
Profitability Analysis of Onion (*Allium Cepa*(L)) Marketing in Gusau Central Market, Zamfara State

Akinyemi Mudashiru¹, Sulaiman Muhammad Gusau², Mubarak Aliyu Danmaraya³

^{1,3}Department of Agricultural Economics, Federal University Dutsin-Ma, Katsina state, Nigeria

²Department of Agricultural Education, Zamfara State College of Education, Maru. Nigeria

ABSTRACT: The study analysed the profitability of onion marketing in Gusau central market, Zamfara State.

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Data for the study were obtained from primary sources via a simple random sampling technique. 80 onion marketers registered with onion marketers association of Nigeria were selected for the study. Therefore, a total of 80 respondents were interviewed and a structured questionnaire was administered to the respondents. Analytical tools used to analyse the data were descriptive statistics, Marketing margin, rate of return ratio and net marketing margin. This study revealed that onion marketing was predominantly dominated by married males. With regards to marketing margin analysis the study revealed that onion marketing was profitable with a margin of ₦745/50kg and ₦425/50kg at peak and off-peak period were realised. The net marketing margin of ₦1170/50kg indicating high profit. The study recommended that there is need for onion marketer to create a more community base storage facility that would accommodate large number of onions and also serves as a measures to be taken to avoid the loss of onion at marketing stage. However, Onion marketer's association leaders should be very active and partner with financial institutions so as to easily have access to loans at reduced interest rate. This would help the onion marketers to have more capital base and in turn improve their business and their living standard.

Corresponding Author:
Sulaiman Muhammad
Gusau

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INTRODUCTION

Onion is a vegetable crop grown almost all over the world. It is also one of the important ingredients used in daily meals all over Nigeria. According to USDA (2009), approximately 200 million tons of dry bulbs onions were produced in 2009 in the world of which 74.9 million tons were produced in America alone leaving Asia, Europe and Africa with 125.1 million tones. Its popularity is due to its aromatic, volatile oil, the ally-Prophl-Sulphide which imports a cherished flavour to food, or in soups and salads. Onion also has an important role as a medicinal herb in many communities. It is claimed to minimize high blood pressure and other heart diseases. In Nigeria, enormous quantities of 3.8 million tons of onions been produced annually (Banake *et al* 2016). Onion producing states in Nigeria include Borno, Sokoto, Kebbi, Jigawa, Zamfara, Kano and Kaduna where it is a major commercial crop (AERLS, 1985 as cited in Sulumbe, Shettima & John 2015). Onion is appreciated by people due to the distinctive flavour it possesses. The young green plants are eaten raw in salad, while matured bulbs are cooked or eaten raw as vegetable because it contains essential nutrients which may not be readily available from other sources (Abdullahi and Ibrahim, 2004).

Marketing of perishable crops is quite complex and risky due to the perishable nature of the products, seasonal production and bulkiness. Moreover, the marketing arrangements at different stages also play an important role in price levels at various stages namely from farm gate to the ultimate user. These features make the marketing system of fruits and vegetables to differ from other agricultural commodities, particularly improvising time, form and space utilities.

Marketing is part and parcel of the production process of onion and it constitute a bridge between production and consumption, (Olukosi, Isifor and Ode. 2005). In Nigeria, vegetable price fluctuate during the year base on supply, with the highest and lowest prices recorded during the beginning of the cultivation and harvest season. In Zamfara State and Gusau central market in particular, lower onion prices are received during high supply (peak period) and high price during low supply (off-peak). This is mainly due to poor storage facilities and technique to store the onions for longer periods to cushion the high price during low supply period.

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Therefore, the study seeks to analyse the profitability of onion marketing in Gusau central market, Zamfara State and specifically to.

- Determine the cost and returns in onion marketing in the study area,
- Determine the level and difference in profit obtained between onion marketers in peak and off peak periods of onion marketing.

MATERIALS AND METHODS

Study area:- The study was carried out in Gusau central market of Gusau local government area of Zamfara state. Gusau local government area lies on latitude 12°12'N and longitude 6°4'E. It shares boundary with Bungudu and Birnin magaji local government area to the north, Maru local government area to the west and Tsafe local government area to the south and east, all within Zamfara State, Gusau local government has a population of 781,388 people and an area of 3469 sq.km (NPC 2006).

