# SOCIO-ECONOMIC FACTORS AFFECTING VITAMIN A CASSAVA PRODUCTION IN AKINYELE LOCAL GOVERNMENT AREA OF OYO STATE, NIGERIA

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## ABSTRACT

This study examines socio-economic factors affecting vitamin A cassava production in Akinyele Local Government Area of Oyo State, Nigeria. A total number of 120 respondents selected from ten (10) villages where vitamin A cassava farmers are predominantly found, they include Alabata, Ijaye, Motunde, olorisaoko, Iroko, Iwoko talontan, Ikereku, Onidundun and Akinyele communities, in all the villages twelve (12) each, vitamin A cassava was interviewed. Data were analyzed using descriptive statistics, multiple regression analysis and gross margin analysis. Results showed that majority (80%) of the farmers were male with 85.8% of the farmers married with 11.7% single, 1.7% divorced and 0.8% widowed. The average age and mean years of farming experience are 54.8 and 25.2years respectively with 10% of them having no formal education. The costs and returns to vitamin A production in the study were reflected by a mean gross margin of ₦377,675.42 and net farm income of ₦374,334.49. Results from the multiple regression analysis showed that farm size (ha) and cost of labour are statistically significant at 1% with both having positive coefficients. Cooperative participation is statistically significant at 5% with positive coefficient. The study concluded that vitamin A cassava production is a lucrative enterprise which could serve as a reliable source of income for farmers, marketers and even source of revenue to the Government. The study recommended that formation of cooperative societies should be encouraged by community leaders or extension officers in order to aid pulling of resources together.

Keywords: Vitamin A cassava, multiple regression, cost and returns. JEL: D11

## 1. Introduction

There are many constraints to cassava production in Africa especially Nigeria, of which some are pest-related while others are disease-related (Daud,2015). These together with poor cultural practices combine to cause yield losses which may be as high as 50% in Africa (IITA, 2001). All these challenges could cause a setback in the attainment of food security (which could be in terms of availability, accessibility, utilization and stability). Food insecurity remains a reality for 795 million people, despite the fact that the proportion of the global population that is undernourished has fallen from 23% to 13% over the past 25 years (FAO, 2015). In sub-Sahara Africa (SSA), the proportion of the population that is undernourished decreased from 33% to 23% over the same period, although the absolute number of undernourished individuals increased by 25% to 220 million. Moreover, 2 billion individuals worldwide still suffer deficiencies of iron or other micronutrient (vitamins, minerals, etc.), highlighting the importance not only of food quantity but also of quality, and the need for it to be nutritious and healthy (WHO, 2012; Kloos and Renaud, 2014). Vitamin A remains a very important component of human nutrition as it is involved in vision, cell differentiation, synthesis of glycol-proteins, reproduction and overall growth and development (Omodamiro *et al.,* 2012). The main direct response to the food and nutrition challenges is that of agriculture and rural development (ARD) support, the focus of intervention is raising productivity of agriculture in SSA, where it is recorded to be lower than in the rest of the world, with particular emphasis on staple crops (Pinstrup-Andersen 2013).

Vitamin A deficiency is the leading cause of childhood blindness and increases the risk of death from common childhood illnesses such as diarrhoea. Today, more than one-third of children in need are not receiving the life-saving benefits of vitamin A (UNICEF, 2018). This is a critical situation that should be addressed, hence, the need for bio-fortified vitamin A cassava, since cassava is a major staple food in Nigeria. Value-added products gotten from cassava such as cornflakes, garri, flour etc. are consumed by both children and adults. Although, this innovation has been adopted by some farmers, it is still wanting; as many are not aware of this innovation since the production of vitamin A cassava is relatively low to the country's population. This put the vitamin A deficiency as an issue yet to be addressed.

Ilona, and Oparinde., (2017) ascertained in their study that the fourth key constraint for effectively promoting vitamin A cassava adoption in Nigeria is that gender dimensions in the adoption of improved cassava have not received significant attention. The study further stated that it is crucial that gender-differentiated dissemination and adoption strategies be used to promote vitamin A cassava since women have unique roles along the cassava value chain in Nigeria.

