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Economic Analysis of Cashew Nut Production in Saki East Local Government Area, Oyo State, Nigeria

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ABSTRACT

This study examined the economic analysis of cashew nut production in Saki East Local Government Area, Oyo State, Nigeria. A total of 120 cashew producers were sampled through multi stage random sampling technique. Data were analysed using descriptive statistics, gross margin analysis and likert scale model. It was revealed that majority of the cashew producers are male (69.2%), most (37.5) of the respondents fell within the active range of 41-50 years, with a mean household size of 8. The gross margin analysis revealed that the average total cost incurred by the respondents per month was ₦54,311.84 while total revenue of ₦1,158,695.83 was realized thereby returning gross margin of ₦1,104,383.99 and net margin of ₦274,112.66. The rate of return was 0.31 which implies that, for every ₦1.00 invested in the cashew nut production an outcome of 0.31kobo is generated or expected. It further confirmed that, cashew nut production in the study area is profitable. The likert scale model revealed that the major constraints facing cashew producers in the study area were: lack of processing facilities (3.02), inadequate extension visits (2.80), inadequate capital (2.57), and insufficient knowledge of credit sources (2.18), storage facilities (2.14) and other. The government should ensure provision of modern technologies to the cashew farmers at affordable price, availability of extension officers and availability of capitals (loans) to the cashew farmers.

INTRODUCTION

The cashew tree (*Anacardium occidentale*) is a native of Brazil (Oluyole *et al*., 2017). It is hardy in nature, and a drought –resistant multipurpose tree with a rapid grow (Offor *et al*. 2019). "It belongs to the Anacardiaceae family of plants, among the family are mango and the pistachio". Cashew tree is capable of living for between fifty to sixty years, it takes three to four years to reach full production and produce nuts for about fifteen to twenty years (Salau *et al*., 2017; Kolliesuah *et al*., 2020). In 2019/20, cashew was 17 per cent of the world tree nut and third commonest trees nut in the world after almonds and walnut trees (International nut and Dried fruit council foundation, 2020). In the world, Nigeria is among the top ten cashew producers, this helps to provide supplementary incomes to the farmers across major producing States. A large number of people mostly in low-income groups generate incomes from cashew as harvesters, local merchants (Local/Licensed Buying Agents -LBAs) and workers associated with LBAs, transporters, processors, and exporters. (Olagunju, 2015). Nigeria farmers earned $404million from the export of the cash crop in 2017 and between 2015 and 2017, they earned $813.05 in foreign exchange from exportation (Funnanya, 2018).

Cashew tree was introduced into Nigeria by the traders from Portuguese around 16 century and was first planted in Agege, Lagos State (Adeigbe *et al.,* 2015).In Nigeria the largest cashew producing States are Kogi, Oyo, Niger and Nasarawa States, and Abuja while others are Abia, Enugu, Ondo, Osun, Anambra and Ekiti (Fumnanya, 2018). The purpose of this study is to examine the economic analysis of cashew nut production in Saki east Local Government area, Oyo State, Nigeria.

The specific objectives of the study are to:

i. Describe the socio-economic characteristics of the respondents in the study area.
ii. Estimate the cost and returns of the respondents in the study area.
iii. Identify the constraints facing cashew production in the study are

METHODOLOGY

This study was conducted in Saki East Local Government area, Oyo State, Nigeria. It is located in the South-west geopolitical zone of Nigeria and it shares boundary with Kajola, Atisbo, and Iseyin LGAs in Oyo State. It is located 8.7047° or 8° 42' 16.8" N and 3.5894° or 3° 35' 22"E with landmass of 1,569 km² and a population of 110,223 at the 2006 census. Because of the sustainable annual rainfall, the major economic activities are farming, hunting, and food processing among others. The area produces virtually all the farm produce such as Maize, Yam, Cassava, Millet, Rice, Plantain, Cocoa, Oil Palm and Cashew at Saki East Local Government area, Oyo State. Multi stage sampling technique was employed in this study. In the first sampling stage. Saki East Local Government Area was purposely selected from other Local Government Areas "In the second stage 6 cashew producing villages Six villages (Oje Owode, Ago-Amodu, Sepeteri, Ogbooro, Agbonle, Sango) was purposively selected from Saki East Areas of Oyo State due to the prominence of cashew production in the area was randomly selected from the Local Government Area. In the third stage 20 farmers were elected in each of the 6 villages using simple random technique which given a sample size of 120 respondents.

