

## ECONOMIC ANALYSIS OF CASHEW NUT MARKETING IN UDI LOCAL GOVERNMENT AREA, ENUGU STATE, NIGERIA

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### ABSTRACT

*Cashew nut (*Anacardium occidentale L*) is one of the most essential and major cash crops produced in Nigeria. This research, therefore, explored the economics of cashew nuts marketing in Udi Local Government Area of Enugu State, Nigeria. Primary data were sourced from cashew nut marketers through the use of well-designed questionnaires. Sixty respondents were randomly selected from three main markets in the study area. Descriptive statistics and (OLS) multiple regression models were used to achieve the study objectives. Descriptive statistics and (OLS) multiple regression models were used to achieve the objectives. Wherefore the study identified the marketing channels, analysed the cost and returns of the enterprise, determined the socio-economic factors affecting the quantity of cashew nuts marketed, and ascertained the constraints associated with cashew nuts marketing in the study area. From the results, the market was dominated by males (65%), most of the respondents (51.7%) were between 21 and 40 years, and majority were married (81.7%). An average number of the marketers (50%) had secondary school education, while 31.7% and 18.7% had primary and higher education, respectively. Most of the marketers (63.3%) bought directly from farmers, while 26.7% purchased from wholesalers. Total revenue, gross profit, and net profit were respectively ₦651,627.00, ₦120,618.00, and ₦81,067.70, showing that the business is profitable. Respondents' socio-economic characteristics which significantly affected quantity of cashew nut marketed were age ( $p < 0.1$ ), household size ( $p < 0.05$ ), and membership to market association ( $p < 0.05$ ). Major constraints were seasonality of produce, high cost of transportation, bad weather (rain), and inadequate capital. It was recommended that government should provide good road networks to ease transportation problem. The marketers should form cooperative societies to facilitate easy access to credits and other relevant resources.*

**Key words:** profitability, seasonality, channels, marketing margin, cashew nut

### INTRODUCTION

Cashew nut (*Anacardium occidentale L*) is one of the most essential and major cash crops produced in Nigeria. Nigeria is the 6th largest cashew producer in the world, and the 3<sup>rd</sup> largest producer of the tree crop in Africa (Nigerian Export Promotion Council, 2021). According to the council, small holders and commercial farmers in 22 states of the federation engage in this enterprise, with about 81% of the produce exported in shell to Vietnam and 19% to India. Cashew nut has diverse uses and its importance cannot be over emphasized. The nut is the most economic aspect of cashew plant, serving as food and for industrial uses. It contains nuts' shell liquid, which is very mordant, and used as raw material for phenol and friction power for vehicle manufacturers (FAO, 2007). The nut is a good source of vitamins C and B, protein and unsaturated fats; it also lowers high blood pressure (Alina, 2020). Cashew nut is also good for the heart, skin, hair and aids in weight loss. According to Kluczkovski and Martins (2016), the edible part

of the cashew nut is highly nutritious with 40-57% oil and 21% protein contents. Hence, cashew nut attracts high demand for local and international consumptions. All things being equal, this calls for effective and efficient production and distribution of the commodity through marketing. Therefore, cashew nut marketing in Nigeria is in commercial basis both in the local and international markets, thereby creating business opportunities for the country and her citizenry. Cashew nut is placed third in the ranking of international tree nut trade with more than 20% share of the market (Kluczkovski and Martins, 2016). Adesanya *et al.* (2021) assert that demand for cashew nuts is on the increase in relation to other tree nuts because of the rise in usage and consumption of the nuts' products and by-products. Revenue generation from production and export of cashew nuts contributes to Nigeria's Gross National Product and national development, in fact Nigeria earned more than \$813 million from the exportation of cashew nut from 2015 to 2017 and \$404 million in 2017 alone (Ogah *et al.*, 2020).