It is a known fact that the level of production of vitamin A cassava with respect to the country's population is generally small. Adequate supply or production of vitamin A cassava is a sure strategy to supply necessary vitamin A needed by the population thereby reducing incidence of vitamin A deficiency.

Most of the work done has been on the other areas of vitamin A cassava business, such as its integration, its development and delivery, but little work has been done on the socio-economic factors affecting vitamin A cassava production. Hence, this study sought to establish the socio economics factors affecting of vitamin A cassava production in Akinyele Local Government, Oyo State.

Specifically, the study describes the socio-economic characteristics of vitamin A cassava farmers in the study area, estimate the costs and returns to vitamin A cassava production in the study area: and determine the factors influencing the output of vitamin A cassava in the study area.

## 2. LITERATURE REVIEW

### Concept of Vitamin A cassava

In the year 2000, Nigeria enacted laws requiring vitamin A fortification of all wheat flour, maize flour, edible vegetable oil, margarine and sugar with vitamin A (wheat flour was also to be fortified with iron and B vitamins). Sanusi and Akinyele (2006) found that consumption of fortified products (wheat and maize flour, sugar, and vegetable oil) was low (with few respondents even knowing about food fortification) and levels of vitamin A varied from 25-100% of the Standards Organization of Nigeria (SON) standard in oil to 50-80% in sugar and 50-80% in bread. In this context, bio-fortification became a promising complementary intervention for Nigeria because it places the solution in the hands of farmers, thus giving rise to bio-fortified vitamin A cassava thereby improving vitamin A intakes among those who consume it. Compared to supplements, vitamin A cassava provides a more regular amount of vitamin A and reaches a wider variety of age groups since cassava is a major staple food crop. Compared to fortification, bio-fortification better reaches vulnerable households and those who produce the foods they consume, aid continued engagement in crop development and strengthening the seed system.
In the year 2011, Breeding programs for vitamin A cassava assumed full operational scale, three first variety of pro vitamin A cassava with 6–8 ppm total carotenoid content was approved for release in Nigeria, which was eight years after crop development activities were initiated in 2003 at the International Center for Tropical Agriculture (CIAT) and the IITA under the funding from the HarvestPlus program. Three second-wave varieties followed with up to 11 ppm in 2014 The International Center for Tropical Agriculture (CIAT) generates high-vitamin A sources via rapid cycling in pre-breeding and provides in-vitro clones and seed populations to IITA and the Nigerian National Root Crops

Research Institute (NRCRI) and the Institut National pour l'Etude et la Recherche Agronomiques (INERA) in the Democratic Republic of Congo (DRC) for local adaptive breeding. Yellow cassava varieties have also been released in Ghana, Malawi and Sierra Leone. Regional trials are underway for fast-tracking release in other countries in West Africa that have similar agro-ecologies.

## Acceptability

In Nigeria, cassava is mainly consumed as garri of which the preferences differ across various ethnic groups. A consumer acceptance study conducted in 2011 in two Nigerian States revealed that with nutrition information, bio-fortified varieties were generally preferred both after sensory evaluations of taste, appearance and texture, and in terms of consumers' willingness to pay, elicited through an experimental auction technique.

