

## ECONOMICS OF BANANA MARKETING IN UMUAHIA SOUTH LOCAL GOVERNMENT AREA OF ABIA STATE, NIGERIA

*Offor, E. I, Onu D. O. and Nnamani, G. N.*

### ABSTRACT

*Department of Agricultural Economics, Michael Okpara University of Agriculture, Umudike  
Email:offorevelyn53@gmail.com phone : 08035979508*

*This study analyzed the economics of banana marketing in Umuhia South Local Government Area of Abia State. Specifically the study examined the marketing margin, marketing efficiency, profit, marketing channels and the determinants of profit of banana marketing in the study area. A total of sixty (60) banana marketers were randomly selected from a purposively selected six major markets for the study. The data for the study were collected with the aid of structured questionnaire. Statistical tools such as simple descriptive statistics (table and percentages) and regression model were used to analyzed data collected. A marketing margin of 32.8% per kg of banana was recorded. Thus, the business was profitable. Furthermore, the market showed a marketing efficiency of 45.2%. Determinants of profit in banana marketing were: age, Household size, marketing experience, quantity bought, and purchasing price, selling price. The recommends that marketers should form cooperatives, from which members could obtain loans at very low interest rates to finance their business.*

**Keyword:** *Economics, banana, net return, marketing*

### INTRODUCTION

Banana belongs to the genus *musa species* and originated from Southwest Asia and spreads across Latin America where it is widely cultivated. It grows both in the tropics and sub-tropic with central America and west indices producing most of the crop (yayock *et al.*, 1988; Nwaiwu *et al.*, 2004). It is a perennial crop that grows quickly and can be harvested all year round. Within the group of fruits and vegetables, bananas remain a key commodity all over the world (FAOSTAT, 2007). It is one of the top five popular fruits in the world and is the fifth most common food after rice, wheat and maize. FAOSTATS, (2015); Hatirli *et al.*,(2003). FAOSTATS, (2015) stated that in 2010, world production of banana reached 102 million tonnes, more than double the production in 1990. Of the total banana produced an estimated 20 percent were traded with an annual value of approximately USD 8.00 billion, as compared to USD 5.4 billion for apples, USD 4.0 billion for oranges and USD 2.1 billion for pears. In 2012, it was estimated that 139.2 million metric tons of bananas were produced. India, China, Uganda and Philippines dominated global production representing 18.0, 8.0, 7.0 and 7.0 percent of global production. Its importance as food crop in the tropical areas cannot be under estimated. Statistics has it that in Uganda, its annual consumption per capita was 203kg, Rwanda, Gabon and Cameroon consumed 100-200kg per capita. In these four countries banana accounts for between 12 and 27% of daily calorie intake (FAOSTAT, 2007). Similarly, Nwaru *et al.*, (2011) posited that banana and plantain are playing very important role in fighting against poverty because they are one of the cheapest food crop to produce. They also serve as sources of income to rural dwellers and can be afforded by low-income families hence they are increasingly coming into focus as household crops in Nigera. According to FAOSTAT, (2007) statistics, out of the 92 million tons per annum produced in 1998-2000, about 85% of the total production comes from relatively small plot and backyard gardens. In many developing countries its bulk output is consumed or locally traded thereby playing a crucial role in food security.

Banana marketing serves as sources of foreign exchange to many countries as well as providing employment opportunity to the local traders who participate in its marketing. Marketing of agricultural products entails the identification of needs of the end consumers and to meet their needs thereby providing utility for consumers. Marketing plays an important role because production centers are fragmented and production is carried out by smallholder farmers who are resource poor. Therefore these farm produces are transported through along distant from production point to consumption center where demand is higher. These intermediaries perform one function or the other by creating one form of utility as the product moves from one point to another. Several studies have shown that postharvest losses have affected agricultural production negatively. The problem of high perishability that is associated with agricultural produce is not left out in banana. Akalumbe *et al.* (2000) stated that poor postharvest handling practice has been fingered as a major problem confronting agricultural production in Nigeria. Murthy *et al.* (2007) also opined that Post-harvest losses from handling, transport, storage and distribution are the major problems in agrarian economy, especially in perishable fruits and vegetables. This results to low per capita availability and huge monetary losses to producers. This is confirmed by scholars like Nwaru *et al.* (2011) who stated that poor storage and marketing facilities have further compounded the problem of low resource productivities and efficiency. Nwaiwu *et al.* (2004) also posited that, there exist inefficiency in the marketing system of agricultural fresh produce, that the marketers who are small entrepreneurs exploit the situation to the disadvantage of the producers and consumers. This inefficiency in the system causes variation in prices of agricultural supply due to the seasonality of production and inadequate marketing facilities such as

storage facilities that ensures all year round supply of commodities thus creating the utility value of time. It is therefore very imperative to analyze the economics of banana marketing in the study area. Hence the study addressed the following objectives (i) profit (net returns), (ii) ascertained the marketing margin and (iii) estimated marketing efficiency (iv) estimated the determinants of net income (v) describe the marketing channel, and identified constraints to banana business in the study area.

