmers on the importance of family planning, which would help curb the rate at which household sizes are increasing.
Keywords: Income Poverty, Cassava, Poverty Index, Poverty line, and Household

Introduction

Over 800 million people worldwide rely on the well-known staple root crop *Manihot esculenta* for their nourishment [nourishment and Agriculture Organization (FAO), 2013]. It is practically always farmed by households and is frequently interplanted with other crops, making it one of the most significant staple crops in the tropics (Bassey *et al*., 2014). Native to tropical and subtropical regions of the world, cassava is a perennial woody shrub with an edible root. Before the Portuguese brought it to Africa in the Congo basin somewhere about 1558, it was originally from tropical America. More than 300 million people in Africa presently rely mostly on cassava for their food [International Institute of Tropical Agriculture (IITA), 2020). Nigeria produces the most cassava, an average of 45 million metric tons annually (Dada, 2016). Nigeria is the world's top producer of cassava, contributing over 25% to worldwide production (PricewaterhouseCoopers [PwC], 2020). However, there is a huge gap between supply and demand. The cultivation of cassava is a seasoned, organized agricultural crop. It has developed techniques for processing and growing food crops. Cassava has significant export potential, according to Iyagba and Anyanwu (2012), which might put an end to food

shortages during the famine in Nigeria. Despite the government's good intentions to increase cassava production at the Federal and State levels, particularly by creating a favourable production environment, the state's performance in terms of increased cassava production as a significant source of revenue has not yet reached its full potential (Ohen *et al*., 2014).

Cassava is mostly cultivated for household consumption and is sold in local markets because small-scale farmers produce the majority of it. During Olusegun Obasanjo's presidency, the Federal Government of Nigeria developed the Cassava Expansion Programme to further expand cassava growth in the country due to the numerous uses for cassava and its high production level in the country. The government took additional measures to make sure that cassava exportation was given major consideration. One of the exportable non-oil crops that can assist Nigeria to increase its foreign exchange is cassava. It is crucial to keep in mind that Nigeria's small-scale rural farmers have a significant impact on the production of cassava. These cassava farmers use poor production techniques. They are driven to cultivate cassava using more sophisticated techniques. Some of these restrictions include being unable to secure financing, being illiterate, having a tiny farm, having limited access to agricultural information, such as market product and input pricing, high lending rates, and having an underdeveloped market and rural road networks (Kuye, 2015). Despite all of these circumstances, the production of cassava, an important food crop in Nigeria, continues to be a reliable and feasible option to end the oncoming hunger as well as a subtly effective means to help the rural economy as the macro-economy progressively recovers.

Income poverty among cassava farmers in Nigeria is a significant issue that affects many individuals and households (Donkor *et al.,*2022). Many individuals in Nigeria depend on their revenue from cassava cultivation to make ends meet particularly in rural areas. However, various factors contribute to income poverty among cassava farmers. One of the main challenges is the low productivity and yield of cassava crops, which can result from inadequate access to quality inputs, such as improved seeds, fertilizers, and pesticides. In addition, limited access to modern farming techniques and technologies, as well as insufficient knowledge and skills, can further hinder productivity and income generation. Furthermore, cassava farmers often face challenges in accessing markets and obtaining fair prices for their produce. Inadequate infrastructure, such as poor road networks and limited storage facilities, can lead to post-harvest losses and reduce farmers' bargaining power in negotiations with buyers. Moreover, climate change and unpredictable weather patterns pose a significant threat to cassava farming in Nigeria. Droughts, floods, and pests can damage crops, leading to reduced yields and income for farmers.

Cassava farming has both positive and negative impacts on the income and poverty status of cultivating households in Nigeria. On the positive side, cassava farming can provide a source of income for households, particularly in rural areas where alternative employment opportunities may be limited. It offers the potential for increased income through the sale of cassava tubers or processed cassava products such as gari, flour, and starch. This can help improve the economic well-being of cultivating households and contribute to poverty reduction. Cassava farming also has the potential to create employment opportunities within the value chain, such as processing, transportation, and marketing. This can further contribute to income generation and poverty alleviation, particularly in rural communities.