## Stakeholders

According to Paul Ilona at the 2nd global conference brief, HarvestPlus works closely with Ministry of Agriculture and Health, IITA, NRCRI, NGOs, universities and food companies. Dr. Akinwunmi Adesina, who was the Minister of Agriculture until May 2015 and is now the President of the Africa Development Bank (AfDB), played a major role as a key supporter of bio-fortification in Nigeria. Similarly, Minister of Health, Onyebuchi Chukwu made it possible for bio-fortification to be recognized in the health sector as a potent strategy to improve nutrition. The inclusion of bio-fortified foods in the Micronutrient Deficiency Control (MNDC) guideline, which was ratified by the Senate Committee on Health in 2014, gave additional political momentum to bio-fortification in Nigeria. The new guideline has been printed by the Federal Ministry of Health and circulated to health institutions in the country. Copies were also presented at the African Union Summit in Addis Ababa in 2014. The continued participation of the public sector in seed multiplication (described in the following section) arises from the adoption of nutrition-sensitive agriculture at the national level and hence the inclusion of bio-fortification in the Agricultural Transformation Agenda by the Federal Ministry of Agriculture and Rural Development (FMARD). There have also been significant investments by the World Bank-funded West African Agricultural Productivity Project (WAAPP) in seed multiplication of vitamin A cassava in Nigeria. The public seed sector has continued to ensure that rural poor farmers have initial access to quality stems for planting and thereafter give stems to other farmers in return, making it a cost-efficient delivery system to meet the social responsibilities of the project.

## Empirical framework

Effiong *et al.* (2015), this study assessed the socio-economic determinants of the production of Pro-vitamin A Cassava varieties by farmers in Etim Ekpo L.G.A., Akwa Ibom State, Nigeria. One hundred and fifty-eight (158) respondents were selected through a multistage sampling procedure. Field data were elicited with the use of questionnaire randomly distributed to the respondents. Data were analyzed with frequency, percentage, mean and multiple regression. It was recommended that essential rural development facilities should be provided for cassava farmers in the rural communities of Etim Ekpo L. G. A and Akwa Ibom State in general.

Abdoulaye *et al.,* (2013) This paper investigated the effects of improved cassava varieties and processing technologies on adopting households. It also attempts to test and establish the link between adoption of improved cassava varieties and access to processing technologies. The data used in this paper come from a sample household survey of 952 households conducted in four regions of Nigeria. The results showed that in all the study sites farmers grow mixture of improved and local cassava varieties. The bivariate probit model estimates showed a strong relationship between adoption of improved cassava varieties and farmers' access to grating machines. Moreover, farmers that were members of either community organizations or cooperative organizations had a higher tendency of using improved varieties than others, suggesting that the introduction of new cassava varieties would be enhanced by farmers' access to processing facilities and services. Moreover, training of farmers and processors through R4D programs has led to increased use of improved technologies.

Michael (2016) This study was conducted to find out the socio-economic status categories of rural dwellers' in the area. Random sampling technique was used to select 390 respondents from 30 villages in 3 of the northern Nigerian states. Interview schedule was used to collect data for the study. Majority of the respondents (58.9%) were between 31 and 50 years of age, male (52.6%), married (89.5%), educated (84.6%), farmers (73.1%) and low income earners (63.6%). The result also shows that 50.0% and 42.3% were in low and middle SES categories respectively. Significant relationship at $p<0.05$ existed between education ($\chi 2 = 94.09$), occupation ($\chi 2= 483.63$) and socio-economic status of respondents. Since there was significant relationship between education, occupation and socio-economic status, any improvement in the two variables will lead to improvement in socio-economic status of the rural dwellers.

## 3. METHODOLOGY

The study was carried out in Oyo State precisely Akinyele, Akinyele is a Local Government Area in Oyo State, Nigeria. It is one of the eleven local governments that

make up Ibadan metropolis. Its headquarters are at Moniya. Akinyele local government area was created in 1976 and it shares boundaries with Afijio Local Government to the north, Lagelu Local Government Area to the east, Ido Local Government Area to the west and Ibadan North Local Government Area to the south. It occupies a land area of 464.892 square kilometres with a population density of 516 persons per square kilometre. Using 3.2% growth rate from 2006 census figures, the 2010 estimated population for the Local Government is 239,745. The local government is divided into 12 wards: Ikereku, Olanla/Oboda/Labode,Arulogun/Eniosa/Aroro,Olode/Amosun/Onidundu,Ojo-Emo/Moniya, Akinyele/Isabiyi/Irepodun, Iwokoto/Talonta/Idi-oro, Ojoo/Ajibode/Laniba, Ijaye/Ojedeji, Ajibade/Alabata/Elekuru, Olorisa- Oko/Okegbemi/Mele, Iroko

