

An Analyses of Onion Marketing in Toro District of Toro Local Government Area in Bauchi State, Nigeria

*Ibrahim, Iro I¹. Nanven, A. D¹. Adeniyi, T. O¹. Gloria, P. M¹. Zwalnan, D. N¹.
Jameela, A¹. Umar, U. M².

- 1.Department of Crop Production Technology, Federal College of Forestry, P.M.B. 2019 Jos, Plateau State, Nigeria
- 2.Department of Horticulture and Landscape Technology, Federal College of Forestry, P.M.B. 2019 Jos, Plateau State, Nigeria

Abstract

The broad objective of the study was to determine the profitability and marketing efficiency of onion marketing in Toro District of Toro local government area in Bauchi State. Questionnaire was the main instrument of data collection from a sample of forty (40) onion traders in the study area. Analytical tools used were; descriptive statistics, gross margin, marketing margin and market efficiency. Majority (67.5%) of the respondents were males. Also, majority (55%) of onion Traders falls within the age bracket of 41 - 50 years of age, the result indicates high proportions (85.00%) of the respondents were educated. The years of Onion marketing experience of the respondents indicates that half of the respondents (50%) had 11 - 20 years of marketing experience in onion trading and the study also indicates that majority (52.50%) went into onions marketing with money between ₦21,000:00 - ₦30,000:00. Greater proportion (87.50%) of the respondents belongs to cooperative associations. Major problems of onion marketing identified were those of transportation, storage facilities, starting capital, market information and low price. Result of the costs and returns analysis revealed that onion marketing was profitable to the turn of N1,315.00 per bag for wholesale and N2,020.00 per bag for retail traders of onion marketers respectively. This finding also indicated that marketing of onion is efficient with total efficiency of 141.28% for wholesalers and 150.80% for retailers. Proper functional programmes and policies should be made to improve onion production and marketing in the study area.

INTRODUCTION

Onion (*Allium, cepa. L*), is one of the most important vegetable crops cultivated extensively throughout Nigeria under a wide range of climatic conditions. It is used both in mature and green stage in salads and spices in a variety of flavoured dishes and soups. It is very important in cookery; hence, it is called “Queen of the kitchen” by the Germans (Chandrashekhar, 2007).

Onion consumption is spread throughout the year and there is constant demand for onion bulb all round the year. However, production of onion fluctuates from year to year. The low production results in the hike of prices which creates discomfort among consumers. Increase in production has no meaning unless there is a good marketing system. A good agricultural marketing system is one where, there are a minimum number of intermediaries between the producer of agricultural commodity and the final consumer, where the commodities are available to the consumers at a reasonable price and where a large portion of the price paid by the consumer goes to the producer. In improving marketing system, it is pertinent to understand the nature of the problems associated with the marketing of onion.

In Nigeria, Hussaini et al (2000) reported onions as the second most important vegetable after tomato. In the last decade, production figures have shown an upward trend with a production volume of 33 million tonnes in 2003 and 64 million tonnes in 2007. This represents a 51.6% increase, with Nigeria producing 618,000 tonnes in year 2007 (FAO, 2010). According to Ayodele (1996) commercial onion production in Nigeria is mainly in the North. Borno, Sokoto, Kebbi, Jigawa, Zamfara, Kano and Kaduna states are among the states in the North where considerable quantity of onion is produce annually. Bednaz (1986) observed that in terms of its trade value in Nigeria onions can stand in comparison with tomatoes and peppers. Onions is in focus because of its unique position as a popular vegetable that is utilized almost daily in every home. Nigeria like any other developing country is faced with rapid population growth and expanding urban population which increase demand on Agricultural production and marketing system. This has prompted concern about the efficiency and performance of onion marketing and resulted in institutional change in this system. This concerned is further justified if one considers the fact that an efficient marketing system is benefiting to marketers in that it maximizes the profit (Olukosi and Isitor 1990).

Agricultural marketing is the process of making agricultural products available in the form, place and time required by the consumer (Olukosi et al., 2005). It involves the movement of agricultural products/commodities from where they are produced to the thousands of consumers located in both rural and urban areas (Adegeye and Dittoh 1982). A well-developed market for agricultural produce provides access to consumers who depend on the market for their food supplies, and farmers who shift from subsistent farming to commercial

production. An increase in marketable crops, call for larger and improved marketing facilities. If markets function efficiently, farmers would allocate their resources according to their comparative advantages and intensify their production. An efficient marketing system is an important means for raising the income levels of farmers and for promoting economic development of a region (Tamimi, 1999).

