



R.M. Yuguda *et al*, International Journal of Advances in Agricultural Science and Technology,

Vol.1 Issue. 1, December- 2013, pg. 1-15

ISSN: 2348-1358

# **SOCIO -ECONOMIC FACTORS AND CONSTRAINTS INFLUENCING PRODUCTIVITY AMONG CASSAVA FARMERS IN TARABA STATE, NIGERIA**

**<sup>1</sup>R.M. YUGUDA, <sup>2</sup>A.A. GIREI, <sup>3</sup>B. DIRE, <sup>4</sup>SALIHU.M**

<sup>1</sup>School of Technical and Vocational Education, Department of Business Education, College of Education, Jalingo, Taraba State

<sup>2,3</sup>Department of Agricultural Economics and Extension, Modibbo Adama University of Technology, Yola

<sup>4</sup>Department of Agricultural Economics and Extension, Faculty of Agriculture, Federal University, Dutse, Jigawa State

Corresponding Author: A.A. Girei, [agirejo@yahoo.com](mailto:agirejo@yahoo.com)

## **ABSTRACT**

*This study determined the socio-economic factors and problems influencing cassava production in Taraba state, Nigeria. Data were collected from 115 respondents using a structured questionnaire covering 2010/2011 farming season. The data were analyzed using descriptive However, cassava production have some constraints, prominent among which are; inadequate finance accounting for 50.43 %, unattractive price of cassava recording 24.3 %, and high cost of inputs, like fertilizer, herbicides, improved cassava cuttings accounting for 8.7 %. Others are labour shortage, inadequate extension agents, pests and disease infestation. The research recommended public private partnership (PPP) to sensitize and educate farmers to enable them benefit from the new innovations and technology that abound in the agricultural sector.*

**KEYWORDS:** *Productivity; Constraints; Socio-Economic; Cassava; Productivity*



## INTRODUCTION

Cassava (*Manihot esculenta* Crantz) is a perennial vegetatively propagated shrub and is one of the most important food crops grown in Africa, Oyegbami *et al*, (2010). It is one of the important root and tuber crops grown for food particularly in West and Central Africa, Tsegai *et al*, (2009). Cassava is grown for use as food in many African countries including Nigeria. It is a high yielding and drought resistant and with improved pest management practices, its high yielding capacity could be sustained, (Cock, 1985 in Oyegbami *et al*, 2010). Nigeria, cassava plays a principal role in the food economy Agwu *et al*, (2007). Consequently, Nigeria is the largest cassava producing country in the world with an annual estimate of 39 million tonnes (Central Bank of Nigeria, 2003). Nigeria's production accounts for 19% of the world output and 34% of Africa's output (Okoro *et al.*, 2005). According to Nweke *et al.* (2002) eighty percent of Nigerians in the rural areas eat a cassava meal at least once a week and majority eats cassava at least once a day; hence it plays a major role in the country's food security.

As a crop whose by-products have a wide array of uses, cassava is the most important food crop for Nigeria by production quantity next to yam, which is the most important food crop by value (FAOSTAT, 2012). Nigeria is the world's largest producer of cassava with other top producers being Indonesia, Thailand, the Democratic republic of Congo and Angola. It has been estimated that in 2010 Nigeria's production of cassava reached 37.5 million tonnes, FAOSTAT, (2012). In Nigeria, there are two main categories of cassava varieties produced; *Manihot palmata* and *Manihot aipi*, or bitter and sweet cassava respectively (Nwabueze, 2011). Cassava production in 2010 has reached about 37.5 million tonnes while yield and area values reached 12 tonnes per hectare and 3.13 million hectares respectively FAOSTAT, (2012).

The country has consistently been ranked as the world's largest producer of cassava since 2005 (FAOSTAT, 2012). Cassava is also seen to have a high poverty-reduction potential for Nigeria due to its low production cost (Nweke 2004, FAO 2005). Egesi *et al* (2006), argue that cassava has been transformed from a reserve commodity for support in times of famine into a rural staple, and subsequently a cash crop. In Nigeria, Typically farmers either market their fresh produce to middlemen who then process the crop or farmers also directly process the fresh tubers



into pellets, flour or gari. Most of the cassava is also processed at the village-level into a wide array of products using simple tools and techniques. In general, there are three main avenues by which cassava and its by-products reach the end markets: small-scale production for traditional food; medium scale production for more processed food products; and large-scale production for industrial products, Asante-Pok (2013).