To avert any produce glut, economic losses and disincentive in production, efficient marketing systems are very important both locally and internationally, as increase in production requires more outlets to consumers via marketing. In light of the rising production of cashew nuts world over, it is pertinent to also increase the utilization of the crop (Kluczkovski and Martins, 2016). Nse-Nelson *et al.* (2017) argued that marketing is a vital aspect of agriculture because production is not complete until the product gets to the final consumer. Marketing is the activity set, and processes of institutions for creating, communicating, delivering and exchanging offerings that have value to customers, clients, partners and society at large (American Marketing Association, 2017). According to Kotler (2012), marketing concept is a marketing philosophy, which sees the consumer or client as the central focus of all the activities of an organization because no organization can survive without the continuous patronage of its consumers. Agricultural marketing is the performance of all entrepreneurial activities involved in the movement of food products and services from the point of agricultural production until they are in the hands of final consumers (Kohls and Uhl, 2002). Producers recoup their invested capital, and even make profit via marketing of their products, either directly to final consumers, or through other actors (middle men) along the supply chain.

Cashew nut marketing in Udi Local Government Area (LGA), Enugu State, Nigeria involves every activity concerned with buying of the nuts, processing and storage (when necessary), bagging, transportation and selling of the produce, etc. In the case of cashew nut marketing, they include costs of assembling, transportation and distribution; packing, handling and marketing charges, taxes and levies. Costs of marketing are the real expenses obtained in the performance of marketing functions as the commodity flows from the farm to the final consumer (Batunde *et al.*, 2016). On the other hand, profit otherwise known as marketing margin is the difference between the price paid by the marketer and the buyer (purchasing and selling prices) of goods and services (Onogwu *et al.*, 2018). Marketing and distribution of agricultural produce such as cashew nut is a very important activity in the value chain targeted at moving the produce from farm gates to its consumers (households and industries) at a profit margin. Though cashew nut is a seasonal crop, its availability is based not only on production and storage but also on distribution and marketing (Batunde *et al.*, 2016). Its marketing makes for more production as it affords the farmer the opportunity to recoup his capital outlay for further investments. Produce glut and post-harvest losses are averted, while deficit areas are supplied with the good. There is, therefore, the need for effective and efficient agricultural produce marketing system.

Inadequate information on the marketing of some food crops is a major factor to the problem of unorganized food commodity markets in Nigeria (Adejo *et al.*, 2011). The authors observed that cashew nut marketing is highly affected by price instability due to seasonality nature of the crops production coupled with unavailability of storage and processing equipment. Problems such as inadequate transportation facilities, poor market information or awareness, and inadequate processing and storage facilities are identified to make agricultural produce marketing inefficient (Uwagboe *et al.*, 2010; Agada and Sule, 2020). Ugwuja (2017) in a study of cashew nut marketing in Isi-Uzo LGA of Enugu State found that there is gender balance as there is equal number of male and female marketers in their study area. However, Adebayo *et al.* (2020) in their own study observed that the majority of the respondents were males. Ameh *et al.* (2022) observed that cashew nut marketing is profitable and has high rate of return. The authors further notes that it is a source of employment to both urban and rural people.

Factors that affect the quality and quantity of cashew nut sold include marketing experience, age, sex, marital status, educational qualification, cost of storage and cost of transportation (Ugwuja, 2017; Adebayo *et al.*, 2020; Ojedokun *et al.*, 2020). Apart from cashew nut, cotton, cocoa and cola nuts etc. are other cash crops produced in Enugu State, Nigeria. This State, where Udi LGA situates, is seriously involved in cashew nut production and marketing. This informs sufficient availability of the commodity in the study area, with the enterprise providing employment opportunities in terms of production, processing and marketing. Most of the cashew nut marketers in Udi LGA are also food crop farmers, especially, outside the peak of their marketing activities. Some of the cashew nut merchants in the study area cultivate food crops during off season to supplement their income while others do engage in trading of other commodities pending the return of cashew season. Hlomendlini (2015), observes that some households practice farming to supplement other income sources and for household subsistence purposes. A study on the economics of cashew nut marketing in the area gives robust information on the enterprise, which will be of great advantage to all the stakeholders (policy makers, producers, processors, marketers, consumers and the entire economy).

