

COSTS AND RETURNS ANALYSIS OF DRY PLANTAIN LEAVES MARKETING IN ONDO-WEST LOCAL GOVERNMENT AREA OF ONDO STATE, NIGERIA

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ABSTRACT

Marketing of plantain and its products has been a major source of income and livelihoods for the people both in rural and urban areas of Ondo State, Nigeria. However, empirical analysis on the costs and returns on marketing of dry plantain leaves is scarce in literature. Hence, the study investigated the profitability analysis of marketing dry plantain leaves in Ondo State, Nigeria. Multistage sampling technique was employed to select Sixty-five respondents for the study. Primary data for the study were elicited from respondents using structured questionnaire coupled with interview schedule. Data collected were analysed with the aid of descriptive statistics and gross margin analysis. Results showed the mean age of respondents was 44.5 ± 8.2 years, 89.2 percent were male, and 73.8 percent were married. Mean household size was 7.0 ± 2 members per household with 59.2 percent having Qu'ranic education and 78.5 percent of the marketers were Hausas. The gross margin was ₦138,058.80 with ₦0.74 returns on every naira invested. The study revealed that marketing of dry plantain leaves is a profitable venture in the study area. However, the business is faced with challenges such as; inadequate capital, seasonality and high cost of transportation, among others. Based on the findings of the study, it was recommended that marketers should be given adequate and access to collateral free loans, infrastructures should be provided to reduce cost of transportation and the market stalls should be organized.

Keywords: *Marketing margin, Plantain leaves, profitability, multistage sampling.*

INTRODUCTION

The sales of dry Plantain leaves have become an important source of income to people both in rural and urban communities in Ondo State. Plantain serves as one of the staple food crop for the people in rural areas. Several millions of people in developing countries eat plantain when boiled, raw (when ripe) and roasted because it supplies energy, minerals such as potassium, phosphorus and vitamins in the diet. According to Aina, Ajijola, Bappah, Ibrahim, and Musa (2012) plantain is common in the kitchen of an average individual as well as a raw material for many popular delicacies and snacks. Plantain could be made into flour, chips and can be roasted as “booli” which can be eaten ordinarily or with groundnut. Apart from the fact that it is consumed by man, the peel is a source of feed for livestock (Tewe, 1983; Oluwatomiwa, 2009). It helps in combating hunger and poverty among rural households thus ensuring food security. Plantain is rich in medicinal properties for the treatment of tonsillitis, diarrhea and vomiting (Duke, 1997; Culpepper, 1990).

Beside plantain bunches, chips and suckers which are sold for money, dry plantain leaves has been another major economic value in the rural areas. These leaves are used in substantial quantities in packaging and preservation of agricultural products. Plantain leaves are found useful for the preservation of Kola nuts as it prevents dryness during storage and distribution. Moreover, dry plantain leaves are used in wrapping locust beans, solid pap (*eko*) and ground maize mixed with palm oil (*aadun*) which is popular among the Yoruba ethnic group. Dry plantain leaves helps to generate income, employment and alleviate the wide spread poverty. Despite that dry plantain leaves are common all over the place on the farm, on road-sides, on marginal land; however, farmers are yet to take economic advantage of this resource which is often viewed as wastes. Dry plantain leaves are usually packaged in bales and tied together with strong rope (Plates i and ii). The marketing of dry plantain leaves has been generally acknowledged as sources of income and employment. Several studies have been carried out on marketing of plantain (Olabode, Mayokun and Fisayo, 2010; Teka, 2009; Bagamba, 2007; Aina *et al.*, 2012). Yet there has been little empirical study on economic analysis of dry plantain leaves marketing particularly in the study area. Moreover, there is dearth of information about dry plantain leaves marketing. Hence, the study investigated the profitability of dry plantain leaves marketing in Ondo State, Nigeria. The study hope to contribute to policy formulation and enrich our knowledge on marketing of agricultural products in general and dry plantain leaves in particular. From the foregoing, the following research questions were generated: what are the socio-economic characteristics of the dry plantain leaves' marketers? Is plantain leaves marketing profitable? What are the challenges of marketing dry plantain leaves?