Constraints in cassava production include a wide range of technical, institutional and socioeconomic factors. These include pests and diseases, agronomic problems, land degradation, shortage of planting materials, access to markets, limited processing options and inefficient/ineffective extension delivery systems, *Ibid*.

Recognizing Nigeria's tremendous agricultural potentials, the Government has accepted the view that there should be a resolve to make agriculture the main stream of the economy. This is why the successive Governments had various agricultural revolutionary programmes, such as; the National Accelerated Food Production Programme (1972), Agricultural Development Programme ADP (1975), Operation Feed the Nation (1976), National Seed Service (1977), Agriculture Credit Guarantee Fund Scheme, ACGFS (1977), River Basin Development Authority, RBDA (1977), Green Revolution (1980), Directorate of Food, Road, and Rural Infrastructure, DFRI (1986), National Fadama Development Project (1992), National Agricultural Research Project, NARP (1992), National Agricultural Land Development Authority (1993), National Research Project (1999), Nigerian Agriculture, Cooperative and Rural Development Bank (2000), National Agriculture Development Fund (2002), Commodity Marketing and Development Company (2003) and the Presidential Initiative on Cassava Production (2002) just to mention but a few, Oyegbami *et al*, 2010. Despite the significant role of agriculture in our National economy, Food is still imported; its productivity level still remains low compared with the result of the productivity in the past decades (FMARD, 2001).

Agricultural production, marketing and trade serve as major sources of employment, income and foreign earnings before Nigeria became independent. The agricultural sector provided the basis for the agro-industrial development and contributed significantly to the commercialization, monetization and integration of rural sector. In spite of the availability of the abundant land and



human resources in Nigeria, yield per hectare from cassava production had been on the decline over the years (RMRDC, 2004). In view of the above, there is need to improve the productivity of cassava production. The Presidential Initiative on cassava 2002 has been commissioned specifically to identify potentials contribution of agricultural marketing policy to agricultural development. What is observed across the country is that, there is gross inability to achieve self-sufficiency in local food production for example cassava, yam, rice among other crops. This study therefore would find out the nature of problems associated with productivity of cassava which will lead to increase in the Gross Domestic product (GDP) and thereby increase the Nigeria's foreign earnings. The study would therefore answer the following questions;

- i. What are the socio – economic characteristics of cassava farmers in the study area?
- ii. Is cassava production a profitable enterprise?
- iii. What are the constraints to cassava production in the study area?

### **Hypothesis of the Study**

H<sub>O1</sub> The socio – economic characteristics of the farmers do not affect the output of cassava in the study area.

H<sub>O2</sub> There is no relationship between the problems associated with cassava production and the wellbeing of the farmers.

### **METHODOLOGY**

#### **The Study Area**

The study was carried out in Taraba state, Nigeria. The state is located in the north eastern part of country. It lies between latitude 6<sup>0</sup> 30' and 9<sup>0</sup> 36' N of the equator and longitude 9<sup>0</sup> 10' and 11<sup>0</sup> 50' E of the Greenwich meridian (Taraba state Government Diary, 2013). The state has a land area of about fifty nine thousand four hundred square kilometers (59,400 km<sup>2</sup>). The state shares a common boundary with Bauchi state in the north and Gombe state in the north east, Adamawa state in the east and Plateau state in the North West. Tarasba state is further bounded to the west both by Nasarawa and Benue state, while it shares an international boundary with Cameroon



Republic to the south and south east, Taraba State Diary, (2013). Taraba state has a tropical climate marked by dry and rainy seasons. The rainy season starts in April and ends in October. The wettest months are August and September. The dry season starts in November and ends in April. The mean annual rainfall ranges from 800 mm in the north to over 2000 mm in the south. The mean minimum daily temperature recorded is 14.8<sup>0</sup>C and the mean maximum daily temperature recorded is 34.4<sup>0</sup>C (TADP, 2012).

