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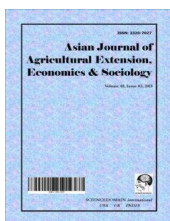
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Analysis of Factors Affecting the Marketing of Kola Nut in Ogun State, Nigeria

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Authors' contributions

This work was carried out in collaboration between all authors. Author OT designed the work, did the statistical analysis and wrote the first draft. Authors TRS and TAGO read through the draft and managed the literature search and edited the manuscript while authors JOL and ATY took part in data collection and data imputation. All authors read through the manuscript and gave approval to the final manuscript.

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ABSTRACT

The study examined the Analysis of factors affecting marketing of kola in Ogun State, Nigeria. Data were collected from Three Local Government Areas of Ogun State namely, Ijebu North, Odogbolu and Sagamu where 60 kola marketers in each of the kola markets in the area were randomly selected using multistage sampling technique. The study shows that most kola marketers are of age, married and are mainly female with little or no education. The factors that significantly affect the marketing of kola are the income earned per year by the marketers, source of kola nut and the preference of kola type consumed. It was recommended that the marketers be given some form of adult education and that kola production should be encouraged so as to increase the marketer's source of buying kola nut particularly, the production of preferred kola nut by consumer which is the pink type.

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1. INTRODUCTION

Kola nut (*Cola acuminata*) also known as abata, and *Cola nitida* called gbanja or goro) is the seed kernel of a large African tree grown commercially around the world. It originates from the Congo and throughout West Africa, but today, it is cultivated in Jamaica, Indonesia and South America. In Nigeria, Kola is the second most important indigenous cash crop. It is estimated that the country currently produces 70% of world's kola nuts with an annual production of 250,000 metric tons of fresh nuts mostly from south-west (Oludemokun [1]).

Kola nut came to Ogun state in 1902 from Agege. It spreads to the South –south and Eastern part of Nigeria (Eijnattan [2]). It is generally grown in the south west where there is favorable condition for it to grow while its major market is in the northern part of the country.

Kola nut serves as stimulant for the consumers and also for industrial uses as beverage and cough syrup made from its juice. Kola nut and kola by-products are noted for many industrial and domestic uses thereby contributing immensely to local and foreign exchange earning of the country. The nuts are nutritious, containing nearly 1% protein, 1.35% fats and 45% starch. (Quarcoo [3]). Kola nut is been used as an alternative natural medicine in Europe and America. It also has industrial usage for the production of drugs, soft drinks, wines, candies, beverages, animal feed formulation, liquid soap and dyes (Beattie [4]; Daramola [5]).

Its chief constituents are caffeine, theobromine, tannins and phenolics, kolatin and kolanin. Kola nut has thermogenic and stimulant properties. The high caffeine content acts as a powerful stimulant, and it is said to create a feeling of euphoria. Tribal people of Africa chew the nut for stamina and to help ease hunger. It is often offered as a gift to tribal leaders and visitors.

1.1 Kola Nut Marketing

Kola nut has for some centuries served as an important crop of trade in Nigeria and other part of Africa (Nzekwu [6]). Kola marketing is dated back to the era of the Ghana, Songhai, Benin and Kanem Borno empire.

Opeke [7], noted that the grading and pricing system as well as the quality of kola sold by marketers are generally not standardized hence market is therefore based on mutual understanding between sellers and buyers. Akinbode [8] stated that most of the retailers/farmers sell their product in smaller unit such as cups and bowls or baskets.

A good quantity of kola is exported to other African countries and Europe as well as North America thereby generating foreign exchange for Nigeria. It is estimated that the internal kola nut market in Nigeria is worth about Thirty Million naira (N30, 000.000), while in 1970, kola nut export fetched USD \$157,500 to Nigerian government (Pala [9]). The white and bright coloured nuts attract more premium than the red and dull colored nuts.

Kola nut marketing is carried out by the producers who sell at the farm gate or village site to either the wholesalers in rural and urban areas or directly to the retailers who are mostly women (Momoh et al. [10]). The farmers process the kola nuts from the pods before selling to the consumers. It was noted by Eusebus [11], that small holder farmers are located in remote areas with poor marketing information and market infrastructure. The marketing information required by these marketers include policies which influence prices, how to store kola nut, insecticides used during storage, marketing outlets, handling of kola nut, etc.

A study conducted by Adedokun et al. [12] on edible Kola nut revealed that the major problems faced in kola nut business was basically that of storage with insect infestation at 53.33% and heat 51.67% hence a huge lose of quality and therefore reducing the price value of the product.

Another study conducted by Eze [13], on variables affecting kola marketers' net returns reveal that the net returns from sales of kola were N1, 791.80 and N9, 843.80 for on season and off season respectively. The profitability index was 1.17 and 1.85 for on season and off season respectively, indicating that kola is a profitable business especially during off season.