According to Adekanye (1988), marketing is not just the impersonal forces of supply and demand that come into contact with each other, instead buyers and sellers enter into personal face to face with each other. Marketing generally involves the movement of commodities from where they are produced to the point of consumption. While Akinwumi(1999) reported that the marketing of Agricultural products involves larger number of people including the producers, assemblers, transporters, bulk breakers and retailers, the final stage of being an interaction between the sellers or retailers and the buyer or consumer. With renewed emphasis and support given to onion production and exports by the federal government, deliberate concerted effort are been made to harness the vast economic, nutritional, industrial and export potentials of the crop in the country in order to ensure national food security and boost rural livelihoods (Ekwe and Nwachukwu, 2011).

The broad objective of the study was to carry out market analyses of onion marketing in Toro District of Toro Local Government Area of Bauchi State. The specific objectives of the study were to:

- i). examine the costs and returns associated with onion marketing
- ii). estimate the marketing margin of onion marketers
- iii). determine the marketing efficiency of onion marketing
- iv). identify the problems of onion marketing and
- v) identify the socio – economic characteristics of marketers in the study area.

METHODOLOGY

Toro Local Government Area is found in the western part of Bauchi state, about 98km away from Bauchi metropolis. It falls within the Sudan belt of the vegetation of Nigeria with an average annual rainfall of 820.7mm. Toro Local Government occupies a total land area of about 6,932km². It is topographically hilly and located on a latitude 10.06⁰N and longitude 9.07⁰N . It has a generally fair weather with temperature ranging from 21⁰c (69.8⁰F) to 32⁰c (89.6⁰F), (Works Department, Toro, 1999). The Local Government has a total population of about 350,404 people (census, 2006). Most of the people are farmers growing food crops such as maize, guinea corn, rice, sweet potatoes, cassava, and so on. They also produce vegetables such as tomatoes and onions. Similarly, livestock rearing is not left out such as cattle, sheep and goat.

The local government is divided into three districts for administrative and developmental purposes. They include Jama'a, Lame and Toro districts. Two major onion markets (Sabon Gari Narabi and Toro) in Toro district were purposively selected for the study because of the intensity of onion marketing activities in the location. From each of the two markets selected for this study, lists of relevant actors (Retailers and Wholesalers) were obtained from vegetable marketers Association officials. 15 Retails and 5 wholesale traders were randomly selected from each of the 2 markets included for this study. Hence, a sample of 40 traders from the list of 80 onion traders was studied. Data were analyzed using descriptive statistics, gross margin, marketing margin and market efficiency. Descriptive statistics (frequency distribution table and simple percentage) was used in examining the socio – economic characteristics and problems associated with onion marketing respectively. Gross margin analysis was used to determine the profitability associated with onion marketing.

It is expressed as:

$$GM = GR - TVC$$

Where: GM= Gross margin per 50kg bag (₦).

GR= Gross revenue per 50kg bag (₦).

TVC=Total variable cost per 50kg bag (₦).

Olukosi and Isitor (1990) opined that marketing margin is the difference between purchase price and the price received on resale. This according to Ijarafu (2010) is the effect of the product characteristics on the complexity of the marketing functions that must be performed as the product passes through the marketing system. It is expressed as:-

$$MM = \frac{SP - CP}{SP} \times 100\%$$

Where: MM= market margin per 50 kg bag (₦).

CP= cost price per 50 kg bag (₦).

SP= selling price per 50kg bag (₦).

The marketing efficiency formula was used to determine the efficiency of onion marketing, which is expressed as:

$$ME = \frac{VA}{CMS} \times 100\%$$

Where:

VA = is the selling price less purchase price of onion per 50 kg bag (N).

CMS = cost of marketing services per 50 kg bag (N).