### **Problem Statement**

In spite of the numerous nutritional values of cashew nut, this cash crop still suffers lack of awareness in Enugu State of Nigeria, and in Udi LGA in particular. Unavailability of organized markets where the buyers could easily gain access to the producers is a challenge. Again, price

instability is a constraint to cashew nuts marketing. Cashew nut marketing is essentially affected by price unreliability (Salau *et al.*, 2017; Adebayo *et al.*, 2020). The forgoing is mainly as a result of seasonality in the production, which also sets in underemployment and thereby reduces income generation among many of the middle men during the scarcity period. Most of the works on cashew nut focus more on production. However, Anugwa *et al.* (2013) carried out a work on gender roles and challenges of small scale processed cashew nut marketers in Enugu North, Nigeria, while, Salau *et al.* (2017) explored the economic analysis of cashew nut marketing in Kwara State, Nigeria, Ojedokun *et al.* (2020), worked on the profitability of cashew nut marketing in Oyo State, Nigeria, while Adebayo *et al.* (2020) researched on perception of cashew nut marketing in selected LGA of Kwara State, Nigeria. From the researchers' knowledge, no research has been done on the current topic in Udi LGA, Enugu State, Nigeria. Hence, the need for this research on cashew nut marketing in the study area so as to fill this existing knowledge gap.

### Objectives of the Study

The broad objective was the economic analysis of cashew nut marketing in Udi LGA, Enugu State. The specific objectives were to: (i) described the socio-economic characteristics of the respondents (ii) analyzed the cost and returns of the enterprise; (iii) determine the socio-economic factors which affect quantity of cashew nut marketed and (iv) ascertained the constraints associated with cashew nut marketing in the study area.

## MATERIALS AND METHODS

### Study Area

This study was carried out in Udi LGA of Enugu State, Nigeria. Udi LGA is a suitable area for the study, because it is one of the major areas in Enugu where the eastern Nigeria Development Corporation planted many cashew trees in the 1950s. This contributes to the abundant availability of cashew trees and nuts in the area. Udi LGA is situated within latitudes  $6^{\circ} 18' 57'' 31'$  N and longitude  $7^{\circ} 25' 15'' 10'$  E of the equator, with a population of about 234,002 people, and a land area of approx. 897.00 km<sup>2</sup> (NPC, 2006). Major occupations of the rural populace are farming and trading.

### Sampling Procedure

Multi-stage sampling technique was used for the study. In the first stage, three communities were selected on purpose from Udi LGA, considering the significant quantity of cashew nut marketed in these communities. In the second instance, one market was selected on purpose from each of the communities giving a total of three markets. Considering the dominance of cashew nut marketing

in these markets, Ngwo (9th mile), Nkwo-Agu Udi, and Obodo-Agu Ukana markets were purposively selected. Finally, 20 of the cashew nut traders were randomly sampled from each of the markets. Cashew nut marketing is carried out in large quantities in these three markets with almost the same number of actors, hence the equal number of sample.

### Data Collection and Analysis

Data for the study were collected from primary sources, with the administration of a set of structured questionnaire. Information were elicited on the: socio-economic characteristics of respondents, the marketing activities, channels, marketing structure, the profitability of the enterprise, and the constraints of cashew nut marketing in the area. Objective *i* was achieved using percentages and frequencies; objective *ii* was realized with profitability analysis, Ordinary Least Square (OLS) Multiple Regression Analysis was used for the realization of objective *iii*, while objective *iv* was realized using 4-point Likert type scale technique.

