JARS

Journal of Asian Rural Studies, 2018, 2(1): 49-56
ISSN: 2548-3269
Published by Hasanuddin University and Asian Rural Sociology Association

EVALUATION OF THE PROFITABILITY AND PERFORMANCE OF YOUTH PARTICIPATION IN CASHEW NUT (*ANACARDIUM OCCIDENTALE*) MARKETING IN ANKPA LOCAL GOVERNMENT AREA OF KOGI STATE, NIGERIA

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Citation: Adejo, P.E., Adejo, E,G, Zakari, J. 2018 Evaluation of The Profitability and Performance of Youth Participation In Cashew Nut (Anacardium Occidentale) Marketing In Ankpa Local Government Area Of Kogi State, Nigeria. *J. Asian Rur. Stud.* 2(1): 49-56

Abstract: This study assessed youth participation in cashew nut marketing in Ankpa Local Government Area of Kogi State, Nigeria. It specifically described the socioeconomic characteristics of the youths, examined the profitability of youth involvement in cashew nut marketing, assessed the efficiency and performance of youth in cashew nut marketing, and determined the level of market integration in cashew nut marketing. A three staged random sampling method was used to select 120 youth involved in cashew nut marketing for the study. Relevant primary data obtained through structured questionnaire were analysed using descriptive statistics, gross margin model, marketing efficiency, and Pearson price correlation. Findings of the study showed a mean age and marketing experience of 37 years and 10 years respectively. Gross margin obtained was N 445, 563.90 per annum, N14, 811.11 per bag and N185.11per kg with a high efficiency level of 654%. The level of integration (0.415) between Awo and Enjema markets was significant 5%. Youth are encouraged to consider cashew nut marketing as an option to reduce unemployment and improve their welfare.

Keywords: Cashew nut; efficiency; price; profitability; integration

1. Introduction

For decades, agriculture has been an important sector in the economy of Nigeria due to its major contribution to national income. Cashew (*Anacardium occidentale*) is one of the crops that priority attention should be given to in terms of its marketing locally and as an export commodity (Oladejo, 2015). It was introduced into Nigeria between 15th and 16th centuries by the Portuguese explorers and the crop has rapidly spread to all agro-ecologies of the country. Cashew is well adapted to seasonally wet and dry tropical climates and has the capacity to grow and yield satisfactorily on well-drained, light textured soils with minimum inputs. Nigeria is rated as the fourth largest producer of cashew nuts in Africa and seventh in the world, with the bulk of its raw cashew nuts and cashew kernels exported to Vietnam and India, respectively (Okon, 2016). In Africa, Nigeria ranks fourth after Tanzania, Cote d' Ivoire and Guinea Bissau, having a total area of 100,000ha and an average annual production of 80,000MT contributing almost 16% of the total production of this particular zone. Its production is 5% of the

global situation (). Country wise, cashew production comes from over 20 States. These Kogi, Oyo, Edo, Ondo, Anambra, Enugu, Benue, Cross River, Imo, Sokoto, Nassarawa, Ogun, Osun, Plateau and Kebbi among others (Ezeagu, 2002). Despite its relevance in economic development, the potential of Cashew is yet to be fully exploited in Nigeria (Asiru *et al.,* 2005). This situation could however be attributed to the marketing structure of cashew nut.

Production is said to be completed if the product reaches the final consumer. There is therefore the need for an efficient marketing channel as well as a system for agricultural produce such as Cashew nut. Lack of knowledge on the marketing of some crops and their products somewhat leads to the inherent poor agricultural commodity markets in developing countries such as Nigeria (Onyenobi *et al*, 2009; Adejo et al, 2011). According to Kotler (2008), market structure refers to those organisational characteristics of a market that exercise strategic control on the nature of competition and behaviour within the markets. The market structure is important because the structure determines the quality of the industry's performance. Market performance is how well the process of marketing is carried out and how successful its aims are accomplished.

India is famously known to be the world largest processor and trader of cashew nut normally imported from Africa. The dominance of the world trade by India was sustained by the scale of the raw nut import Program (Duncan, 2000). Till date, India still takes the lead in this productive and commercial attributes. This is evident in their presence and investment in Nigeria, and particularly their entrants into the study area in the last fear years from where they use to be in the Western part of Nigeria (Lagos and Ibadan). Farmers in the study area especially the youths have had fair prices for cashew nuts in the last four years. In response to rising costs, farmers are making efforts to increase returns. This involves an improvement in the technology of growing cashew using improved cashew seeds/seedlings and more inputs. Because of the presence of the Indians in Ankpa Local Government Area, the activities of the middle men have reduced drastically and have enabled better profit margin for the farmers/marketers who are mostly in their youthful ages. Nigeria is expected to record increase in its cashew nut production in coming years due to renewed focus by the government and increasing demand for the commodity across developed countries and Asia.