### **Nature and Sources of Data**

The data for this study were obtained from primary sources. This primary data was generated from the activities of cassava farmers in the selected wards in Gassol and Ardo Kola Local Government Areas of Taraba state, Nigeria. Questionnaire and personal interviews were employed in the collection of the primary data needed from the cassava farmers. The data so collected covered relevant information on socio - economic characteristics of the cassava farmers as well as other important information on the output and the inputs used in the production process.

### **Sampling Technique**

A purposive and simple random sampling technique was employed in the selection of the sampled farmers in the study area using multi stage sampling techniques. In the first stage, two local government areas and three wards were purposively selected. From each of the two local government areas and based on their relevance in cassava farming, a total of 18 villages were selected for the purpose of this study. The second stage involved a simple random sampling of respondents from each local government area and villages based on the list of cassava producers provided by the Root and Tuber Production Unit of the Taraba State Agricultural Development Programme (TADP). A total of 120 cassava farmers were finally selected from the two Local Government Areas using structured questionnaire.



### **Analytical Techniques**

Descriptive statistics were employed in the analysis of data collected. The descriptive statistics used included; mean frequency distributions and percentages.

## **RESULTS AND DISCUSSION**

### **Socio-Economic Characteristics of the Respondents**

Table 1.1 below shows the Socio-economic characteristics of cassava farmers in the study. The table contained information on; gender, age, occupation, marital status, family size, literacy level and farming experience of respondents. The table further reveals that, most majority constituting about 62.6 percent of cassava farmers numbering 72 were male, while the rest constituting about 37.4 percent attracting 43 respondents were found to be female. This result indicates that, there were more males in cassava production in the study area though female also participated in the farming. Similarly, the family size of the respondents shows that, about 59 percent accounting for 68 respondents were at the majority and they have a family size that range between 11 and 15 people, while the remaining 19.13, 13.04 and 8.7 percent constituting 22, 15 and 10 respondents have family size of between 1 and 5, 6 and 10 and above 16 persons respectively.

The marital status of the respondents from the results obtained in table 1.1 also reveals that, about 82 percent of cassava farmers in the study area were married with only about 8.7 percent was found to be unmarried. However, the remaining 9.60 percent accounted for 11 respondents who are either widow(er) and divorced respectively. The contribution of marital status on agricultural production can be explained in terms of the supply of agricultural family labour. Family labour would be more where the household head is married and vice versa. Consequently, majority of the respondents representing about 67.8 percent of the respondents constituting 78 lack formal education, and these set of farmers hardly accept new innovation as asserted by Ajala (1992). Okoro (1991) stated that there exist a positive relationship between education and adoption of new innovation. Also, 25 percent, numbering 28 respondents had at least primary or secondary school education, while the remaining 7 percent attracting 8 respondents accounted



for those with tertiary education. The implication of this is that, there is every likelihood that adoption of new innovations by the farmers in the study area would not be very effective likely because education is one of the important factors that determines the ability of farmers to understand policies, programmes and innovations of their time. Education affects productivity through effective resource use, allocation and choice of inputs for production activities.

The result of farming experience from the table further shows that about 53 percent accounting for 61 respondents had farming experience of 11 years and above, while 31.3 percent constituting 36 respondents had between 1 and 5 years , also about 15.7 percent accounting for 18 respondents were those that fall within experience years of between 6 and 10 years This indicates that most of the cassava farmers in the study area have good knowledge of cassava farming signifying that, the respondents had adequate knowledge and experience in the production of the crop and therefore their long stay in the business indicates they usually had good returns that keeps them in the venture. The result obtained on the farm size of the respondents shows that, majority constituting about 60.9 percent of the respondents numbering 70 had a land holding between 2 and 5 hectares, with about 33.9 percent constituting 39 cultivates not more than 1 hectare while, about 5.2 percent with 6 number respondents cultivates 6 hectares and above. From the analysis, it indicates that, majority of the cassava farmers in the study area engages more in small scale production. The table further reveals that, about 60 percent of the respondents constituting 69 were in full time farming business, while about 31.3 percent numbering 36 respondents were civil servants but engage in cassava production to supplement their income. Furthermore, 8 percent representing 10 enjoys in other activities such as represents tailors and traders respectively. The occupational distribution of the respondents above implies that, farming is the most common activities in the area. Agreeing that, the agricultural sector is the highest employer of labour and so there is need for both the government and public private partnership to increase investment in this sector so as to develop the agricultural sector with new technology and improved inputs in order to boast the sector.