### Model Specifications

#### Cost and Returns Analysis

Objective *ii* was realized using profitability measures such as net return analysis after Nse-Nelson *et al.* (2017) in analyzing the economics of beef marketing in Awka North LGA of Anambra State Nigeria. The formula used in this research is as follows:

$$\text{Net return (NR)} = TR - TC \dots \dots \dots (1);$$

where *TR* is total revenue ( $P \times Q$ ), *TC* is total cost, *P* is unit price, and *Q* is quantity.

#### Ordinary Least Square Multiple Regressions

The OLS multiple regression analysis was used to determine the socio-economic characteristics of respondents which affect the quantity of cashew nuts marketed in the study area. The model is stated implicitly as follows:

$$Y = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7) ei \dots (2);$$

where *Y* is quantity of cashew nut marketed (kg), *X*<sub>1</sub> is age (years), *X*<sub>2</sub> is gender (female is 1; male is 0), *X*<sub>3</sub> is marital status (married is 1; not married is 0), *X*<sub>4</sub> is education level (years), *X*<sub>5</sub> is secondary occupation (farming is 1; trading is 0), *X*<sub>6</sub> is household size (number), and *ei* is Stochastic error term. The three functional forms were explicitly represented in mathematical terms as follows:

$$\text{Linear form } Y = b_0 + b_1x_1 + b_2x_2 + \dots + b_nx_n + ei \dots \dots \dots (3);$$

$$\text{Double-Log form: } Y = b_0 + b_1\ln x_1 + b_2\ln x_2 + b_3x_3 \dots b_n\ln x_n + ei; \text{ Semi-Log forms: } \ln Y = b_0 + b_1x_1 + b_2x_2 = b_3x_3 \dots b_nx_n + ei \dots (4);$$

where *Y* is dependent variable, with *x*<sub>1</sub>, *x*<sub>2</sub>, *x*<sub>3</sub>, *x*<sub>4</sub>, ... *x*<sub>n</sub> as the independent or explanatory variables.

The  $b_0, b_1, b_2 \dots b_n$  were regression coefficients that were estimated and tested for significance. The lead equation was selected based on the mean square error, the value of coefficient of multiple determination ( $R^2$ ), the Fishers value ( $F$ -value), the number of significant variables and *a priori* expectations.

### Likert-Type Scale

Objective *iv* was achieved using Likert scale rating technique. To ascertain the problems faced by cashew nut marketers in the study area; 4-point rating of strongly agree (SA = 4), agree (A = 3), disagree (D = 2), strongly disagree (SD = 1). The mean score of the respondents based on the 4-point rating scale was computed as  $\frac{4+3+2+1}{4} = 2.50$ . The cutoff point was 2.50; those with MS < 2.50 was taken as a weak factor and not considered, while those with higher mean scores (MS > 2.50) were taken as strong factors.

## RESULTS AND DISCUSSION

### Distribution of Respondents According to Socio-Economic Characteristics

The results in Table 1 show that cashew nut marketing was dominated by male in the study area. This result is reliable probably, because cashew is a tree crop which is usually cultivated by men, and most of the farmers are equally the markers. This agrees with Agada and Sule (2020) who reported that there are more men than female in the marketing of cashew nut in Nigeria, while contradicting Ugwuja (2017) who observed gender balance in her study area. The age distribution indicates that the majority of the respondents were people between 21 and 40 years with the highest percentage of 51.7%; they were also followed by those with the age between 41 and 60 years with percentage of 43.3%. This means that the actors in this enterprise in study area are in their active age and, all things being equal, are able to withstand the exigencies of moving from one market to the other as involved in cashew nut marketing. This study agrees with the work of Onogwu *et al.* (2018) found out that majority (87.5%) of guinea corn retailers in Wukari, Taraba state, Nigeria were under the age of 35 years. Majority of the respondents (81.7%), were married. The implication of this result is that, all things being equal, the spouse would render assistance in the form of labour and/or financial help, which in turn increases sales for more income generation. This is also in tandem with findings of Nwali and Anyalor (2019) in their analysis of locally produced rice in Abakaliki LGA of Ebonyi State, Nigeria who discovered majority (61%) of the rice marketers were married. From the result, average number (50%) of the marketers attained secondary school level, (31.7%) had their primary education, while only (6.1%) attained tertiary education. From this analysis, cashew nut marketers in the study area are moderately educated. Education contributes to

