

Analysis of Fresh Tomato Retail Marketing in Mubi Metropolitan Area Adamawa State, Nigeria

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Abstract:

This study was designed to analyze the profitability of fresh tomato retail marketing in Mubi Metropolitan area of Adamawa state. The primary data were collected through the use of structured questionnaires. Purposive and simple random sampling techniques were used for the selection of a study area and respondents. Descriptive statistics and inferential techniques were used as analytical tools. The analysis indicated that 14.7% marketers uses channel 1, 75.9% adopted channel 2, 7.3% uses channel 3 and lastly 2.1% of the respondents uses channel 4. The findings showed that inadequate capital (rank 1) is the major problem as most of them obtained their initial capital outlay from their personal saving. Followed by lack of storage facilities and seasonality (rank 2 and 3) is also one of the problem encountered in the marketing of fresh tomato in the study area due to the perishability (rank 4) nature of tomato, in which non-disposal of the products on time could lead to spoilage. The study concluded that fresh tomato marketing in Mubi metropolitan area of Adamawa state is a profitable venture and economically viable means of earning livelihood with the gross margin of ₦1,107.7 and net income of ₦1,1063.7 per basket per day. Therefore, it is recommended that government should assist marketers to acquire capital by encouraging banks to give out loans to fresh tomato marketers at lower rate and more supply of fresh tomato should be encouraged so as to bridge the gap between supply and demand of the commodity.

Keywords: fresh tomato, retail Marketing, profitability, Mubi Metropolitan area.

INTRODUCTION

Agriculture is an important sector in most developing countries like Nigeria. As such, increase in agricultural productivity depends heavily on its marketing ability so as to improve its potential role in the growth and development of national economy. Efficient market does not only link sellers and buyers in reacting to current situations in supply and demand but rather has a dynamic role to play in stimulating consumption of outputs which are essential elements of economic development (Haruna *et al.*, 2012).

Tomato is a fruit vegetable that serves as low cost method of providing adequate supplies of vitamins, minerals and fibre to the people who live in Nigeria (Ihekeronye *et al.* 1985). It contributes to the nutritional balance of the diet. Suffice to say that the potential of tomato in the tropics is great. Wide spread cultivation of tomatoes is capable of generating rural employment as well as stimulate urban employment. This is possible through provision of business opportunities for manufacture of fertilizer, pesticides, sprayers and containers (tins, cans and bamboo crates, cardboard, foil, plastics or wood) (Egbeadumah, 2008).

Tomatoes are important in the daily meal preparation since it can be eaten raw or cooked. Larger quantities are used to produce soups, juice and sauces, ketchups, purees and paste. The paper further noted that it could be used in canning industries and green tomatoes are used for pickles and preserve. The seeds which are extracted from the pulp and its residues contain 24% oil which is used for salad dressing and in the manufacturing of margarine and soap. The residual press cake is used as stock feed as well as fertilizer. In addition, vegetable such as tomato apart from being consumed at home also earns foreign exchange to the producer countries, due to exportation. The intermediary middlemen marketers even though perform greater role in the income flow of farmers, they are faced with problems of transporting farm products to the ultimate consumers, that is, the market thereby leading to delays in supply. In order to solve or reduce the problems, it is necessary to provide empirical information on costs and returns associated with products and marketing of tomatoes (Sani *et al.*, 2011; Singh, 2004).

Tomatoes marketing begin at the farm gate (Haruna *et al.*, 2012). They are transported from the farm to the nearest assembly market for the consumers or wholesalers who assemble them to a big city market and sell to other wholesalers, retailers or consumers. Tomato marketing is poorly developed in Nigeria. It is characterized mainly by the problem of seasonality and perishability amongst others. Worst still, in the past, the government paid more attention to production with little attention to the marketing of vegetables such as tomato, pepper, onions, garden eggs, okra and leafy vegetables despite the fact that they need spatial marketing facilities (Idachaba, 2000). Consequently, losses of 40-50 percent occur for many vegetables mainly due to spoilage, inadequate transportation, sorting, improper packaging and handling and lack of storage facilities. Also, another problem with tomato marketing is in the area of standard weights and measurements. These leave the consumer to their luck and haggling abilities in securing a good deal.

The high perishability nature of fresh tomato discourages many farmers from going into large scale production and prevents growers from increasing their scale of production. This has resulted in low productivity in processing industries and high prices of both fresh and processed tomato products (Egbeadumah, 2008). Due to short shelf life of fresh tomato, the huge losses incurred by producers and marketers. Therefore, in order to ensure that farmers and marketing agents get a high return on their capital investment. This study is aimed to critically analyze tomato marketing in Mubi Metropolitan Area Adamawa State, Nigeria.

