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SOCIO-ECONOMIC DETERMINANTS OF AFRICAN EGGPLANT (*SOLANUM GILO*) MARKETERS IN ABIA STATE, NIGERIA

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ABSTRACT
The study focused on the socio-economic determinants of African eggplant in Abia State. A multi-stage sampling technique was adopted in selecting 120 respondents and a set of well-structured questionnaire was used in data collection. The result of the multiple regression analysis showed that age, marital status, education, type of trader, number of bags of garden egg sold, gender and co-operative society significantly influenced the quantity of African eggplant marketed by traders in the study area. There is the need for extension agents to intensify effort in improving, educating, and encouraging the traders to belong to social organization because of benefits derived from it and for increase in the quantity of the products marketed.

Key Words: African Eggplant, Marketers

INTRODUCTION

Agricultural marketing engages about 60 percent of the Nigerian population, majority of who are small scale (petty) traders, who market products with traditional and indigenous technologies (Iheke, 2010). They equally earn low incomes, have problem of poor marketing facilities, poor storage and preservation techniques, bad rural road network, poor health facilities, unfavourable government policies and lack of technological know-how. These have resulted to impoverishment, or failure of Nigerian agricultural marketers meeting up with the food challenges of the nation's teeming population.

Market denotes the interaction of the forces of demand and supply, irrespective of the physical location of buyers and sellers. A market exists when buyers wishing to exchange money for a good or service for money (Asumugha, 1999). Marketing of African eggplant involves all those legal, physical and economic services which are necessary to make products move from the production unit to point of consumption. It involves not only the physical movements of the goods and services to points where the produce are wanted, but also putting them into the form and amount desired and having them ready at the time needed (Iheke, 2010). Goods produced and sold by farmers must be assembled, stored, transported, processed and delivered in the form needed, at the time and to the places desired by consumers (Onunka, 2005). Asumugha (1999) described marketers and traders as agents of development and resource allocation and risk takers. For him, markets are usually monopolized by a few who are able to reap excessive profits at the expense of producers and consumers.

Marketing is a function that assesses consumer needs and then satisfies them by creating an effective demand for, and providing the goods and services required by consumers. It is in the whole process that occurs between production of any surplus goods or services and their consumption or use (Iheke, 2010).

Agricultural marketing has been described as a specialized business, even bigger than agricultural production (Shepherd and Futrell, 1999). This is because getting food from the producer to the consumer costs more than producing the food in the first place. According to them, it takes more men as well as more money to market farm products than it does to produce them. This may be probably because of the distance between the production areas and consumers. F.A.O. (2004), indicated that availability and nearness to marketing for agricultural produce were strongly influenced by production, showing that the higher the production, the higher the quantity that will be marketed. In as much as that was a fact, in some cases, the reverse might be the case. Take for an instance the fact that Nigeria is the largest producer of cassava roots in the world, yet Thailand which produces less than half of Nigeria's total output, controls over 80% of the market share in the world trade (F.A.O., 2004). In this case, the level of local consumption affected Nigeria's cassava world trade negatively.

African eggplant or garden egg (*Solanum gilo)* is among the oldest vegetables. It is an indigenous tropical African crop grown in Nigeria for its nutritional, medicinal and economic values of the leaves and fruits, with various varieties of economic importance commonly produced in Southeastern Nigeria. Onuoha, (2005); Okafor (1993) and Maraizu (2007) stated that garden egg contains a lot of mineral, vitamins, carbohydrate and water substances which are important and highly beneficial for the maintenance of health and prevention of diseases. Chadha and Oluocha (2003), reported that garden egg as a vegetable, has been affirmed to be recommended to tackle malnutrition problem in Africa, especially among women of childbearing age and children under 5 years old.

