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**ECONOMIC ANALYSIS OF SNAIL MARKETING IN IBADAN NORTH EAST LOCAL  
GOVERNMENT AREA OYO STATE, NIGERIA**

**Abstract**

This paper reports findings from a study carried out to investigate the profitability of snail marketing in Ibadan North East Local Government area of Oyo State. Structured questionnaires were used to obtain data from seventy snail marketers, randomly selected from three major markets which are Oje, Agodi gate and Agugu market;. The data collected were analyzed using frequency table, percentage and gross margin analysis. Majority (94.3%) of the respondents were female while 5.7% were male. 31.5% were between the ages of 51-60years with mean age of 54.9 years. It was also shown that 50% source their capital through personal savings. The cost and return analysis revealed that total revenue was ₦1,457,700.00k and total cost was ₦1,285,320.00k while gross margin was ₦172,380.00k and benefit-cost ratio was 1.13 which implies that for every ₦1.00 invested the marketer will make a return of ₦1.13k on every snail sold, Marketing efficiency was 88%. Problems militating against snail marketing in the study area include poor market patronage, numerous sellers and finance. Storage techniques for snail meat should be more advanced to reduce loss in storage. Snail marketers should be encouraged to form co-operative bodies and micro credit facilities should be made available to finance their marketing activities.

**Keywords:** Economic, Ibadan North-East, Marketing, Oyo State, Profitability, Snail

## 22 **Introduction**

23 Snails are invertebrates and hermaphrodites which belong to phylum mollusca. They are one of the  
24 micro livestock that have recently attracted attention among farmers in Nigeria as an aftermath of the  
25 alarm raised by the Food and Agriculture Organization on animal protein deficiency among Nigerians  
26 (Adesope, 2000). The consumption of snail meat by rural communities is governed more by culture than  
27 by social status Ebenso (2003), Snail has great potentials in the tropics where it is widely used in human  
28 nutrition. Murphy (2001) analyzed and reported snail meat to be high in protein (37.51%) compared to  
29 that of guinea pig (20.3%), poultry (18.3%), fish (18%), cattle (17.5%), sheep (16.4%). Snails are low in  
30 fat, protein rich and a good source of variety of essential vitamins and minerals including magnesium,  
31 vitamin E and phosphorous (Akinnusi, 2002). It also has some medicinal purposes such as in the cure of  
32 heart and kidney diseases, stroke, high blood pressure, liver, fat related ailment, poor eye sight, small  
33 pox, ulcer, constipation and asthma (Ayodele and Asimolowo, 1999. Snails have been and are still a  
34 much sought after food and come to the table as a gastronomous delight. Snails can be found in a very  
35 wide range of environments, including ditches and the bathyal depths of the sea. (Robinson, Elizabeth,  
36 2005).

37 Snail marketing could serve as a source of income and returns to the marketers in the study area.

## 38 **Marketing Concept and Marketing Efficiency**

39 The American Marketing Association (2013) explained marketing as the communication between a  
40 company/ producer and the consumer. It is also an activity set of institutions and processes for creating  
41 communication delivery and exchanging offerings that have value for customers. Marketing concept  
42 therefore includes the assemble preparation for consumption and the final distribution. Kotler *et al.*,  
43 (2010), also defined market concept as achieving organizational goals which depend on knowing the  
44 needs and wants of target market and delivering the desired satisfaction. Marketing efficiency can be  
45 defined as the maximization of the ratio of output to input in marketing. Efficient marketing optimizes

46 the ratio between inputs and outputs. Marketing inputs here include the resources used in marketing of  
47 products whereas marketing output is the benefit or satisfaction created or the value added to the  
48 commodity as it passes through the marketing chain. Therefore, for this study, value added by  
49 respondents is computed as price in naira received by the respondents (price paid by the consumers) less  
50 the price received by the preceding marketer in the supply chain. Therefore:  $M.E = \frac{[(\text{Total revenue} - \text{purchase cost of snail}) \div (\text{Total cost of marketing})] \times 100\%}{}$  as used by Ugwumba *et al.*, (2016). This  
52 study therefore examined the socio-economic characteristics, cost and returns, and marketing efficiency  
53 of snail marketing in Ibadan North-East Local Government Area, Oyo State

#### 54 **Methodology**

55 The study was carried out in Ibadan North East local government area, one of the LGAs in Ibadan  
56 metropolis of Oyo State. Ibadan is the capital of Oyo State, the largest city in Nigeria and Sub-Saharan  
57 Africa. It has a population of 330,399 at the 2006 census, and has the land mass of 125km<sup>2</sup> with twelve  
58 (12) wards. It is located on the northern part of Ibadan lying between latitudes 7<sup>0</sup>N and 9<sup>0</sup>N of the  
59 equator and longitude 3<sup>0</sup>E and 5<sup>0</sup>W Greenwich meridian. It has an average rainfall of between 1250mm  
60 and 1800mm and the temperature range is between 27<sup>0</sup>C and 32<sup>0</sup>C with relative humidity of 75% - 90%  
61 (NPC 2006).

