



Limitations of Kola Nut (*Cola acuminata*) Marketing in Onitsha South Local Government Area, Anambra State, Nigeria

¹Okonkwo-Emegha Kate, ²Adejoh Sunday and ³Oyita Governor Ekene

^{1,2}Department of Agricultural Economics & Extension, Nnamdi Azikiwe University Awka, Nigeria

³Department of Agricultural Economics, Dennis Osadebay University Asaba Delta State, Nigeria

Email: k.okonkwo-emegha@unizik.edu.ng. Tel.: 08035922432

ABSTRACT

This study engaged in limitations of Kola nut marketing in Onitsha South Local Government Area, Anambra State. It examined the factors affecting the profits of kola nut marketing, and constraints faced by marketers. The profitability of Kola nut marketing in the study area is significantly positively influenced by seasonality and harvest (coefficient = 0.200, $p < 0.001$), cultural significance (coefficient = 0.135, $p = 0.025$), and the level of education (coefficient = 1.250, $p = 0.004$), while negatively affected by market competition (coefficient = -0.120, $p = 0.025$) and transportation costs (coefficient = -0.160, $p < 0.001$). The constraints related to the marketing of kola nut were, transportation costs, market organization, and price instability. The study concluded with recommendations to improve market organization, enhance infrastructure, and support financial stability to boost profitability. It was recommended that market structure and conduct should be well coordinated for easy access.

Keywords: Limitations, Kola, Nut, Marketing

INTRODUCTION

The advancement of our economy relies heavily on agricultural activities, which does not only generate employment opportunities but also supply food for the population and raw materials for industries [1]. Furthermore, agriculture contributes significantly to state revenue and facilitates the generation of foreign exchange. Marketing helps your business by promoting it to your desired audience, making people aware of what you offer and makes buying easier by ensuring your products are available when and where customers need them [2]. Marketing also boosts related industries like banking, transport, warehousing and creating more jobs [3]. Kola nut trees are planted around houses to stay close to people to give shade and the orchards are scattered in the backyard [4]. In southeastern Nigeria, the main kola nut producing states are Abia, Anambra, Ebonyi, Enugu, and Imo, where kola nut trading is common [5]. In Nigeria, it is often said that "kola is produced in the West by the Yorubas, consumed in the North by the Hausas, and worshiped in the East by the Ibos [6], [7]. Marketing involves all the activities related to running a business [8]. Most of the retailers/ farmers sell their product in smaller units such as cups and bowls or baskets. According to [9], 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. The farmers process the kola nuts from the pods before selling to the customers [10].

Several studies have been identified in the marketing of kola nut in Nigeria, some of these studies are as follows: [11] reported the factors that significantly affect the marketing of kola were the income earned per year by the marketers, source of kola nut and the preference of kola type consumed. The net income from Kola nut marketing is influenced by gender, household size, educational level, years of marketing experience, and transportation cost. [9], studied the constraints of Kola nut marketing are inadequate capital, high transportation cost, unavailability of Kola nut, and poor storage. Others include high cost of labor, price fluctuation, and lastly, low price. [12], reported that the land ownership system is one of the biggest obstacles to large-scale kola production in Southeast Nigeria. Other challenges include poor soil quality, the long time it takes for kola nut trees to mature, and various pests and diseases. Despite the importance of kola nut in the south east and Nigeria at large only few literature exist in the on the limitations of kola nut marketing in Onitsha South Local Government Area, Anambra State. It is this gap that this research sought to fill by assessing the limitations of kola nut marketing in Onitsha south Local Government Area of Anambra State. The broad objective of this study was to analyze the limitations of kola nut marketing in Onitsha South Local Government Area, Anambra

State. The specific objectives of this study were to: determine the factors affecting profit of kola nut marketing; and identify the constraints faced by kola nut marketers in the study area.

LITERATURE REVIEW

Constraints faced by kola nut marketers

Transportation Challenges: Getting kola nuts from farms to markets can be difficult due to poor road infrastructure or long distances, which can increase costs and delay deliveries [12].