African eggplant fruits could be consumed raw as snacks by both adult and children. In Southeastern Nigeria, the fruits of garden egg (*Solanum gilo*) are served alongside with kola nuts (*Cola accumilata)* in both big and small ceremonies such as marriages, festivals, traditional title taking, meeting and others (Okafor, 1993). In most Igboland, garden egg or Ańara as popularly called, is sliced and mixed with Tapioca in the preparation of special native salad or dishes such as "Nsisa" or "Ugba" (Nwaorie and Agbaravoh, 2002). The fruits of some biter species like *Solanum melengena* are cooked and used in the preparation of sauces for cocoyam and yam porridge (Onwuka, 2005). It also offers gainful employment among the rural households and its cultivation is not limited to any age or sex (Anuebunwa, 2007).

Akinpelu and Ogbonna (2005) revealed that African eggplant (Ngwa large) is commonly and generally cultivated at every home in Ngwa area of Abia State, Nigeria. They further identified some of the constraints in the production as high input cost, particularly labour, planting materials, transports and agro-chemicals by farmers. Several other researchers like Onuoha, (2005) and Marizu, (2007) reported that African eggplant is faced with a lot of challenges which include pest and disease and distribution of the produce to areas of needs. What have not been established or known is the socio-economic determinants of African eggplant marketers in Abia State, Nigeria. Considering the importance of the Africa eggplant as a cherished delicacy, snacks and vegetable in livelihood of farm households in the study area, Abia State, it is therefore, expedient to examine the socio-economic characteristics of marketers of the crop in the state. Therefore, the broad objective of the study is to determine the socio-economic characteristics of African eggplant marketers in the study area.

METHODOLOGY

The study was carried out in Abia State which has three agricultural zones. The three agricultural zones (Aba, Ohafia and Umuahia} were involved. Abia State has a land area of

7627.20 square kilometers, with a population of 2,883,999 made up of 1,434,193 (55%) males and 1,399,806 (45%) females (NPC, 2006). It is bounded in the south by Rivers State, South-east by Akwa-Ibom, sharing boundaries with Cross-Rivers State in the North-east, while in the West and North, it shares boundaries with Imo, Anambra and Ebonyi States respectively. Abia State is located between Latitude 4.40^1 and 6.14^1 North and longitude 7.10^1 and 8^1 east. It is in the humid tropic of the country with two distinct seasons; the rainy and dry seasons. The state has favourable warm climate for the growth of cash, food crops and rearing of livestock.

A multi-stage random sampling technique was used for the study, in selecting four (4) markets from each of the zones. In each market, ten (10) African eggplant traders/sellers were randomly selected and interviewed with well structured questionnaire, giving a total of 120 respondents or traders. The data collected were analysed with descriptive statistics (percentages, frequencies, mean and tables) and multiple regression analysis. Four functional forms were tried, namely, linear, exponential, semi-log, and double log.

The model analysed is specified explicit in the form below:

$$\text{In } C = b_0 + b_1 + \text{In } X_1 + b_2 \text{ In } X_2 + b_3 \text{ In } X_3 \text{ ----------} b_{11} + X_{11} e_i$$

Where: In = the natural logarithm
C = log of quantity marketed (kg)
X_1 = age (in years) of marketers
X_2 = household size (in number)
X_3 = marital status (dummy variable; 1 = married, O = not married)
X_4 = educational status (years)
X_5 = trading experience (years)
X_6 = type of trader (dummy variable, 1 = full time, O = part time, trader).
X_7 = access to credit (dummy variable, 1 = access, 0 = no access)
X_8 = number of bags of garden egg sold
X_9 = gender (dummy; 1 = males, 0 females)
X_{10} = co-operative society (dummy; belong = 1, not belong = 0)
X_{11} = extension visits/contacts (dummy: yes = 1, No = 0)
ei = error term

RESULTS AND DISCUSSION

The data in Table 1 showed the average statistics of African eggplant marketers in Abia State, Nigeria. The result in Table 1 revealed that the mean age of the respondents was 42 years. This result is consistent with Nwaru and Ekumankama, (2002) that reported the mean age of 42 years and 49 years for men and women crop farmers respectively in Abia State. The mean household size of the farmers was 8 persons living under same roof. Iheke (2010) noted that the more the number of people working in the household, the more the household income, *Ceteris paribus* and hence improved welfare of the household. Table 1 also showed the mean marital status as 86. This implied that most traders were married in the study area. The more the respondents get married, the more the increase in the responsibility levels and the more the production levels and hence, increased productivity of the respondents. The mean year of educational status of the traders was 7 years. This indicated that most marketers had mainly primary school education. This is not desirable because, the level of education of a respondent not only increases his/her production but also his/her ability to understanding new techniques.