## MATERIALS AND METHODS

The study was carried out in Umuahia South Local Government Area (LGA) of Abia State, Nigeria. Umuahia South lies between latitude 5<sup>o</sup>.30' N and longitude 7<sup>o</sup>.26' E. It has an area of 140km<sup>2</sup>, and a population of 138,570 (2006 census). It is bounded by Umuahia North, by the north, Isiala-Ngwa North by the south and South East, Ikwuano, by North East, demarcated to the left from the Imo River. The people speak Ibeku and Ohuhu as their dialect, and Igbo as a common language. The dwellers are mostly subsistent farmers and civil servants. Some crops grown in the area include cassava, yam, maize plantain, banana, okra, fluted pumpkin etc. The study made use of primary data, sourced from the banana marketers. Data collected include purchasing cost, selling price, quantity purchased, quantity sold, age of marketers etc. A simple random sampling technique was used to select markets for the study, six (6) markets were randomly selected and ten (10) marketers were randomly selected from each market among banana marketers. These gave a total of 60 marketers.

Objective one on net return was realized using the net income analysis as used by Obasi *et al.* (2012)

Net Return (NR)  $\pi = \text{Total Revenue (TR)} - \text{Total Cost (TC.)} \dots (1)$

Objective two on marketing margin was analyzed using the formula adopted from

Olukosi *et al.* (2005)

$$\text{Marketing margin (MM)} = \frac{\text{Selling Price (SP)} - \text{Purchasing Price (PS)}}{\text{Selling Price (SP)}} \times \frac{100}{1} \dots (2)$$

The third objective on marketing efficiency was realized using the formular as adopted from Olukosi *et al.*, (2005)

$$\text{Marketing Efficiency (ME)} = \frac{\text{Value added through marketing (Net Return)}}{\text{Total Marketing Cost (TMC)}} \times \frac{100}{1} \dots (2)$$

The fourth objective on the determinants of net income was realized using the multiple regression analysis. The model is implicitly stated as:

$$Y = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8) \dots (3)$$

Where y, is the net return derived as TR – TC where TR is the total revenue or (returns) from sales and TC is the total cost incurred in the course of the business in naira.

Y	=	TR – TC
X <sub>1</sub> ,	=	Age of respondents in years
X <sub>2</sub> ,	=	Education level in years
X <sub>3</sub> ,	=	Household size
X <sub>4</sub> ,	=	Marketing experience in years
X <sub>5</sub> ,	=	Quantity bought in (kg)
X <sub>6</sub> ,	=	Purchasing price in (naira)
X <sub>7</sub> ,	=	Selling price in (naira)
X <sub>8</sub> ,	=	other marketing cost in (naira)

## RESULTS AND DISCUSSION

### Net return, marketing margin, and marketing efficiency of banana marketers in the study area

The net return, marketing margin and marketing efficiency of banana marketers in the study area is presented in Table 1. The table showed that the average purchasing and selling prices of 1kg of banana by marketers were ₦391.6 and ₦583.3 respectively while, the marketing margin and marketing efficiency 32.8% and 45.2% were obtained respectively. The marketing efficiency estimate of 45.2 shows inefficiency. Although there is room for the marketing efficiency in the study area to be improved upon. The result further showed, that banana marketing was profitable in the study area as a net returns of ₦27, 255 was realized monthly. This result showed a high margin which enabled the marketers to realized enough income to offset the marketing expenditures incurred hence profit. The findings is in consonance with the findings of Nwaru *et al.*, (2011) who found out that banana marketing in Umuahia Agricultural Zone was profitable. More so, the findings indicated a rate of return on investment of 1.45% implying that for every ₦1 a marketer invested in the marketing of Banana in the study area, he earned ₦1.45.