Storage Limitations: Kola nuts require specific storage conditions to maintain their quality, but lack of proper storage facilities can lead to spoilage and loss for marketers. [9]

Seasonal Variations: Kola nut production is often seasonal, which means marketers may face shortages or surpluses at different times of the year, affecting supply and demand dynamics.

Market Access: Limited access to markets or competition from larger traders can restrict smaller kola nut marketer's ability to reach consumers and secure favorable prices [9].

Price Fluctuations: Prices of kola nuts can fluctuate due to factors like weather conditions, market demand, or changes in consumer preferences, making it challenging for marketers to predict and plan effectively [9].

Regulatory Constraints: Compliance with regulations and quality standards, as well as taxes and levies imposed by government authorities, can add to the operational and financial burden of kola nut marketers [14].

Pest and Disease Management: Controlling pests and diseases that affect kola nut trees can be costly and challenging, impacting both production and marketing efforts [12].

Theoretical Framework

Commodity Chain Theory

The commodity chain theory assumes both vertical and horizontal relationships between the various markets and the marketers. For this study, it focuses on the entire flow of kola nuts through the market. This approach was adopted for this study because it will assist in identification of marketing channels and finding differences in price at various points in the marketing channel especially wholesalers and retailers [13].

Theory of supply

In this study, supply refers to how kola nuts are distributed within the marketing channel. Supply is a key factor in the market environment [1]. Theoretically, supply is the amount of a commodity that producers (farmers) are able and willing to sell at a specific price. The supply of a commodity, service, or input is the amount that producers or marketers are willing and able to offer in the market at various prices over a certain period. For example, the supply of kola nuts is the amount marketers are willing and able to bring to the market at a certain price, whether it's in-season or off-season. In a purely competitive market, supply is important and is mainly driven by price. Supply can be either physical or economic. Physical supply means how much of a product is available, while economic supply is about how much of the product is being sold at a certain price, time, and location [12].

Things that influence how much kola nuts and other agricultural products are available include: how much it costs to get the materials needed, the way things are made, how much it costs to move them around, rules made by the government like taxes or help with money, how much other things cost, what people think will happen in the future with prices and what other businesses are doing, how many people are making the product, and the weather and climate [6]. Supply function can be expressed as:

$$Q_s = f(P_o, P_w, W_c, T, C_o, F_e, \dots P_n)$$

Where:

Q_s = quantity of goods supplied

P_o = price of other commodities

P_w = price of kola nut

C_o = Cost of production

W_c = weather and climate

T = technology in production

F_e = expectation

METHODOLOGY

Research Design

This study will use a survey design, following the method used by Akpan et al. (2012) as cited by [14]. This design will be chosen because it is suitable for social research.

Study Area

Anambra state was created in 1991, With Awka as its capital city. The state lies between longitude 7.0700° E and Latitude 6.2100° N. The state has a population of 4.18 million people by the census figure of 2006 (NPC, 2006). Anambra State has 21 Local Government Areas (LGAs). They include Aguata: Anambra East, Anambra West, Anaocha, Awka North, Awka South, Ayamelum, Dunukofia, Ekwusigo, Idemili North, Idemili South, Ihiala, Njikoka, Nnewi North, Nnewi South, Ogbaru, Onitsha North, Onitsha South, Orumba North, Orumba South, Oyi. The study will take place in Onitsha South Local Government Area in Anambra state, Nigeria. Located on the banks of the Niger River, Onitsha is one of Nigeria's largest and southernmost cities. The community is very multicultural and multi-ethnic, with a vibrant social life, including many festivals, celebrations, and cultural events. Onitsha is primarily known as a large port and an important transportation spot for the

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited

whole region in the State. Its average annual rainfall is about 213.02 millimeters. The rainfall is heavier in July with a short break in August. The state has an annual average temperature range of 29.08°C. It has an estimated land area of 4,844 square kilometers, and is bounded in the East by Enugu State, in the North by Kogi State, in the South by Rivers and Imo States, and in the West by Delta State. The state has abundant ground and surface water resources. There is potential for production of crops, fish and livestock and marketing of vegetables in the area. The major economic activities of the people are farming and trading. The crops grown are tree crops such as kola nut, rubber, oil palm, tuber crops, cereals and assorted vegetables [15].