OBJECTIVES OF THE STUDY

The main objective of the study is to investigate the profitability analysis of marketing dry plantain leaves in Ondo State, Nigeria. The specific objectives of the study were to:

1. examine the socio-economic characteristics of dry plantain leaf marketers.
2. identify the constraints in the marketing of dry plantain leaf in the study area.
3. determine the gross margin and the marketing margin analysis.

MATERIALS AND METHODS

The study was carried out in Ondo State. The State has a population of 3,441,024 people (NPC, 2006). The study area falls into the tropical rainforest which favours the cultivation of the both arable and cash crops. The main occupation in the study area is farming; however, petty trading and other non-farm activities are also practiced. A multi-stage sampling technique was adopted for the study. Stage one entailed purposive sampling of Ondo-West Local Government Area (LGA). The choice of the study area is not unconnected with the availability and market for dry plantain leaves in the area. Stage two comprised the random sampling of dry plantain leaves markets in the study area while the final stage consisted of random sampling of sixty-five dry plantain marketers. The primary data for the study were collected using structured questionnaire coupled with interview schedule. Data collected were analyzed using descriptive statistics and

the gross margin and marketing margin analyses were computed to determine the profitability of the business.

Profitability Analyses:

Gross margin analysis (GM): This is the difference between the total revenue and the total variable cost, that is;

$$GM = TR - TVC \dots \dots \dots 1 \quad \text{Where; GM = Gross Margin, TR= Total Revenue}$$

and

$$TR = Q.P_y \dots \dots \dots 2 \quad \text{Q represents the quantity of dry plantain leaves (in bales); } P_y = \text{Price per bale of leaves; and TVC= Total Variable Cost.}$$

Marketing Margin (MM): This is obtained by dividing the gross margin by the gross revenue expressed as a percentage. MM indicates the efficiency of marketing system because it refers to the efficiency of intermediaries between the producer and consumer in respect of the services rendered and the remuneration received by them (Sapkota, 2007). It also helps to identify the reasons for high marketing costs and the possible ways of reducing them. This is expressed as;

$$\text{Marketing margin} = GM/GR * 100; \dots \dots \dots 3 \quad \text{Where, GM = Gross Margin; GR=TR =}$$

Gross revenue

Gross Ratio (GR): This is obtained when the total cost of production is divided by the gross income. A gross ratio that is less than 1 is desirable for any farm business. A gross ratio that is less than one assures higher returns on investment in the business.

$$TC/TR \dots \dots \dots 4 \quad \text{Where, TC= Total cost; TR= Total Revenue}$$

Operating Ratio (OR): This is the total variable cost divided by gross income. This showed the magnitude or the proportion of the gross income which are involved in the payment for the operating costs and the smaller or lower the ratio the more the returns on investment.

$$TVC/TR \dots \dots \dots 5$$

Benefit-Cost Ratio (B/C): The Benefit-Cost ratio is used to determine the profitability of the business. It helps to ascertain the gain over every naira invested in the business that is the profitability of dry plantain leaves marketing in the study area. This is expressed as

$$TR/TC \dots \dots \dots 6$$

RESULTS AND DISCUSSION

The analysis of the socio-economic characteristics of the plantain leaves marketers revealed that on age, majority (55.4 percent) of the respondents were between 30 and 44 years while 30.8 percent, 6.2 percent and 7.6 percent were between 45 and 59 years, less than 30 years and greater than 60 years, respectively. The mean age of respondents was 44.5 ± 8.2 years. This showed that dry plantain leaf marketers were within the economic active age. This implies that the respondents are still within the economic active age which is good for the business. Moreover, it attested to the fact that the age of respondents determines his decisions and activity (Kimaro, Towo & Moshi, 2015). The gender of respondents showed that 89.2 percent were male while 10.8 percent were female. By implication, the marketing of dry plantain leaves is dominated by men. Majority (73.8 percent) of the marketers were married, while 13.8 percent, 7.7 percent and