Sampling Procedures: Randomised sampling procedure was used in selecting the respondents. 80 onion marketers registered with onion marketer association of Nigeria were selected for the study. Therefore, a total of 80 respondents were interviewed and a structured questionnaire was administered to the respondents.

Analytical Tools : Data for the study were analysed using Descriptive statistic and Marketing margin analysis.

- Marketing Margin Analysis:

Marketing margin represents the differences between price paid and received by a given market intermediary in the marketing of a commodity such as wholesaler or retailer, etc. This tool was used to achieve the objectives of the study, i.e. determine the cost and returns of onion marketing and determine the level and difference in profit between onion marketers at peak and off peak supply period in the study area. The marketing margin analysis is expressed mathematically as:

$$\text{Marketing Margin} = \text{Selling Price} - \text{Purchasing Price} \dots \dots \dots (1)$$

$$\text{Percentage Marketing Margin} = \frac{\text{Selling Price} - \text{Purchase Price}}{\text{Selling Price}} \times 100 \dots \dots \dots (2)$$

Marketing margin is influenced by the market forces of demand and supply.

- Net Marketing Margin

Net marketing margin was used to determine the profitability of onion marketing in the study area. It is defined as the total revenue derived from an enterprise less the total marketing cost (TMC) incurred. It is given by the formula:

$$\text{NMM} = \text{TR} - \text{TMC} \dots \dots \dots (3)$$

Where,

NMM= Net Marketing Margin (₦/Kg)

TR= Total revenue (amount realized from the sale of onions) (₦)

TMC= Total marketing cost (₦/Kg).

$$\text{TMC} = X_1 + X_2 + X_3 + X_4 + X_5 + X_6 + \dots \dots \dots X_n$$

Where

X₁=Purchasing cost, (₦/kg)

X₂=Transportation cost, (₦/kg)

X₃=Labour cost (onloading/offloading), (₦/kg)

X₄=Packaging cost, (₦/kg)

X₅=Sorting, (₦/kg)

X₆=grading cost. (₦/kg)

X_n=number of marketing cost incurred.

The TR was obtained by multiplying the quantity of onions sold by the unit selling price (₦/kg).

TMC is the total marketing cost of onions (storage cost, transportation cost, packaging cost and labour cost).

RESULTS AND DISCUSSIONS

Socio-economic Characteristics: The result in Table 1 shows that most (50%) of the respondents were 31-40 years old, which suggests that onion marketing is dominated by middle aged people in the study area. The dominance of those in their active and productive age has an implication on sustainability of the enterprise as experience is passed on from generation to generation. This is in line with the findings of Adeoye et.al (2009) who reported that majority of Onion wholesalers (55%) and retailers (58%) were in the age group of 31 and 40 years of age. The young (20-30) respondents represented wholesalers 25%, and 44.5% retailers.

The results indicated that (100%) of the onion marketers were males. This implies that onion marketing in the study area is dominated by men probably due to the nature of the activities involved, religious beliefs and cultural setting of the area. This is in line with the findings of Shu'aib (2009), who found out that traditionally, gender segregation gives room for the division and assignment of responsibilities among people.

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Table 1 reveals that respondents had different educational levels, 45.95% had Islamic education while 35.14% had primary education, and 13.51% had secondary education. Only 5.40% had tertiary education. The implication of this is that onion marketers face difficulty in effective and efficient utilization of credit facilities, adoption of improved technologies and so on. This findings is in line with Sullumbe (2004) that the level of formal education attained by an individual goes along way in shaping his personality, attitude to life and adoption of Improved practice.

Table 1, indicates that majority of onion marketers (45.90%) had household size between 6-10. This implies that the onion marketers have a relatively large number of family. The implication of this finding is that the quantity of food intake will be affected as the dependency ratio increased . The larger the family the lesser food availability to each person within the household. Also nutritional status is affected as well as the standard of living. This findings is consistence with Obamiro et al (2003) who reported that an increase in household size would likely result the household membership to food insecure group.

Results from Table 1, indicated that all onion marketers were married. This implies that majority of the respondents were responsible men, can take technical decisions on their own and can put more effort to sustain domestic household demand. This finding is in consistent with the findings of Ayandiji and Adeniyi (2011) who reported that majority (86.4%) of the onion farmers are married. According to the Authors, this could have implication on harvest losses in production since married farmers are likely to have access to more family labour especially for harvesting. The time taken to do the harvesting may be longer for an individual and in an attempt to rush the work; fruits are badly handled due to poor skill in handling as compared with hired labourers.