#### 62 **Sampling Procedure**

63 Ibadan North-East was purposively selected out of the five (5) local government areas in Ibadan  
64 metropolis of Oyo State because of the concentration of the snail marketers in the area, a well structured  
65 questionnaire and oral interview were administered on snail marketers in three major snail markets (Oje,  
66 Agodi gate and Agugu) where 30, 15 and 25 respondents were selected accounting for 10% of the  
67 population making a total of seventy (70) snail marketers sampled in all.

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## 72 **Data Analysis**

73 The statistical tools used for the analysis of the data are descriptive statistics, frequency table,  
74 percentage and gross margin analysis.. Gross margin was used to determine profitability of snail among  
75 the marketers. The formula used to compute gross margin(GM) and marketing efficiency(ME) are  
76 expressed in equations described by Oyewo et al.,(2013) given below

$$77 \quad GM = TR - TVC$$

78 Where,

79 GM = Gross margin

80 TR (Total Revenue) = from the sales of snail = (P x Q)

81 Where P = Price of Snail

82 Q = Quantity of Snail sold

83 TVC (Total Variable Cost) = Fixed cost + Transportation cost + Other expenses cost

84 TC= Total Cost

85 Marketing Efficiency (ME)

$$86 \quad ME = \frac{TC}{TR} \times \frac{100}{1}$$

## 88 **Results and discussion**

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

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<b>Variable N=70</b>	<b>Frequency</b>	<b>Percentage (%)</b>	<b>Mean</b>
<b>Age (years)</b>			
21-30	1	1.4	
31-40	6	8.5	
41-50	18	25.8	
51-60	22	31.5	
61 and above	23	32.8	<b>54.93</b>
<b>Gender</b>			
Female	66	94.3	
Male	4	5.7	

<b>Religion</b>		
Christian	39	55.7
Islam	27	38.6
Traditional	4	5.7
<b>Marital status</b>		
Married	42	60.0
Widow	18	25.7
Widower	2	2.9
Divorced	8	11.4
<b>Educational status</b>		
None	16	22.9
Primary	45	64.3
Secondary	9	12.8
<b>House hold size</b>		
0-4	11	15.7
5-9	40	57.1
10-14	18	25.7
15 and above	1	1.5
		<b>7.67</b>
<b>Other job</b>		
None	48	68.6
Farming	4	5.7
Trading	18	25.7
<b>Source of Credit</b>		
Personal Savings	35	50.0
Bank Loan	1	1.4
Cooperative	14	20.0
Friends/Relative	2	2.9
Daily Contribution	18	25.7
<b>Income</b>		
1,000-10,000	1	1.5
11,000-20,500	34	48.4
21,000-30,000	34	48.6
31,000 and above	1	1.5
		<b>20,824.29</b>
<b>Initial Capital</b>		
1,000-10,000	11	15.8
11,000-20,000	50	71.3
21,000 and above	9	12.9
		<b>17,050.00</b>
<b>Preservation</b>		
Sack and Basket	61	87.1
Metal Basket	9	12.9
<b>How long can they survive (days)</b>		
7	23	32.9
14	40	57.1
30	7	10.0
<b>Years in business</b>		
0-4	12	17.1
5-9	33	47.1
10-14	15	21.6

15-19	6	8.5	
20-24	3	4.2	
25 and above	1	1.5	<b>8.77</b>

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92 From table 1, it can be revealed that 94.3% of the respondents were female while 5.7% were male. This  
93 indicates that snail marketing is essentially an activity carried out by women folks. 32.9% were between  
94 the ages of 61years and above and 31.5% are between the ages of 51-60years with mean age of  
95 54.9years. This implies that people who engage in snail marketing were within the adult population. It  
96 was also found that 55.7% were Christians, 38.6% were Muslims while traditional religion worshipers  
97 were only 5.7%. 60% of the marketers were married; this shows that married people were more involved  
98 in snail marketing in the study area probably to increase household income. The result also showed that  
99 22.9% had no formal education, 64.3% had primary education while 12.9% had secondary education.  
100 This means that education may add value to the operation of the business. Majority of the respondents  
101 (57.1%) had household size between 5-9 with mean household size of 5.39 in the study. This may be  
102 used as family labour. 68.6% relied solely on snail marketing and this implies that they can provide for  
103 their family and live well through the business. It is obvious that most of the respondents 50.0% use  
104 their personal savings as their source of capital. The table also shows that 48.6% of the respondent had  
105 income between ₦21, 000 - ₦30, 000 from the snail marketing business, implying that snail marketing  
106 is a profitable business which people can engage in. Majority (71.3%) started the business with an initial  
107 capital of between ₦11, 000- ₦20, 000 this shows that one can start the business with little capital and  
108 earn profit. Years of experience in the business varied with 47.1% of the respondents had 5-9 years  
109 marketing experience; this implies that majority of the snail marketers had above 5 years marketing  
110 experience. The number of years in the business of snail marketing could enable them to know the best  
111 ways to make profit, the little secrets of the business.