Specifically, market performance is concerned with technological progressiveness, growth orientation of agricultural firms, the efficiency of resources use. as well as product improvement and maximum market service at the least possible costs (Adegeye and Dittoh, 1985). They further pointed out that, the application of market structure and performance are would have a multiplier effect in shaping the marketing system, with desired returns. There is therefore, the need to ascertain the profitability and performance of youth participation in cashew nut marketing.

This study will significantly help develop a market structure for local and international cashew nut trade. The Indians, Chinese and all other buyers around the globe will be exposed to the marketing channel and value chain of cashew nut availing youth farmers/marketers in the study area more profits and consequently increase cashew nut production.

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2. Method

This study was carried out in Ankpa Local Government Area of Kogi State, Nigeria. The Local Government Area (LGA) is located at 7°22′14″N 7°37′31″E / 7.37056°N 7.62528°E. It has an area of 1,200 km² and a population of 267,353 (NPC, 2007). It has two main seasons; the dry season and rainy season. The rainy season is between April and October, while the dry season is between November and March. Major crops grown in the area are yam, maize, millet, guinea corn, groundnut, cowpea, cassava, cashew, mango, citrus and oil palm. Most of the towns and villages have markets, which hold at intervals of four days. The major markets are in Ankpa, Enjema, Awo, Eti Afor and Ojoku.

Population for this study comprised of all youth cashew nut marketers in Ankpa Local Area of Kogi State. A three staged random sampling technique was used to select the respondents. Firstly, five wards were randomly selected out of the twelve wards in the area. In the second stage, one major market was selected from each of the five wards based on their sizes and volume of trade. In the third stage, twenty-five cashew nut marketers were randomly selected from each of the selected market, making a total of 125 respondents.

Primary data obtained through structured questionnaire were analysed using descriptive statistics, gross margin analysis, benefit-cost ratio model, marketing margin, efficiency model, and correlation analysis.

The farm budgeting model for examining the profit level of an enterprise was used to determine the net return from cashew marketing. The model is stated as follows:

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$$NR = TR - TC$$

and

$$TC = TVC + TFC$$

Where NR = Net Return (profit) measured in Naira; TR =Total revenue (₦); TC =Total cost (₦); TVC= Total variable cost (₦); TFC =Total fixed cost (₦)

The viability estimate of cashew marketing is given by the Benefit-Cost Ratio BCR as used by Iheke and Nwagbara (2012). The model is specified thus:

$$BCR = \frac{\Sigma Discounted\ TR}{\Sigma Discounter\ TC}$$

Where BCR = Benefit Cost Ratio; TR = Total Revenue and; TC = Total Cost.

However, since the period under consideration is 1 year, the discounted aspect is discountenanced. The BCR therefore becomes

$$BCR = \frac{TR}{TC}$$

Decision rule: Where BCR < 1: youth participation in cashew nut marketing is not viable since more cost will be measured than benefit;
BCR > 1: youth participation in cashew marketing is viable and hence profitable
BCR = 1: the viability of cashew marketing is inconclusive as the business is only at a breakeven point where neither loss was incurred nor profit gained.

The market performance for cashew marketing was evaluated with respect to marketing efficiency. Marketing efficiency, as applied by Olukosi and Isitor (1990) and Ozougwu (2002), was adopted. The model is specified as follows:

$$M.E = \frac{\text{Value added by marketing (net profit)}}{\text{Total marketing Cost (TMC)}} \times \frac{100}{1}$$

Where M.E. = Marketing Efficiency
Decision: if M.E = 100% implies a perfectly efficient market; M.E < 100% indicates an inefficient market.

The level of market integration for cashew marketing was assessed using bivariate correlation as given below:

Bivariate correlation, r=COVY/SX.SY, Where r = correlation coefficient , COVXY = covariability between X and Y , SX.SY= production of standard deviation of X and Y, A high correlation coefficient shows high level of integration and vice versa.

The model employed in the analysis is specified as follows:

$$LnY = Ln\ (P_i/1 - P_i) = \beta_0 + \beta_1X_1 + \beta_2X_2 + \ldots + \beta_nX_n + u_i \text{--------} (1)$$

Where Y = is a binary variable defined as 1 if a male or female cooperative members has access to cooperative loan and 0 if a respondent does not.
Pi = Probability to access cooperative loan
Ln = Natural logarithm function
β_0 = A constant
$\beta_1 - \beta_n$ = Logistic regression coefficients

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$X_1 – X_n$ = explanatory variables defined below;
X_1 = Household size (number)
X_2 = Age (years)
X_3 = Educational status (years)
X_4 = Years of membership (years)
X_5 = Income (Naira)

Equation 1 was estimated for both male and female cooperative members in the study area.