The data for this study were collected by the use of a well- structured questionnaire which was administered to cashew producers in the study area. Data collected were on socio-economic characteristics of the respondents, cost and return from production, and the factors that hindered their production. Data collected were subjected to descriptive analysis such as frequency counts, tables and percentages, to analyse socio-economic characteristics of respondents. Gross margin analysis was used determine the cost and returns on cashew production and likert scale to identify the constraints facing cashew farmers.

Gross margin analysis

The farmers' profits were calculated using the following models:
Gross Margin= TR – TVC----------(1)
Where GM= Gross Margin (₦), TR= Total revenue, TVC = Total Variable cost (₦)
The profitability of cashew production was determined using the formula below,
Rate of Return = GM/TVC----------(2)
GM= Gross Margin, TVC= Total Variable cost (₦)
Gross Ratio: Measures the overall success of an investment. the lower the ratio, the higher the rate of return per Naira.
Gross Ratio= TFE/GI----------(3)

TFE= Total Farm Expenses (₦),GI= Gross Income (₦)
Likert scale rating technique was used to identify the constraints to cashew production in the study area.
Likert scale instrument used was as follows:
$\chi = \Sigma f\chi / N$----------*(4)*
Where,χ = mean , Σ= summation sign , f = frequency and N = No of responses.

RESULTS AND DISCUSSION

Socio-economic Characteristics of Cashew nut Farmers

The result in Table 1 shows that majority of the respondents were males (69.2%) while (30.8%) of the respondents were females. This implies that males are more involved in cashew nut production in the study area than their female counterpart. This result disagrees with the finding of (Ogah *et al.*, 2020) which found that majority of cashew farmers are females. The highest percentage 37.5% of those involved in cashew nut production fall within the active age range of 41-50 years while the lowest percentage 7.5% comes from 30 years and below. The minimum age of those involved in the production of cashew nuts is 25years with the corresponding maximum age of 55years, whereas the mean age is approximately 47 years, which indicates that cashew nut production is carried out mostly by adults. This agrees with (Agada, *et al.,* 2020) that cashew production involved active age above 40years. (Adesiji *et al.,*.2012) which States the mean age of cashew farmer is 47yeras. Educational status, the highest percentage 25.8% are secondary certificate holders, followed by those with non-formal education 20.8, while those with primary education have a percentage of 19.2% and adult/vocational comes least with a percentage of 10.8%, Sum up all that can read to 55.8% this implies that majority of the cashew farmers in the study area can read, write and this could help the farmers in cashew production. This supports the finding of Adeniyi and Akanda (2015) which considered Education as a significant factor in the adoption of new technology and various technical operations involved in mechanized system. Marital Status of the respondents, the majority (83.3%) of the cashew nut producers are married whereas (7.5%) are single, while the (1.7%) are divorced and the remaining (7.5%) are widowed. The percentage of those married are more than the others indicating that family labor are easily available to reduce the cost thereby helping with the production processes. This result corroborated with that of Salau *et al.,* (2017) and Pascal, (2013) which both reported that the majority of the respondents in there study area were married.

The distribution of the respondents by their Household shows that the larger percentage in the higher the house hold size will result in lower the cost of hiring labour. The processing experience of the respondent's majority (45.8%) fall within below 10 years of experience range. The mean year of processing experience was 13.18 years. This implies that most of the people involved in cashew nut production in the study area are experienced. This result corroborated the finding of Adesiji *et al.,* (2012) who opined that 73.3% of the farmers had long time experience in cashew nut production and Stated that the experience could influence farmer's productivity and also their ability to manage any constraints in cashew nut production. Religion does not play any role in cashew nut production.