This might affect the marketing of African eggplant negatively in the study area. Iheke, (2010) opined that educational attainment of a respondent will increase his/her versatility and equip him/her with other skills and hence, his ability to engage in other income generating activities.

Table 1: Summary Statistics of the Socio-Economic Distribution of African Eggplant Traders in Abia State

Variables	Mean	Standard Deviation	Minimum	Maximum
Age	41.72	11.63	23	63
Household size	7.31	3.93	3	17
Marital status	86.2	48.4	60	95
Educational status	7.30	3.89	3	10
Year of trading experience	8.20	11.93	3	18
Number of bags sold	10	6.33	3	15

Source: Survey Data, 2009. Number of Traders = 120

The mean year of trading experience of African eggplant farmers was 8 years. This showed that the traders had large number of year of experience in the business, which might give an indication of high practical knowledge required to overcome marketing challenges associated with the business. Obasi, (1991) reported that respondents would count a lot more on their experience for increased productivity rather than their education attainment. The mean number of fruit bags sold in a week by the traders was 10 bags. This implied that African eggplant traders sold high number of bags in a week which, indicated that the business was flourished. It invariably means that the more the number of bags sold, the more the increase in the quantity marketed by the traders in the study area.

Table 2 showed that most traders (71.7%) bought their wares in large quantities from the rural market while a reduced percentage (1.67%) bought from hawking. Also, majority (52.5%) of the traders retailed small quantity of the fruits to customers in urban markets whereas, few (0.8%) sold to consumers at farm gate.

Table 2: Distribution of the Traders According to Marketing Venues in Abia State

Marketing Venues	Market Freq.	Bought Percentage	Market Freq.	Sold Percentage
Farm gate	11	9.17	1	0.83
Rural market	86	71.66	20	16.67
Urban market	3	2.50	63	52.50
Peri-urban	18	15.00	10	8.33
Hawking	2	1.67	26	21.67
Total	**120**	**100**	**120**	**100**

Source: Survey Data, 2009.

The regression analysis of socio-economic characteristics of African eggplant traders and the quantity marketed is shown in Table 3. The result revealed that out of four functional forms tried, namely, linear, exponential, double-log and semi-log tried. Using statistical and economic criteria, the linear functional form gave the best fit, comparatively. The R^2 was 0.65 while F-ratio

was statistically significant at 1.0% risk level. The result also revealed that seven independent variables such as age, marital status, education, and type of trader, number of bags sold, gender and co-operative society belonged were significant at a given level of probability. The result showed that age (X_1) of the traders was positively (3.5324) related to quantity of the produce marketed at 1.0% risk level. It implied that as the African eggplant traders advance in age, the quantity of the wares marketed increased. This is in agreement with the findings of Idiong (2005) that the older a farmer becomes, the more he or she is able to combine his/her resources in an optimal manner even with the available technology. The Table revealed that the coefficient (3.8640) of marital status was positively related to quantity of African eggplant marketed by traders at 5.0% probability level. The implication of this result was that an increase in the marital status led to increase in the quantity of the produce marketed. This might indicate that spouses help each other in the marketing of African eggplant in the study area (Nwaru and Ekumankama, 2002).

Table 3: Regression Analysis of Socio-Economic Characteristics of African Eggplant Traders in Abia State