Cassava has positive effects on cassava farmers and has the potential to reduce poverty while improving their financial situation, according to studies conducted by several authors to evaluate the effects of cassava on farmers' well-being. Examples of these studies include those by Chimela *et al*. (2016), Osuji (2019), Angba and Iton (2020); Akpaeti *et al*., (2021). Contrary to these findings, it is uncommon to locate cassava farmers who live in respectable homes, eat a healthy diet, send their children to reputable schools, or dress nicely. As a result, cassava farmers continue to struggle to meet their basic requirements and lack the resources to invest in capital assets or farm inputs that might increase production, which keeps their standard of living at an abhorrently low level. Obinna and Umeh (2017) conducted a study on the "perceived influence of cassava bi-products on poverty reduction among rural dwellers in Abia State, Nigeria".Their results of the multi-stage sample method showed that 14% of respondents were single and 83% were married, with the mean age of the respondents being 42. Farmers make up 41.7% of the population, while traders make up 27.8%. Chimela *et al*. (2016) examined the effects of cassava production and processing profits on female poverty in Abia State, Nigeria, they came to similar conclusions. The average household size is 8, the mean age is 44 years old, 65% of persons are married, 83.3% have no formal education, 56.7% engage in small-scale farming, 75% do not have access to loans, 83.3% of producers do not have access to extension services, and 53.3% employ family labour.

According to the findings of Akpaeti *et al*. (2019) on the effects of value-adding on income and poverty status of cassava farmers in Akwa Ibom State, Nigeria, 56.5% and 40.7% of households fell into the non-poor, moderately poor, or poor categories before and after value addition, respectively. The poverty depth index is 0.50 both before and after value addition, but the poverty severity index is 0.25 both times. The incidence, depth, and severity of poverty among cassava farming households in Osun State are all 28.9%, 5.3%, and 1.5%, respectively, according to Agunbiade and Oke's (2019) analysis utilizing FGT and Tobit regression. The respondent's household size, farming experience, and revenue from cassava farms are all determinants of their poverty status. Osuji (2019) contends that several crucial criteria, such as education, household size,

farming expertise, and revenue contact, influence whether farmers are in poverty.

However, there are also challenges and negative impacts associated with cassava farming that can affect the income and poverty status of cultivating households. As mentioned earlier, low productivity and yield can limit income generation. Insufficient access to quality inputs, limited knowledge of modern farming techniques, and inadequate infrastructure can all contribute to lower yields and income levels. Additionally, fluctuations in market prices and limited market access can affect the profitability of cassava farming. If farmers are unable to obtain fair prices for their produce or face difficulties in accessing markets, it can impact their income and perpetuate poverty. Furthermore, the vulnerability of cassava crops to climate change and pests can lead to crop losses and reduced income for cultivating households. Extreme weather events, such as droughts or floods, can destroy cassava crops, leaving farmers with little or no income.

Empirical studies show that, despite the participation of farmers in cassava production, which aims to reduce poverty, farmers rarely see an improvement in their financial status. Expanding our understanding of how cassava cultivation affects farmers' earnings is necessary to solve the issues of the income poverty statuses among cassava farmers. In light of this context, the researcher intends to investigate the factors influencing the income poverty status of cassava farmers in Nigeria's Akwa Ibom State's Uyo Agricultural Zone. The study considers the following objectives, which are to: examine the socio-economic characteristics of cassava farmers in the study area; determine the income poverty status of the respondents and examine the factors that influence the income poverty of cassava farmers in the study area.

