

Analysis of Locust Beans Marketing in Dass Local Government Area of Bauchi State, Nigeria

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Abstract

This study was designed to analyse locust beans marketing in Dass Local Government Area of Bauchi State, Nigeria. Primary data was collected through structured questionnaires. Purposive sampling technique was used to select respondents for the study. A total number of 120 respondents were interviewed. Data collected were analysed using simple descriptive statistics. Budgetary technique was used to analyse the profitability of locust beans marketing in the study area. The results revealed high level of illiteracy dominated by female having large family size. The result of budgeting analysis revealed that the rate of return on investment indicated a positive average of 0.64. Benefit cost ratio analysis gave a value of 1.64 which suggests that the business is viable and profitable. Additionally, lack of capital and high cost of locust bean seeds were identified as major constraints. Hence recommendations capable of sustaining the business were proffered.

Keywords: Locust bean, Marketing, Women, Condiment, Profitability.

Introduction

The African locust bean is one of the natural condiments, known under different names throughout West African countries: it is known as Iru in Yoruba, Dawadawa in Hausa, Ogiri in

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Igbo, Soumbola in Mali and guinea, Netetou in Senegal, Iru or Sonru in Republic of Benin, Kinda in Sierra Leone, Kpalugu in Northern Ghana and nere in Burkina Faso (Diawara et al., 2000). Locust bean seed are 30-44 % rich in protein (Onayiet al., 2014) and are generally added to soup at low cost meat substituent by low income families in parts of Nigeria (Odebunmi et al., 2010). The food condiment is also used to flavor soups and stews in Nigeria (Odebunmi et al., 2010). Large quantities of African locust bean seed are produced in the savannah region of Oyo, Osun, and Kwara States of Nigeria. It is estimated that about 200,000 tons of these seeds are gathered each year in Nigeria. (Onayiet al., 2004). The beans are the matured seeds that come from the *Parkia* pods. The pods are harvested and processed into the fermented product known as Dawadawa (Sadiku, 2010). Fermentation makes the food condiment palatable by enhancing its organoleptic properties: aroma, texture and flavor. It makes food safe for consumers in terms of stability, transportation and storage. It is one of the cooking condiments that have been embraced on tables of the educated. Local research has shown that locust bean seed helps to promote good sight and drives away hypertension and disease conditions like stroke and diabetes (Akintan, et al 2013). The most important part of locust been is found in the seeds which are rich in protein, lipids, carbohydrate, vitamin B2 and when fermented are also rich in lysine (Akande et al, 2010).

There is a growing awareness of the contributions of locust bean to household economies, food security and national economies. In other words, it plays a significant role in addressing the food security and health needs of rural population who are suffering from hunger in the world today. It is therefore undeniable that locust bean provide succour for rural communities in terms of subsistence as well as revenue generation (FAO(2000)). In Nigeria, it serves as food buffer during lean periods while reliable income accrue to farmers and women involved in harvesting, processing and marketing of the product. (Farayola, et. al, 2012) It provides a source of income, means for poverty alleviation and also contribute to food security of Nigeria (FAO, 2010). In spite of the huge nutritional benefits, health benefits and income realise from the sales of African locust bean seed; economic prospect of this product has been neglected by economic planners for quite a long period of time. The processing and marketing of locust bean is still done in a traditional and crude way by women, which have contributed to the low pricing of the product. The time has now come to single out African locust been as a result of its importance in our various dishes as condiment and marketing evaluation in order to be able to appropriately determine their contribution economically and socially to the common wealth and wellbeing of the people. Based on previous research (Farayola et al, 2012 and Arabomen et al.2013), it was reported that locust beans marketing, if improved upon could be a very good source of income and livelihood most especially for the rural communities and could also be a means of national wealth creation. The objective of the study therefore, is to examine; the socio-economic characteristics of locust bean marketers, evaluate the profitability of the business and identify constraints facing locust bean marketing in the study area.

