

Profitability of Red Pepper Marketing in Adamawa State, Nigeria

Joseph David, J., Moses, J. D. and Donye A. O.

Department of Agricultural Economics and Extension, Adamawa State University Mubi, Nigeria

Contact: dajoseph1302@gmail.com

Abstract

This study examined the profitability of red pepper marketing in Adamawa State, Nigeria. The study was based on primary data collected with the aid of questionnaire; administered to one hundred and four respondents using multi stage sampling procedure. The tools of analysis were Descriptive statistics to analyze the socio-economic characteristics and Marketing margin analysis was employed to determine the margins. The study revealed that 38.5% of the sampled pepper marketers were within the age range of 31 to 40 years' males dominated (73.1%) the occupation and 55.8% of the total respondents were married. Majority had family size of 1 to 5. Most (77.9%) of the respondents had no formal education and 65.4% of the respondents sourced their initial capital from personal savings. Average total revenue was estimated at ₦4296.4 with gross margin of ₦977.2 and net income of ₦943.7. Thus, pepper marketing was found to be a profitable enterprise considering the profit realized by the marketers in the study area. The study recommended that policies should be implemented by Government and non-governmental organisations (NGOs) to provide financial assistance to marketers in order to enhance pepper marketers bargaining power through cooperatives and market intermediaries. It is also important to improve their technical knowledge and skills in marketing through training so that the marketing system will become more responsive to consumers' demand.

Keywords: Red Pepper, Marketing, Profit.

Introduction

Red pepper is one of the major spices used in food flavoring and its marketing has been a major source of livelihood to many Nigerians. Red pepper is believed to have originated in Central and South America. Peru and Mexico might have been the second centers of origin, after which it spread into the New World Tropics before its subsequent introduction into Asia and Africa in 1493 (Bosland and Votava, 2000). Over 48% of its global output is produced in Asia; China being the leading country. However, India is the major exporter of dry chill peppers, followed by China, and the major importing countries are the US and Germany (Berke, 2002). Nigeria is known to be one of the major producers of pepper in the world accounting for about 50% of the African production and the major area of production is Northern Nigeria (Erinle, 1989; Business day, 2007).

Pepper is an important agricultural crop because of its economic importance, nutritional and medicinal value of its fruits as well as being an excellent source of natural color and antioxidant compounds

(Howard *et al.*, 2000). The nutritional value of hot pepper merits special attention, It is a rich source of vitamin A and E. Both hot and sweet peppers contain more vitamin C to prevent flu colds than any other vegetable crop (Bosland and Votava, 2000). In many households, pepper provides the only needed flavor to enhance intake of otherwise bland diets. In addition to having major role in Nigerians daily dish, it also plays an important role in the national economy. It is an important cash crop today; as its export in Nigeria has once been reported to be a lucrative business (Idowu-agida *et al.*, 2010). it is a crop of high value in both domestic and export markets. Being a commercial and industrial crop, it generates employment to both urban and rural Nigerians. Therefore, the aim of the study is to evaluate the profitability of Red pepper marketing in the study area. The specific objectives are to describe the socio-economic characteristics of pepper marketers in the study area and to estimate the profitability of pepper marketing. This study is expected to enhance pepper marketing so that the marketing system will

become more responsive to consumer's demand in the study area.

Methodology

The Study Area

The study area is Adamawa State and it is located at the North-Eastern part of Nigeria. It lies between latitude 7° and 11° N and Longitude 11° and 14° E. It shares boundary with Taraba State in the south and west, Gombe State in the North-west and Borno state to the North. The State has an international boundary with the Cameroon Republic along its Eastern side. It has a land area of about 38,741 km² (Adebayo, 1999). The state is divided into 21 Local Government Areas. Adamawa State has a tropical wet and dry climate. Dry season lasts for a minimum of five months (November-March), while the wet season spans April to October. Mean annual rainfall in the state ranges between 700mm in the North-west and 1600mm in the extreme Southern part of the state (Adebayo, 1999). The state is naturally divided into two ecological zones; the guinea and Sudan savannah zones. In general, the distribution of vegetation reflects the combined control of rainfall, topography and to a lesser extent, that of soils. Agriculture is the mainstay of about 80% of the inhabitants of the State (Adebayo, 1997). The ecological condition of the state permits cultivation of root crops, cereals, vegetables and rearing of livestock in large numbers as well as trading.