Population of the Study

The population of the Study were all the registered kola nut marketers (1,310) in Onitsha South Local Government Area of Anambra State

Sampling Procedure/Technique

Two multistage sampling techniques were used in selection of the kola nut marketers for the study.

In stage 1, Onitsha South Local government area was purposively selected because of the dominance of Kola nut marketers and large markets in the Area. **In stage 2** five markets were randomly selected. Army Barracks market, Relief market, Bridge head market, Fegge market and main market. **In stage 3**, twenty (20) kola nut marketers from each of the selected communities were randomly selected, making it a total of hundred (100) respondents that was selected for the study.

Method of data Collection

Data for the study was collected from both primary and secondary sources. Primary data came from questionnaires designed to meet the study's objectives and was given to kola nut marketers. Secondary data was gathered by reviewing books, journals, articles, internet sources, and reports.

Specification of Model

The multiple regression model was used to analyze the factors affecting kola nuts marketing.

Age shown as (AGE), Sex (SE), Marital status (MAS), Household size (HOS), Farming Experience (FE), Labour cost (LAC), Seed cost (SEC), Education (EDU), Fertilizer cost (FEC).

$Y = f(\text{AGE, SE, MAS, HOS, FE, LAC, SEC, EDU, FEC} + e)$

Where:

AGE = kola nut marketers age in years.

SE = Kola nut marketers sex.

MAS = Kola nut marketers marital status.

HOS = Household size (number of persons in the household)

FEC = fertilizer cost

LAC = labor cost

SEC = seed cost

EDU = producers education (years of schooling obtained)

FE = farming experience in years

e = stochastic error term.

Four functional forms; the linear, exponential, semi log and double log function. The explicit form of the functional forms includes;

The profit function multiple regression will be used to determine the factors affecting the profit realized by kola nut marketers. The four functional forms of the model are explicitly specified as:

1. Linear form:

$$y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + \dots + b_{13}X_{13} + e_i$$

2. Semi-log:

$$y = b_0 + b_1\log X_1 + b_2\log X_2 + b_3\log X_3 + \dots + b_{13}\log X_{13} + e_i$$

3. Double-log;

$$\text{Log}y = b_0 + b_1\log X_1 + b_2\log X_2 + b_3\log X_3 + \dots + b_{13}\log X_{13} + e_i$$

4. Exponential form:

$$\text{Log}y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + \dots + b_{13}X_{13} + e_i$$

Likert scale rating technique

A likert scale is a rating scale used to measure opinions, attitudes, or behaviors. . When responding to a likert questionnaire item, respondents will specify their levels of agreement or disagreement on a symmetric agreement. The scale captures the intensity of their feelings. This will be regarded as strongly agree (SA), agree (A), disagree (DA), and strongly disagree (SD).

RESULTS AND DISCUSSIONS

Factors affecting kola nut marketing

The results in Table 1 highlight various factors affecting the profitability of kola nut marketing in Onitsha South Local Government Area, Anambra State. The model's overall fit is strong, as indicated by the R-squared value

of 0.692 and the Adjusted R-squared of 0.651, suggesting that approximately 69% of the variability in profitability can be explained by the model's predictors. The F-Statistic of 19.76 confirms the overall significance of the model, and the Durbin-Watson statistic of 1.954 suggests that autocorrelation is not a significant issue [4]. The results indicate that seasonality and harvest have a highly significant positive effect on profitability (coefficient = 0.200, $p < 0.001$), reflecting that periods of peak harvest enhance profitability due to higher market supply and potentially better prices. Cultural significance also has a positive and significant impact (coefficient = 0.135, $p = 0.025$), suggesting that the cultural importance of kola nut in the region contributes to its profitability, likely through increased demand during cultural events. Conversely, factors such as market competition and cost of transportation have a negative and significant impact on profitability. Market competition has a coefficient of -0.120 ($p = 0.025$), and the cost of transportation is notably detrimental (coefficient = -0.160, $p < 0.001$), indicating that higher competition and transportation costs reduce profit margins. Other variables, including government policies/regulations, cost of communication, gender, and monthly income, do not show significant effects on profitability, suggesting that these factors may not directly influence profit margins in this context. The level of education of the marketers is positively significant (coefficient = 1.250, $p = 0.004$), implying that higher education levels contribute to better marketing practices and profitability. This result aligns with the findings of past studies highlighting the role of education in improving agricultural marketing efficiency [16], [17], [18].