Methodology

The Study Area

The research was carried out in Dass Local Government Area of Bauchi State Nigeria. Dass Local Government was created in August 1976. It has a land area of 535km² and lies between latitude 10°00'2.34" N and longitude 9°30'57.46" E (Peter, 2002). From 2006 population figure of 89,943, the projected population of the Local government is 148,885 (given a growth rate of

3.6%). The annual rainfall range from 1000 to 1300mm; wet season last for about 5 months and dry season for about 7 months (Peter, 2002). The climate is tropical and temperature ranges between 12°C and 30°C with relative humidity between 10-43%. This climate is similar to that of Jos in Plateau state. The vegetation is pure savannah with most of the people engaging in cattle rearing, fishing, hunting and subsistence crop farming (Anosike *et al.*, 2003). Some of the major crops grown include sorghum, rice, millet, cowpea, sweet potato, cassava, cotton, groundnut and vegetables (Peter, 2002). The major tribes of the area are Jarawa, Bankalawa and Barawa.

Sampling procedure and sample size

Three predominant markets where marketing activities of the products are prevalent (Dass, Durr and Bazali) were purposively selected for the study. Simple random sampling technique was adopted for the selection of the respondents from the three markets. Respondents were selected from each market based on proportion, given a total of 120 respondents. Data was obtained through the use of structured questionnaires administered to locust beans marketers. Table 1 below shows details of selection:

Table 1: Method of market selection

| Markets | Number of marketers | Number of marketers selected |
|--------------|---------------------|------------------------------|
| Dass | 250 | 50 |
| Durr | 200 | 40 |
| Bazali | 150 | 30 |
| Total | 600 | 120 |

Source: Field Survey, 2016

Data analysis

Data collected for the study were subjected to simple descriptive statistics (tables, frequencies and percentages) to analyse and present the socio-economic characteristics of the respondents in the study area. This is similar to the work of Akintan et al (2013) who applied descriptive statistics to analyse the socio-economic characteristics of marketing bean seeds in Ibadan, Oyo State. Budgetary tools like return to investment, Gross margin, cost and return analysis as well as benefit cost ratio were used to measure profitability of locust beans marketing. Net Income and returns per naira invested were computed with the help of total cost and gross income. The model can be specified as follows:

- i. $TC = PC + MC$
Where, TC = was captured as purchase cost.
MC = Marketing cost
- ii. Gross Income according to Akintan et al, (2013) is mathematically defined as:
 $GI = Q * P_y$
Where;
GI = Gross Income
Q = Quantity of locust bean marketed
 P_y = Unit price of locust bean ₦/weight
- iii. Net Income as used by Akintan et al, (2013) was captured as the traders profit in locust bean marketing. Thus

$$NI = GI - TC$$

Where NI = Net Income

GI = Gross Income

TC = Total Cost

- iv. Return per naira invested (RNI): This is the necessary return obtained from marketing of locust bean for every one naira invested. It is otherwise called marketing margin which is used as a measure of profitability.

v.

$$RNI = GI \div TC$$

Where RNI = Return per naira invested

GI = Gross Income

TC = Total Cost

Mohammed (2011), explained that if RNI value is greater than 1, the business yields profit and if it is less than 1 it yield loss. On the other hand if the RNI value is equal to 1, the enterprise is said to make breakeven.

- vi. Marketing Margin as defined by Adegeye and Dittoh 1985 is the difference between the cost and the profit. Thus, it is the marketing costs and profit or loss incurred.