Table 1: Socio-economic Characteristics of Cashew nut Farmers in the Study Area N =120

Variable	Frequency	Percentage
Sex		
Male	83	69.2
Female	37	30.8
Age		
30 year below	9	7.5
31-40	26	21.7
41-50	45	37.5
Above 50	40	33.3
Mean	**46.75**	
Educational Qualification		
No formal Education	25	20.8
Primary Education	23	19.2
Secondary Education	31	25.8
Adult/Vocational	13	10.8
Tertiary Education	28	23.3
Marital Status		
Single	9	7.5
Married	100	83.3
Divorced	2	1.7
Widowed	9	7.5
Household size		
1-5	42	35.0
6-10	46	38.3
Above 10	32	26.7
Mean	**8.13**	
Processing Experience		
Below 10	55	45.8
11-20	42	35.0
21-30	18	15.0
Above 30	5	4.2
Mean	**13.18**	
Religion		
Christianity	20	16.7
Islamic	96	80.0
Traditional	4	3.3

Source: Data from field survey 2023

Distribution of Respondents by Management Practices

The management practices of the cashew nut farmers are presented in Table 2 .The table reveals that majority of the respondents (44.2%) has the farm size of less than 2 hectares were cashew is being cultivated. 35.0% has 2-5 hectares of farm size, and 10% has above 5 hectares for cashew cultivation whereas 10.8% do not own a farm where cashew is been cultivated with a mean of farm size is 2.79. The mean implies that most of the farmers are running a semi-commercial scale farming. The distribution of the respondents based on Farm Ownership shows that 89.2% owns a cashew farm while 10.8% do not own a cashew farm but are actively involved in the production of cashew nut. The distribution of the respondents based on other Occupation shows that majority of the farmers 47.5% are involved in trading, 32.5% are self-employed 10% are paid employees 10% are engaged in cashew farming only. The distribution of respondents by type of labour shows that the majority of the farmers use hired labour (70%), 8.3% of the farmers use family as labour, while 21.7% use both family and hired labour. This indicates that the farmers in the study area spend more on hired labour which will directly have an impact on their income.

Table 2: The Distribution by Management practices

Variable	Frequency (N=120)	Percentage
Farm Size (Ha)		
0	13	10.8
< 2ha	53	44.2
2-5 ha	42	35.0
>5	12	10.0
Mean	2.79	
Cashew ownership		
No	13	10.8
Yes	107	89.2
Other Occupation		
Cashew only	12	10.0
Self employed	39	32.5
Paid employment	12	10.0
Trading	57	47.5
Types of Labour		
Family	10	8.3
Hired	84	70.0
Both	26	21.7

Source: Field Survey, 2023

Cost and Return Analysis of Cashew Nut Production in The Study Area.

The cost and returns analysis is presented in Table 3, reveals that cost of labour (44.45%) accounted for the largest proportion of the total cost of cashew nut production in the study area.

Table 3: Cost and Returns Analysis of Cashew Nut Production in The Study Area.

Average cost and return of cashew nut production ₦/ Hectares/season

Cost items	Amount (₦/month)	% of TC
Variable costs		
Cost of cashew nut	15,240.83	28.06
Labour	24,141.67	44.45
Nylon	2,227.17	4.10
Transportation	4,211	7.75
Bottles	1,731.67	3.19
Salt	969.38	1.78
Gas/firewood	1,568.45	2.89
Groundnut oil	4,221.67	7.77
Total Variable Cost (TVC)	54,311.84	99.99
Fixed Costs (depreciated)		
Manual shelling machine	11,780.35	
Cashew shelling machine	4,422.56	
Cashew peeling machine	3,893.75	
Roasting machine	16,083.21	
Cashew dryer	5,675.94	
Cutlass	11,429.93	
Basket	6,582.49	
Knives	5,251.69	
Cost of production on land (yr)	691,181.25	
Sealing machine	40,959.48	
Bowls	8,862.12	
Hammer	4,190.42	
Gloves	3,177.92	
Jute bags	16,780.22	
Total Fixed Cost (TFC)	830,271.33	
Total Cost	884,583.17	
Returns		
Total Revenue (TR)	1,158,695.83	
Gross Margin (TR - TVC)	1,104,383.99	
Net Profit (GM - TFC)	274,112.66	
Rate of Return (NP/TC)	0.31	