Methodology

Description of Study Area

The study was carried out in Uyo Agricultural Zone in Akwa Ibom State. IbesikpoAsutan, Uyo, Uruan, Itu, and Ibiono Ibom Local Government Areas make up the Uyo Agricultural Zone. With a mean annual rainfall of about 2484 mm, a mean annual temperature of about 27 °C, and a relative humidity range of 70–80%, the region is classified as a rainforest. In the centre of Akwa Ibom State is the study area. The overall area of Akwa Ibom state is 7,246 square kilometres, and there are an estimated 3,920,208 million residents there [National Population Commission (NPC), 2006]. The region, which is in the humid tropics and has two different seasons (dry and wet), is located between latitudes 4'32N and 5'33N and longitudes 7'25E and 8'25E, with temperatures averaging around 300°C. Due to its favourable climatic conditions, the State is agrarian and well-suited for the cultivation of both permanent and arable crops. The majority of the population are peasant farmers who grow both food and income crops. Small-, medium-, and large-scale livestock production are among the inhabitants' economic activities, as are marketing their goods, trading, crafts, farming, transportation, civil service, artisans, etc. Because the region serves as the state's commercial nerve centre, there is a high concentration of cassava farming activities.

Sampling Procedures/Sampling Size

For the study, a multistage sampling procedure was used to choose respondents. Uyo Agricultural Zone comprises Five (5) blocks vis. Uyo, Uruan, Ibiono Ibom, Itu and IbesikpoAsutan. Out of the five (5) blocks in the zone, three (Uyo, Uruan, and Ibiono Ibom) were purposefully chosen for the initial stage. In the second stage, four (4) cells were randomly chosen from each of the three blocks that had been chosen, for a total of twelve (12) cells, to be used in the production of cassava. These were (1) Ifiayong, (2) Idu, (3) Nnwaniba, and (4) Adiadia from Uruan block, as well as (1) NtanEkere, (2) Ikot Udom, (3) Ikot Antia, and (4) NtanMbat from Ibiono Ibom. They were all from the Uyo block. The final stage involved choosing fifteen (15) cassava growers at random from a group of one hundred and eighty (180) to participate in the study. With the help of a well-structured questionnaire that included both open-ended and closed-ended questions, data were gathered from randomly chosen cassava farmers in the study area.

Analytical techniques

Descriptive statistics such as mean, frequency, percentage, etc tables were used to analyse the data in Objective 1, which was to examine the socio-economic characteristics of cassava-based farmers in the study area. Price Index (FGT Px Index) was used to determine the influence of poverty status on the cassava farmers in the study area as used by Okoro, Akpaeti and Ekpo (2015)and Akpaeti*et al.* (2019).

FGT P

$$P\alpha = \frac{1}{N} q \sum_{i=1}^{n} q \left(\frac{Z - Yp_i}{Z}\right) \alpha \quad \ldots\ldots(1)$$

z = Poverty line

q = Number of respondents below the poverty line

N = Number of respondents in the reference population

Y_{pi} = Per capita income of the Cassava farmers

α = The degree of aversion or FGTindex which takes values 0,1,2.

Pα = The weighted poverty index

$Z\text{-}Y_{pi}$ = Poverty gap of the i^{th} respondent

$\frac{Z\text{-}Y_{pi}}{Z}$ = Poverty gap ratio ….. (2)

When determining whether a person is in poverty using the FGT measure of poverty, income is ranked in ascending order of magnitude as follows: Y1i, Y2i, Yqi, ZI, Y (q+1), i, etc. This class of poverty measure is adaptable in two ways: first, the P class of poverty indices is subgroup decomposable, and second, is a policy parameter that may be adjusted to roughly reflect poverty "aversion."

When α = O, then Pα = 1/n (q) = q/n = H

The headcount is the total number of impoverished persons in a population, whereas the headcount ratio (H) represents the percentage of the poor. When = 1, the poverty measure becomes the poverty gap index (PG), which estimates the total amount of income required to

bring everyone who is below the poverty line up to that line.

$$P\alpha - 1 = \quad PG = \frac{1}{n}\sum_{i=1}^{n} qi\left(\frac{\quad}{Z}\right) HI \ldots\ldots (3)$$

$$\text{Where } I = \frac{1}{q}\sum_{i=1}^{n} q\left(\frac{Z - Yp_i}{Z}\right) HI \ldots\ldots (4)$$

I is the mean of the poverty gap represented as a percentage of the poverty line, and PG is the income gap ratio. The distribution of income among the poor is of little significance to this metric