## Sampling procedure, sample size and data collection

Multi- stage sampling method was used such that stage one involved purposive selection of 12 wards in Akinyele local government area because of the prominence of vitamin A cassava production in the area (its close location to Harvest plus as an advantage); stage two involved random selection of ten (10) villages that is one village from each ward, and the stage involved random selection of ten (12) vitamin A farmers across the ten villages to give a total number of 120 respondents.

## Analytical techniques

Data collected were analyzed using descriptive statistics (such as means, percentage count, frequency e. t. c) to analyze farmer's socio-economic characteristics and constraints to vitamin A cassava production. Gross margin analysis was used to estimate the costs and returns, while regression analysis was carried out to determine the factors influencing the output of vitamin A cassava.

## Gross Margin Analysis

Gross margin is stated as GM = TR - TVC

Where; GM = Gross margin (N)

TVC = Total variable cost

TR = Total Revenue

Profit given by $\pi$ = GM – TFC

Where $\pi$ = Profit

GM = Gross margin

TFC = Total Fixed cost

Depreciation Using Straight Line Method

$$= \frac{\text{Original Cost} - \text{Salvage Value}}{\text{Useful Life (Years)}}$$

## Multiple Regression Analysis

This is an inferential statistical tool that measures the relationship between independent and dependent variables. This tool is basically to estimate the numerical regression co-efficient, which has economic interpretations. The coefficient of determination will show the proportion of variation in dependent variable that can be explained by the independent variables. The four functional form of multiple regression model were employed to select the one that provided the best fit. The choice of the best functional form was based on the magnitude of R2 value, number of significant variables, size and sign of regression coefficient as they conform to a prior expectation. The four functional form are specified implicitly as follows:

## Linear Function

$$Y = Yo + b_1(fam) + b_2(coop) + b_3(csb) + b_4(sex) + b_5(age) + b_6(edu) + b_7(farmexp) + b_8(col) + b_9(cfi) + ei$$

Semi log Function

$$Y = LnYo + b_1 L_n(fam) + b_2 L_n(coop) + b_3 L_n(csb) + b_4 L_n(sex) + b_5 L_n(age) + b_6 L_n(edu) + b_7 L_n(farmexp) + b_8 L_n(col) + b_9 L_n(cfi) + ei$$

Exponential Function

$$LnY = Yo + b_1(fam) + b_2(coop) + b_3(csb) + b_4(sex) + b_5(age) + b_6(edu) + b_7(farmexp) + b_8(col) + b_9(cfi) + ei$$

Double Log Function

$$LnY = LnYo + b_1 L_n(fam) + b_2 L_n(coop) + b_3 L_n(csb) + b_4 L_n(sex) + b_5 L_n(age) + b_6 L_n(edu) + b_7 L_n(farmexp) + b_8 L_n(col) + b_9 L_n(cfi) + ei$$

Where; Y=gross output of vitamin A cassava (kg)

Fam= Farm size (ha)

coop= Cooperative participation (yes=1, no=0)

csb = Cost of stem bundles (naira/ ha)

sex = Sex (male=1, female=0)

age= Age of vitamin A cassava farmers (years)

edu = Educational level (years)

fexp= Farming experience (years)

col= Cost of labour (naira / ha)

cfi = Total cost of fixed inputs (naira/ ha)