3. Results and Discussion

3.1. Profitability of Cashew Nut Marketing

Estimate of the costs and return analysis of cashew nut marketing per annum presented in Table 1 showed that the total variable cost (marketing costs and cost of buying/purchase) of cashew nut per annum was ₦ 798,016.10 while the total revenue of ₦ 2,243,580.00 was realized. The gross margin from cashew nut marketing was ₦1, 445,563.90 per annum, ₦14, 811.11 per bag and ₦185.11per kg (From the study, 1 bag = 80kg). In view of this analysis, cashew nut marketing in the area has a positive gross margin. Also, a Benefit Cost Ratio, BCR of 2.4 was obtained. Since the BCR was greater than one, it can be inferred that cashew nut marketing among youths in the study area is viable. This finding agrees with Oladejo (2015) who found cashew nut marketing in Oyo State, Nigeria to be profitable and viable with gross margin of ₦ 53,168.31 per ton of cashew nut transacted and benefit cost ratio (BCR) of 2.01.

Table 1. Gross Margin analysis in Cashew Nut marketing per annum

Items	**Amount (₦)**
A. Average Variable Costs	
Purchase Cost	595,066.80
Marketing Costs	
Taxes and Levies	2,350.65
Transportation	152, 506.90
Loading and offloading	23, 550. 50
Sanitation	4, 680.45
Rent	19, 860.80
Total Variable Cost (TVC)	798,016.10
B. Average Fixed Cost	
Depreciation on tables, chairs, bowls, and others	50, 620.0
Depreciation on Construction	68,191.67
Total Fixed Cost (TFC)	118, 811.67
Total Cost (TC)	916, 827.77
C. Return	
Average Quantity Sold (80kg)	97.6
Average Price per Bag (80kg)	22, 987.50
Revenue per annum	
Total Revenue (TR)	2,243,580.00
Gross Margin per annum (TR – TVC)	1,445,563.90
Gross Margin per Bag (80kg)	14, 811.11
Gross Margin per Kg	185.14
Net Profit (TR – TC)	1,326,752.23
Benefit Cost Ratio, BCR (TR/TC)	2.4

Source: Field Survey, 2016 **1 Bag =80kg**

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3.2. Performance of Youth in Cashew Nut Marketing and Cashew Nut Market Integration

The marketing efficiency used to assess market performance of cashew nut marketers in the area is presented in Table 2. The result shows a marketing efficiency of 6.54 or 654% which is an indication that cashew nut marketing among youths in the area is efficient. High efficiency level obtained is an indication of excess profit among youths involved in cashew nut marketing. According to Olukosi *et al* (2005), marketing efficiency is a function of both pricing and operational efficiency. The above result therefore, implies that, there is high pricing and operational efficiency in cashew nut marketing in the area.

Table 2: Market Performance for Cashew Nut Marketing

Items	Value
Net **Profit, NP** (TR – TC)	1,326,752.23
Total Marketing Cost, TMC	202,949.30
Marketing Efficiency, M.E (NR/TMC). 100	654%

Source: Computed from Field Survey, 2016

The level of market integration is presented in Table 4. Explicitly, market integration is used to determine the co-movements of prices and the transmission of price signals and information across different markets. Pearson correlation analysis was used to determine the behaviour of cashew nut price between major markets in the study area: Ojoku, Enjema, Awo, Eti-Afor and Ankpa markets. The estimates of bivariate correlation were calculated as shown in Table 4. The coefficient was significant at 5% level of measurement between Awo and Enjema. Pointedly, a low correlation between Ankpa and Enjema, Enjema and Ojoku, and Ankpa and Awo implies non-movement in the prices of cashew nut between these various markets. The negative sign between markets (Awo and Enjema, Ankpa and Ojoku, Ankpa and Enjema, Ankpa and Awo, and Ankpa and Eti-Afor) implies that an increase in the price of cashew nut in any of these markets will lead to a decrease in prices in the other, *ceteris paribus*. The positive correlation between other markets (Enjema and Ojoku, Awo and Enjema, Eti-Afor and Ojoku, and Eti-Afor and Enjema) showed that an increase in cashew nut price in one market would follow the price increase in the other market; *ceteris paribus*. This direct or positive situation could be associated to the transmission of market information by cashew nut marketers through various means. Additionally, the closeness of these markets to each other could contribute to the direct relationship. Hence, there could be existence of relative price elasticities in these markets.

Table 3: Estimate of Bivariate Correlation for cashew nut marketing

Market	Ojoku	Enjema	Awo	Eti-Afor	Ankpa
Ojoku	1.000				
Enjema	0.021	1.000			
Awo	-0.207	0.415*	1.000		
Eti-Afor	0.324	0.295	-0.199	1.000	
Ankpa	**-0.148**	**-0.015**	**-0.055**	**-0.132**	**1.000**

Source: Field Survey, 2016 * = coefficient significant @ 5%

4. Conclusion

It can be concluded from findings of this study that cashew nut marketing among youths is a profitable and viable venture as evident from a positive gross margin, a benefit cost ratio of 2.40 and high marketing efficiency. High pricing and operational efficiency in cashew nut marketing was also recorded in the area. Considering the profitable nature of this enterprise, youths should be encouraged to venture into cashew nut marketing with its expected resultant effect on reduced unemployment rate and better living standard. Also, for better market integration between areas with low coefficient, there is need for government and other relevant bodies to put in place good transportation and communication systems for effective transmission of price signals and information across these markets.

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