When α = 2, the squared poverty gap index (SPG)is generated given by:

$$P\alpha - 2 = SPG = \frac{1}{n}\sum_{i=1}^{n} q_i\left(\frac{Z - Yp_i}{Z}\right) = 2 \ldots\ldots (5)$$

Due to its sensitivity to the depth and severity of poverty, Pα-2 measure is increasingly being utilized as a standard measure of poverty by the World Bank, Regional Development Banks, most UNAgencies, and most empirical studies on poverty. The number of persons in a population living below the poverty line is used to calculate poverty incidence, whereas the percentage of the poor population's income that is below the poverty line is used to calculate poverty intensity. Another advantage of the Pα measure is that it is decomposable by population subgroups, which implies that

$$P\alpha = \frac{1}{n}\sum_{j=1}^{m} \quad K_j\, P\alpha_j \ldots\ldots (6)$$

Where:

j= 1, 2, 3,..., m, where kj is the population proportion of each group and Pj is the measure of the group's poverty. the role played by each group The ratio of Cj to total poverty can be determined as follows:

$$C_j = \frac{KjP\alpha j}{P\alpha} \ldots\ldots (7)$$

According to the index's property, when any group experiences poverty, overall poverty will rise. As a result, poverty can be broken down into subgroups. According to this study, the poverty line would be equal to one-third of the mean per capita income for those living in extreme poverty and two-thirds of the mean for those in moderate poverty (Okoro *et al*., 2015). In this study, income will be used as a substitute for the standard of living. Particularly, people are considered to be extremely poor and moderately poor, respectively, if they spend less than one-third and less than two-thirds of the mean per capita income (MPCI), but those who spend more than two-thirds of the MPCI are considered to be non-poor cassava farmers.

ProbitRegression was used to examine factors that influence the income status of farmers in the study area.

$$Y_i = \beta_i X_i + \mu \ldots\ldots (8)$$

Where:

Y_i =1 if i is above the poverty line or 0 if i is below the poverty line

X_i are the independent variables namely

GEN = Gender of farmer (dummy variable; 0 =female, 1 = male)

AGE = Age of the respondent (years)

HHSIZE = Household size (number)

NTICM = Net income of farmer (₦)

FAM = Farming experience (years)

MAR = marital status of farmers (yes 1/otherwise 0)

EDU = Education level (years)

LAB = Cost of labour (₦)

PACAF=Participation in cassava Farming (yes=1/no=0)

ACC =Access to credit (yes =1/no=0)

LDSIZE = Land size (Plots)

FERT= Fertilizer used (yes=1/no=0)

ACEXT = Access to Extension agent (yes=1/no=0)

TP= Transportation of harvested cassava (private car= 1/others=0)

β =vector of the parameter estimates

μ = error term

Results and Discussion

Socio-economic characteristics of the respondents

In Table 1, there are 48.5% of female respondents and 51.5% of male respondents. This shows that the researcher has more access to male farmers for the study than to female farmers. This suggests that male farmers in the research area make more decisions regarding cassava production than female farmers. The outcome also reveals that, with a mean age of 35 years, 72.1% of cassava growers are in the 21–40 age range. This indicates that the majority of respondents are still in the working-age population, where they may engage in or generate some income from agricultural and non-farming activities. (Akpaeti *et al*., 2019). The result on household sizes reveals that, with a mean of 6 people in the research area, the majority of respondents (68.5%) had a household of six or more people, while 31.5% had fewer. This suggests that the majority of the respondents were able to use family labour to produce their goods. According to marital status, there are a little bit more single farmers (49.1%) than married (44.2%) or even separated (3.0%) farmers. Families are forced into agriculture or farming by the responsibilities that come with marriage. This is consistent with data from Akerele *et al*. (2018) showing that 46.9% of respondents in the research area are married with family obligations. According to Table 1, 38.2% of farmers have an HND/BSc/B.Agric/B.Art. 30.3% of farmers hold an OND or NCE. In addition, just 10.9% of farmers have completed elementary school, and 13.3% lack any kind of formal education. Only 36.4% of the respondents could not access farm financing, making up the majority of respondents (63.6%). This suggests that the majority of farmers have access to farm loans. This is in contrast to the findings of Chimela *et al*. (2016) on the impact of cassava production and processing returns on poverty among women in Abia State, Nigeria, which show that 75% and 83.3% of producers and processors, respectively, had no access to credit, improving the respondents' financial situations. Based on access to extension agents, the majority (57.0%) of the respondents do have access to extension agents while 43.0% of the respondents do not access extension agents. This implies that most of the farmers can access extension agents. The majority of farmers, according to Akpaeti and Agom (2020), have access to extension agents. When growing cassava, a significant number of

