



## Socio Economic Determinants of Fruits Marketing in Oyo State, Nigeria

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**Abstract.** The study assessed small scale fruits marketing in Lagelu Local Government Area, Oyo State Nigeria. Primary data was collected from seventy (70) small scale fruits marketers with well-structured questionnaires. Data collected were analyzed using descriptive statistics such as frequency, mean, percentage, Gross margin and inferential statistics. The result revealed that 75.7% of the marketers were female; 78.6% are married with mean age of 43 years and mean household size of 5.5 persons, 34.3% had access to credit through personal savings, majority (47.1%) had primary education. Majority of the fruits assessed were seasonal except banana and pawpaw which are all year round available. The Gross Margin was ₦1,341,400.00k and Benefit Cost Ratio of 1.23. The Multiple regression revealed that age was significant ( $\beta=114.099$ ,  $p<0.05$ ), household size ( $\beta=785.549$ ,  $p<0.01$ ), marital status ( $\beta=1364.520$ ,  $p<0.05$ ), educational level ( $\beta= -1008.510$ ,  $p<0.10$ ), access to credit ( $\beta= -1145.089$ ,  $p<0.10$ ) and capital ( $\beta= 0.219$ ,  $p<0.01$ ),  $R^2$  was 0.86. Problems associated with fruits marketing among others are lack of organized market

(91.4%), inadequate storage facilities (78.6%), inadequate transportation, poor road networks (97.1%). It was concluded that marketers age, household size, marital status, educational level, access to credit and capital were the major factors to fruits marketing gross margin.

**Keywords:** Agribusiness, Fruits, Gross margin, Nigeria, Marketing, Small scale

### 1. Introduction

Nigeria is blessed with various types of fruits such as mango, pineapple, plantain/banana, citrus, guava, pawpaw, cashew, sweet oranges, water melon, avocados etcetera, this ranges from annual and all year-round availability which make it a source of agribusiness to common farmers (figure 1). Fruits are medicinal and the best sources for overcoming micro nutrients deficiency. They contain water soluble vitamins like vitamin B and Vitamin C, fat soluble vitamins including vitamin A and vitamin D, carbohydrates and minerals. These stable food crops

include Guava, pawpaw pineapple, mango and a variety of fruits and vegetables (Aju and Popoola, 2010). Fruits and vegetables generate more jobs per hectare, on-farm and off-farm, than staple based agricultural enterprises (Ali *et al.*, 2002). According to Joshi *et al.*, (2004) value addition to fruits and vegetables generates further employment in the associated agri-businesses and further down the commodity chain from the producer to the consumer. Fruits and vegetables can generate higher profits than staple crops, especially when land is relatively scarce and labour is abundant (Cock and Voss, 2004, Minot and Ngigi, 2004). The value of fruits and vegetables per unit area is significantly higher, the profits are higher and the income thus generated can be used for many different purposes in terms of eradication of hunger, access to affordable education and health care. Marketing is one of the most important factors determining the success of any fruit farming enterprise, encompassing all of the operations and decisions made by producers. These decisions range from identifying the most profitable crops for production, to decide how it should be delivered to buyers efficiently and economically while maintaining product quality. Contrary to popular belief, marketing does not begin after a crop is produced instead; marketing alternatives need to be considered well before production takes place. However, small scale fruit marketers are faced with series of challenges ranges from lack of storage facilities, poor record keeping, unreliable input delivery, poor patronage and low income (Brigitte, *et al.*, 2005). Due to this the study thereby assessed the small scale fruits marketing as a means of agribusiness for farmers' livelihood by providing answers to the following objectives:

**1.2 Objectives of the study**

These include:

- To examine the socio economic characteristics of the respondents,
- To identify the marketing channels, fruits seasonal availability,
- To analyse the fruit marketing profitability using gross margin,
- To determine the effect of socio economic factors on the marketers Gross Margin (GM) and
- To examine the constraints to fruits marketing in the study area.

**2. Research Methodology**

**2.1 Study Area**

The study was carried out in Lagelu Local Government Area (LGA) Oyo State, it has land areas of 416 square kilometers, it was created in 1976 with headquarters at Iyana Offa in Ibadan Oyo State. The Local Government consists of over 1076 towns and villages including the principal towns of Lalupon, Lagun, Monatan, Ofa, Ejioku, Oyedeji, Kelebe, Sagbe, Elegbaada, Olowode, Wofun, Ogburo, Kutayi, Apatere, Olorunda, Ogunjawa, Ile-Igbon, Iyana Church, Odo Oba, Sukuru and Akinsawe. The LGA is bounded by Egbeda LGA, Akinyele LGA and Iwo LGA in Osun State