MATERIALS AND METHODS

The Study Area

The study was carried out in Mubi metropolitan Area of Adamawa State. Mubi metropolis is located in North eastern part of Adamawa State. Mubi metropolitan area is a geo-political area comprising of two Local Government Areas (LGAs); Mubi North and Mubi South. The metropolis is located between latitudes 10°05' and 10°30'N of the equator and between longitude 13°12' and 13°19'E of the Greenwich meridian. The two local government areas occupy 192,307 kms and support a total population of 260,009 people. The area shares a boundary with Maiha L.G A in the south, Hong L.G.A in the west, Michika L.G.A and Cameroon Republic in the East.

Source and Method of Data Collection

Primary data was the main source of data for the study. Primary data was collected with the use of well-constructed questionnaire. Primary data was collected from traders that was focused on socio-economic characteristics, marketing channel, problems affecting fresh tomato marketing.

Sampling Techniques and Sample Size

Purposive and simple random sampling technique were adopted for the selection of respondents for the study. Mubi metropolitan area was selected purposely because of its relative importance in fresh tomato marketing. Four markets were purposively selected being the major markets within the study area. These include the Mubi north Old market and Mubi north, Kasuwan Barkono and Tsamiya because of their importance in retailing fresh tomato throughout the year. 95 respondents (fresh tomato marketers) proportionate to the total number of marketers were randomly selected from the selected markets.

Analytical Tools

The analytical tools used include descriptive and inferential statistics.

Descriptive Statistics

These involved the use of mean, frequency distribution, percentages and tables for presentation.

Inferential Statistics

Gross margin analysis was used to estimate the cost and return associated with fresh tomato marketing in the study area. The gross margin is expressed as $GM = TR - TVC$

The Gross Margin model was specified from the point of view of estimation of total expenses (costs) as well as various returns or revenue within a marketing period.

$$\text{Total Cost (TC)} = \text{TVC} + \text{TFC} \quad (1)$$

where, TVC = Total variable cost; TFC = Total fixed cost.

$$\text{Total Revenue (TR)} = Q \cdot P_y \quad (2)$$

where, Q = Quantities of tomatoes sold (basket) P_y = Unit price of tomatoes in baskets.

$$\text{Gross Margin (GM)} = \text{GI} - \text{TVC} \quad (3)$$

where, GI = Gross income; TVC = Total variable cost.

$$\text{Net Income (NI)} = \text{GI} - \text{TC} \quad (4)$$

To determine the profitability of tomato marketers, some ratios were calculated to show the overall performance of the business thus:

$$\text{Gross Ratio (GR)} = \text{TC} / \text{GI} \quad (5)$$

where, TC = Total cost; GI = Gross income.

$$\text{Operating Ratio (OR)} = \text{TVC} / \text{GI} \quad (6)$$

where, TVC = Total variable cost; GI = Gross income.

$$\text{Fixed Ratio (FR)} = \text{TFC} / \text{GI} \quad (7)$$

RESULT AND DISCUSSION

This chapter deals with the result and discussion of socio-economic characteristics of fresh tomato marketers, marketing channels of fresh tomato, profitability of fresh tomato retail marketing and problems affecting fresh tomato retail marketing.

Socioeconomic Characteristics of Fresh Tomato Retail Marketers

Table 1 revealed that majority (43.2%) of the sampled fresh tomato marketers are in their most active age (31 to 40 years). Hence, their strength can be effectively utilized in tomato marketing; it agrees with the study of Obayelu, *et al.* (2014) who reported that the marketers mean age of 40.81 years indicates that the tomato marketers are in their economic active years. The table also revealed that 97.8% of the respondents were men with 57.9% of the total respondents were married. Having 46.3% family size of 1-5 members. The table shows 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 92.6% are engaged in marketing of fresh tomato as full time business and do not have any other business apart from it.

The result revealed that 42.8% of the respondents had 6 to 10 years marketing experience and only 3.1% were engaged in the business for more than 25 years. This showed that few of the respondents were in the business for long period of time. Most of the respondents (91.8%) obtained their initial capital outlay from their personal saving. These findings corroborate with the findings of previous studies that formal credit institutions were inactive in credit advancement for small and medium scale enterprises in Nigeria by Alemnew (2010). This led to their (marketers) inability to operate large-scale business in the study area.

Marketing Channels of Fresh Tomato

The analysis of fresh tomato marketing channels indicated that 14.7% marketers uses channel 1, 75.9% adopted channel 2, 7.3% uses channel 3 and lastly 2.1% of the respondents uses channel 4. This study is in consonant with findings of Olukosi and Isitor (2005). This analysis indicated that majority (75.9%) of the marketer's uses producer's → wholesaler's → retailer → consumers (channel 2) for fresh tomato marketing from farm to consumers as were illustrated in table 2.