respondents (38.8%) utilize hired labour, 33.3% use family, and 27.9% use both family and hired labour. This suggests that the majority of farmers employ more hired labour. It should come as no surprise that most of them have non-poor incomes. The fact that the farmers employ hired labour suggests they are sincerely interested in turning a profit. For increased output and, of course, income, proper input management must be used.

Analysis of the income poverty status of the cassava farmers in the study area

The poverty line is determined at two-thirds and one-third of respondents' mean annual farm income, respectively, according to the World Bank (2018). The respondents (cassava farmers) are consequently separated into three (3) groups based on whether they grow for their consumption, for sale, or both.

- Non-Poor: people whose average yearly farm income from growing cassava exceeds two-thirds of their average annual farm income.
- Moderate Poor: cassava farmers whose yearly farm income is between one-third and two-thirds of the mean annual farm income.
- Core poor: people whose average annual farm revenue from cassava growing is less than one-third.

It is discovered that, depending on whether respondents produce for consumption or both sales and consumption, 36.4%, 61.2%, and 70.3% of respondents respectively, fall into the non-poor category as presented in Table 2. Regarding those who create for consumption and sales separately, as well as those who produce for both sales and consumption together, respectively, 31.5%, 9.7%, and 14.5% of the respondents fell under the moderate poverty category. Also, among those who produce for consumption alone, sales alone, and those who produce for both sales and consumption, respectively, about 32.1%, 29.1%, and 15.2% of the respondents come within the core poverty category. The pattern suggests that there are more respondents in the non-poor category, with the farmers (respondents) who produce for both sales and consumption accounting for the highest percentage (70.3%), followed by those who only produce for sales (61.2%) and those who only produce for consumption (36.4). Contrarily, the results show that the core poor category has a higher proportion of respondents who produce exclusively for their consumption (32.1%), followed by those who produce only for their sales, and finally, farmers who collectively account for as little as 15.2%.The result is that households that choose to sell experience a little decrease in poverty, and that this reduction increases when households cultivate cassava for both sales and consumption. This might result from the respondents' ability to obtain additional income from the sales and their ensuing capacity to spend more.

For those who produce for consumption alone, sales alone, or both sales and consumption, the results of the poverty incidence analysis, which represents the poverty headcount, are 0.74, 0.47, and 0.29, respectively. According to this, only 29% of respondents who produce for both sales and consumption are impoverished, compared to 74% of respondents who solely create for consumption. The respondents' poverty depth indices are 0.28, 0.13, and 0.12, respectively, for those who produce exclusively for consumption, exclusively for sales, and exclusively for both consumption and sales.

It suggests that respondents who produce for their use have a deeper level of poverty than those who choose to sell. The implication is that to reach the poverty line, the respondents must earn an additional 28.0%, 13.0%, and 12.0% of their mean annual farm income, respectively. Finally, the respondents have a poverty severity index of 0.17, 0.08, and 0.07 for those who produce for sales alone, consumption alone, and both sales and consumption, respectively. This shows that the respondents who produce only for consumption are more of the poorest people (17%) than those who are selling (8%) or producing for both sales and consumption (7%). Although the respondents who sell their cassava crop are in poverty, the respondents who just produce for their consumption are in greater poverty. This result conflicts with research by Akerele *et al*. (2018), which shows that cassava production is profitable and helps the respondents escape poverty.