**2.2 Sample size and sampling procedure**

Multi-stage random sampling technique was used to select small scale fruits marketers from four wards in Lagelu local government, this involved simple random selection of one major market from the four wards namely, Lalupon market, Lagelu market, Ejioku and Oyedeji market

**2.3 Data collection and methods of analysis**

Structured questionnaire was used to collect data from 25 respondents from Oyedeji, 20 from Lalupon, 15 from Lagelu and 10 from Ejioku markets making a total of Seventy (70) small scale fruit marketers for the study. The data collected was analyzed using descriptive statistics such as frequency tables, percentage, mean; Gross Margin (GM), Benefit Cost Ratio (BCR) and inferential statistics using Statistical Package for Social Science (SPSS)

**2.4 Model Specification**

Gross Margin (GM) = TR-TC  
 Where TC= TVC+FC  
 TR = (P\*Q)  
 Where P = price of fruits sold  
 Q = quantity of fruits sold (basket)  
 Benefit Cost Ratio (BCR) =  $\frac{TR}{TC}$

**2.5 Multiple Regression analysis**

The dependent variable = (GM) measured in Naira (₦)  
 The independent variables (X<sub>1</sub>, X<sub>2</sub>, X<sub>3</sub>, X<sub>4</sub>, X<sub>5</sub>, ..... X<sub>n</sub>)  
 GM = (a+b+X<sub>1</sub>+X<sub>2</sub>+X<sub>3</sub>+X<sub>4</sub>+X<sub>5</sub>+X<sub>6</sub>.....X<sub>10</sub>)  
 Where  
 G M = Gross Margin (Naira)

- X<sub>1</sub> = Gender (dummy)
- X<sub>2</sub> = Age (year)
- X<sub>3</sub> = Marital status (dummy)
- X<sub>4</sub> = Educational level (dummy)
- X<sub>5</sub> = Marketing experience (year)
- X<sub>6</sub> = Credit facilities (dummy)
- X<sub>7</sub> = Source of income (dummy)
- X<sub>8</sub> = Household size (actual)
- X<sub>9</sub> = Association (dummy)
- X<sub>10</sub> = Capital (Naira)
- a = Constant
- b = Parameter estimated

### 3. Results and Discussion

#### 3.1 Socio Economic Characteristics of the Respondents

The table 1 of the socio-economic characteristics of the fruits marketers revealed that 75.7% of the respondents were female while 24.3% are male. This shows that majority of the marketers are females. This could be due to the nature of the business (fruits Marketing) to be a female dominated form of agribusiness in the study area, this is in line with Ugwumba *et al.*, (2010), and Oladejo *et al.*, (2020), 31.4% of them were between the ages of 31-40years, 25.7% are between the ages of 41-50years, 24.3% are between the ages of 51-60year of age with mean age of 42.9years. This indicated that the marketers were young, within the working age, energetic and are able to deal with the exigencies of travels; thus can bear the stress and take the risks involved in the enterprise, 78.6% are married, 11.4% widow, 5.7% divorced are 4.3% are single, this is line with Ani (2015) that marriage has a direct relationship with family stability; therefore, the high percentages of married respondents suggest that the fruits marketers are stable and able to make good business decisions, 24.3% of the marketers had no formal education, 47.1% had primary education, 27.1% had secondary education while only 1.4% of them had tertiary education. This implies that majority 75.7% had one form of formal education. This shows that the marketers are literate, and had advantage which could

translate to higher business acumen in terms of level of profit FAO (2019). 18.6% had 5years experience in fruits marketing, 55.7% had between 6 and 10years experience, 14.3% had 11-15years and 11.3% had 16-20years fruits marketing experience with mean 9.56 years of marketing experience. This implied that most of the respondents are not new in fruits marketing business, Chukwuji (2006) noted that success and stability of any business depends on the skill and experience of the manager. 68.6% of the marketers had access to credit facilities. 34.3% of the marketers' source of credit was through personal savings, 28.6% through money lender, 10.0% through relative and friend, 11.4% through co-operative society, 14.3% through commercial bank while only 1.4% through agricultural bank loan. This implies that majority of the marketers depends on personal savings to start up the fruits marketing business, this corroborates the finding of Suleiman *et al.*, (2020) that majority of the marketers depends on personal savings and have the ability to avert risk taken in agribusiness. The table also revealed that 60% of the marketers had between 1 and 5 household size, 38.6% had between 6 and 10, and about 1.4% of them had more than 11 household sizes with mean household size of 5.50 people. This shows that the marketers had fairly large members who can be useful for marketing activities and also rely on the income from the sales, 47.1% of the marketers do not belong to any association while 52.9% of the marketers belong to an association. This could enhance their ability to have access to credits and other related information through their society which in turn increase their income 38.6% of the marketers earn between ₦5,000 and ₦10,000 as income per month, 47.1% earn between ₦ 10,001 and ₦ 20,000 as income per month while 14.3% of them earn between ₦ 20,001 and ₦30,000 as income per month. This is an indication that fruit marketing business is a sustenance agribusiness, the channels of purchasing were through distributors 2.9%, wholesale 48.6%, farm gate 35.7% because the price is usually low, and attractive (fresh fruits), half 50% of the fruit marketers sold directly to the consumers and the middle men.