**Table 1.1: Distribution of Respondents According to Variables**

<b>Variable</b>	<b>Frequency</b>	<b>Percentage (%)</b>
<b>Gender</b>		
Female	43	37.4
Male	72	62.6
Total	115	100
<b>Family Size</b>		
1 -5 people	22	19.13
6 – 10 people	15	13.04
11 – 15 people	68	59.13
16 above	10	8.70
Mean family size	11	
Total	115	100
<b>Marital Status</b>		
Single (unmarried)	10	8.70
Married	94	81.7
Widow/Widower	3	2.60
Divorce/Divorcee	8	7.00
Total	115	100
<b>Educational Level</b>		
No formal education	78	67.8
Primary Education	20	17.4
Secondary Education	9	7.8
Tertiary education	8	7.0
Total	115	100
<b>Farming Experience (yrs)</b>		
1 -5 years	36	31.3





---

6 – 10 years	18	15.7
11 and above	61	53.0
Total	115	100
<b>Farm Size (ha)</b>		
1 ha	39	33.9
2 – 5 ha	70	60.9
6 ha above	6	5.2
Total	115	100
<b>Main Occupation</b>		
Farming	69	60.0
Civil Servant	36	31.3
Tailoring	3	2.6
Trading	7	6.1
Total	115	100

---

Source: Field Survey, 2011

### **Respondents Contact with Extension Agents**

Table 1.2 below shows the result obtained on the extension contact of the respondents. it reveals that, about 95.7 percent accounting to 110 respondents had no contact with extension workers or change agents while only about 4.3 percent representing 5 respondents. This shows that, cassava farmers in the study area may not be aware of new innovations in cassava production and hence, may be implementing their production processes using the local method being practice which may likely not yielding the desired results in terms of expanding their techniques, intensifying crop yield per unit area, adopting new and improved innovations.



**Table 1.2: Distribution of the Respondents According to Contact with Extension Agents**

Contact with Extension Agents	Frequency	Percentage (%)
Yes	5	4.3
No	110	95.7
Total	115	100

Source: Field Survey, 2011

### **Method of Land Acquisition of the Respondents**

Land as a factor of production may be acquired in different methods which may vary from one farmer to another. Table 1.3 below shows that, about 53 percent numbering 61 respondents acquire their land through inheritance, while about 43.5 and 3.5 percent accounting for 50 and 4 respondents sourced their lands through rent and purchased respectively. This implies that, with greater percentage of land being inherited by the respondents, fragmentation of farm lands would be very common in the study area therefore leading to low productivity in the area.

**Table 1.3: Distribution of Respondents According to Land Acquisition**

Method of Land Acquisition	Frequency	Percentage (%)
Inheritance	61	53.0
Rent	50	43.5
Purchase	4	3.50
Total	115	100

Source: Field Survey, 2011

### **Source of Labour of the Respondents**

Labour in the study area as depicted from Table 1.4 shows that, about 62.6 percent accounting for 72 respondents employed hired labour in their production processes. While about 28.7 percent numbering 33 respondents engage in cooperative labour commonly known as ‘gayya’.