Analysis of factors that influence the income poverty status of cassava farmers in the study area

In analyzing the factors influencing the income poverty status of the cassava farmers sampled for the study, probit regression analysis, which consists of eleven (11) regressors. The dependent variable is the poverty line estimated from the annual income of the farmers from cassava production. Out of these regressors, four (4) were demographic characteristics and seven (7) were farming characteristics. Seven (7) independent factors (fertilizer use, net income, household size, cassava farming, labour cost, access to credit, and access to extension agent) are shown in Table 3 to have a significant impact on the variance in the income status, with R values of 0.362, 0.485, and 0.594 for those who produce for consumption alone, sales alone, and those who produce for both sales and consumption, respectively. The table also indicates that 13.1% (R^2 = 0.131), 23.5% (R^2 =0.235) and 35.3% (R^2 = 0.353) variance in income status among those who produce for consumption alone, sales alone as well as those who produce for both sales and consumption respectively are accounted for by the 11 independent variables/factors. The joint influence of these independent variables/factors on the income status is also statistically significant at F = 1.914, 3.897 and 6.923 for those who produce for consumption alone, sales alone as well as those who produce for both sales and consumption respectively; $P < 0.05$. Two (2) factors; fertilizer use and net income significantly influence the non-poor status among farmers who produce only for their consumption, while four (4) factors; household size, participation in cassava farming, labour cost, and net income significantly influence the income status among farmers who produce only for sales, and two (2) factors; access to credit, access to markets, and net income

significantly influence the non-poor status among farmers who produce only for consumption alone. Fertilizer use for individuals who grow food for consumption was negatively significant. This indicates that a unit increase in fertilizer use among farmers results in a decrease in their income status. Chemicals called fertilizers are put into the soil to promote fertility. So it stands to reason that farmers who use fertilizers on their crops ought to yield more than those who do not. More output will result in more revenue from sales, which will ultimately fuel more consumption and lessen the effects of poverty. Sadly, these farmers do not advertise their goods for sale; as a result, their income does not improve. Farmers who produce for both consumption and sales are significantly affected by net income. Accordingly, a unit rise in the farmers' net income will raise their income status. For farmers that grow crops for sale, household size is positively significant. This suggests that the farmers made the most of every member of their family during production and even sales to make a profit in their cassava-growing enterprises. For farmers who produce for sale and those who produce for both consumption and sells, the labour is substantial. Accordingly, a unit increase in labour costs will result in a unit rise in the farmers' respective income status. To put it another way, the more money invested in farming operations to cover labour costs, the more output the farmers will have and the higher their economic status will be. The result also demonstrates that having access to extension agents will raise the status of farmers who produce for both consumption and selling. This result supports the findings of Akpaeti and Agom (2020), who discovered that factors such as farmer age, years of education, household size, farm size, fertilizer use, and labour intensity have a substantial impact on cassava productivity.

Conclusion

This study examined the level of income poverty among cassava growers in Akwa Ibom State's Uyo Agricultural Zone. Due to their involvement in the cultivation of cassava for both sales and domestic use, it is clear from the study's findings that the majority of the cassava farmers in the study region are young and not poor. Despite the level of revenue they received from cassava production in the research area, several factors, such as the usage of fertilizer, net income, household size, cassava cultivation, labour costs, access to finance, and access to extension agents, had an impact on their level of income poverty.

Recommendations

1.The government should provide adequate credit facilities for cassava farmers as this would increase their scale of production and income, thereby reducing income poverty in their households.

2.To ensure that cassava farmers have access to advancements and pertinent information that would assist them enhance their production and lessen economic poverty in their homes, the government should offer enough support to the extension service delivery systems.

3.The government should also provide farm inputs such as fertilizers to cassava farmers to boost the yield of their production. This would help to increase their farm income, thereby contributing positively to their well-being

References

Agunbiade, M.O. and Oke, J.T.O. (2019). Poverty Analysis of Cassava Farming Households in Osun State. *Journal of Development and Agricultural Economics,* 11(1): 9-14.

Akerele E.O., Idowu, A.O., Oyebanjo, O., Ologbon, O.A.C. and Oluwasanya, O.P. (2018).Economic Analysis of Cassava Production in Ogun State, Nigeria. *Acta Scientific Agriculture,* 2(8):43-50.