Gross Margin Analysis of Fresh Tomato Retail Marketing

The cost and return associated with fresh tomato marketing in the study area is analyzed in table 3. The cost component were variables and fixed costs. The variable costs include purchasing of the fresh tomato, packaging materials, transportation, and fixed costs include rent. The returns associated with tomato marketing is sales of the product (fresh tomato). The cost and returns were used in determining the profit of fresh tomato retail marketing enterprise in the study area with the use of gross margin analysis as shown in the table 3.

The analysis of costs and returns per basket per day of fresh tomato marketing in the study area revealed that the total variable cost incurred was ₦7,642.3 while fixed cost amounted to ₦44. Similarly, on the return side the average total revenue amounted to ₦8,750. Based on the costs and return analysis in table, the gross margin of the marketers was estimated to be ₦1,107.7 while the net income was ₦1,063.7 and the gross ratio is 0.88 per basket per day and averagely they sale 2-3 baskets per day. In review of this costs and returns results the fresh tomato marketing enterprise is profitable and economically viable means of earning livelihood in Mubi metropolitan area despite the constraints being encountered. This study agrees Haruna, *et al.*, (2012) who revealed that red pepper marketing in Bauchi metropolis was highly profitable since the gross ratio (0.86) was positive and less than one. This finding is also, in consonance with the study of (Bakari and Usman, 2012) who showed that vegetable marketing is profitable in Yola- North and South Local Government Areas of Adamawa State, Nigeria.

Constraint Associated with Fresh Tomato Retail Marketing

Result in table 4 revealed that inadequate capital (rank 1) is the major problem as most of them obtained their initial capital outlay from their personal saving. Followed by lack of storage facilities and seasonality (rank 2 and 3) is also one of the problem encountered in the marketing of fresh tomato in the study area due to the perishability (rank 4) nature of tomato, in which non-disposal of

the products on time could lead to spoilage. This agrees with the findings of Usman *et al.*, (2013) who also reported poor storage and processing facilities causes excessive losses of tomato at storage in Adamawa State, it also agrees with the study of Haruna, *et al.* (2012) who pointed out that high cost of purchasing from farm gate during lean season production as a result of the seasonality nature of the crop follow by lack of storage facilities that accounted for 30%,.

CONCLUSION

Despite the problems encountered by the marketers, the study concluded that fresh tomato retail marketing in Mubi metropolitan area of Adamawa state is a profitable venture and economically viable means of earning livelihood with the gross margin of ₦1,107.7 and net income of ₦1,1063.7 per basket per day.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations were made to boost fresh tomato marketing.

1. Government should assist marketers to acquire capital by encouraging banks to give out loans to fresh tomato marketers at lower rate in the study area.
2. Government should provide storage facilities so as to ensure smooth marketing and to reduce the rate of fresh tomato spoilage. Development of improved of tomato variety that have long shelf life can also go long way in minimizing losses.
3. More supply of fresh tomato should be encouraged so as to bridge the gap between supply and demand of the commodity.
4. Processing of fresh tomato should be encourage by providing processing and packaging machines.
5. Government and non-governmental organizations should support fresh tomato marketers by providing their necessary needs so as to boost fresh tomato marketing in the study area.
6. Construction of good feeder roads network to reduce transportation costs between the traditional surplus and deficit areas. Better and accessible roads are expected to improve, supply of inputs thus stimulating crop productivity, commodity delivery and consequently improve farmers bargaining power.

REFERENCE

Alemnew Abay, 2010. *Market Chain Analysis of Red Pepper: The Case of Bure Woreda, West Gojjam Zone, Amhara National Regional State, Ethiopia*. MS.c. Published thesis Submitted to the School of Agricultural Economics and Agribusiness Management Haramaya University. Pp 123-125.

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 (IJES)*;2 (11):13-17.

Egbeadumah, M. O. 2008. *Structure Conduct and performance of Tomato Marketing in Abeokuta South, Ogun state*. B.Sc. project submitted to the Department of Agricultural Economics. University of Agriculture, Abeokuta, Ogun State, Nigeria.

Haruna, U., Sani, M. H., Danwanka, H. A. and Adejo, E. 2012. Economic Analysis of Fresh Tomato Marketers IN Bauchi Metropolis of Bauchi State, Nigeria. *Nigerian Journal of Agriculture, Food and Environment*. 8(3):1-8.

Haruna, U., Sani, M. H., Danwanka, H. A. and Adejo, E. 2012. Economic analysis of fresh tomato marketers in Bauchi metropolis of Bauchi State, Nigeria. *Nigerian Journal of Agriculture, Food and Environment*; 8(3):1-8.

Idachaba, F.S. 2000. Food Policy in Nigeria. *Agricultural Research Bulletin*, 2000. 1, 162.