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**Table 2: Snails Marketing Channels in Ibadan North East LGA., Oyo State**

<b>Variables (N=70)</b>	<b>Frequency</b>	<b>Percentage (%)</b>
<b>Kind of Marketer</b>		
Wholesaler	60	85.7
Retailers	8	11.4
Assemblers	2	2.9
<b>Source of Snail</b>		
Producer	60	85.7
Hunters/Gatherers	5	7.1
Wholesalers	5	7.2
<b>Sale target</b>		
Retailer	10	14.3
Consumer	60	85.7
<b>Measurement of Purchase</b>		
Pieces	46	65.7
Congo	16	22.9
Basket	8	11.4
<b>Measurement of Sale</b>		
Pieces	36	48.6
Congo	34	51.4

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124 Majority (85.7%) of the marketers were wholesalers, 11.4% were retailers while only 2.9% of the  
125 respondents were hunters/gatherers (Table 2). 85.7% were snail producer and sold directly to consumers.  
126 This could be due to the richness in protein and other medicinal values in snail consumption. It is  
127 important to note that snail is not a commonly consumed meat but rather on need for meeting some  
128 nutritional or medical requirements and also, because of affordability mainly by the rich in the study.

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**Table 3: Cost and Return on Snail Marketing**

Variable	Amount (₦)
Total revenue (TR)	₦1,457,700.00k
Average Total Revenue	₦2,462.57k
Fixed cost (FC)	₦1,193,500.00k
Other expenses	₦23,570.00k
Transportation cost	₦68,250.00k
Total cost	₦1,285,320.00k

145  $GM = TR - TVC$

146  $TVC = \text{Transportation Cost} + \text{Fixed Cost} + \text{Other Cost}$

147  $= ₦1,285,320.00k$

148  $TR = ₦1,457,700.00k$

149  $GM = TR - TC$

150  $= ₦1,457,700 - ₦1,285,320$

151  $GM = ₦172,380.00K$

152 Benefits cost ratio (BCR) =  $\frac{\text{Total revenue}}{\text{Total cost}}$

154  $BCR = \frac{₦1,457,700.00k}{₦1,285,320.00k}$       B.C.R = ₦1.13k

156 Marketing Efficiency (ME)

157  $ME = TC \times 100$



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$$\frac{\overline{TR}}{\overline{I}}$$

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$$\text{Therefore ME} = \frac{\text{N}1,285,320.00\text{k} \times 100}{\text{N}1,457,700.00\text{k} \times 1}$$

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$$\text{ME} = \text{N}88.1745$$

163 From the result of cost and return analysis it was revealed that total revenue was ₦1,457,700.00k and  
164 total cost was ₦1,285,320.00k, the gross margin was ₦172,380.00k and also the benefit cost ratio was  
165 ₦1.13k. This result reveals that for every ₦1.00k invested in snail marketing, the marketer will make a  
166 return of ₦1.13k. The marketing efficiency result shows that the snail marketing in the study area attains  
167 an optimal level of efficiency of 88%.

168 **Table 4: Constraints to Snail Marketing in the Study Area**

Variables	Frequency	Percentage (%)	
Poor Market patronage	61	87.1	1 <sup>st</sup>
Numerous Seller	58	82.9	2 <sup>nd</sup>
Weather	57	81.4	3 <sup>rd</sup>
Finance	55	78.6	4 <sup>th</sup>
Price	42	60.0	5 <sup>th</sup>
Perishability	33	47.1	6 <sup>th</sup>

169 Snail marketing in the study area was hindered by several factors including lack of market, numerous  
170 seller, weather, finance, price, perishability (Table 4). The finding shows that poor market patronage  
171 was mostly identified probably because people eat snail on recommendation to meet some nutritional or  
172 medical needs, for cultural or traditional uses since it is a bit costlier than other meat sources. So, snail is  
173 ordinarily consumed by relatively rich people in the study. This however supports the work of  
174 Ugwumba *et al.*, 2016) that seasonal nature, high and unstable price of product, poor sales and lack of  
175 capital are the constraints to the marketing of African giant snail in their study.

176 **Conclusion**

177 Snail marketing is a profitable agribusiness in the study area. The level of profitability can equally be  
178 increased if there is a better marketing system and injection of more finance into the business which can  
179 in turn increase the level of income. The following are therefore recommended: that storage technique is  
180 more advanced for snail meat to curb losses, snail marketers are encouraged to form co-operative bodies  
181 and; micro credit facilities are made available to finance their marketing activities.

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