## 4. RESULT AND DISCUSSION OF FINDINGS

Respondents belonging to age group 31-40 years were 8.3%, age group 41-50 years were 27.5%, age group 51-60 years were 33.3% and >60 years were 30.8%. It can be deduced that most of the respondents were not youths. Result shows that male vitamin A farmers (of 80%) are more than females who were 40%. Therefore, majority of vitamin A cassava farmers in the study area were males. 55% of the respondents were Christians, 43.3% were Muslims and 2% were traditionalists. Majority of the respondents were Christians. A majority (85.8% of the respondents) were married, 11.7% were single, 1.7% was divorced and 0.8% was widowed. Therefore, there are more chances of assistance from family members on the farm and possibility of family labour since majority of them are married. 40.8% of the respondents had a family size of Less than or equal to 4, 46.7% of the respondents had a family size of 5-7 and 12.5% of the respondents had a family size of 8-11.With larger family size, there is a higher probability of increase in family labour thereby reducing cost of hiring labour. For this study, the educational level were in four parts whereby result reveals that 10% of the respondents had no formal education, 53.3% of the respondents had primary education. 35.8% of the respondents had secondary education and 0.8% of the respondents had tertiary education. Farmers with higher educational level tend to accept innovations and adjust to social change compared to illiterate farmers. 91% of the respondents had <2 hectares of farm size and 29% of them had 3-4 hectares indicating that most of them were small scale farmers. The farming experience of the respondents is as follows;10.8% had < / = 10 years of farming experience, 35.8% had 11-20 years of farming experience, 29.2% had 21-30 years of farming experience, 19.2% had 31-40 years of farming experience, and 5.0% had 41-50 years of farming experience. Farmers with more farming experience tend to be more productive.

Table 1: Socio-economics characteristics of the respondents in the study area.

| Variable | Frequency | Percentage |
|---|---|---|
| AGE RANGE | | |
| 31-40 | 10 | 8.3 |
| 41-50 | 33 | 27.5 |
| 51-60 | 40 | 33.3 |
| Above 60 | 37 | 30.8 |
| Total | 120 | 100.0 |
| SEX | | |
| Male | 80 | 66.7 |
| Female | 40 | 33.3 |
| Total | 120 | 100 |
| RELIGION | | |
| Christianity | 66 | 55.0 |
| Islamic | 52 | 43.3 |
| Traditional | 2 | 1.7 |
| Total | 120 | 100.0 |
| MARITAL STATUS | | |
| Single | 14 | 11.7 |
| Married | 103 | 85.8 |
| Divorced | 2 | 1.7 |
| Widowed | 1 | .8 |
| Total | 120 | 100.0 |
| FAMILY SIZE | | |

| | | |
|---|---|---|
| Less than or equal to 4 | 49 | 40.8 |
| 5-7 | 56 | 46.7 |
| 8-11 | 15 | 12.5 |
| Total | 120 | 100.0 |
| EDUCATIONAL LEVEL | | |
| No formal education | 12 | 10.0 |
| Primary education | 64 | 53.3 |
| Secondary education | 43 | 35.8 |
| Tertiary education | 1 | .8 |
| Total | 120 | 100.0 |
| FARM SIZE RANGE(ha) | | |
| Less than or equal to 2 | 91 | 75.8 |
| 3-4 | 29 | 24.2 |
| Total | 120 | 100.0 |
| YEARS OF FARMING EXPERIENCE | | |
| Less than or equal to 10 | 13 | 10.8 |
| 11-20 | 35 | 29.2 |
| 21-30 | 43 | 35.8 |
| 31-40 | 23 | 19.2 |
| 41-50 | 6 | 5.0 |
| Total | 120 | 100.0 |

Source: Field Survey 2020

**Gross margin analysis to estimate costs and returns to vitamin A cassava production**

The table 2 below shows the costs and returns structure of an average vitamin A cassava farmer. The table reveals the minimum and maximum total variable cost (TVC) such as