Table 1. Distribution of Respondents According to Socio-economic Characteristics (n=74)

Characteristics	Frequency	Percentage	Mean
Age (Years)			
21-30	4	5.40	
31-40	37	50.0	
41-50	28	37.80	41.49
51-60	5	6.80	
Gender			
Male	74	100	
Marital status			
Married	74	100	
Household size			
1-5	29	39.20	
6-10	34	45.90	6.91
11-15	9	12.20	
16-20	2	2.70	
Educational level			
Primary	26	35.14	
Secondary	10	13.51	
Tertiary	4	5.40	
Islamic education	34	45.95	

Source: Field Survey, 2022

Marketing Margin Analysis

Marketing margin analysis simply involves estimation of net return (total revenue less total cost). The profitability of onion marketing was assessed by estimating the difference between total revenue from sales of onion and the cost components involved in onion marketing.

Table 2 average costs and return of onion marketing during a complete marketing cycle.

The table Provide information on the average cost and return per marketing cycle among onion marketers in ₦/kg.

Table 2. Average cost and return of onion marketing during the marketing cycle

Cost/Return Component	Cost per Marketing Cycle	% TMC
Transportation	90	1.59
Labor(offloading onloading)	50	0.88

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Packaging	110	1.95
Sorting	50	0.88
Grading	60	1.06
Taxes	60	1.06
Rent on shop	45	0.79
Storage	60	1.06
Security	25	0.44
Commission	50	0.88
Total Marketing Expenses	630	11.19
Purchasing price (₦/50kg)	5000	88.80
Total marketing cost (₦/50kg)	5630	
Selling price (₦/50kg)	6800	
Marketing margin	1800	
Net marketing	1170	

Source: Field Survey, 2022

Table 2, shows the result of the average cost and returns of onion marketing during a complete marketing cycle. The result indicate that a retailer purchases 50kg of onion at an average price of ₦5000 and later sold it at an average price of ₦6,800 during a complete marketing cycle with a marketing margin of ₦1,800 and net marketing margin of ₦1,170 naira. On the average a marketer incurred a total marketing cost of ₦5,630 per 50 kg with purchasing cost accounted for 88.81% of the percentage total marketing cost and total marketing expenses accounted for 11.19% . An average profit of ₦1,170 was generated as a return per 50 kg of onions invested by a marker during a complete marketing cycle.

Table 3, Provide information on the profit obtained in ₦/kg among onion marketers at peak and offpeak period.

Table 3. Average profit obtained at peak and off peak for retailers

Cost/Return Component	Peak period (₦)	%TMC	off-peak (₦)	%TMC
Transportation	40	2.27	50	1.29
Labor(offloading on loading)	20	1.13	30	0.77
Packaging	50	2.84	60	1.54
Sorting	20	1.13	30	0.77
Grading	25	1.42	35	0.90
Taxes	20	1.13	40	1.03
Rent on shop	30	1.70	15	0.38
Storage	20	1.13	40	1.03
Security	10	0.56	15	0.38
Commission	20	1.13	30	0.77
Purchasing price (₦/50kg)	1500	85.47	3500	90.32
Marketing Cost (TMC)	255	14.53	375	9.67
Total marketing cost	1755		3875	
Selling price (₦/50kg)	2500		4300	
Marketing margin	1000		800	
Net marketing margin	745		425	

Source: Field Survey, 2022

Table 3. Average profit obtained at peak and off peak for retailers

Cost/Return Component	Peak period (₦)	%TMC	off-peak (₦)	%TMC
Transportation	100	2.27	50	1.29
Labor(offloading on loading)	60	1.13	30	0.77
Packaging	80	2.84	60	1.54
Sorting	50	1.13	30	0.77
Grading	50	1.42	35	0.90
Taxes	100	1.13	40	1.03

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Storage	60	1.13	40	1.03
Security	50	0.56	15	0.38
Commission	50	1.13	30	0.77
Purchasing price (₦/100kg)	7000	85.47	3500	90.32
Marketing Cost	600	14.53	375	9.67
Total marketing cost (TMC)	7600		3875	
Selling price (₦/100kg)	8000		4300	
Marketing margin	1000		800	
Net marketing margin	745		425	