This is given as;

$$MM = RP - PC$$

Where;

MM = Marketing Margin

RP = Resale price

PC = Purchase price

Results and Discussion

Socio-economic characteristics of the respondents

The socio-economic characteristics as presented in Table 2 showed that only women were exclusively involved in the marketing of locust beans across the area. This confirmed the result of Arowosoge et al, (2011) that income from marketing in Nigeria is generally considered to be women and Children affairs. Majority of the respondents (53.3%) fell within the age of 20-40 years, which implies that most of the locust beans marketers in the study area may be in their productive age. Having larger number of marketers within such productive age is of great advantage, because studies show that they are probably stronger and willing to take risks, hence may also adopt new technology easily that are essential for greater productivity. Furthermore, they are likely to be proficient in the marketers sell than other age group. About 68% of the locust beans marketers were married representing the majority. About 9.2% were divorced while 23.3% were widow. The influence of marital status in agricultural marketing could be associated with the supply of labour in farming activities, more especially family labour. Most of the respondents (64.2%) had between 6-10 people in their families. This implies large household size that can be used as indigenous labour. Large household affect income and expenditure of the farmer. This confirmed the result of Joseph et al, (2018), that household size directly affects the expenditure and income of maize-based farmers. The distribution of the respondents according to their educational level indicated that most (60%) had no education, implying that adoption of new technology will become difficult since education is needed to

enhance the adoption of new technology and productivity. Majority of the respondents (35%) have marketing experience from 6-10 years. This implies that more experienced marketers tend to be innovative than the inexperienced marketers. Furthermore, the result reveals that majority (51.7%) of the respondents had initial capital of ₦100 - ₦200 as start-up capital, while about 35.9% and 12.4% had initial capital of ₦201-₦300 and ₦301-₦400 respectively, an indication that the marketers were peasant with low capital base which could affect their productivity.

Table 2: Distribution of respondents according to socio-economic characteristics

| Variable | Frequency | Percentage |
|---|-----------|------------|
| Sex | | |
| 1.Male | - | - |
| 2.Female | 120 | 100 |
| Total | 120 | 100.0 |
| Marital status | | |
| 1.Single | - | - |
| 2.Married | 81 | 67.5 |
| 3.Divorced | 11 | 9.2 |
| 4.Widowed | 28 | 23.3 |
| Total | 120 | 100.0 |
| Age of the trader | | |
| 20 - 40 | 64 | 53.3 |
| 41 - 60 | 44 | 36.7 |
| 61 - Above | 12 | 10.0 |
| Total | 120 | 100.0 |
| Household size | | |
| 1 - 5 | 34 | 28.3 |
| 6 - 10 | 77 | 64.2 |
| 11 - Above | 9 | 7.5 |
| Total | 120 | 100.0 |
| Educational status of the trader | | |
| 1.None Educated | 72 | 60.0 |
| 2.Primary Education | 26 | 21.7 |
| 3.Qur'anic Education | 22 | 18.5 |
| 4.Secondary Education | - | - |
| 5.Tertiary Education | - | - |
| Total | 120 | 100.0 |
| Years of marketing experience | | |
| 1 - 5 | 18 | 15.0 |
| 6 - 10 | 42 | 35.0 |
| 11 - 15 | 32 | 26.7 |
| > 16 | 28 | 23.3 |
| Total | 120 | 100.0 |
| Initial capital (N) | | |
| 100 - 200 | 62 | 51.7 |
| 201 - 300 | 43 | 35.9 |
| 301 - 400 | 15 | 12.4 |
| Total | 120 | 100.0 |

Source: Field survey, 2016

Marketing channel of locust bean in Dass Local Government Area of Bauchi State

The locust bean marketing channel in Figure 1 indicates that the principal marketing actors involved in marketing of the product were producers/local assemblers, middlemen, market processors/ marketer's, wholesalers, retailers and consumers.

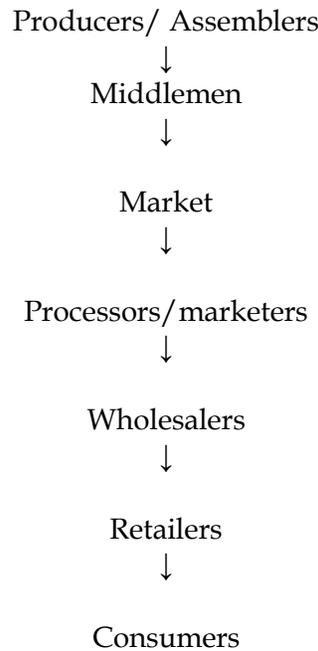


Figure 1: *Locust bean marketing Channels*

The locust bean marketing channels usually start from the producers and assemblers that collect the seeds from wild trees in the forest and hills and then process them.