knowledge, easy access to information, and marketing ability. The result shows that a greater proportion of the cashew nuts marketers (70%) are primarily engaged in cashew nut cultivation and trading; while (28.8%) have farming in other crops as their secondary occupation. (Akintonde *et al.*, 2013) found that majority of cashew nut marketers in Ogbomosho Metropolis of Oyo State, Nigeria are traders. Table 2 shows that majority (66.5%) of the respondents have moderate household size comprising of 4 to 6 persons per household. The implication of this is that expenses on family consumption and pressure on the business are therefore, minimized. This result is in consonance with the work of Nse-Nelson *et al.* (2017) who also discovered that majority (70%) of their respondents had household size of 1-5 persons.

**Table 1:** Distribution of respondents according to socio-economic characteristics

Sex	Percentage (60)
Male	65.00
Female	35.00
Total	100.00
<i>Age distribution</i>	
< 21	3.30
21-40	51.70
41-60	43.30
Above 60	1.70
Total	100.00
<i>Marital status</i>	
Single	6.60
Married	81.70
Widowed	11.79
Total	100.00
<i>Educational qualification</i>	
Primary education	31.70
Secondary education	50.00
NCE/ND	8.30
HND	8.30
BSc	1.70
Total	100.00
<i>Occupation</i>	
Farming	28.80
Trading/cashew cultivation	70.00
Civil service	1.20
Total	100.00

Field Survey (2021)

**Table 2:** Distribution of respondents based on household size

Household size	Percentage (60)
Less than 4	8.50
4-6	66.50
Above 6	25.00
Total	100.00

Field Survey (2021)

**Table 3:** Distribution of respondents on access to credit and other sources of income

<i>Access to credit</i>	Percentage (60)
Have access	16.70
No access	83.30
Total	100.00
<i>Other sources of income</i>	
Salary	8.30
Non-cashew farm income	50.00
Rent	10.00
Wages/stipends	18.30
Trading	13.40
Total	100.00

Field Survey (2021)

As shown in Table 3, very few of the respondents (16.6%) had access to credit, while majority (83.3%) did not. The implication is that most of the marketers single handedly financed their businesses. This could lead to underfunding and inherent hindrances to maximization of business opportunities. This is also in line with the findings of Nwali and Anyalor (2019) where they admitted that none of their respondents had access to credit while 68 of them obtained their start-up capital from personal savings. Also, the result showed that another major source of income to the marketers is crop farming, providing up to 50%. Income generated from other crops particularly, during cashew nut off-season, smoothens consumption expenses, and as well boosts equity capital for the cashew nut business at the peak period.

### Marketing Channels of Cashew Nut Marketers in the Study Area

From Table 4, the retailers participated more in the cashew nut marketing activities with percentage of 68.4 showing a shorter distribution channel. The retailers buy directly from farmers in remote villages or popular village markets. The implication is reduction in the number of intermediaries which could result to more profits to both the farmers and the retailers. However, this marketing channel arrangement does not depict an efficient marketing system as the retailer may not be able to perform all of the processing, packaging and handling functions which could enhance quality. This finding is in disagreement with the work of Ameh *et al.* (2022) who discovered that village agents (89.7%) are the most channel used in the marketing of cashew nuts in the study area.

### Costs and Returns Analysis of Cashew Nut Marketing in Udi LGA, Enugu State

Table 5 shows that gross profit of ₦120,618.00 and net profit of ₦81,067.00 was realized from cashew nut marketing by each of the marketers on monthly basis. This results shows that cashew nut marketing in Udi LGA is an important means of livelihood. Mitchell (2004) and Ojedokun *et al.* (2020) agree with this result. The authors also observed that cashew nut marketing is a source of employment to both urban and rural dwellers.

