



**ECONOMIC VIABILITY OF FRESH TOMATO MARKETING IN YOLA NORTH
LOCAL GOVERNMENT AREA OF ADAMAWA STATE, NIGERIA**

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ABSTRACT

The study analyzed the economic viability of fresh tomato marketing in Yola North Local Government Area of Adamawa State, Nigeria. Purposive and random sampling techniques were employed to select 125 fresh tomato marketers from Jimeta modern market, old market and Yola by-pass market. Data was collected between January and March 2021, which was analyzed using descriptive statistic and marketing margin model. The study showed that majority (84.21%) and 59.77% of the wholesalers and retailers respectably were male. The young and middle-aged traders constituted 92.11% and 100% for wholesaler and retailers, while 65.79% and 72.42% of wholesaler and retailers have no formal education, with 76.32% of wholesalers having marketing experience above 10years, and 70.14% of retailers having between 5-10years. Marketing margin of 26.92% and 17.39% was realized for wholesalers and retailers respectively. Five (5) marketing channels were also discovered through which fresh tomato passes to its final destination. Challenges of poor storage facilities and inadequate capital among traders were seen as the most pressing. It was concluded that fresh tomato marketing in the study area was dominated by average aged married men, battling with poor storage facilities and inefficient capital. Despite all these, the enterprise is economical viable judging from the marketing margin. Therefore, it was recommended the need to encourage female participation in fresh tomato marketing, provision of storage facilities, special transportation vans and improvement of road network by the government.

Keywords: Economic, Fresh, Marketing, Margin, Tomato and Viability

INTRODUCTION

Marketing has economic value for growth and sustainable development of most developing countries, as such emphases in developmental policies of agrarian countries have been placed on increasing agricultural production and marketing to serve as a base for rural development (Sulaimon and Nofiu, 2021). Vegetable marketing in Nigeria is developing steadily carrying significant implications for the livelihoods of many farmers (including women and youth) and several market actors which includes assemblers, transporters, wholesalers, retailers and other actors that add one value or the other (Olugbire *et al.*, 2020).

Tomato (*Lycopersicon esculentum* L.) is an important vegetable-fruit that is marketed and consumed worldwide. It clearly stand out as one of the most valuable vegetables both on scale of production and level of consumption, unlike other vegetables mostly have restricted demand as they are consumed exclusively by the urban rich (Cosmas *et al.*, 2023). Consumption of tomato has numerous health benefits which are attributed to the lycopene it contains, which is an antioxidant that enhances the human body immune system. It improves vision, skin, and hair health. It also reduces inflammation and the risk of heart, cancer, and diabetes disease, among others (Aina *et al.*, 2021). The productivity of the vegetable is largely influenced by the scale and success of its marketing; many Nigerians earn their living from marketing of this product. More



so, is equally a source of foreign exchange earnings for the country, as the processed form is exported to other countries (Olugbire *et al.*, 2020).

Vegetable crops especially tomatoes are highly perishable in nature; they need special handling to reached consumers. However, Nigeria government in the past paid little attention to the marketing of vegetables such as tomato, pepper, onion, garden egg, okra and leafy vegetables despite that they needed special marketing facilities. As result 40-50% losses are incurred due to bad road network, poor post-harvest activities such as handling and sorting, poor transportation system and storage facilities (Osunmakinde *et al.*, 2024). As a result, there is always seasonal glut and inconsistent year-round supply due to inadequate preservative and processing facilities as well as cheap imports that consumes the country foreign exchange that could have been saved in the sector (Pastuszek, 2017). Recently in Adamawa State, more attention has been allotted towards production of tomato mostly along the bank of Benue valley ranging from rain-fed to irrigated farming. However, literature is scarce on viability of the marketing aspect which this study wants to explore. The main objective of the study was to assess the economic viability of fresh tomato marketing in Yola North Local Government Area of Adamawa State. The specific objectives were to; describe the socio-economic characteristics of marketers; determine the profitability of fresh tomato marketing; examine various marketing channels of fresh tomato; and identify constraints associated with fresh tomato marketing.