Family labour constitutes only 8.7 percent constituting 10 respondents. This implies that, family labour do not contribute as much as hired labour in the study area. This may possibly constituting a great impediment in some period due to non-availability that may arise due to migration for a quick rewarding income

**Table 1.4: Distribution of Respondents According to Sources of Labour**

Source of Labour	Frequency	Percentage (%)
Family labour	10	8.7
Hired Labour	72	62.6
Cooperative (gayya)	33	28.7
Total	115	100

Source: Field Survey, 2011

#### **Sources of Capital of Respondents**

Table 1.5 reveals that, about 72.2 percent numbering 83 respondents sourced their capital from their personal savings that possibly might have been accumulated over time and from the sale of the previous season product. While, about 17.4 percent accounting for 20 respondents sourced their capital from friends and relatives. Also as revealed by the analysis, only 10.4 percent of the respondents sourced their capital from banks and money lenders. This indicates that, there is low or no presence of banks, other financial institutions for financing the activities of agricultural production in the study area. In recognition of these, the cassava farmers in the study area may need more financial assistance or support in order to expand the scale of their farming activities although expanding their land holding, adopting new technologies, getting more extension services, sourcing for more and improved varieties of cassava cuttings, among others..



**Table 1.5: Distribution of Respondents According to Sources of Capital**

Sources of Capital	Frequency	Percentage (%)
Personal savings	83	72.2
Borrowed from friends/ relatives	20	17.4
Loan from banks	2	1.70
Loan from money lenders	10	8.70
Total	115	100

Source: Field Survey, 2011

### **Constraints to Cassava Production**

Cassava production in the study area is faced with numerous challenges affecting its productivity which can also result to various levels of inefficiency. The result on Table 1.6 below shows the problems associated with cassava production in the study area. The problems highlighted include; inadequate funds, unfavorable prices, high cost of input among others,

**Table 1.6: Problems Affecting Cassava Production**

Cassava production Constraints	Frequency	Percentage (%)	Ranking
Inadequate Funds	60	50.43	1
Unattractive Price	33	24.3	2
Labour Shortage	17	10.4	3
High Cost of Input	20	8.7	4
Lack of Extension agent	14	3.47	5
Land Acquisition	12	1.7	6
Pest, Disease & Infestation	6	0.9	7
Total	162*	100	

Source: Field Survey, 2011

\* = multiple response



### **Problems Affecting Cassava Production**

From the above table, inadequate funds for production, processing, storage, marketing as well as improvement in the cassava value chain addition are the major constraint faced by respondents. The result shows that, about 50.43 percent of the respondents numbering 60 ranked first in terms of problems faced in cassava production. Capital in any business enterprise serves as the backbone to the success in any activity. While, unfavorable prices and shortage in labour availability ranked second and third respectively. The study would therefore stand in the gap for farmers, researchers, government, policy makers and even donor funded agencies in planning for the establishment of cassava production venture in the study area and the country at large.

### **Conclusion**

The study therefore concludes that, several socio-economic characteristics of farmers in the study area such as education, farming experience in the business, farm size among other affects cassava production while problems such as; inadequate funds, unfavourable prices and low availability of labour were among the major problems faced by the farmers in the study area. The study therefore recommends that, Public Private Partnership (PPP) should be explored by government so as to help the education of farmers with regard to new technology and innovations. More so, new management skills need to be addressed so as to minimize negative tendencies that are capable of aggravating inefficient use of resources. Government should ensure better funding of the extension service (i.e. workers) in the State through more training through workshops and seminars, provision of mobility such as motorcycles and motivation so as to boost their productivity and to enable adequate and timely supervision by supervisors with a view to make them extend knowledge to farmers. Accessible, affordable and simple agricultural production machineries and equipment for planting cassava cuttings and harvesting should be provided so as reduced the drudgery involved in cassava production which will ultimately improve farmer's technical efficiency. Financial institutions and the private sector should be encouraged to establish cottage type processing facilities in the study area that will include storage and packaging facilities so as to add value to cassava produced in order to meet both



local the export specification of cassava product. Government, private sector and the Non-Governmental Organizations (NGOs) should sensitize the farmers more on the formation of cooperative groups so as to benefit from the Nigeria Incentive-based Risk Sharing System for Agricultural Lending (NIRSAL) and also to enable them benefit from loan from commercial, agricultural and rural cooperative banks.