### Socio-economic Factors Affecting Quantity of Cashew Nut Marketed in the Study Area

Table 6 shows the result of the OLS regression analysis which indicates an *f*-value of 0.000 ( $p < 0.1$ ) which implies goodness of fit for the overall model. The adjusted  $R^2$  (coefficient of determination) value was 0.456, implying that 45.6% of the variation in the quantity of cashew nut marketed was jointly explained by variations in the explanatory variables included in the model.

**Table 4:** Distribution of respondents according to marketing channels

Marketing roles	Percentage (60)
Retailer (from farmers)	68.40
Wholesaler	28.30
Both	3.30
Total	100.00

**Table 5:** Distribution of the average cost and returns of cashew nut marketing per month

Cost and return items	Mean (₦)	Total (₦)
Total revenue (₦)	651,627.00	
A Total revenue		651,627.00
Costs (₦)		
Purchase cost of cashew nut	531,009.00	
Purchase cost		531,009.00
Variable costs		
Cost of packing		3,600.00
Cost of loading		6,582.00
Cost of unloading		5,997.00
Levies on shop		7,591.00
Local government levy		1,280.00
Cost of transportation		8,756.00
Cost of commission		150.00
Cost of bag of cashew		5,380.00
Value of quantity consumed		214.30
Total variable cost		39,550.30
B Total cost		570,559.30
C Net marketing returns (A – B)		81,067.70

**Table 6:** Socio-economic factors influencing quantity of cashew nut marketed

Variable	Coefficient	T-value	P >  t
(Constant)	4876.428	1.003	0.323
Age	190.225	1.562	0.128*
Household size	-1645.576	-2.130	0.041**
Sex	879.819	0.374	0.711
Marital status	-3511.792	-1.302	0.202
Access to credit	2638.238	0.646	0.522
Membership to marketing association	9494.580	3.772	0.001***
$R^2$	0.461		
Adjusted $R^2$	0.456		
<i>F</i> -value	0.000***		
Number of observations	60		

Field Survey (2021). \*, \*\*, and \*\*\* refer to significant at  $p < 0.1$ , 0.05, and 0.01 respectively.

### Age

The regression revealed that age had a positive and significant relationship with the quantity of cashew nut sold ( $p < 0.1$ ). This implies that a unit addition in age while holding other explanatory variables constant would bring about a corresponding increase in the quantity of cashew nut marketed. This result agrees with Adebayo *et al.* (2020), who observed that age was significantly correlated to cashew nut marketing in their study area.

Dependent variable: Quantity of cashew nut marketed per month (\*, \*\* and \*\*\* refer to significant at  $p < 0.1$ , 0.05 and 0.01, respectively).

**Table 7:** Constraints militating against cashew nut marketing in the study area

Constraints	Mean	Std
High cost of transportation/bad road	3.86*	0.34
Inadequate capital	2.71*	0.92
Inadequate storage facilities	2.20	0.90
Lack of access to credit	2.41	1.00
High purchasing price	3.44*	0.77
Poor selling price	1.97	0.79
Theft	3.84*	0.62
Heavy levies on shops/site	3.05*	1.05
Seasonality	4.00*	0.00
Rain	4.00*	0.00
High interest on loan	4.00*	0.00
Hoarding	4.00*	0.00

Field Survey (2021). \*significant at  $p < 0.1$ , Std - standard deviation

### Household size

Household size had a significant ( $p < 0.05$ ) negative relationship with quantity of cashew nut sold. This means that an increase in household size will lead to a decrease in quantity of cashew nut sold. This is true as it represents the household consumption of cashew nut which could not be sold. Agada and Sule (2020) corroborates with this finding.

### Membership to marketing association

There was a significant ( $p < 0.05$ ) positive relationship between membership of marketing association and quantity of cashew nut sold. This means that belonging to a marketing association leads to increased sale of cashew nut. The implication is that consumers pay higher prices, while marketers make more profits. According to Australian Competition and Consumer Association (2010), sector unions play a vital role in providing a collective voice for individual businesses within a sector.