cost of bundles of stems, cost of pesticides, cost of herbicides, cost of labour to be ₦20,800.00 and ₦565,500.00. Respectively with the mean variable cost as ₦119,845.42,the minimum and maximum total fixed cost (TFC) which includes the cost of hoes, cutlasses, basket, files for all farmers to be ₦1,532.50 and ₦7,520.00 respectively with the mean as ₦3,340.93.( Note: the fixed cost was depreciated using the straight line method). This implies that the farmer that spent the least on variable inputs spent ₦20,800.00 and the farmer that spent the highest on variable inputs spent ₦565500.00. Also, the farmer that spent the least on fixed inputs spent ₦1,532.50, the farmer that spent the highest on fixed inputs spent ₦7,520.00. Furthermore, the table shows the net farm income i. e Gross Margin (GM) - Total Fixed Cost (TFC) having its minimum as ₦116,970, maximum as ₦841,441.67 and mean as ₦374,334.49, as this explains that the minimum net farm income of the farmers is ₦116,970 and the maximum net farm income i.e profit for vitamin A cassava production amongst the respondents to be ₦841,441.67.The gross margini.e Total Revenue (TR) – Total Variable Cost (TVC) was shown to have a minimum value of ₦115,500, maximum value of ₦842,600.00 and mean of ₦377675.42 which shows that vitamin A cassava is a highly profitable enterprise.

Table 2: Indicators of vitamin A cassava Production Budgetary Analysis

| Variables | ₦ |
|---|---|
| Total Variable Cost (TVC) | 119,845.42 |
| Total Fixed Cost (Depreciation) | 3,340.93 |
| Total Cost | 123,186.35 |
| Total Revenue | 497,520.833 |
| Gross Margin (TR – TVC) | 377,675.42 |
| Net farm income (GM – TFC) | 374,334.49 |
| Net rate of return(NFI/TC) | 3.04 |
| Cost of herbicides | 2,485.47 |
| Cost of pesticides | 2,930.35 |
| Cost of Stem bundles | 61,015 |
| Cost of Cutlasses | 4,454.17 |

| | |
|---|---|
| Cost of Baskets | 1,719.42 |
| Cost of Hoes | 3,059.58 |
| Cost of Files | 437.17 |
| Cost of Labour | 64,913.75 |

**Source: Authors' computation from survey data, 2020.**

Note: all values are in average i. e have been divided by the number of cases.

In terms of rate of returns, the net rate of return was ₦3.04 on the basis of net profit. The net rate of return of 304 per cent implies that for every one naira (100kobo) invested in vitamin A cassava production by an average vitamin A cassava farmer, there is a net profit of ₦3.04.

### 4.3 Multiple regression analysis on the determinants of gross output of vitamin a cassava

Table 3 presents the results obtained from the ordinary least square regression of the socio-economic factors that affect the output of vitamin A cassava in the study area. The predictor (explanatory) variables are Farm size ($X_1$), cooperative participation ($X_2$), Cost of stem bundles ($X_3$), sex ($X_4$), age of farmer ($X_5$), educational level ($X_6$), farming experience ($X_7$), total labour cost ($X_8$), total cost of fixed inputs ($X_9$) and the error term (U).

The linear functional form is chosen as the lead equation because it has the highest value of adjusted R squared and f-statistic (which explains the overall significance of the model). Results obtained show that of the explanatory variables considered in the regression analysis, Farm size and total labour cost are statistically significant at 1%. Farm size (statistically significant at 1%) has a positive coefficient, hence a positive relationship with total harvest. For every 1 hectare increase in farm size, output is predicted to increase by approximately 4,883.826kg and cost of labour also has positive coefficient. While cooperative participation is statistically significant at 5% with a positive coefficient. On the converse, the age of vitamin A cassava farmers which was significant at 10% reported a negative coefficient of -349.574kg; this indicates that as the farmers increase in age, output decreases by 349.574kg and vice-versa.