RESULTS AND DISCUSSIONS

Socio-Economic Characteristics of Respondents

Table 1 shows that majority (67.5%) of the respondents were males. According to Ibrahim (2014), onion marketing is dominated by males. Majority (55.00%) are between the ages of 41 – 50 years. According to Ironkwe and Olojede (2012), these age brackets contain the innovative, motivated individuals. This means that majority of the farmers were in their productive and economic ages. This slightly varies with the finding of Adamu,(2000),who reported 80% of the onion traders in the study area fell between the age bracket of 25-50 years. The farmer's age being an important factor in determining the productivity and adoption of an innovation (Nwaru, 2004), this implies great prospect for increased and sustainable onion production in the study area. This result further indicates high proportions (85.00%) of the respondents were educated, while 15.00% had no form of education at all. Islam (1997) opined that primary education enhances the productivity of work force while secondary education stimulates entrepreneurial activity. Also, Gordon and Craig (2001) was of the opinion that education the skill level of individuals. According to Nwaru (2005), education increases productivity, improves access to agricultural information and also enhances farmers the ability to understand and evaluate new production techniques. The result further showed that majority (50.00%) had 11 – 20 years marketing experience, 25.00% had less than 10 years, 15.00% falls within 21 – 30 years experience and 10.00% had more than 31 years marketing experience. It can therefore be deduced from these findings that most of the respondents have been into Onion business in the study area for a long period of time. As reported by (Dogondaji, 2005) that experience in marketing is expected to enhance the efficiency with which the trading activities are performed. The study also indicates that majority (52.50%) went into onions marketing with money between ₦21,000:00 - ₦30,000:00, 27.50% went into marketing with ₦11,000:00 - ₦20,000:00, 15.00% had more than ₦31,000:00 as starting capital and 5.00% with less than ₦10,000:00. The finding is consistent with Ironkwe and Olojede (2012) that farmers/marketers were operating on a small scale basis. Greater proportion (87.50%) of the respondents belongs to cooperative associations while 12.50% did not. This implies that membership of any cooperative association is expected to favour agricultural production and marketing because the members are assumed to have more access to information, knowledge, credit and loans, and other important inputs needed in the production process as well as the ability to adopt new innovations (Ironkwe, 2005).

Table 1: Distribution According to Socio-Economic Characteristics of Respondents

Variable	Frequency	Percentage
Gender		
Male	27	67.50
Female	13	32.50
Age (years)		
< 40	6	15.00
41 – 50	22	55.00
51 – 60	9	22.50
>61	3	7.50
Educational Status		
No Education	6	15.00
Primary Education	17	42.50
Secondary Education	14	35.00
Tertiary Education	3	7.50
Marketing Experience (years)		
<10	10	25.00
11 – 20	11	27.50
21 – 30	21	52.50
>31	6	15.00
Level of Entry (₦)		
< 10,000	2	5.00
11,000 – 20,000	11	27.50
21,000 – 30,000	6	15.00
>31,000	4	10.00
Membership of cooperative		
Yes	35	87.50
No	5	12.50

Constraints to Onions Marketing

Table 2: Distribution According to Constraints to Onions Marketing

Constraints	Frequency	Percentage
Transportation	30	75.00
Inadequate storage facilities	27	67.50
Inadequate capital in starting the business	19	47.50
Lack of market information	15	37.50
Low price	6	15.00

Table 2 reveals the major constraints confronting onion marketers. The result shows that the major problems encountered by the marketers were those of transportation with the highest percentage of 75.00%. Transportation cost was found to constitute large portion of marketing margin in Africa (Lale and Adu-Nyako, 1991).

This is in view of the fact that most of the onion crops produced come from remote areas. Therefore it becomes very difficult to get them down to the markets without significant transportation costs. About 67.50% of the respondents complained of lack of good storage facilities in the markets. This is obvious considering the fact that retailers usually sell in small quantity at a point in time, hence good storage facilities would most likely be their concern. 47.50% were of the view that insufficient capital for buying of their onion produce so as to make more profit and expand the market size was a problem. Lack of market information (37.50%) and low price (15.00%) were thought of by the respondents to be a problem.

Average Cost and Return of Onion Marketed

Analyses of the result from Table 3 showed that the average gross margin per 50 kg bag for wholesalers was N 1,315:00 and N 2,020:00 for retailers. This means that onion marketing in Toro district is a profitable business for both the retailers and the wholesalers. The net return per naira invested was 0.41% for wholesalers and 0.51% for retailers. Also the table reveals the rate of return ratio of 0.41 at wholesaling indicates that for every naira invested yield additional 41 kobo a crossed the period of Onion supply to the market. More also, at retailing level, rate of return yield 51 kobo of Onion marketing in the study area. The implication of this is that for every one naira invested in the wholesale marketing of onion, forty one kobo (0.41k) was generated as profit likewise, for every one naira invested in the retail marketing of onion, fifty one kobo (0.51k) was realized. This implies that retail marketing was more profitable than wholesale marketing of onion. The result is contrary to that of Sulumbe *et al.* (2015) which implies that wholesale marketing of onion was more profitable than retailing.