MATERIALS AND METHOD

The Study Area

Yola North is located along Longitude 9°13'48"N and Latitude 12°17'36"E (Wikipedia, 2025). The Local Government Area is bounded to the north by the Mandara Mountains and to the south is Shebshi Mountains with Dimlang (Vogel) Peak the second highest point (2,042m) in Nigeria after Chappal Waddi; bounded by Yola South from south and West and Girei Local Government Area from north and east having a total landmass of 831 km². The area lies in the hot climatic Guinea Savannah zone of Nigeria, with an annual rainfall of 958.99mm. August and September are considered as the wettest months, the dry season is between November and April with a temperature range of between 39°C to 45°C (Adebayo *et al.*, 2020). The area has an agro based economy with numerous agricultural potentials. Vegetables produced include: Tomato, Spinach, Sorrel and Pepper in both dry and rainy season due to its proximity to the bank of River Benue while food crops produced are Maize, Rice and Guinea- corn. Cattle rearing and fishing also predominate.

Three major markets namely Jimeta Modern Market, Jimeta Old market and By-pass market were purposively selected based on the concentration of tomato marketers. Secondly, from a sample frame of 664 tomato marketers, 125 marketers comprising of 38 wholesalers and 87 retailers were drawn randomly in line with smith (2015) who indicated that 15-20% of a giving population is sufficient to be a representative of that population and be used for social science research.

Descriptive statistics was used to describe the socio-economic characteristics of tomato marketers and identify constraints associated with marketing of fresh tomato in the study area (objectives i and iv). Marketing margin was used to estimate the profitability of fresh tomato marketing in the study area (objectives ii). It is express as:

$$MM = \frac{sp - cp}{sp} \times 100 \quad \dots(1)$$

Where, MM = market margin per 42.5kg basket (₦)

CP = cost price per 42.5kg basket (₦)

SP = selling price per 42.5kg basket (₦)

Marketing margin reflects 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 (Ijarafu, 2010). The margin below 50% indicates an average return on investment in providing the marketing services.

RESULT AND DISCUSSIONS

Socio-economic Characteristics of Fresh Tomato Marketers

The results from Table 1 shows that majority (84.21%) and 59.77% of the wholesalers and retailers were male with 84.21% and 87.36% of the total respondents married. This shows that fresh tomato marketing in the study area was dominated by married men who carter for their family needs. It was also discovered that majority (63.16%) of the wholesalers are advanced in age ranging from 41-50years as against the retailers who are at their youthful age ranging from 31-40 which constituted 58.62%. The result further reveals that 65.79% and 72.42% of the wholesalers and retailers respectively, had no formal education and could not read or write effectively.

Table 1: Demographic characteristics of respondents

Parameters	Wholesalers (n=38)		Retailers (n=87)	
	Frequency	Percentage	Frequency	Percentage
Gender				
Male	32	84.21	52	59.77
Female	6	15.79	35	40.23
Marital Status				
Single	0	0	4	4.60
Married	32	84.21	76	87.36
Divorced	2	5.26	2	2.30
Widow/Widower	4	10.53	5	5.74
Age (years)				
21 - 30	2	5.26	26	29.89
31 - 40	9	23.69	51	58.62
41 - 50	24	63.16	10	11.49
51 - 60	3	7.89	0	0
Level of Literacy				
Primary education	8	21.05	12	13.79
Secondary education	4	10.53	9	10.34
Tertiary education	1	2.63	3	3.54
Non formal education	25	65.79	65	72.42
Household size				
1 - 5	10	26.32	62	71.26
6 - 10	23	60.53	19	21.85
11 - 15	3	7.89	6	6.89
16 - 20	2	5.26	0	0
Mean	8		3	
Occupation				
Trading and farming	7	18.42	21	24.16
Trading only	31	81.58	66	75.86

Source: Field Survey (2021)



This may be the reason why majority of them were engaged in marketing of vegetables on full-time basis. These agree with the finding of Osunmakinde *et al.* (2024) who reported a low literacy level among fresh tomato marketers in Abeokuta North Local Government of Ogun State. The table shows a mean household size of 8 and 3 persons for wholesalers and retailers respectively. This is an indication that marketers in the study area especially the retailers had small household sizes and this could have negative implication on supply of family labour in marketing activities.

Marketing Characteristics of Respondents

It was revealed in Table 2 that 76.32% of the wholesalers had above 10 years marketing experience while 70.14% of the retailers had 5-10 years' experience. This could be an indication that the marketers possess substantial wealth of experience which could influence profit in the enterprise. Table 2 further revealed that 73.68% and 87.36% of the wholesaler and retailers respectively obtained their initial capital from personal savings. These conceded with that of Ibrahim *et al.* (2020) who reported that formal credit institutions were inactive in credit advancement for small and medium scale enterprises in Yankaba market of Nassarawa Local Government Area of Kano State. This could be the reason why majority of the marketers, especially the retailers operate on small-scale in the study area. It was further established as in Table 2 that majority (60.53%) of the wholesalers source their products direct from the farm gate, while 100% of the retailers' order from either the distributor or in the market place from the wholesalers.