**Table 1:** Socio economic characteristics of the respondents

Variable	Frequency (N=70)	Percentage	Mean
<b>Gender</b>			
Female	53	75.7	
Male	17	24.3	
<b>Age</b>			
20-30	12	17.1	
31-40	22	31.4	
41-50	18	25.7	
51-60	18	25.8	42.9
<b>Marital status</b>			
Single	3	4.3	
Married	55	78.6	
Widowed	8	11.4	
Divorced	4	5.7	
<b>Education status</b>			
No formal education	17	24.3	
Primary education	33	47.1	
Secondary education	19	27.1	
Tertiary education	1	1.4	
<b>Marketing experience</b>			
1-5	13	18.6	
6-10	39	55.8	
11-15	10	14.2	
16-20	8	11.4	9.56
<b>Access to credit</b>			
No	22	31.4	
Yes	48	68.6	
<b>Source of credit</b>			
Personal savings	24	34.3	
Money lenders	20	28.6	
Relatives and friends	7	10.0	
Co-operative	8	11.4	
Commercial bank	10	14.3	
Agric bank	1	1.4	
<b>Household size</b>			
1-5	42	60	
6-10	27	38.5	
11 and above	1	1.4	5.50
<b>Membership of association</b>			
No	33	47.1	
Yes	37	52.9	
<b>Income per month</b>			
₦ 5000-₦ 10000	27	38.4	
₦ 11000-₦ 20000	33	47.2	
₦ 21000-₦ 30000	10	14.2	13971.43
<b>Purchasing channel</b>			
Distributor	2	2.9	
Wholesale	34	48.6	
Directly from farm	35	35.7	
Farmers market	9	12.9	
<b>Marketing channel</b>			
Directly to consumers	10	14.3	
Middle men	25	35.7	
Both	35	50.0	

*Field Survey, 2022*

### 3.2 Fruits Seasonal availability assessment

Table 2 shows the fruits seasonal availability in the study area. It revealed that banana and pawpaw were found to be available in every month of the year (All year round), cashew, available in every February of the year, mango and plantain are available in the month of March/April of every year, pineapple is available in the month of April, watermelon, May of every year, lemon and apple are available in every July of every year, cucumber is available in the month of October of every year, orange and tangerine are available in the month of November, and African sherry available in the month of December of each year. This can be deduced that there is no single month of the year that there won't be availability of fruits for marketing and consumption. The implication of this is that

availability of varieties of fruits throughout the year will individual household has access to it and thereby enhancing their health benefits and also serves as a lucrative source of agribusiness which will bring food to the farmers table and thereby make income available and reduce poverty levels among the marketers.

**Table 2:** Fruits Seasonal availability assessment

<b>Fruits</b>	<b>Seasonal availability</b>
Orange	November
Banana	All year round
Pawpaw	All year round
Cashew	February
African sherry	December
Pineapple	April
Mango	March
Lemon	July
Tangerine	November
Watermelon	May
Cucumber	October
Apple	July
Plantain	March

Field survey, 2022

### 3.3 Gross Margin analysis of profitability of fruits in the study area

Table 3 showing the Gross Margin analysis revealed that the Total Revenue (TR) from fruit marketing was ₦7,275,000.00k, Total Cost (TC) was ₦5,933,600.00k and Gross Margin (GM) was ₦1,341,400.00k and the Benefit Cost Ratio (BCR) was 1.23. This revealed that fruit marketing was profitable; indicating that for every ₦1 invested in fruit marketing there will be a return of ₦1.23k from the sales of fruit. It could therefore be deduced that fruit marketing was a profitable agribusiness in the study area. This result is consistent with the finding of Osondu *et al.*, (2014) and Oladejo *et al.*, (2020) that a business is considered to be profitable as the BCR is greater than 1