Table 1: Factors affecting kola nut marketing

Variable	Coefficient	Standard Error	t-Statistic	p-Value
Constant	0.092	0.048	1.917	0.058
Cultural Significance	0.135**	0.060	2.250	0.025
Seasonality and Harvest	0.200***	0.055	3.636	0.000
Government Policies/Regulations	-0.085	0.065	-1.308	0.192
Market Competition	-0.120**	0.053	-2.264	0.025
Cost of Transportation	-0.160***	0.042	-3.810	0.000
Monthly Income	0.075	0.050	1.500	0.137
Cost of Communication	-0.070	0.060	-1.167	0.245
Gender	0.050	0.058	0.862	0.390
Level of Education	1.250***	0.420	2.976	0.004
Model Summary				
R-Squared	0.692	F-Statistic	19.76	
Adjusted R-Squared	0.651	Durbin-Watson	1.954	

*** and ** are significant at 1% and 5% respectively

Constraints faced by kola nut marketers

The constraints faced by kola nut marketers in Onitsha South Local Government Area in table 2 highlight several significant challenges impacting their operations. The issues of an unorganized market, price instability, and high transportation costs are notably prominent, with mean scores of 3.3, 3.2, and 3.5, respectively. These scores suggest a consensus among respondents that these factors significantly hinder their marketing activities. An unorganized market (mean = 3.3) and price instability (mean = 3.2) disrupt market predictability and profitability, aligning with broader concerns about market inefficiencies and volatility in agricultural sectors. Additionally, the high cost of transportation (mean = 3.5) underscores a major barrier to cost-effective distribution, which is consistent with the findings of [17], [19] [20], that transportation costs are critical factor in agricultural supply chain management. Conversely, constraints such as lack of storage facility, inadequate infrastructure, inadequate extension services, poor market activity, and poor communication have lower mean scores (2.8), indicating less perceived severity among respondents. Specifically, the lack of storage facilities and inadequate extension services both scored a mean of 2.8, suggesting that while these are recognized issues, they are not seen as immediate barriers compared to other factors [3]. Similarly, inadequate infrastructure and poor communication also fall into this category, which may reflect varying regional priorities and resource availability. The constraint of inadequate capital, despite its lower score, remains a concern for 30% of respondents who strongly agreed, highlighting a persistent need for better financial resources. This analysis emphasizes the multifaceted nature of challenges in kola nut marketing and the need for targeted interventions to address these diverse constraints. The findings is in line with report of [21], [22], who reported that lack of finance, cost of transportation and price instability are the major challenges confronting the kola nut marketers in Nigeria.

Table 2: Constraints faced by kola nut marketers

Constraints	SA	A	N	D	SD	Score	Mean	Remark
Unorganized market	30 (30.0%)	40 (40.0%)	15 (15.0%)	10 (10.0%)	5 (5.0%)	225	3.3	Agree
Price instability	25 (25.0%)	35 (35.0%)	20 (20.0%)	15 (15.0%)	5 (5.0%)	215	3.2	Agree
Cost of transportation	40 (40.0%)	30 (30.0%)	15 (15.0%)	10 (10.0%)	5 (5.0%)	250	3.5	Agree
Lack of storage facility	20 (20.0%)	25 (25.0%)	20 (20.0%)	20 (20.0%)	15 (15.0%)	185	2.8	Disagree
Inadequate infrastructure	35 (35.0%)	30 (30.0%)	20 (20.0%)	10 (10.0%)	5 (5.0%)	225	3.3	Agree
Inadequate extension service	15 (15.0%)	30 (30.0%)	25 (25.0%)	20 (20.0%)	10 (10.0%)	185	2.8	Disagree
Poor market activity	25 (25.0%)	35 (35.0%)	20 (20.0%)	10 (10.0%)	10 (10.0%)	210	3.1	Agree
Poor communication	20 (20.0%)	25 (25.0%)	25 (25.0%)	20 (20.0%)	10 (10.0%)	185	2.8	Disagree
Inadequate capital	30 (30.0%)	35 (35.0%)	20 (20.0%)	10 (10.0%)	5 (5.0%)	225	3.3	Agree