Table 2: Marketing characteristics of respondents

Parameters	Wholesalers (n=38)		Retailers (n=87)	
	Frequency	Percentage	Frequency	Percentage
Marketing experience				
05 - 10	9	23.68	61	70.14
11 - 20	20	52.63	26	29.86
21 - 30	8	21.05	-	-
31 - 40	1	2.64	-	-
Access to credit				
Had access	10	26.32	14	16.09
No access	28	73.68	73	83.91
Source of capital				
Personal savings	28	73.68	76	87.36
Family/friends	10	26.32	11	12.64
Mode of transportation				
Cool van	7	18.42	-	-
Open head van	18	47.36	26	29.89
Tricycle	13	34.22	61	70.11
Source of vegetable				
Direct from farm	23	60.53	-	-
From distributor	15	39.47	-	-
From seller in the market	-	-	87	100
Membership of Association				
Member	16	42.11	26	29.89
Non member	22	57.89	61	70.11

Source: Field Survey (2021)



Majority (81.58%) and 100% of the wholesalers and retailers respectively used open headed van/ tricycle to convey their goods due to lack of cooling van despite perishable nature of the goods. Majority (57.89%) and 70.11% of the wholesalers and retailers respectively does not belong to Yola North vegetable association. This confirms the findings of Olugbire *et al.* (2020) in analysis of profitability and operational efficiencies of fresh tomato marketing in Oyo State, which revealed a weak collaboration among vegetable marketers, in terms of forming or joining corporative society that will give them an edge for making provision of cooling van and preservative warehouse to reduce post-harvest losses.

Marketing Margin of Respondents

The marketing margin analysis in Table 3 shows that tomato wholesalers had a marketing margin of 26.92% while retailers had a marketing margin of 17.39%, which implies that both functionaries make profit in the enterprise. The result further revealed that wholesalers get higher profit than the retailers, since the higher the marketing margin, the higher the profit. The variations in the margin could be attributed to the scale of business. The lower marketing margin implies that the marketers in the study area do not exploit consumers. This finding is in consonance with that of Nofiu *et al.* (2021) who reported 25% marketing margin among fresh tomato retailers in Lagos State, Nigeria, and also (Osunmakinde *et al.*, 2024) reported marketing margin of 27.03% among fresh tomato marketers in Abeokuta North Local Government Area of Ogun State, Nigeria. It can be deduced from this finding that marketers get a fair share of profit in the enterprise.

Table 3: Average marketing margin of fresh tomato marketers

Marketing cost and Return /week	Wholesalers (₦)	Retailers (₦)
Purchase cost	248,605.26	27,749.43
Other variable cost	16,180.27	1,945.28
Total variable cost (TVC)	264,785.53	29,694.71
Total Fixed cost (TFC)	6267.11	2589.66
Total marketing cost (TMC)	271,052.64	32,284.37
Total revenue (TR)	370,894.74	39,079.31
Marketing Margin		
Supply price	271,052.64	32,284.37
Consumers price	370,894.74	39,079.31
Marketing margin	26.92%	17.39%

Source: Field Survey (2021)

Marketing Channels of Fresh Tomato

Marketing channel is the sequence of intermediaries through which commodity passes from farmers (Producers) to consumers. The analysis of the marketing channels is intended to provide systematic knowledge of the flow of fresh tomato vegetable from its place of origin (producers) to the final destination (consumers). The marketing channels of fresh tomato in the study area as in (Figure 1) take different dimension. Five (5) marketing channels were identified and discussed as follows;

Channel 1: Consisted of producers who sold fresh tomato directly to the consumers at either the local market or at the farm gate.

Channel 2: Consists of the producers who sold to wholesalers, and the wholesalers supplies the consumers (schools, event managers e.t.c) directly.

Channel 3: Consists of producers that sold the vegetable to retailers, where the retailers sell it off

bit by bit to consumers in the market.

Channel 4: Comprised of producers who sold to wholesalers in bunk. The wholesalers take responsibility of packaging, grading and transportation. They in turn sell it to retailers, which later sell to consumers.