Table 3: Distribution According to Average Cost and Return Per 50Kg of Onion Marketed

Variables	Whole sale value (₦)	Retail value (₦)
Gross Revenue	4,500:00	6,000:00
Variable Cost		
Cost of purchase	2,585:00	3,500:00
Cost of Transportation	100:00	50:00
Loading & Offloading	50:00	50:00
Handling(cleaning, sorting &Packaging)	200:00	200:00
Storage / Rentage	50:00	50:00
Damages	150:00	100:00
Tax / Union	50:00	30:00
Total Variable Cost	3,185:00	3,980:00
Gross Margin	1,315:00	2,020:00
Returns per Naira Invested (%)	0.41	0.51

Marketing Margin

The market margin for onion marketing in the study area was computed as follows;

$$MM = \frac{SP - CP}{SP} \times 100\%$$

For wholesalers,

$$MM = \frac{4,500:00 - 2,585:00}{4,500:00} \times 100\%$$

$$MM = \frac{1,915:00}{4,500:00} \times 100\%$$

$$MM = 0.4255 \times 100\%$$

$$MM = 42.55\%$$

For Retailers

$$MM = \frac{6,000:00 - 3,500:00}{6,000:00} \times 100\%$$

$$MM = \frac{2,500:00}{6,000:00} \times 100\%$$

$$MM = 0.4166 \times 100\%$$

$$MM = 41.67\%$$

The market margin for wholesalers and retailers were 42.55% and 41.67% respectively. This margin of below 50% indicates an average return on investment in providing the marketing services. It could be concluded that the marketers get a fair share of the profit realized in the marketing of onion in the study area.

Marketing Efficiency

The marketing efficiencies for onion marketers in Toro District markets were calculated as follows; Marketing efficiency of wholesalers;

$$ME = \frac{\text{Gross Revenue}}{\text{Total Variable Cost}} \times 100\%$$

$$ME = \frac{4500}{3185} \times 100\%$$

$$ME = 1.4128 \times 100\%$$

$$ME = 141.28\%$$

Marketing Efficiency for Retailers;

$$ME = \frac{\text{Gross Revenue}}{\text{Total Variable Cost}} \times 100\%$$

$$ME = \frac{6000}{3980} \times 100\%$$

$$ME = 1.508 \times 100\%$$

$$ME = 150.80\%$$

The marketing efficiency analyses showed that the wholesalers had an efficiency of 141.28% while the retailers had an efficiency of 150.80%. This indicates that the retailers were more efficient in performing their marketing functions compared to the wholesalers. This is contrary with the findings on returns to investments as wholesalers were found to rake-in more returns compared to retailers. The reasons for this could not be unconnected with the fact that majority of the consumers were from the rural areas making the retailers gain more than the wholesalers.

CONCLUSION AND RECOMMENDATIONS

The findings from the study showed that onion marketers were educated and mostly in their productive ages. They had many years of experience in onion marketing but operating a small scale business. The study also identified transportation, storage facilities and capital to be the key factors influencing marketing of onion. Where the means of transportation are not readily available as is mostly the case, marketers are forced to sell their onion below the market value, as the glut in the market pull down the price of onion to their disadvantage or stand the risk of losing their investment because lack conventional storing facilities. Based on the findings of this research work, it has been possible to establish the fact that marketing of onion was profitable for both categories of middlemen (wholesalers and retailers) throughout the periods of onion supply. Proper functional programmes and policies should be made to improve onion production and marketing in the study area. This could be done through the provision of easy access to farm land, credit and loans, information regarding to price fluctuation and good market to farmers to enhance their productivity, sustainability and improve food security not only in the study area but the country as a whole.