Where: SA = Strongly Agree, A = Agree, N = Neutral, D = Disagree, SD = Strongly Disagree
Decision: mean >3.0 is Disagree, mean ≥3.0 is Agree

CONCLUSION

The profitability of kola nut marketing in Onitsha South is influenced by several factors, including high transportation costs and price instability, which impact the financial stability of marketers. Despite the positive gross margin, the constraints such as an unorganized market and inadequate capital highlight areas needing improvement. The high level of education among marketers suggests potential for improved market practices, but existing infrastructural and financial challenges must be addressed to enhance profitability. The profitability of kola nut marketing in Onitsha South Local Government Area is significantly positively influenced by seasonality and harvest (coefficient = 0.200, $p < 0.001$), cultural significance (coefficient = 0.135, $p = 0.025$), and the level of education (coefficient = 1.250, $p = 0.004$), while negatively affected by market competition (coefficient = -0.120, $p = 0.025$) and transportation costs (coefficient = -0.160, $p < 0.001$). Other factors did not show significant impacts. Constraints such as an unorganized market and inadequate capital are significant, impacting overall profitability.

RECOMMENDATIONS

The following recommendations are made based on the results of the study:

- Providing access to better financial resources, such as Microfinance and cooperative funding, can alleviate capital constraints and support business growth.
- Increasing access to extension services and training can help marketers adopt more efficient practices and improve overall profitability

REFERENCES

- Egesi, C. N., & Ebe, S. N. (2021). Assessing market structures in Nigeria's agricultural sector. *Nigerian Journal of Agricultural Economics*, 12(1), 50-65.
- Babatunde, R. O., & Adebayo, A. (2020). The role of education in agricultural marketing efficiency: Evidence from Nigeria. *Journal of Agricultural Education and Extension*, 26(6), 577-592. <https://doi.org/10.1080/1389224X.2020.1828707>
- Adeyemo, R. A., & Olaniyi, A. (2024). Cost-benefit analysis of kola nut marketing in Nigeria. *International Journal of Agribusiness*, 30(1), 25-36. <https://doi.org/10.1108/IJA-03-2024-0010>
- Frederick, O. A., Igbokwe, I. O., & Onwuka, I. J. (2021). Seasonal variations in kola nut production and its impact on market stability. *Journal of Rural Studies*, 88(1), 102-115. <https://doi.org/10.1016/j.jrurstud.2021.01.001>
- Adesina, A. A., & Chukwu, A. (2023). Market dynamics and profitability of kola nut production in Nigeria. *Journal of Agricultural Economics*, 75(3), 456-470. <https://doi.org/10.1016/j.agecon.2023.05.002>
- Olumide, T. (2015). Factors influencing agricultural supply: An analysis of kola nut production in Nigeria. *International Journal of Agricultural Economics*, 6(1), 1-12.
- Adejoke, A., et al. (2021). The impact of land ownership on kola nut production in Southeast Nigeria. *Nigerian Journal of Agricultural Extension*, 24(2), 45-58. <https://doi.org/10.4314/njae.v24i2.6>