## REFERENCES

- [1] Agwu AE and Anyaeche, C. L. (2009). Adoption of improved cassava varieties in six rural communities in Anambra State, Nigeria. *African Journal of Biotechnology Vol. 6 (2): 89- 98*
- [2] Ajale AA (1992). Factors Associated with Improved Practices by Goat producers in Southern Nigeria, Department of Agricultural Extension, University of Nigeria, Nsukka.
- [3] Asante-Pok A. (2013). Analysis of incentives and disincentives for cassava in Nigeria. Technical notes series, MAFAP, FAO, Rome.
- [4] C.B.N (2004). Central Bank of Nigeria Statistical Bulletin and Annual Report and statement of Accounts for the year ended 31<sup>st</sup> Dec. A publication of Central Bank of Nigeria, pp. 48 – 52.
- [5] Cork JH (1985): *New Potentials for Neglected Crop*. West View Press, Bouldex. COUSA. P.10.
- [6] Cock JH (2005). Cassava: A new potential for a neglected crop. Wet view press, Boulder and London. 1985: 64-69.
- [7] Egesi, C., Mbanaso, E., Ogbe, F., Okogbenin, E. and Fregene, M. (2006). “Development of cassava varieties with high value root quality through induced mutations and marker-aided breeding”. NRCRI, Umudike Annual Report 2006. :2-6
- [8] FAO (2004), International Trade in cassava products: an African Perspective
- [9] FAO (2012). [www.fao.org/DOCREP/005/Y4636E/y4636e05.htm](http://www.fao.org/DOCREP/005/Y4636E/y4636e05.htm)
- [10] FMARD (2001): Nigeria Rural Development Sector Strategic Main Report. Federal Ministry of Agriculture and Rural Development, Abuja, Nigeria



R.M. Yuguda *et al*, International Journal of Advances in Agricultural Science and Technology,

Vol.1 Issue. 1, December- 2013, pg. 1-15

ISSN: 2348-1358

[11] Nwabueze, Joy Chioma (2011). “Cluster analysis of improved cassava varieties cultivated at Onne, Nigeria by the international institute of tropical agriculture”. African Journal of Mathematics and Computer Science Research Vol. 2(9): 196-201.

[12] Nweke FI, Spencer DSC, Lynam JK (2002). *The Cassava Transformation: Africa’s Best-Kept Secret*. Michigan State University Press, East Lansing.

[13] Nweze NJ (2002): *Agricultural Production Economics: Introduction text*. AP Express Publishers Ltd. Nsukka, Nigeria. UNDP (1999): Human Development Report.

[14] Nweke, F. (2004): “New challenges in the cassava transformation in Nigeria and Ghana. Environment and Production Technology Division”. International Food Policy Research Institute (IFPRI). Washington, USA.

[15] Okoro FU (1991). Factors Influencing Adoption of Improved Oil Palm Management practices Among Small Holders in Imo State. A Ph.D Thesis, Department of Agricultural Extension, University of Nigeria, Nsukka (unpublished).

[16] Okoro E, Lemchi J, Ezedinma C, Dixon A, Akoroda M, Sanni L, Okechukwu R, Marco P, Nkumbira J, Ogbe F, Illona P, Tarawali G (2005). Technological Challenges of Cassava Commercialization and Industrialization in Nigeria. Guest Paper Presented at the 2005 African Technology Day Organized by the African Institute of Applied Economics (AIAE) and the African Technology Policy Studies Network (ATPS).

[17] Oyegbami A, Oboh G and Omuetil O (2010). Cassava Processors’ Awareness of Occupational and Environmental Hazards Association with Cassava Processing in South – Western Nigeria. African Journal of Food Agriculture Nutrition and Development. Vol. 10(2): 2176 - 2186

[18] RMRDC (2004): Raw Materials Research Development Council, Abuja Report and Survey of selected Agricultural Raw material in Nigeria. Groundnuts Maiden Edition, Oct. 2004.

[19] TADP (2012): Crop Production Recommendation for Taraba state, Taraba press Ltd Nigeria. Pp. 31 – 39.

[20] Taraba State Government Diary (2013): Taraba State Official Diary, Government Printer Jalingo, Nigeria pp 25 – 29.

[21] Tsegaia DW and Patrick M, Kormawab PM (2009). The Determinants of Urban Households' Demand for Cassava and Cassava Products in Kaduna, Northern Nigeria: An Application of the AIDS Model. *European Journal of Development Research*. Vol. 21, 435–447