Method/s of Data Collection

Primary data were used for the study. These were obtained through administration of questionnaire to pepper traders in the study area. The questionnaire contained pertinent questions which focus on socio-economic characteristics, source of finance as well as sales and expenditure of marketing.

Sample size and Sampling Technique

One hundred and four (104) pepper marketers in the study area were selected using multi stage and simple random sampling procedure. Using the four (4) Agricultural zones zoned by the Adamawa State Agricultural Development program (ADADP, 2005). At stage 1 Six (6) Local Governments were purposively selected from the four zones given their prominence in pepper marketing; at stage 2 Six (6) major markets from each selected Local Government Areas (LGA) was also purposively selected based on market arrival. A sample frame of 104 questionnaires was used and respondents from each market were proportionately selected using Cochran (1997) formula as follows.

$$nh = \frac{Nh \times n}{N}$$

N

Where:

nh = number of respondent from sampled market

Nh = number of marketers in each of the sampled market

N = total number of marketers in all sampled markets

n = total number of questionnaire to be distributed

and simple random sampling procedure was employed at stage 3 for the selection of the respondents in each market. Thus, the total of 104 marketers of red pepper was observed and used as a sample size for the study.

Table 1: Proportionate Selection of The Respondents.

S/N	Markets (LGA)	Number of Marketers in each of the sampled Market	Number of Respondents from each Market
1	Mubi Market (Mubi North)	80	26
2	Loko Market (Song)	70	20
3	Jimeta Modern Market (Yola North)	85	27
4	Numan Main Market (Numan)	50	14
5	Ganye Market (Ganye)	40	11
6	Fofure Market (Fufore)	30	9
	Total	355	104

Analytical Tools/Techniques

The following analytical tools were employed in the study:

- (i) **Descriptive statistics:** Descriptive statistics such as frequencies and percentages was used to analyze the socio-economic characteristics of red pepper marketers in the study area.

- (ii) **Budgetary Techniques:** The gross margin, net income and ret of return to investment were used to measure profitability of the pepper marketing in the study area. The equations are presented below:

Gross margin

$$GM = TR - TVC \dots\dots\dots \text{eqn (1)}$$

Eqn 1 is a general equation, it is expected to accommodate specific variables relating to red pepper marketing as follows:

$$GM = TR - (VC1+VC2+VC3+V4C+VC5+VC6+VC7+VC8) \dots\dots \text{eqn (2)}$$

where TR= Sales of pepper (#)

- VC1= Cost price of pepper (#)
- VC2 = Cost of packaging materials (#)
- VC3 = Cost of loading (#)
- VC4 = Cost of off-loading (#)
- VC5 = Cost of transportation (#)
- VC6 = Cost of telephone services (#)
- VC7 = Tax payment (#)
- VC8 = Miscellaneous cost (#)

Net Income

$$N.I = GM - TFC \dots\dots\dots \text{eqn (3)}$$

Eqn 3 is also extended to cover the fixed assets relating to red pepper marketing as below:

$$N.I = GM - (FC1+FC2) \dots\dots\dots \text{eqn(4)}$$

- Where N.I = Net income (profitability)
- FC1 = license fee (#)
- FC2 = Rent (depreciation) (#)

Return on investment (ROI)

$$ROI = NI/TC*100\% \dots\dots\dots \text{eqn (5)}$$

- Where ROI = Return on Investment
- N.I = Net Income (Profitability)
- TC = Total Cost

Results and Discussion

Socio-economic Characteristics of Pepper marketers

The study revealed that 38.5% of the sampled pepper marketers were within the age range 31 to 40 years. While 21.1% fall within the age range 41-50 only 5.8% were more than 60 years of age. This distribution indicates that majority of the respondents are in their active economic age group and therefore are expected to be energetic in marketing activities. Also, 73.1% of the respondents were men who overwhelmingly dominated red pepper marketing in the study area.