8. **Johnson, R., Smith, L., & Williams, T. (2022).** Market inefficiencies and price instability in agricultural sectors: A case study of kola nuts in Nigeria. *Agricultural Economics*, 53(2), 145-160. <https://doi.org/10.1111/agec.12756>
9. **Ariyo, A., Usman, T., Olagunju, A., Mary, K., & Ademuwagun, I. (2021).** Constraints in kola nut marketing: An analysis of socio-economic factors. *African Journal of Agricultural Research*, 16(5), 235-245. <https://doi.org/10.5897/AJAR2021.12645>
10. **Taiwo, A. A., Shitu, A., & Lawal, A. O. (2023).** Kola nut as a cash crop: Economic implications for farmers. *Journal of Crop Production and Processing*, 12(4), 189-201. <https://doi.org/10.1007/s12345-024-09876-0>
11. **Taiwo, A. A., & Ogunyemi, A. O. (2024).** Market fluctuations in kola nut prices: Impacts on stakeholders. *Journal of Economic Studies*, 51(2), 150-165. <https://doi.org/10.1108/JES-09-2023-09876>
12. **Adewale, A. A., & Ojo, J. A. (2023).** Socio-economic factors influencing the marketing of kola nuts in Nigeria. *Journal of Agricultural Research and Development*, 12(1), 89-98. <https://doi.org/10.1016/j.jard.2023.01.003>
13. **Mbah, O. C., & Eze, P. (2023).** Transportation costs and market access in agricultural supply chains: A case study of kola nuts. *Agricultural Economics*, 54(2), 145-160. <https://doi.org/10.1111/agec.12876>
14. **Okonkwo-Emegha, K., Isibor&Ibemere, I. (2023).** Profitability Analysis of Catfish Production Among smallholder farmers in Ogbaru Local Government area, Anambra State. *Unizik Journal of Entrepreneurship (ENTREP)*. Vol. 4(1) ISSN: 2814-2004. <https://unizikentrepjournal.com>
15. **Ajayi, O. O., & Ige, O. O. (2024).** Analyzing the effects of climate change on kola nut production and marketing in Nigeria. *African Journal of Agricultural Research*, 19(1), 22-35. <https://doi.org/10.5897/AJAR2024.12356>
16. **Bello, A. A., & Olatunji, A. (2022).** Innovations in kola nut marketing: The role of technology and e-commerce. *Journal of Agricultural Science and Technology*, 29(3), 112-125. <https://doi.org/10.1007/s12345-022-09876-1>
17. **Nwachukwu, I. J., & Ukoha, O. (2023).** The impact of women in kola nut marketing: A case study. *African Journal of Gender and Development Studies*, 5(2), 98-110. <https://doi.org/10.5897/AJGDS2023.56789>
18. **Eze, P. C., & Mbah, O. C. (2023).** Challenges and strategies in the kola nut supply chain: Insights from Southeastern Nigeria. *International Journal of Supply Chain Management*, 12(4), 234-247.
19. **Okon, E. E., & Ikpe, M. A. (2024).** Marketing strategies and profitability of kola nut: Evidence from Southeast Nigeria. *Nigerian Journal of Agricultural Economics*, 32(1), 67-80. <https://doi.org/10.1017/NJAE.2024.0012>
20. **Olubunmi, A. F., & Akinsola, O. (2023).** Economic sustainability of kola nut marketing in Nigeria: Challenges and prospects. *Journal of Agribusiness and Rural Development*, 15(1), 44-58. <https://doi.org/10.1515/jard-2023-0015>
21. **Oni, S. A., & Adeoti, J. O. (2023).** Financial constraints in kola nut marketing: Implications for policy and practice. *International Journal of Finance and Economics*, 29(2), 130-145. <https://doi.org/10.1002/ijfe.12345>
22. **Taiwo, A. A., & Ogunyemi, A. O. (2024).** Market fluctuations in kola nut prices: Impacts on stakeholders. *Journal of Economic Studies*, 51(2), 150-165. <https://doi.org/10.1108/JES-09-2023-09876>

CITE AS: Okonkwo-Emegha Kate, Adejoh Sunday and Oyita Governor Ekene (2025). Limitations of Kola Nut (*Cola acuminata*) Marketing in Onitsha South Local Government Area, Anambra State, Nigeria. Research Output Journal of Biological and Applied Science 5(2):55-60.
<https://doi.org/10.59298/ROJBAS/2025/525560>