4.7 percent were widowed, single and divorced, respectively. This showed that being married confers more responsibility in meeting the needs of the family. On household size, 53.8 percent accounted for household size with between 5 and 8 members while 32.3 percent indicated members between 9 and 12 members per household. The mean household size was 7.0 ± 2 members per household. This showed that household size of marketers in the study area is fairly large; hence more labour could be made available for other activities. The educational attainment of marketers showed that 59.2 percent had Qu'ranic school education followed by 26.8 percent for respondents with primary school education. Moreover, 10.8 percent and 3.1 percent had secondary school and tertiary school education, respectively. The low level of education is observed to be a serious challenge to marketers in terms of access and processing of market information, price awareness and accessing sources of credit for the business. This is in line with the findings of Wandschneider (2003) that better educated individuals are likely to possess skills which facilitate the ability to manage a business and process relevant information. Moreover, Rath, Cannon and Wandschneider (2002) submitted that education has been identified as one of the factors that enabled individuals to develop successful business enterprise.

Table I: Socio-economic characteristics of dry plantain leaves marketers N = 65

Variables	Frequency	Percentage (%)
Age		
<30	4	6.2
30-44	36	55.4
45-59	20	30.8
60 and above	5	7.6
Mean (SD)		44.5±8.2
Gender		
Male	58	89.2
Female	7	10.8
Marital Status		
Single	5	7.7
Married	48	73.8
Widowed	9	13.8
Divorced	3	4.7
Household Size		
<5	6	9.2
5-8	35	53.8
9-12	21	32.3
>12	3	4.6
Mean (SD)		7.0±2.3
Level of Education		
Qu'ranic Education	32	59.2
Primary Education	24	26.9
Secondary Education	7	10.8
Tertiary Education	2	3.1

Source: Field survey, 2016

Table II showed that 80.0 percent of the plantain leaves marketers were of the Hausa extraction while 20 percent were Yoruba by tribe. This implied that dry plantain leaves' marketing was mostly dominated by the Hausas. On years of experience in the business, 46.2 percent had between 5 and 15 years while 44.6 percent had above 15 years of experience. Only 9.2 percent had less than 5 years of business experience in plantain leaf marketing. The mean years of experience of marketers' in the business was 14.5 ± 2.7 years. However, the success in business could be attributable to the experience and the entrepreneurial skills acquired overtime in the business. On sources of credit for the business, 63.1 percent indicated cooperative society/(Adashi- Hausa language) as their credit outlet. Furthermore, 23.1 percent, 7.7 percent and 6.1 percent revealed money lenders, friends/relatives and commercial banks as their sources of credit, respectively. Some respondents complained about the high interest rate charged by moneylenders; however the timeliness of loan disbursement was a major factor that attracted them to the source. This finding was in line with Dolapo (2011) that found cooperative society as source of credit among fish marketers. However, this was contrary to the findings by Aina *et al.* (2012) who found personal savings as source of credit in plantain marketing. On income realised from the business, 70.8 percent of the respondents realised between ₦110,000 and ₦190,000 per annum while 15.4 percent indicated between ₦200, 000 and ₦280, 000 as income from the sales of dry plantain leaves. The result further revealed that, 9.2 percent, 4.6 percent and 3.1 percent realised greater than ₦280, 000, between ₦20, 000 and ₦100, 000 and less than ₦20, 000 per annum, respectively as income. However, respondents mean income per annum in the study area was $₦145,248.18 \pm ₦65,325.10$. For constraints facing the marketers in the business, inadequate capital accounted for 55.4 percent, followed by seasonality (27.7 percent) while cost of transportation accounted for 10.8 percent of the respondents. Only 6.2 percent of the respondents reported unorganised market as a challenge in the business.