However, the study revealed that males have being involved in the business for long, which seem to give them the superiority. The dominance of the female folk may be connected with lack of financial empowerment, which the business requires. The study further revealed that 46.2% of the respondents have at least 5 people in their house hold while 32.7% have between 6 and 10 people in their household and 6.7% have between 16 and 20 people in their household. This indicates that non-family employee only account for small fraction of the marketing activities for manpower.

It also reveals that 77.9% of the respondents had no formal education and could not read or write effectively. This may be the reason why most of them are engaged in marketing of red pepper as full time occupation, which is their major source of income and livelihood.

It shows that 37.5% of the respondents had been in marketing of red pepper for 6 to 10 years and only 9.6% were engaged in the business for more than 25 years. This showed that few of the respondents were in the business for long and many others were

still coming in as experience enhances efficiency in marketing.

The distribution of the respondents based on source of capital has indicated that most (65.4%) of the respondents sourced their initial capital from personal savings as none was found to have sourced from financial institution to augment his/her capital. This implies that formal credit institutions were inactive in credit advancement for small and medium scale enterprises in Nigeria. This led to their (marketers) inability to operate on large-scale in the study area.

Table 1: Socioeconomic Characteristics of Red Pepper Marketers

Age (Years)	Frequency	Percentage
10 – 20	0	0
21 – 30	20	19.2
31 – 40	40	38.5
41 – 50	22	21.1
51 – 60	16	15.4
> 60	6	5.8
Total	104	100
Gender		
Male	76	73.1
Female	24	26.9
Total	104	100
Family size		
1-5	48	46.2
6-10	34	32.7
11-15	15	14.4
16-20	7	6.7
Total	104	100
Educational Level		
Formal		
Non-formal	23	22.1
Total	81	77.9
Occupational Distribution		
Farming		
Civil servant		
Trading	6	5.8
Total	4	3.8
Years of Experience		
1-5	94	90.4
6-10	104	100
11-15	12	11.5
16-221-25	39	37.5
>25	25	24.0
Total	15	14.4
Source of Capital		
Personal savings	3	2.9
Borrowed	10	9.6
Total	104	100
	68	65.4
	36	36.4
	104	100

Source: Field survey, 2018

Estimation of Profitability of Red Pepper Marketing in the Study Area

The breakdown of the total costs and returns of pepper marketers in the study area is as shown in Table 2. The pepper marketers incurred a total variable cost of ₦3294.44 while fixed cost was estimated at ₦1.83. The variable cost accounts for a greater percentage of marketing cost of red pepper because of its perishability and high cost of handling associated with the produce, while the effect of fixed cost is negligible because of lack of standard infrastructural facilities that will attract higher cost in terms of rent. Similarly, on the returns side, the average total revenue of the respondent (104 marketers) amounted to ₦4296.4. Based on the costs and returns analysis, the gross margin of the marketers was estimated to be ₦1001.96, while the net income was ₦1000.13 and return per naira invested was ₦1.3034 which means that every ₦1 invested in pepper marketing

enterprise in the study area returns a revenue of ₦1.3034 to the marketer despite the various constraints faced by the marketers. This study agrees with Adesina *et al.* (2010) which revealed that red pepper wholesale marketing is a profitable venture in Oyo State with the margin of ₦704, 987.2, average red pepper marketer had annual revenue of ₦814, 733.50, while annual transportation cost and rent charges were estimated at ₦105, 418.57 and ₦4, 327.73, respectively.

This finding is also in agreement with Bakari and Usman (2012) that red pepper marketing in Yola North and South is profitable vegetable with a gross margin of ₦4, 399.15 and a marketing margin of ₦349.15 per basket, which could be attributed to the fact that it can be stored locally for a longer period of time than other vegetables. Another reason could be that it is the most frequently use in every soup in the study area.