### Constraints Militating Against Cashew Nut Marketing in the Study Area

Table 7 shows that Constraints associated with cashew nut marketing in the study area include seasonality with a mean score of 4.00; constant heavy rain fall with a mean score of 4.00; high interests on loan with average score of 4.00; and hoarding by producers with mean score of 4.00. Other challenges were high cost of transportation 3.86, bad road with a mean score of 3.86, high purchasing price with an average score of 3.44, theft with a mean score of 3.84, levies on shop/site with a mean score of 3.05 and inadequate capital with an average of 2.71. Adejo *et al.* (2011) and Akintonde *et al.* (2013) agree with these findings.

## CONCLUSION AND RECOMMENDATIONS

This study concludes that cashew nut marketing is mainly done by married, moderately educated and young male folks in the study area. The profitability margin of ₦81,067.00 per month of the enterprise indicates that it is a viable venture that could serve as a good source of employment for both rural and urban dwellers and thus, should be supported. Some of the key constraints faced by cashew nut marketers in the study area were high interest rates on credit, seasonality of the produce, bad road networks and high transportation cost.

Therefore, the study recommends that marketers should form cooperative societies to enable them access bank credits at a lower interest rates. More so, warehouses and storage facilities should be sited in strategic locations in the study area so that the surplus can be stored and preserved in the season of plenty from where it can be marketed in the lean period. Furthermore, both private and government action is need in the area of road construction and maintenance in order to link producers to marketers which will bring down the high cost of transporting the commodity in the study area.

## REFERENCES

- Adebayo S.A., Bolarin O., Falola A.O. and Ahmed L. (2020). Perception of cashew nut marketing in selected local government areas of Kwara State, Nigeria. *Indian J. Ext. Educ.*, **56** (1), 1-5. <https://www.pubag.nal.usda.gov>
- Adejo P.E., Otittolaye J.O. and Onuche U. (2011). Analysis of marketing channel and pricing system of cashew nuts in the North Central of Nigeria. *J. Agric. Sci.*, **3** (3), 246-247
- Adesanya K.A., Agboola-Adedjoja M.O., Adelusi A.A. *et al.* (2021). Opportunities in Nigerian cashew nuts value chain. *World J. Adv. Res. Rev.*, **9** (1), 168-174. <https://doi.org/10.30574/wjarr2021.9.1.0008>
- Agada M.O. and Sule E.M. (2020). Cashew nuts production and marketing among farmers in Ugwulawo District, Kogi State, Nigeria. *Int. J. Res. Stud. Agric. Sci.*, **6** (5), 1-10. <https://doi.org/10.20431/2454-6224.0605001>
- Akintonde C.O., Awoyemi J.O. and Akintaro O.S. (2013). Economic analysis of cashew nut marketing among produce buyers in Ogbomosho Metropolis of Oyo State, Nigeria. *Int. J. Agric. Innov. Res.*, **2** (1), 231-250
- Alina P. (2020). Are cashews good for you? Nutrition, benefits, and downsides. Retrieved 02/01/2022 from <http://nutrition/are-cashews-good-for-you>
- Ameh O.E., Ater I.P. and Aoola J.B. (2022). Market performance of cashew nuts among marketers in North-Central geo-political zone, Nigeria. *Int. J. Innov. Sci. Res. Technol.*, **7** (2), 479-491
- American Marketing Association (2017). Definition of marketing. American Marketing Association. Retrieved from <http://www.marketingpower.com/AboutAMA/pages/DefinitionofMarketing.aspx>