Table 1: Estimate of Monthly Average Net return, Marketing Margin, Marketing Efficiency of Banana Marketers in the study area

Items	Amount
Purchasing cost per /kg	391.6
Quantity bought 150	58,740
Transportation cost	1000
Cost of nylon	200
Marketing charges	300
Total cost (TC)	60,240
Sales	
Selling price per/ kg	583.3
Quantity sold 150kg	87,495
Total revenue (TR)	87,495
Net return (TR-TC)	27,255
Marketing margin	32.8%
Marketing efficiency	45.2%
Rate of return on investment	1.45

Source: Field survey (2015)

### Determinants of net return of banana marketers in the study area

The determinants of net returns from banana marketing in Umuahia South Local Government Area of Abia State is presented in Table 2. From Table 2: Double-log functional form was chosen as the lead equation. The choice was based on the high value of  $R^2$  (0.889), conformity with *a priori* expectations in respect of the signs of the estimated coefficients of the explanatory variables in the model. The  $R^2$  of 0.889 implies that 88.9% of the total variations in profit (Y) were accounted for by the dependent variables (Xs). Result of the analysis shows that years of marketing experience, selling price and quantity bought are positively related Factors influencing net returns of banana marketing in the study to net returns (profit). Thus, 0.223, 0.237 and 0.747 unit increase each years of marketing experience, selling Price and quantity bought would bring about one unit increase respectively in marketers net returns and vice versa provided that other regressants remain constant. On the other hand, the coefficients of age, household size and purchasing price were negatively signed and statistically significant at 1%, 10% and 5% alpha levels respectively implying that 0.105, 0.030 and 0.214 unit increase in each age, household size and purchasing price would result in corresponding one unit decrease respectively in respondent's net returns.

Table 2: Determinants of Net return of Banana Marketing in the study area

Variable	Linear	Exponential	+Double log	Semi log
Constant	6264.16*** (7.13)	10.422** (31.878)	1.245 (0.39)	23.22 (0.415)**
Age(X1)	-10111.23 (-0.973)	-0.002 (-0.025)	0.105*** (0.796)	0.944 (13.937)*
Educational level(X2)	23.158 (0.412)	0.986 (0.211)	-0.66 (-0.548)	-754.25 (-0.25)
Household size(X3)	1417.577** (2.319)	5.933E-8** (6.433)	-0.030* (-0.275)	-0.506 (2.340)
Marketing experience(X4)	-3073.193 (-1.581)	0.003 (1.349)	0.223** (2.082)	-0.122 (3.060)
Quantity bought(X5)	100.218** (4.316)	4.391E-5 (0.118)	0.237** (2.099)	2.798 (0.284)
Purchasing price(X6)	0.750 (5.368)	0.298* (0.121)	-0.214 ** (-2.111)	0.2212 (0.400)
Selling price(X7)	2.652* (0.658)	8621.552* (26.12)	0.747*** (6.719)	0.350 (3.288)
Other marketing cost(X8)	424.422 (1.262)	0.0111 (0.376)	0.010 (0.075)	-0.009 (-1.01)*
R2	0.861	0.871	0.889	0.726
R-2	0.817	0.829	0.854	0.639

Source: Field survey data, 2015

Note: \*\*\* significant at 1%, \*\* significant at 5%, \* significant at 10%, + lead equation, Figures in parenthesis are t-ratio

### Constraints to banana marketing in the study area

The constraints in the study area as identified by marketers are presented in Table 3. Result, showed that inadequate capital and inadequate storage facilities were the two major constraints identified by the banana marketers confronting banana marketing. All the respondents (100%) sampled for the study identified inadequate

storage facilities and inadequate capital as major problems. These were followed by seasonal variation, about 83% of the marketers indicated seasonal price variation as the second most important constraint facing them in banana business. High cost of transportation was the third most serious problem the marketers faced. Nevertheless, poor information dissemination was the least problem they faced in banana marketing.

Table3: Constraint to banana marketing in the study area

Constraints	Frequency	Percentage
Poor funding/inadequate capital	60	100
Inadequate storage facilities	60	100
Seasonal Price Variation	50	83.3
High cost of Transportation	30	50.00
Poor dissemination of information	10	16.6

Source: Field Survey 2015

## CONCLUSION AND RECOMMENDATION

From the findings of this study, it could be concluded that banana marketing is profitable. The marketing efficiency was inefficient, among the variables that positively influenced net return were years of marketing experience, selling price and quantity bought. Finance is the topmost problem that faced the marketers, this study therefore recommends that the marketers should come together to form banana marketers cooperative groups, from which members could obtain loans at very low interest rates to finance their business. Such groups can also have a common warehouse with adequate storage facilities and security, where members could store their banana before they are ready to be sold. This will guard against deterioration in quality.