Adedoyin [14] noted that availability and effectiveness of marketing infrastructures like

storage facilities, transportation facilities and communication networks determine the ability of marketing system to effectively and efficiently perform its developmental function; furthermore, the study revealed that adequate transportation network must exist for effective distribution of kola nut to take place. This is also in line with the findings of Ajani [15] that the major problems of kola marketers were inadequate capital, poor storage facilities, and high cost of transportation, language barrier, inadequate supply of kola nut, poor market experience and other losses emanating from sprouting and theft.

The existing transportation network, market information, storage, training among other factors remains unsatisfactory and does not facilitate effective distribution of kola to the wholesalers, retailers and consumers in the major areas especially at harvesting peak periods. Hence the question, what are the factors that affect kola nut marketing in the study area? Information on these factors will help in the understanding of the factors affecting kola nut marketing in the study area.

1.2 Objective of the Study

The major objective of the study is to determine the factors affecting the marketing of kola nut in the study area and to describe the socio economic characteristics of the kola marketers in study area.

2. METHODOLOGY

2.1 Study Area

The study is based on farm level data on Kola-nut farmers/marketers in Ogun State, Nigeria. Ogun State is located in the south western region of Nigeria with twenty Local Governments Areas. It lies between latitude 6.2°N and 7.8°N and longitude 3°E and 5°E. Ogun State falls within the rain forest zone of Nigeria where cocoa, kola nut, oil palm and cashew are mostly cultivated by the farmers who are mostly peasant farmers.

2.2 Data Collection and Sampling Techniques

In carrying out the study, primary data derived from the administration of a structured questionnaire using a multistage sampling technique was used. Three Local Government

Areas namely: Ijebu North, Odogbolu and Sagamu were purposively selected. This constitutes the first stage. The second stage involves a simple random selection of a community (with a designated market for kola) from each of the local government areas. The third stage involves the selection of Sixty-kola nut marketers who were randomly selected in each of the communities selected thus making 180 respondents. The data collected include: volume of kola nut traded per year, gender, age of kola marketers, educational status, marital status, years of experience in kola marketing, income from kola marketing per year, ease of purchase, kola source, type of kola purchased, preference of the type of kola, kola activities.

2.3 Data Analysis

Descriptive Statistics was used in the analysis of the socio-economic variables while multiple regression analysis was used for the determinants of the factors affecting kola marketing in Nigeria.

2.4 Analytical Framework

The Spss software package (version 20) was used for the multiple regression analysis and descriptive statistics as presented on Tables 1 and 2. The Spss package was used in carrying out the Dobin-Watsin statistics test to determine the presence or absence of autocorrelation. The model is given as follows:

$$Q = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11} + e_i$$

Where:

Q = volume of kola nut traded per year (Kg),
 X_1 = gender, X_2 = age of kola marketers, X_3 = educational status, X_4 = marital status, X_5 = year of experience in kola marketing, X_6 = income from kola marketing per year, X_7 = ease of purchase, X_8 = kola source, X_9 = type of kola purchased, X_{10} = preference of the type of kola, X_{11} = kola activities and e_i = error term.

3. RESULTS AND DISCUSSION

3.1 Socio Economic Background Information of the Kola Marketers

Table 1 shows the socio-economic background of the kola-nut marketers in Ogun State.

The table shows that majority of the marketers (38.5 per cent) are above the age of 56 years and are mostly female out of which 99 per cent of them are married, this findings corroborate with Adewumi [16], that the average age of kola marketers in Ekiti State is 50 years and 90 percent are female traders. The result further indicates that most of them are elderly and responsible marketers considering their marital status. Educationally, majority (58.3 per cent) of the kola marketers have no formal education with only 27.5 per cent having primary education while 12.5 per cent have secondary education. This indicates that they have low level of education and hence the likelihood of low level of adopting new innovation. This corroborate with the study carried out by Momoh et al. [10], that kola nut retailers who are located in the rural areas are mosly women who are aged and with little or no education. Furthermore, the study also revealed that most of the respondents (40.3 percent) have between 11-20 years of experience on kola marketing while 17.7 per cent have above 41 years of experience in kola marketing. This shows that most of them have good number of years of marketing experience on kola hence their ability to understand much of the activities involved in kola marketing.

The study further revealed as shown on Table 1 that majority (65.6per cent) of the respondents reason for being in kola business was due to the fact that it is their family business that has been passed on from generation to generation while only 23.8 percent are engaged in it for social and economic reasons. The result also shows that 60.7 percent of the respondents indicated that they find the purchase of kola nut from farmers or other traders easy while only 18.9percent did not find it easy. It was also found from the study that most of the marketers (50.4 percent) buy their kola in nut form and 52.8 percent buy such nut in fresh form after which they process it. Only 23.6 percent buy both fresh and dried or processed kola nut. In terms of kola nut preference, the study revealed that most of the marketers (69.9 per cent) prefer buying the pink color kola as this is in high demand by consumers, while only 16.7 percent prefers the white color and 13.7 per cent prefers the red. This finding also corroborate with the findings of Akinbode [8] that the white and bright colored nuts attract more premium than the red and dull colored nuts.