Variables	Linear +	Exponential	Semi-log	Double-log
Constant	-24.9353	4.2528	-0.9662	-1299.393
	(4.53)***	(1.57)	(-1.91)*	(-2.42)
Age (X_1)	3.5324	0.0098	0.4707	189.9005
	(4.53)***	(1.57)	(1.91)	(2.42)*
Household (X_2)	-4.0104	-0.0087	-0.0486	-66.5755
	(-0.78)	(-0.49)	(0.034)	(-1.48)
Marital status (X_3)	3.8640	0.0341	0.0897	7.684
	(0.14)**	(0.34)	(0.97)**	(0.26)
Education (X_4)	6.5063	-0.0037	0.0608	-46.8953
	(2.67)**	(-0.24)	(0.57)	(-1.39)
Trading experience (X_5)	0.2485	0.0001	0.0110	6.9488
	(0.23)	(0.03)	(0.20)	(0.37)
Type of trader (X_6)	64.8374	0.1643	0.1954	71.0429
	(2.29)*	(1.60)	(2.13)*	(2.43)***
Credit (X_7)	-4.2131	0.0469	0.0397	-7.7652
	(-0.57)	(1.64)	(1.52)	(-9.94)
No. of bag sold (X_8)	0.9039	0.0032	0.8234	98.0799
	(6.95)***	(6.97)***	(9.50)***	(7.18)***
Gender (X_9)	-46.4809	-0.4069	0.2507	-72.3155
	(-2.20)*	(-2.47)**	(2.36)**	(-5.86)***
Co-operative (X_{10})	230.3273	0.3384	0.2208	197.641
	(6.02)***	(2.86)**	(0.99)*	(5.61)**
Extension visits (X_{11})	-33.6731	-0.0301	0.0307	-14.6104
	(-0.71)	(-0.02)	(0.22)	(-0.92)
R^2	65	51	61	65
$\bar{R}$	61	46	57	61
F-ratio	19.94***	11.25***	16.55***	19.57***

Source: Survey Data, 2009.
****, ** and * are significant at 1%, 5% and 10% levels respectively.*
Figures in parenthesis are the t-ratio
+ = Lead equation.

The result on Table 3 also revealed that education (X_4) of the traders was positive and significantly related to quantity of African eggplant marketed. The indication of the result might be that the more educated the traders were, the more the quantity of the products marketed. FAO (2006), reported that education is an important source of empowerment for increased productivity in all facets of life. The result showed that the coefficient (64.84) of type of trader was positive and significant at 10% level of risk. This implied that full-time traders sold more than the part-time ones, indicating that the more the full-time traders, the more the quantity of African eggplant marketed. This also implied that a 1.0% increase in type of trader resulted to an increase of 64.84kg quantity of African eggplant marketed by the traders in the study area.

The result revealed that the coefficient (0.9039) of number of bags sold was positive and highly significant at 1.0% probability level. This showed that number of bags sold had a direct relationship with the quantity of African eggplant marketed by the traders. It therefore, implied that an increase in the number of bags of African eggplant marketed by traders depends on the ability of the marketers to interact and socialize with the customers Ekwe *et al.,* (2008). The results revealed that the coefficient (-46.4809) of gender was negative and significant at 10.0% risk level. This implied that the increase in the number of males in the business will lead to decrease in the quantity of African eggplant marketed. This business is gender sensitive. The negative value on the gender coefficient indicated that females are more likely to sell African eggplant than the males. Okoye *et al.,* (2010) noted that female-headed households have a greater likelihood of participation in cassava markets than male-headed households in south-eastern Nigeria.

The result further indicated that membership of co-operative society (X_{10}) was positive and highly significant at 1.0% risk level. This implied that membership of co-operative society had a direct relationship with the quantity of African eggplant marketed by the traders. The indication was that, the more the traders belong to co-operative society, the more the sales of the products. This could imply that traders derived some benefits such as loan and protection against marketing forces, from co-operative societies. Alayebi and Owoeye (2007) reported that social organizations are organized for the aim of enhancing membership social status, psychological well-being and other benefits in the society.

CONCLUSION AND RECOMMENDATIONS

The results of this study indicated that important independent variables directly related to quantity of African eggplant marketed by traders were age, marital status, and education, type of traders, number of garden egg bags sold, gender and co-operative society. These results call for policies designed to improve and encourage African eggplant traders in the marketing of the products in the study area. The result has shown that membership of co-operative society had relationship with increase quantity of produce marketed. Therefore, there is need for extension agents to educate and direct the traders on the importance of belonging to co-operative society for improved marketing of the produce in Abia State.

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