Channel 5: Comprised of producers, rural assemblers who buy from the producers. In this case the assemblers grade the tomato into different grades and sell to the wholesalers. But some time they are contracted by the wholesaler in order to buy and assemble the vegetables for a fee. The wholesalers then sell to the retailers and finally to the consumers.

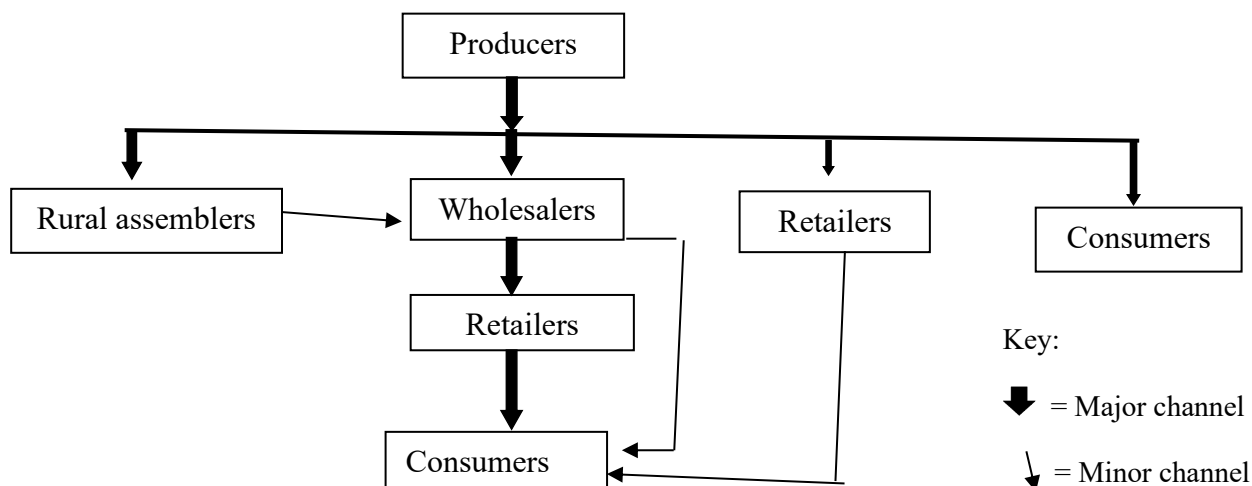


Figure 1: Marketing Channel of Fresh Tomato in the Study Area.

Source: Field Survey (2021)

Constraints Associated with Fresh Tomato Marketing

The constraints associated with fresh tomato marketing on Table 4 shows that majority (94.74%) of the wholesalers indicated poor storage facilities as the most pressing constraints while inadequate capital (96.55%) happens to be the most challenging for retailers. This call for concern as the perishability nature of the vegetable would be in shamble, in which non-disposal of the products on time could lead to spoilage. This agrees with the findings of Olugbire *et al.* (2020) who reported poor storage and processing facilities coursing excessive loss of tomato product at storage in Oyo State, Nigeria.

Table 4: Constraints associated with fresh tomato marketing

Constraints	Wholesalers (n=38)		Retailers (n=87)	
	Frequency	Percentage	Frequency	Percentage
No uniform unit of measurement	10	26.32	73	83.91
Poor storage facilities	36	94.74	82	94.25
High cost of transportation	34	89.47	35	40.23
High taxes	23	60.53	27	31.03
Price fluctuation	33	86.84	76	87.36
Inadequate capital/ credit facilities	35	92.10	84	96.55
Security challenges	12	31.58	19	21.84
Poor market information	17	44.74	33	37.93
Fluctuation in supply	25	65.79	68	78.16

Source: Field Survey (2021)

*=Multiple responses exist



CONCLUSION AND RECOMMENDATIONS

The study concludes that fresh tomato marketing in Yola North Local Government Area of Adamawa State is dominated by married men with low formal educational background, but had adequate experience of the business. Five (5) channels were discovered through which fresh tomatoes are distributed. The enterprise is profitable with evidence from marketing margin, although faces challenges of poor storage facilities, inadequate capital among others.

Therefore, the study recommends the need to encourage female participation in order to have a fair gender ratio. Marketers to join marketing cooperative so as to have easy access to loans from financial institutes and other support agencies and also to access market information on prices and area of produce availability in order to counter marketing malpractice of intermediaries. Government and other stakeholders should prioritize provision on storage and transportation facilities for perishable products, and also to improve on road networks to production areas in order to facilitate easy trading.

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