Table II: Distribution of respondents by ethnicity, years of experience, sources of credit and income realized.

Variables	Frequency	Percentage (%)
N = 65		
Ethnicity		
Yoruba	13	20.0
Hausa	52	80.0
Years of Experience (yrs)		
<5	6	9.2
5-15	30	46.2
>15	29	44.6
Mean (SD)		14.5 ±2.7
Sources of Credit		
Banks	4	6.1
Friends/Relatives	5	7.7
Cooperative Society/Adashi	41	63.1
Money lenders	15	23.1
Income (₦)		
<20, 000	2	3.1
20, 000 – 100,000	3	4.6
110, 000 – 190, 000	45	70.8

200, 000 – 280, 000	9	15.4
>280, 000	6	9.2
Mean (SD)		85248.18±24325.10
Constraints in marketing		
Inadequate capital	36	55.4
Cost of transportation	7	10.8
Seasonality	18	27.7
Unorganized market	4	6.2

Source: Field survey, 2016

Cost and return analysis for dry plantain leaves

The cost and returns analysis (Table III) showed that the gross margin was ₦138058.80 and the marketing margin was 0.639 (63.9%). This implied that a sale of dry plantain leaves is profitable and the market is efficient. This is in line with Tomek and Robinson (1990) that marketing margin gives an indication of the performance of a particular industry. The result further revealed that the net farm income was ₦46617.70 and the gross ratio was 0.786 which implied that the business is profitable because it is less than 1. The operating ratio was 0.365 which indicated the proportion of the gross revenue spent in the payment for operating costs. The lower the ratio, the more the returns on the amount invested in the business. The return on every naira invested in the business was 1.74. This implied that on every one naira invested in the sale of dry plantain leaves ₦0.74 was realized as gain. This indicated that the marketing of dry plantain leaves is profitable in the study area.

Table III: Cost and Return Analysis for Dry Plantain Leaves

Variables	Amount (₦)
Total Revenue	217502.87
Variable Costs	
Purchase	51275.56
Transportation	14356.67
Loading and Off-loading	8799.29
Collection on the farm and Labour cost	5012.55
Total Variable Cost (TVC)	79444.07
Fixed Cost	
Rent of land space	36000.00
Cost of Shed/Structure	54786.72
Cost of Nylon/Polyethylene	6545.38
Total Fixed Cost (TFC)	91441.11
Total Cost of Production (TFC + TVC)	170885.17
Returns on Investment	
Gross Margin	138058.80
Marketing Margin	63.50
Net farm income	46617.70
Gross Ratio	0.786
Operating Ratio	0.365
Benefit-Cost Ratio (B/C)	1.74

Author's Computation, 2016

CONCLUSION

Plantain is a staple food crop and source of income for the people both rural and urban areas. This study investigated the profitability of dry plantain leaves in Ondo-West Local Government area of Ondo State, Nigeria. Sixty-five respondents were selected for the study using multi-stage sampling technique. The mean age of respondents was 44.5 ± 8.2 years, 89.2 percent were males and 73.8 percent were married. The gross margin was ₦138058.80 with ₦0.74 return on every naira invested in the business. Plantain business is faced with challenges such as; inadequate capital, seasonality and high cost of transportation, among others. However, despite the challenges, the result showed that dry plantain leaves marketing in the study area is a profitable enterprise and a source of livelihood for the people.

RECOMMENDATIONS

Based on the findings of the study the following recommendations were made; adequate and access to credit should be provided for the marketers. Also marketers should be mobilized to form cooperative societies for easy access to credit for the business. Road access should be rehabilitated for prompt movement of the dry plantain leaves. There should be organized markets for dry plantain leaves to enhance more income for marketers. Moreover, adequate market stalls should be made available for preserving the leaves during the rainy season as this will promote its sales.

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Plate I: Dry Plantain Leaves in bales



Plate II: Dry Plantain Leaves partially covered with Nylon