Table 2: Average, Cost and Return Per Bag of Red Pepper in Adamawa State

Items	Value	Percentage
Variable Costs		
Purchasing of the product	2889.5	87.00
Packaging materials	41.1	1.24
Loading	45.6	1.37
Off-loading	45.6	1.37
Transportation	162.0	4.88
Tax	0.04	0.00
Others	110.6	3.33
Total Variable Costs	3294.44	
Fixed Costs		
License fee	0.33	0.00
Rent	1.5	0.05
Total Fixed Costs	1.83	
Total Costs	3296.27	100
Returns		
Total Revenue	4296.4	
Gross Margin (TR – VC)	1001.96	
Net Income (NI = TR – TC)	1000.13	
Return per naira invested (TR/TC)	1.3034	

Source: field survey 2018.

Conclusion and Recommendation

Red Pepper marketing is a profitable enterprise in the study area considering the profit realized by the marketers as indicated by the average, cost and return per bag of red pepper in the study area. total revenue value of ₦4296.4 and gross margin of

₦1001.96 realized from pepper marketing enterprise and as indicated by the Rate of Returns (ROR) value of ₦1.3034 which means that every ₦1 invested in pepper marketing enterprise in the study area returns a revenue of ₦1.3034 to the marketer despite the various constraints faced by

the marketers. and there is need to address the issues of capital among marketers for sustainable livelihood. Therefore, policy issues should aim at encouraging red pepper marketers to stay in the business as experience enhance efficiency.

There is need for market intermediaries to improve their technical knowledge and skill in marketing through training, so that the marketing system will become more responsive to consumer's demand. Hence, this becomes a reality when extension education programs are introduced to encourage marketing and also bring about improvement in their living standards.

References

- Adebayo, A.A. (1999). Climate "I and II" Adamawa State in Maps, Adebayo, A.A and Tukur A.L (eds), Department of Geography, Federal University of Technology, Yola. 1st edition. 52:7 Paraclete Publisher, Yola ISBN 978-35157-0-5 Pp 20-26.
- Adebayo, A.A. (1997). The agro-climatology of rice production in Adamawa state, Nigeria. Unpublished Ph.D thesis , Department of Geography, FUT, Minna, Nigeria. Pp 90-100.
- Adesina CA, Kehinde A, and Arojojoye A (2010). Economics of Wholesale Marketing of red pepper In Ibadan Metropolis of Oyo State, Nigeria. *Journal of Agricultural Economics and Rural Development*, 5(4):4-6.
- Bakari, U.M and Usman, J. (2012). Marketing of Some Selected Vegetables: In Yola- North and South Local Government Areas of Adamawa State, Nigeria. *International Journal of Engineering and Science*, 2 (11):13-17.
- Boseland, P.W. and Votava, E. J. (2000) *Pepper: Vegetable and Spice Capsicum*. CABI publishing, New York. pp. 1-16.
- Berke, T., (2002). The Asian vegetable research and development center pepper project. *Proceedings of the 16th International Pepper Conference. Tampico, Mexico. November10-12, Tamaulipas. pp. 1-16*
- Business day, H. (2007): Producing pepper for export market 2007: www.businessdayonline.com (Accessed on 11 August, 2018)
- Cochran, W. G. (1997). Interpreting qualitative data. Third Edition Johnwilly and sons.
- Erinle, I.D. (1989). Problems of Production and Marketing of Ginger. *A Paper presented at the Ginger Trade Conference Organized by the Nigerian Export Production Council. P 67.* www.businessdayonline.com
- Howard, L. R., Talcott, S. T., Brenes, C.H. and Villalon, B. (2000). Changes in phytochemical and antioxidant activity of selected pepper cultivars (*Capsicum sp.*) as influenced by maturity. *Journal of Agriculture and Food Chemistry*, 48:1713- 1720
- Idowu-agida O. O, E.I Nwaguma and Adeoye I.B. (2010). Cost Implication of Wet and Dry Season Pepper Production in Ibadan, Southwestern Nigeria. National Horticultural Research Institute, Ibadan, Nigeria. *Agriculture and Biology Journal of North America*, 43:1703- 1710