## REFERENCES

- Abdalla, A. O., Mahasin, E. D. and Babiker, I. H. 2015. Evaluating Markets of Banana for Sudan. *International Journal of Innovative Science, Engineering and Technology*, 2(5): 679-692.
- Akalumbe. Y. O, Vuylsteke, D. and Ortiz, R. 2000. Marketing of Agricultural Product for postharvest quality improvement. A case study of for plantain marketing system in South Western Nigeria. A Paper presented at 29<sup>th</sup> Annual Conference of Agricultural Society of Nigeria 31<sup>st</sup> October - 3<sup>rd</sup> November 1993 (1990).
- Food and Agricultural Organization, (FAO) 2015. Promoting Production and Marketing of Organic Bananas in Asia.
- Food and Agricultural Organization (FAO) 2009. Agricultural and Food Marketing Management *FAO Corporate Document Depository*.
- Food and Agricultural Organization of the United Nation 2007. Production Statistics.
- Hatirli, S. A., Jones, E. and Aktas, A. R. 2003. Measuring the Market Power of the Banana Import Market in Turkey. *Turk Journal Agriculture* 27: 367-373.
- Nwaru J. C, Nwosu, A. C. and Agommuo, V. C. 2011. Socioeconomic Determinants of Profit on Wholesale and Retail Banana Marketing in Umuahia Agricultural zone of Abia State Nigeria. *Nigeria journal of Sustainable Development in Africa* 3 (1):1-12.
- Murthy, S. D., Gajanana, T. M, Sudha, M and Dakshinamoorthy, V. 2007. Marketing Losses and Their Impact on Marketing Margins: A Case Study of Banana in Karnataka. *Agricultural Economics Research Review* 20: 47-60.
- Obasi, I. O., Mejaha, R. O. and Okacha, M. S. 2012. Dried Maize Marketing in Aba South Local Government of Abia State, Nigeria. Implication for Employment. International Conference on Trade Tourism and management (IC TTM 2012) Bangkok Thailand, Pp 53-55.
- Olukosi, J. O., Isitor, S. U. and Ode, M. O. 2005. Introduction to Agricultural Marketing and Prices: Principles and Applications. 2nd Edition, Living Books Series, GU publication, Abuja, Nigeria:
- Yayock, Y., Lombin, G. and Owonubi J. J. 1988. Response of Plant Ratoon Plantain Crops to K<sub>2</sub>O<sub>5</sub> Fertilization. *Internet paper accessed 24/12* <http://kari.academia.edu/johnsiyam> paper.
- Abdalla, A. O., Mahasin, E. D. and Babiker, I. H. 2015. Evaluating Markets of Banana for Sudan *International Journal of Innovative Science, Engineering and Technology*, 2 ( 5): 679-692.
- Akalumbe. Y. O, Vuylsteke, D and Ortiz, R. 2000. Marketing of Agricultural Product for postharvest quality improvement. A case study of for plantain marketing system in South Western Nigeria. A Paper presented at 29<sup>th</sup> Annual Conference of Agricultural Society of Nigeria 31<sup>st</sup> October-3<sup>rd</sup> November 1993(1990)
- Food and Agricultural Organization, (FAO) (2015). Promoting Production and Marketing of Organic Bananas in Asia.
- Food and Agricultural Organization (FAO) (2009). Agricultural and Food Marketing Management *FAO Corporate Document Depository*.

- Food and Agricultural Organization of the United Nation. 2007. Production Statistics
- Hatirli, S. A., Jones, E. and Aktas, A. R. 2003. Measuring the Market Power of the Banana Import Market in Turkey. *Turk Journal Agriculture* 27: 367-373
- Nwaru, J. C, Nwosu A. C. and Agommuo, V. C. 2011. Socioeconomic Determinants of profit on wholesale and Retail Banana Marketing in Umuahia Agricultural zone of Abia State Nigeria. *Nigeria journal of Sustainable Development in Africa* 3(1):1-12.
- Murthy, S. D., Gajanana, T. M, Sudha, M. and Dakshinamoorthy, V. 2007. Marketing Losses and Their Impact on Marketing Margins: A Case Study of Banana in Karnataka *Agricultural Economics Research Review* 20: 47-60
- Obasi I. O., Mejaha, R. O. and Okacha, M. S. 2012. Dried Maize Marketing in Aba South Local Government of Abia State, Nigeria. Implication for Employment. International Conference on Trade Tourism and management (IC TTM 2012) Bangkok Thailand, Pp 53-55.
- Olukosi, J. O., Isitor, S. U. and Ode, M. O. 2005. Introduction to Agricultural Marketing and prices: Principles and Applications. 2nd Edition, Living Books Series, GU publication, Abuja, Nigeria:
- Reddy S. S., Ram, P. R., Sastry, T. V. N. and Devi, I. B. 2004. *Agricultural Economics*: Oxford and I.B.H Publishing Co LTD, New Delhi Indian.
- Yayock, Y., Lombin, G. and Owonubi J. J. 1988. Response of Plant Ratoon Plantain Crops to K.O Fertilization. *Internet paper accessed 24/12* <http://kari.academia.edu/johnsiyam> paper