Akpaeti, A.J. and Agom, D.I. (2020). Determinant of Productivity Among Cooperative and Non-Cooperative Households in Akwa Ibom State, Nigeria. *Faman Journals,* 20(2):11-22.

Akpaeti, A.J., Agom, D.I. and Ekukpan, C.E. (2021). Analysis of Food Security Status of Cooperative and Non-Cooperative Cassava Farming Household: Evidence from the NigerDelta region, Nigeria. *Int'l Journal of Agric. and Rural Dev*., 24(1): 5512-5518.

Akpaeti, A.J., Okon, U.E. and Ekpo, U.E. (2019). Value Addition and its Effect on the Stages of cassava production in Uyo Agricultural Zone, Akwa Ibom State, Nigeria. *AKSU Journal of Agricultural Economics, Extension and Rural Development*, 2(2): 41-50.

Angba, C.W. and Iton, O.V. (2020). Analysis of Cassava Production in Akpabuyo LGA, Cross River State. (An Econometric Investigation Using Farming Level Data). *Global Journal of Agricultural Research,*8(1):1-18.

Bassey, N.E., Akpaeti, A.J. and Umoh, I.U.(2014).Determinants of Cassava Output among Small Scale Farmers in Nigeria: A Survey of Akwa Ibom State Farmer. *Asian Journal of Agricultural Extension, Economics and Sociology, 3(4):319-330*

Chimela, N.S., Monica, A.C., Jacob, A.A. and Nkem, O.K. (2016). Impact Returns from Cassava Production and Processing on Poverty among Women in AbiaState, Nigeria: *Asian Journal of Agricultural Extension, Economics and Sociology*, 13(4): 1-10

Dada, A.D. (2016). Taking Local Industry to Global Market: The Case for Nigeria Cassava Processing Companies. *Journal of Economics and Sustainable Development,* 7(19): 59-70.

FAO, (2013). Save and Grow: A Guide to Sustainable Production Intensification.

International Institute of Tropical Agriculture (IITA) (2020). Cassava *(Manihot esculenta).*

Iyagba, A.G. and Anyanwu S.O. (2012).Problems and prospects of cassava production in Rivers State, Nigeria: A case study of Oyigbo Local Government Area. *Agriculture and Biology Journal of North America,* 3(7): 296-301.

Kuye, O.O. (2015). Comparative Analysis of

Constraints to Cassava Production by Cassava FarmerLoan Beneficiaries and Loan Non-Beneficiaries in South-South Nigeria.*Global Journal of Agricultural Research,*3(3):38-52.

National Population Commission (2006). Census Report, Abuja, Nigeria.

Obinna L.O. and Umeh O.I. (2017).Perceived Effect of Cassava By-Products on Poverty Alleviation among Rural Dwellers in Abia State, Nigeria. *Discourse Journal of Agriculture and Food Sciences*. 5(3): 28-34.

Ohen, S.B., Ene, D.E. and Umeze, G.E. (2014). Resource Use Efficiency of Cassava FarmersInAkwaIbom State, Nigeria. *Journal of Biology, Agriculture And Health Care*, 4(2): 126-131.

Okoro, U.S., Akpaeti, A.J. and Ekpo, U.N. (2015). Seasonality in Income and Poverty Among Rural Food Crop Farmers in Akwa Ibom State, Nigeria. *Russian Agricultural Science,* 41(5): 383-389.

Osuji, M.N. (2019). Determinant of Poverty Status of Cassava-Based Farmers in Imo State, Nigeria. *Advance in Research,*20(1): 1-8.