Source: Field Survey, 2023

This is followed by the cost of purchasing cashew nuts on yearly bases (28.06%). The cost of groundnut oil (7.77%), the cost of transportation (7.75%), nylon (4.11%) bottle (3.19%), gas/firewood (2.89%) and salt (1.78%) constitute respectively of the total variable cost. All this gives a total variable cost ₦54,311.84, with a Total fixed cost of ₦830, 271.33 and a Total cost (TC) ₦884583.17. The Total revenue was ₦1,158,695.83 while gross margin (TR-TVC) was ₦1,104,383.99 with net margin of ₦274,112.66. The rate of return on investment in the study area was 0.31. This implies that every ₦1 invested in cashew nuts production business yielded an outcome of 0.31kobo as profit, this shows profit was on average and would has be more than these due damaging of nuts by pest as a result of inadequate of processing and storage facilities and lack of readily available buyers

Constraints Affecting Cashew Nut Production.

The study revealed several constraints militating against cashew nut production in Saki East Local Government of Oyo State. These constraints are represented in the table 4 below, the major constraint faced by cashew nuts farmers was inadequate processing facility (3.02). His goes to ascertain the earlier deduction by (Oladejo 2015) that lack of processing and storage facilities were the major constraint affecting cashew production in Nigeria Follow by, Lack of inadequate extension visits (2.80).Farmers lack information on new innovations because extension officers hardly visit the cashew farmers, to give updates on the current research being carried out on new ways of improvement. This corroborates with what Agbongiarhuoyi *et al.,* (*2008*) said that inadequate extension on cashew production were the major constraint faced by cashew producers. Inadequate capital is the third major constraint affecting cashew nut farmers because cashew production requires a lot of money to startup. From the result it has a mean of (2.57). This findings consonance with Oladejo (2015) which stated that inadequate capital is a major problem in cashew production in Nigeria. Most financial institutes find it difficult to give out loans to cashew nut producers in the study area. his may be due to high risk facing farming industries in Nigeria.The study however, disagreed with him that poor transportation is a major problem facing cashew nut farmers, findings show the mean result for poor transportation as (2.03).

Table 4: Constraint to cashew nut production

Problems	Mean	Std. Deviation
Inadequate capital	2.57	0.819
Poor access to information	2.09	0.635
Low farm gate price	2.04	0.834
Insufficient labour	2.01	0.804
Poor market channel	1.91	0.759
Inadequate market information	2.06	0.873
Poor quality of cashew nuts	1.92	0.862
Inadequate processing facility	3.02	0.698
Lack of storage facilities	2.14	0.973
Poor transportation	2.03	0.819
High transport cost	2.19	0.813
Lack of inadequate extension visit	2.80	0.784
Insufficient knowledge of credit source	2.18	0.895
Lack of collateral	2.12	0.958
Involvement of off-farm jobs	2.10	0.965

Source: Field Survey, 2023

CONCLUSION AND RECOMMENDATIONS

Based on the findings from the study, it was discovered that there is profit in cashew production in the study area from the findings it was noted that constraints like inadequate capital, accessibility to extension agents and inadequate processing facilities are the major factors affecting cashew nut production in the study area. Based on the findings from the study, the following recommendations are made: There should be provision of adequate extension and supportive services in the study area in order to improve techniques with technological innovations. Government at all levels should provide processing and storage facilities to minimize loss encountered by the farmers and to reduce the cost incurred in processing of cashew in order to increase the profits of cashew production in the study area. Availability of capital and other production incentives for the farmers in order to maximize their production and improve their income. Insurance firms should create a platform for

the farmer's so they can insure their farms, so that financial institutions can grant those loans. The Cashew producers should come together to form cooperatives that will enable them to access credit from banks and other financial institutions that will help in efficient production.

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