Profitability of Locust Bean Marketing

The result revealed that cost of locust beans seeds and cost of pot accounted for 50.10% and 29.11% respectively, while the Gross income was found to be ₦13, 484.00. This shows that the business is viable and profitable. This confirmed Akintan, et al. (2013) who reported similar result in his findings on marketing and processing of locust beans in Oyo State. The analysis of benefit cost ratio gave a value of 1.64 which is greater than one (>1), suggesting that the locust bean business is viable which agreed with the finding of Akintan et al (2013), that investment requires that benefit cost ratio should be greater than one (>1) before a business can be termed viable and profitable. Rate of return on investment determine the worth of a business. From the result it is clear that the profit made from sales is 64% over the capital invested, meaning every one naira invested, generated 64 kobo profit, thereby raising the earlier naira invested to ₦1.64 kobo. The higher the rate of return on capital, the better for the success of the business (Olukosi and Erhabor, 2005).

Table 3: Average cost and returns of locust bean marketing in Dass Local Government Area

| Variables | Value (N) | Percentage |
|---------------------------|-----------------|--------------|
| Cost component | | |
| Cost of seeds | 4,108.00 | 50.10 |
| Cost of processing | 1,724.58 | 8.86 |
| Cost of packaging | 164.91 | 2.01 |
| Cost of transportation | 376.66 | 4.59 |
| Cost of pot | 2,387.50 | 29.11 |
| Cost of containers | 437.50 | 5.33 |
| Total cost | 8,200.00 | 100.0 |
| Return component | | |
| Gross income | 13,484.00 | |
| Marketing margin | 7,109.85 | |
| Net Income | 5,284.16 | |
| Benefit Cost Ratio | 1.64 | |
| Return per Naira Invested | 0.64 | |

Source: Field survey, 2016

Constraints faced by locust beans marketers.

The result presented in Table 4 shows the major constraints affecting locust beans marketing. Inadequate capital (47.5%) was ranked first among the problems faced by the marketers. This may be connected to limited access to credit facilities. High cost of locust beans (33.3%) ranked second, this may result in low patronage of the product thereby slowing the quantity sold in the market. High cost of transportation (11.7%) and scarcity of locust beans seed (7.5%) ranked third and fourth respectively.

Table 4: Distribution of respondents according to constraints to locust bean marketing.

| Constraint | Frequency | Percentage | Ranking |
|--------------------------------|------------|--------------|-----------------|
| Scarcity of Locust bean seeds | 9 | 7.5 | 4 th |
| High cost of Locust bean seeds | 40 | 33.3 | 2 rd |
| High cost of transportation | 14 | 11.7 | 3 rd |
| Inadequate capital | 57 | 47.5 | 1 st |
| Total | 120 | 100.0 | |

Conclusion

Based on the results of this study, it can be concluded that all the respondents involved in the marketing of Locust beans were mainly female, aged between 20-40 years, married with 6-10 household members. Majority did not go to school with high years of experience in locust bean marketing. Generally, it is evident that the return from the marketing of Locus beans is higher than the cost of production. Thus, it can be concluded that Locust bean marketing is a profitable and lucrative business in the study area which can be embarked upon with little start-up capital. However, locust beans marketing were bedevilled by some problems which include; inadequate capital, high cost of seeds, high cost of transportation among other challenges.

Recommendations

- There should be deliberate effort by the government and relevant stakeholders to encourage women to enroll in education to widen their marketing strategies.
- Advanced techniques for the marketing of locust bean should be encouraged. These methods will ensure availability of the product in the market
- Government should encourage massive plantation of Locust bean trees to increase production of Locust bean seeds.
- Government should make capital accessible to the locust beans marketers through provision of soft loan as that will encourage more expansion and encourage others to participate in the business.

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