Source: Field Survey, 2022

Table 3 above, present the result for average profit obtained by the onion marketer at peak and off peak period of onion marketing in the study area. A marketer purchase 50kg of onion at peak period at an average price of ₦1,500 and sold it at an average price of ₦2,500 with a marketing margin of ₦1,000. Purchasing price constitute the highest percentage with 85.47% of the total marketing cost while the marketing expenses accounted for only 14.53% with transportation contributing the highest percentage with 2.27% total marketing cost. On the overall, a marketer makes an average profit (return) of ₦745 per 50kg of onion during peak period. During off peak period, the retailer purchase 50kg of onions at an average price of ₦3,500 later sold it at an average price of ₦4,300 with a marketing margin of ₦800. The purchasing price during off peak period is relatively higher accounted for 90.32% of the percentage total marketing cost. While the marketing expense accounted for only 9.67% of the total marketing cost. Packaging cost accounted for 1.54% followed by transportation 1.29% of the total marketing cost. This result implies that the marketer make more profit during peak period than in off peak period due to the fact that the marketer purchases more onions and sells more because onions are very cheap during such period and vice versa. This is in agreement with the findings of Atman, Haruna and Sani (2006), who reported that onion marketing was found to be profitable in Yamaltu/Deba Local Government area of Gombe State, in that for every Naira invested, a return on investment of 61 kobo was realized in the study area.

Table 4 Provide information on the net return (profitability level) obtained by onion marketer per marketing cycle.

**Table 4. Profitability level of Onion marketing
Net Return in naira per 50kg**

Profitability Index	Peak period	Off-peak period	Total
Net Return (₦)	745	425	1170
Rate of return Ratio(RRR)	0.66	0.22	0.88

Source: Field Survey, 2022

Table 4, present the result of the analysis for evaluating the profitability level of onion marketing in peak and off-peak period in the study area. The result reveals a total net returns value of ₦1170, indicates the magnitude of the returns in two onion marketing. The peak period had ₦745 profit while the offpeak period of marketing had ₦425. Also the table reveals the rate of return ratio of (0.66) and (0.22) indicates that rate of return yeildof 66kobo at peak period and 22kobo at offpeak period was realised as return per naira invested in onion marketing in the study areas. The result of the analysis indicated that Onion marketing is slightly profitable at peak period.

CONCLUSION AND RECOMMENDATIONS

Findings from this study revealed that onion marketing was predominantly dominated by married males. With regards to marketing margin analysis the study revealed that onion marketing was profitable with a margin of ₦745/50kg and ₦425/50kg at peak and off-peak period were realised. The net marketing margin of ₦1170/50kg indicating high profit. Based on the findings of the study, the followings recommendations are made:

- There is need for onion marketer to create a more community base storage facility that would accommodate large number of onions and also serves as a measures to be taken to avoid the loss of onion at marketing stage.
- Onion marketer’s association leaders should be very active and partner with financial institutions so as to easily have access to loans from financial institutions at reduced interest rate. This would help the onion marketers to have more capital base and in turn improve their business and their living standard.

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REFERENCES

1. Abdullahi A.B. and Ibrahim A. (2004). Economics of Irrigated Onion Production in Fadama Areas of Gombe State, Nigeria. *Maiduguri Journal of Arts and Social Sciences* (MAJASS). 21. (12) 17-22.
2. Atman,F.M., Haruna, U. and Sani, R,M, (2006). “Profitability of Tomato Production and Marketing in Yamaltu/Deba Local Government Area of Gombe State”. Paper Presented at the 9th Annual National Conference, NAAC-ATBU, Bauchi (November, 5th-8th). 185-188.
3. Ayandiji, A.O.R. and Adeniyi, O.D. (2011).“Determinant of Post-harvest Losses Among Tomato Farmers in Imeko-Afon Local Government Area of Ogun State, Nigeria”. *Global Journal of Science Frontier Research*. Vol.2 Pp.
4. National Population Commission (NPC) (2006). Census Report, Abuja, Nigeria.
5. Olukosi J.O, Isitor S.U and Ode. M. O. (2005). *Introduction to Agricultural marketing and Prices: Principles and Applications, Living Book Series*. Abuja, Nigeria.: G.U Publications.
6. Shu’aib, A.U. (2009). “Economic Analysis of Bee Keeping in Selected Local Government Areas of Kano State, Nigeria”. An Unpublished M.Sc. Dissertation.
7. 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. *Journal of Marketing and Consumer Research*. 13 (1).