REFERENCES

- Adamu, D.C.(2000) "Resource productivity in vegetable crops production among Fadama farmers in Adamawa State, Nigeria "An M.sc Thesis(unpublished) Department of Agricultural Extension, University of Maiduguri, Borno State, Nigeria.
- Adegeye, A.J. and Dittoh, J.S.(1982): Essentials of rural Agricultural Economics: Center for Agricultural and Rural Development, University of Ibadan Press, pp. 110-133.
- Adekanye, E.T. (1988), Marketing Structures: Sixth Edition. Book power, U.K, pp.150-153.
- Adeyege, V.A. (1986). Planning Marketing of Agricultural Produce in Nigeria. A Prepolicy Statement, Nigeria Agricultural Outlook (special publication). NAAE Publication.
- Akinwumi, J.A. (1999)."Agricultural Economics and marketing". In Youdeowei, A., F.O.C. Ezedinma and O.C. Onozi (Eds).Introduction to tropical Agriculture. Longman Group, England pp. 274-281.

- Ayodele, V.I. (1996). Onion *Allium cepa* L. var. *Aggregatum* production in Ibadan, South West Nigeria; Prospect and Limitation. Paper presented at the 11th Annual Conference of the Horticultural Society of Nigeria. Ogun State University, Agolwoye. 1st-4th April, 1997.
- Bednarz, F. (1986). Suggestions on Onion (*Allium cepa* L.) variety Improvement in Nigeria. Mimeograph, plant science Department, I.A.R., ABU Zaria p 25.
- Chandarashkhar, S. K. (2007). Analysis of Onion Production and Marketing College of Agriculture, Dharwad University of Agricultural Sciences, Dharwad
- Dogondaji, S.D.(2005). Economics of Dry Season Onion Production and Marketing in Sokoto and Kebbi States. Nigeria. Ph.d thesis(Unpublished) Department of Agricultural Economics and Extension, Usman danfodio University Sokoto, Nigeria. pp. 180.
- F. A.O. (2010): www.Faostat.vegetable.onion/Data. Retrieved 28/06/2016.
- Gordon, A. and Craig, C. (2001). Rural non farm activities and poverty alleviation in sub-sahara Africa. Policy series: 14, Chalthman, UK, NRI.
- Ibrahim I. I. (2014). Constarints to Onion Marketing in Toro District of Toro L.G.A in Bauchi State. Unpublished PGD Thesis in Department Of Crop Production, Abubakar Tafawa Balewa University, Bauchi, Bauchi State, Nigeria.
- Ijarafu D. M. (2010). Structure and Performance of Small Ruminant Marketing in Damboa Local Government Area , Borno State. UnPublished B. Agriculture Project, Department of Agricultural Economics and Extension, University of Maiduguri .
- Ironkwe, A. G. (2005). Adoption of Yam Minisett Technology by Women Farmers in Abia State. Unpublished M.Sc Thesis in Department Rural Sociology and Extension, Michael Okpara University of Agriculture, Umudike, Abia State, Nigeria.
- Ironkwe, A. G. and Olajede, J. C. (2012). Socio-Economic Factors Influencing the output of cassava farmers in Abia State, Nigeria. Proceedings of 26th Annual Conference of farm management association of Nigeria. October 15th – 19th pp 55-58
- Islam, N. (1997). The non farm sector and fund development: review of issues and evidence food and agricultural environment discussion paper no. 22, Washington DC. IFPRI
- Lale,U.and Adu-Nyako.(1991) .An intergraded approach of strategies for poverty Alleviation’s paramount priority for Africa. International working Paper series, IW 91-6, food and resource Economics Department, University of Florida, Gainesville, Florida.
- Nwaru, J.C. (2004). Rural Credit Markets and Arable Crop Production in Imo State of Nigeria. Unpublished Ph.D dessettation, Department of Agricultural Economics, Michael Okpara University, Umudike, Abia State.
- Olukosi, J. O., Isitor, S.U. and Ode M. O. (2005). Introduction to Agricultural Marketing and Prices, Principles and Application. Living Series G.U. Publications, Abuja, Nigeria.
- Olukosi, J. O and Isitor, S. U. (1990). Introduction to Agricultural Marketing and Prices, Principles and Application. Agitab Publishers, Kaduna, Nigeria.
- Sulumbe, I.M, Shettima, B. G. and John, T. B. (2015): An Analysis Of The Marketing Of Onion In Monguno Local Government Area Of Borno State, Nigeria.Dept. of Agricultural Economics, University of Maiduguri, Nigeria. *Journal of Marketing and Consumer Research*. www.iiste.org ISSN 2422-8451;An International Peer-reviewed Journal Vol.13,
- Tamimi T. (1999). Investigating Production Opportunities, Market Efficiency and Trade Option for Fruit and Vegetable in Palestine. Stuttgart, Germany.