PricewaterhouseCoopers (PwC), (2020). Harnessing the economic potential of Cassava Production in Nigeria. https://www.howwemadeitinafrica.com/harnessing-the-economic-potential- of-cassava-production-in-Nigeria/73028/

World Bank (2018). Poverty and Equity Database.*https://.povertydata.worldbank.org/poverty.*

Table 1 Socio-economic Characteristics of Cassava Farmers in the Study Area

Variable	Frequency	Percentage (%)
Gender	85	51.5
Male	80	48.5
Female	165	100.0
Total		
Age (years) Mean = 35 years		
21 – 30	80	48.5
31 – 40	39	23.6
41 – 50	23	13.9
51 – 60	18	10.9
61 and Above	5	3.0
Total	165	100.0
Household Size (Mean = 6 Persons)		
Less than 6	52	31.5
6 and Above	113	68.5
Total	165	100.0
Marital Status		
Single	81	49.1
Married	73	44.2
Divorced	2	1.2
Separated	5	3.0
Widowed	4	2.4
Total	165	100.0
Level of Education		
No Formal Education	22	13.3
Primary Education	18	10.9
OND/NCE	50	30.3
HND/B.Sc/B.Agric/B.Art	63	38.2
M.Sc	12	7.3
Total	165	100.0
Access to Farm Credit		
Yes	105	63.6
No	60	36.4
Total	165	100.0
Access to Extension Agents		
Yes	94	57.0
No	71	43.0
Total	165	100.0
Access to Labour Use		
Hired labour	64	38.8
Family labour	55	33.3
Both family and hired	46	27.9
Total	165	100.0

Source: Field Survey, 2021

Table 2: Summary of the statistics of income poverty status of the respondents

Poverty category	Cassava Farmers		
	Consumption only	Sales only	Combined
Non-poor households	60(36.4%)	101 (61.2%)	116(70.3%)
Moderately poor households	52(31.5%)	16 (9.7%)	24(14.5%)
Core poor households	53(32.1%)	48 (29.1%)	25(15.2%)
FGT Poverty Indices			
Poverty Incidence (Po)	0.74	0.47	0.29
Poverty Depth (P_1)	0.28	0.13	0.12
Poverty Severity (P_2)	0.17	0.08	0.07
Poverty Lines			
MPCFI	₦29,040	₦ 72,295	₦ 85,005
2/3*(MPCFI)	₦ 19,360	₦ 48,196	₦ 56,670
1/3*(MPCFI)	₦ 9,680	₦ 24,098	₦ 28,335

Source: Computed from Field Survey, 2021. Note: MPCFI denotes Mean Per Capita Farm Income

Table 3: Probit regression analysis on factors influencing the income status of cassava farmers

Variables	Consumption	Sales	Combined
Gender	-0.073	0.0161	0.066
	-0.889	0.203	0.929
	0.079	0.075	0.065
Level of education	0.100	0.004	0.069
	1.235	0.058	0.987
	0.115	0.109	0.094
Household Size	0.150	0.156	0.079
	1.677	1.862*	1.031
	0.021	0.020	0.017
Marital status	0.011	-0.108	-0.128
	0.110	-1.168	-0.501
	0.095	0.091	0.078
Participation	0.055	-0.144	-0.089
	1.664	-1.850*	-1.241
	0.143	0.136	0.117
Farming Experience	-0.007	0.056	0.085
	-0.083	0.717	1.176
	0.084	0.080	0.069
Fertilizer use	-0.176	0.042	-0.105
	-1.916*	0.490	-1.326
	0.092	0.088	0.076
Access to credit	-0.064	0.098	0.138
	-0.803	0.310	2.002**
	0.080	0.076	0.066
Access to Extension agent	0.042	0.143	0.197
	0.428	1.542	2.311**
	0.096	0.091	0.079
Labour cost	0.146	0.222	0.320
	1.705	2.757***	4.325***
	0.000	0.000	0.000
Net income	0.291	0.264	0.470
	3.184***	3.071***	5.955***
	0.000	0.000	0.000
Constant	0.272	0.387	0.496
R	0.362	0.485	0.594
R^2	0.131	0.235	0.353
Standard error of Estimate	0.46714	0.44396	0.38281
F	1.914	3.897	6.923
P.value	0.037	0.000	0.000

Source: computed from Field survey 2021. Note: The first values are the coefficients. Values in the middle represent t-values while the last values represent standard error. *** Significant at 1% level, ** Significant at 5% level and *Significant at 10% level of significance respectively