**Table 3:** Gross Margin analysis of profitability of fruits in the study area

<b>Variables</b>	<b>Total items ( ₦)</b>
Transportation cost	₦ 35700
Loading cost	₦ 47700
Rent	₦ 51500
Sanitation fee	₦ 25000
Security fee	₦ 24000
Total variable cost	₦ 5,425,700.00k
<b>Fixed cost</b>	
Purchasing cost	₦ 5,933,600.00k
Total revenue	₦ 7,275,000.00k
Gross Margin (GM)	₦ 1,341,400.00k
Benefit cost ratio (BCR)=TR/TC=	$\frac{7,275,000.00}{5,933,600.00}$
BCR =	1.23

*Authors' analysis, 2022*

**3.4 Socio-economic determinants of fruit marketers in the study area**

The regression table 4 showing the socio-economic factors affecting fruits marketing profitability in the study, the table revealed that capita and household size were significant at ( $p < 0.01$ ), marital status at ( $p < 0.05$ ) and positively related to the Gross Margin (GM). This implied that marketer capita, household size and marital status has positive effect on the GM. This is showing that the more availability of capita to the marketers, increase in household size and marital status there will be a proportionate increase in the Gross Margin. This is in line with Mwema *et al.*, (2013) and supported by Nwibo *et al.*, (2013). However, marketers' age, educational level and access to credit were significant at ( $p < 0.05$ ) and ( $p < 0.10$ ) respectively and negatively signed to the GM. This shows that coefficient of age, educational level and access to credit tends to reduce the GM, this may be due to the low level of education of the majority of the marketers, ageing and lack of access to formal credit.  $R^2$  was 0.86 indicating 86% level of variation in the model specification which could be explained by the variable combinations in the model specified while the 14% could be explained by the error term. It was therefore concluded that marketers' age, capital, household size, marital status, educational level and access to credit were the major determinants factors of fruits marketing business in the study.

**Table 4:** Socio-economic determinants of fruit marketers in the study area

Variable	Coefficient	Std error	t-value	Sig
C= Constant	4081.668	2371.572	1.721	.090
X <sub>1</sub> = Gender	1581.192	1037.761	1.524	.133
X <sub>2</sub> = Age	-114.099**	48.640	-2.346	.022
X <sub>3</sub> = Marital status	1364.520**	672.173	2.030	.047
X <sub>4</sub> =Educational level	-1008.510*	530.540	-1.901	.062
X <sub>5</sub> =Marketing experience	-213.438	128.957	-1.655	.103
X <sub>6</sub> = Access to credit	-1145.089*	601.763	-1.903	.062
X <sub>7</sub> = Source of credit	107.762	251.315	.429	.670
X <sub>8</sub> = Household size	785.549***	243.035	3.232	.002
X <sub>9</sub> = Association	-676.984	748.540	-.908	.367
X <sub>10</sub> = Capita	0.219***	0.016	13.641	.000
R <sup>2</sup>	0.86			

Authors analysis, 2022.

**3.5 Constraints to fruits marketing in the study area**

Table 5 examined the constraints of fruits marketing in the study area. It revealed that 97.1% of respondents complaint of inadequate transportation facilities, this is in line with Abdulazeez *et al.*, (2019) and similar with findings of Christensen and Raynor (2003), 95.7% of poor hygienic preparation, 91.4% lack of organized market, 87.1% high transport charges, The result corroborate that of Sanusi (2016), 47.1% of the respondents have poor patronage in fruits marketing, 78.6% inadequate storage facilities, 80.0% weather dependency on fruits, 64.3% lack of capital based, 45.7% of the marketers have less demand of fruits competition because of carbonated fruits.

**Table 5:** Constraints to fruits marketing in the study area

Variable	Frequency	Percentage
Lack of organized market	64	91.4
Inadequate storage facilities	55	78.6
Inadequate transportation facilities	68	97.1
High transportation charges	61	87.1
Less demand of fruits because of competition with carbonated fruits	32	45.7
Poor patronage	33	47.1
Weather dependency	56	80.0
Hygienic	67	95.7
Lack of capital	45	64.3

Authors field survey, 2022

#### 4. Conclusion

It can be concluded from this study that majority of the marketers were female (75.7%) and with the mean of age of (42.91%), majority of the marketers had primary education (47.1%), majority were married (78.6%), marketers age, household size, marital status, educational level, access to credit and capital were the major determinants factors affecting fruits marketers' gross margin. The problem associated with fruits marketing among others include lack of organized market, inadequate storage facilities, inadequate transportation facilities, high cost of transportation charges, weather dependency, hygienic, lack of capital based in the study area.

#### 5. Recommendations

- The study hereby recommended among others that fruit marketing as a source of income be regarded as a viable and reliable agribusiness which can serve as a means of livelihood for average household.
- Formal credit should be made available for the marketers in order to be able to expand the agribusiness.
- Marketers should have an organized marketing system and due to the poor storage facilities; should concentrate or pay more attention on the value addition on the fruits availability

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