Table 3: Multiple Regression Analysis on factors influencing output of vitamin A cassava

| Variables | Linear | Sig (p value) | Semi Log | Sig (p value) | Double Log | Sig (p value) | Exponential | Sig (p value) |
|---|---|---|---|---|---|---|---|---|
| (Constant) *** | 38892.878 (3.373) | .001 | -13149.42 (6.135) | .000 | 3.00614 (0.55) | .001 | 8.5470 (10.836) | .005 |
| Farm Size (ha) *** | 4883.826 (3.988) | .000 | 591.0055 (.424) | .016 | 0.162526 (.313) | .079 | 6.705 (8.060) | .022 |
| Cooperative Participation (Yes=1, No=0) ** | 2295.721 (.555) | .037 | 403.8117 (0.03) | .098 | 0.813 (0.28) | .173 | 0.311 (2.831) | .041 |
| Cost of Stem Bundles | 0.55 (1.531) | .129 | 413.5341 (1.14) | .111 | 0.20944 (0.08) | .560 | 0.6800 (731) | .345 |
| Gender (Male=1, Female=0) | -4958.53 0 (-1.254) | .212 | -701.5502 (-0.871) | .337 | -0.19242 (-0.63) | .888 | -0.73 (-818) | .499 |
| Age of Farmer * | -349.574 (-1.699) | .092 | -0.087515 (-1.13) | .189 | -0.12375 (-1.79) | .081 | -1.068 (-3.286) | .111 |
| Educational level (years) | 157.963 (.313) | .580 | 612.2708 (6.31) | .690 | 0.009508 (0.89) | .582 | 0.411 (0.937) | .619 |
| Farming experience | 26.000 (.150) | .881 | 307.4484 (0.86) | .482 | 0.041891 (-0.90) | .118 | 0.87 (1.131) | .311 |
| Cost of Labour *** | .162 (4.828) | .000 | 2348.105 (-0.37) | .103 | 0.518087 (6.77) | .091 | 0.013 (1.705) | .142 |
| Total Cost of fixed inputs | .929 (.424) | .627 | 10061.3094 (0.57) | .451 | 0.055 (6.31) | .213 | 0.011 (0.613) | .391 |
| Adj. R Squared | 0.670 | | 0.44 | | 0.51 | | 0.39 | |
| F statistic | 7.359 | | 1.991 | | 4.279 | | 1.032 | |

Source: computed from field survey, 2020 with level of significant ***significant at 1% **significant at 5% *significant at 10% Note: The figures in parenthesis are t-values

This is in line with the study of Abdoulaye *et al.*, (2013) that explained in their study that younger farmers have been found to have more knowledge about new practices and may be more willing to bear risk and adopt new technology because of their longer planning horizons. Also the older the farmers, the less likely they are to adopt new practices as they place confidence in their old ways and methods. The adjusted $R^2$ was 0.67 which indicates that 67% of variation in the output of vitamin A cassava could be explained by the socio-economic variables of the respondents fitted into the model and the remaining % was due to other factors which was not specified in the model.

## 5. Conclusion and Policy Recommendation.

As deduced from this scope of study, vitamin A cassava production is a highly profitable enterprise. It could serve as an excellent and reliable source of income both farmers, marketers and source of revenue to the government. Not leaving out, the important benefits this food crop can provide such as provision of value-added products (cornflakes, bread, garri, fufu, abacaha, flour e. t. c, which are rich in vitamin A for correction of eye defects (night blindness), strong immune system, healthy skin, and good eye sight. However, observations was made on some constraints which could hinder the increase in its output, if these problems are given due attention then more people will be encouraged to venture into this production.

Recommendation

1. Majority got their capital from own savings, thus limiting capability of resource utilization. Therefore, formation of cooperative societies should be encouraged by community leaders or extension officers in order to aid pulling of resources together.
2. Based on data collected, most of the farmers were not youths. The Government and Research institutes should organize agricultural programs or incentives which can encourage youths to be involved in vitamin A cassava production.
3. Governments and NGO's should aid in the provision of subsidized or free education as this will aid their ability to accept and adopt innovations.
4. Farm size plays an important role in performance of agriculture, increase in farm size hows clear benefit in environmental protection

5. Labor cost management is a weak link. There should be awareness in raising on strengthening the labor cost management problems that will encourage the farmer for more production.

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