Ihekeronye, A.I and Ngoddy, P.O. 1985. *Integrated food science and technology for the tropics*. Macmillian publishers. Pp. 293- 296.

Obayelu, A.E., Arowolo, A.O., Ibrahim, S.B. and Croffie, A.Q. 2014. Economics of Fresh Tomato Marketing in Kosofe Local Government Area of Lagos State, Nigeria. *Nigerian Journal of Agricultural Economics (NJAE)*; 4(1):58-67.

Olukosi, J. O. and Isitor, S. U. 2005. Introduction to Agricultural Marketing and Prices: Principles and Applications. Abuja, FCT. *International Journal of Agriculture Innovations and Research*; 2(5): 2319-1473.

Sani, M. H., Haruna, U., and Jacob, L. J. 2011. Effects of Agrochemicals Marketing on Output of Small-scale Farmers in Zungur District of Bauchi State, Nigeria. In: Odedina, S. A., Osuntade, O. B., Adebayo, K., Awodun, M. O. and Fapohunda, O. O. (eds.). *Policy and Agricultural Development in Nigeria: Challenges and Prospects. Proceedings of the 25th National Conference of Farm Management Association of Nigeria*, held at the Federal College of Agriculture, Akure, 05th - 08th September, pg. 463- 473.

Singh, B. R. 2004. Constraints to Sustainable Crop Production in Semi-arid North West of Nigeria. *The Nigerian Journal of Agricultural and Rural Management*; 7(1): 40-62.

Table 1: Socio- economic Characteristic of the Respondents

Attribute	Frequency	Percentage
Age		
10 – 20	2	2.1
21 – 30	18	18.9
31 – 40	41	43.2
41 – 50	22	23.2
51 – 60	8	8.4
> 60	4	4.2
Total	95	100
Gender		
Male	72	75.8
Female	23	24.2
Total	95	100
Marital Status		
Married	55	57.9
Single	12	12.6
Divorce	16	16.8
Widow	12	12.6
Total	95	100
Family Size Distribution		
1 – 5	44	46.3
6 – 10	31	32.6
11 – 15	12	12.6
16 – 20	8	8.4
Total	95	100
Educational Level Distribution		
Formal	21	22.1
Non – formal	74	77.9
Total	95	100
Membership of Association Distribution		
Affiliated	95	100
Non –Affiliated	0	0
Total	98	100
Occupation Distribution		
Farming	4	4.2
Civil Servant	3	3.2
Trading	88	92.6
Total	95	100
Marketing Experience		
1 – 5	13	13.7
6 – 10	41	43.2
11 – 15	15	15.8
16 – 20	16	16.8
21 – 25	7	7.4
> 25	3	3.1
Total	95	100
Source of Capital		
Personal savings	87	91.8
Borrowed	8	8.2
Total	95	100

Source: Field Survey, 2019.

Table 2:Channel of Fresh Tomato Retail Marketing

Channels	Frequency	Percentage
1. Producer →Retailer →Consumers	14	14.7
2. Producer →wholesalers →Retailer →Consumers	72	75.9
3. Producer →Rural Assemblers →Retailers →Consumers	7	7.3
4. Producers →collectors →Wholesalers →Retailers→Consumers	2	2.1
Total	95	100

Source: Field Survey, 2019

Table 3:Cost and Return Analysis of Fresh Tomato retail marketing in Naira per Basket per Day

ITEMS	VALUES (₦)
Variable Costs	
Acquisition cost`	7,400
Transportation	47.3
Cost of empty basket	33.3
Water	30
Labour	30
Polythene	100
Taxes	35
Total Variable Costs	7,642.3
Fixed Costs	
Depreciation on rent	44
Total Fixed Costs	44
Total Costs	7,686.3
Returns	
Gross income	8,750
Return /naira invested	1.1
Gross margin	1,107.7
Net income	1,063.7
Ratio	
Operating ratio	0.87
Fixed ratio	0.01
Gross ratio	0.88
Total ratio	1.76

Source: Field survey 2019.

Table 4: Problems of Fresh Tomato Retail Marketing

Problems	Frequency	Percentage	Ranking
Inadequate market infrastructure	58	7.4	8
Inadequate capital	94	12.0	1
Bad road networks	60	7.6	7
Perishability	82	10.5	4
Shortage of supply	38	4.8	10
Lack of storage facilities	93	11.9	2
Theft	24	3.1	13
Poor market structure and communication	28	3.6	12
Administration measure and multiple taxation	39	5.0	11
Inadequate government support	63	8.0	5
Too much competition with license traders	62	7.8	6
Farmers reluctant to invest more due to low price	52	6.6	9
Seasonality	92	11.6	3
Total	785*	100	

Source: Field Survey, 2019.

*Multiple Responses