- Anugwa I.Q., Enwelu I.A. and Ugwu S.T. (2013). Gender roles and challenges of small scale processed cashew nuts marketers in Enugu North Local Government of Enugu State, Nigeria. *J. Edu. Soc. Res.*, **3** (4), 21-27. <https://doi.org/10.5901/jesr.2013.v3n4p21>
- Australian Competition and Consumer Association (2010). Industry associations and competition laws. Retrieved 14/09/2022 from <https://www.acc.gov.au/business/associations-and-professional-services/industry-associations#industry-associations-and-competition-laws>
- Batunde S.E.O., Modhdiza M., Olajide E. and Hussein O. (2016). Understanding the conceptual definitions of cost, price, worth and value. *IOSR J. Human. Soc. Sci.*, **21** (91), 53-57. <https://doi.org/10.9790/083-21090>
- FAO (2007). Investment in agriculture: Evolution and prospect. Technical Background Document No. 10, World Food Summit, Food and Agriculture Organization (FAO), Rome
- Hlomendlini P.H. (2015). *Key Factors Influencing Market Participation in the Former Homelands of South Africa: Case study of the Eastern Cape*. MSc Thesis, Department of Agricultural Economics, Stellenbosch University, South Africa
- Kluczkovski A.M. and Martins M. (2016). Cashew nuts, encyclopaedia of food and health. Retrieved 01/01/2023 from <http://www.sciencedirect.com>
- Kohls R.L. and Uhl J.N. (2002). *Marketing of Agricultural Products*. Macmillan Publishing Company, USA
- Kotler P. (2012). *Marketing Management* (12th edition). Prentice Hall, Upper Saddle River Publishers
- Mitchell D (2004). Tanzania's cashew sector: Constraints and challenges in a global environment. Africa Region Working Paper Series No. 70, World Bank, Washington DC. Retrieved 04/11/2022 from <http://www.worldbank.org/afr/wps/wp70.pdf>
- NPC (2006). *Population Census: Official Gazette of Federal Republic of Nigeria*. National Population Commission, Lagos
- Nigerian Export Promotion Council (2021). Nigeria cashew facts, productions, trends and markets. Retrieved 16/12/2022 from <http://www.nepc.gov.org>
- Nse-Nelson F.A., Osondu K.R., Oke U.R. and Chux J.C. (2017). Analysis of beef marketing in Awka North Local Government of Anambra State, Nigeria. *Agro-Science*, **16** (3), 9-14
- Nwali A.C. and Anyalor M. (2019). Marketing analysis of locally produced rice in Abakaliki Local Government Area of Ebonyi State Nigeria. *Med. J. Soc. Sci.*, **10** (1), 39-47
- Ogah O.M., Ogebe F.O. and Ukpur S. (2020). The economics of processing cashew products in Benue State, Nigeria. *Int. J. Environ. Agric. Biotechnol.*, **5** (1), 20-125. <http://dx.doi.org/10.22161/ijeab.51.18>
- Ojedokun A.O., Ogunleye K.Y. and Adelowo I. (2020). Profitability of cashew nut marketing in Oyo State, Nigeria. *Int. J. Res. Sci. Innov.*, **7** (5), 1-5
- Onogwu G.O., Osayi C.P. and Okeke-Agulu K.I. (2018). Effects of marketing costs on gross margin: Evidence from guinea corn retailers in Wukari, Taraba State, Nigeria. *J. Dev. Agric. Econ.*, **10** (8), 253-261
- Salau S.A., Nofiu N. and Popoola G.O. (2017). Analysis of cashew nut marketing in Kwara State, Nigeria. *J. Agric. Human Ecol.*, **1** (1), 34-44. <https://doi.org/10.13140/RG.2.2.32298.52168>
- Ugwuja G.P. (2017). *Marketing of Cashew Nut in Isu-Uzo Local Government Area of Enugu State, Nigeria*. Research Project, Department of Agricultural Economics, University of Nigeria, Nsukka
- Uwagboe E.O., Adeogun S.O. and Odebode S.O. (2010). Constraints of farmers in cashew production: A case study of Orire LGA of Oyo State, Nigeria. *ARPN J. Agric. Biol. Sci.*, **5** (4), 27-31