Table 1. Socio-economic characteristics of the respondents

Variables	Frequency	Percentage
Age (years)		
18-25	4	2.5
26-40	45	24.6
41-55	62	34.4
56 and above	69	38.5
Total	180	100
Gender		
Male	23	12.78
Female	157	87.22
Total	180	100
Marital status		
Married	178	99
Single	2	1
Total	180	100
Educational status		
No formal education	105	58.3
Primary education	50	27.5
Secondary education	22	12.5
Tertiary education	3	1.7
Total	180	100
Years of marketing experience (years)		
≤ 10	25	13.7
11-20	73	40.3
21-30	30	16.9
31-40	20	11.3
Above 41	32	17.7
total	180	100
Reasons for kola business/motivation		
Family business	118	65.6
Economic reasons	16	9
Family and economic	19	10.7
Social and economic	27	14.8
Total	180	100
Ease of kola nut purchase		
Very easy	35	19.7
Easy	109	66.7
Not easy	34	18.9
Very difficult	2	0.8
Total	100	180
Type of kola purchased		
Pod	28	15.7
Nut	91	50.4
Pod and nut	61	33.9
Total	180	100
Form of kola purchased		
Fresh	95	52.8
Semi processed	3	1.3
Fresh and semi processed	12	6.5
Fresh and dried	42	23.6
All the above	28	15.4
Total	180	100

Source: Field survey, 2012

Table 2. Regression table on the determinants of kola nut marketing in Ogun State**Coefficients (a)**

Model		Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	Std. error	Beta		
1	(Constant)	-2.359	2.570		-.918	.363
	Gender	.298	.571	.062	.523	.603
	Age	.213	.328	.098	.650	.519
	Marital status	.696	.812	.094	.857	.396
	Educ. status	-.343	.313	-.127	-1.094	.279
	Year experience	.100	.223	.066	.447	.657
	Income per year	.460	.202	.287	2.284	.027
	Easy of purchase	-.480	.347	-.151	-1.384	.173
	Kola source	.570	.297	.247	1.919	.061
	Type purchased	.529	.394	.154	1.343	.186
	Preference	.598	.260	.264	2.302	.026
	Kola activities	-.156	.143	-.119	-1.090	.281

a Dependent variable: Estimated basket sold per year
 $R^2 = 0.704$, F- statistic = 4.120, sig. 1%, D.W statistics = 1.89
 Source: Field survey, 2012

3.2 Determinants of Kola Nut Marketing in Ogun State

The marketing of kola nut is very vital in the kola nut value chain. Kola nut is important for economic, social and traditional reasons, besides, it contributes to the foreign earnings of the country. It is therefore necessary to determine the factors that affect kola nut marketing in the study area. In view of this, the factors are determined using multiple regression analysis and the results are presented on Table 2.

The result presented on Table 2 shows an R^2 of 0.704 indicating that 70.4 per cent of the independent variables included in the model jointly explain the dependent variable (which is the quantity of kola nut basket sold per year.). The F-statistic of 4.120 is significant at 1 per cent. Furthermore, the statistical analysis shows the Dobin-Watson value of 1.89 which is an indication of no sign of autocorrelation in disturbance term of the above model. The analysis on Table 2 further revealed that the income earned per year by the marketers, source of kola nut and the preference of kola type consumed are major significant factors determining kola marketing in the study area at 5%, and 10% level of significance. This indicates that the income realizable from kola sales, source of kola nut and the preference of kola type consumed are important variables and to a large extent determines the volume of kola nut the marketer is able to sell in a given year. Educational status, ease of kola purchase and

activities involved in kola processing, though not significant, but has an inverse relationship to the estimated volume of kola nut the marketer is able to sell in a year.

4. CONCLUSION AND RECOMMENDATION

This study has explored the factors that affect the marketing of kola nut in Ogun State. The result indicates that most of the marketers are female and are elderly, married kola marketers with little or no education. Most respondents are into kola nut marketing as a result of family business which is passed on to them from generations. Furthermore, income per year, kola source, and kola preference were found to be significant factors that positively affect kola marketing in the study area.

From the findings, it is therefore recommended that the marketers be given some form of adult education since majority of them do not have formal education. Kola production should be encouraged so as to increase the kola quantity available for marketers. The breeders should put more effort in the production of preferred kola nut by consumers which is the pink type so as to enhance volume of kola sales and hence the marketers' incomes per annum which will in turn increase the livelihood of the farmers and marketers at large.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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