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## **SOCIO-ECONOMIC ANALYSES OF SNAIL CONSUMPTION PATTERN IN IBARAPA CENTRAL LOCAL GOVERNMENT, OYO STATE**

Aduloju A. R., \*Oyelami, B. A. and Alarape, A. B

Federal College of Forestry Jericho Hill, Ibadan  
oyebusayomi@gmail.com, 08065814642

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### **ABSTRACT**

Snail meat is highly nutritious and its consumption is highly beneficial to man. Though it is of the important non-timber forest products, the snail rearing is gaining serious attention among livestock as well as crop farmers across the nation hence the need to intensify study on the pattern and rate at which it is been consumed. This study was carried out to analyze the socio-economic analysis on snail consumption pattern in Ibarapa central local government Oyo-state. The study specifically assessed health benefits, attitude and interest toward snail consumption and also identified constraints faced by snail consumers in the study area. Ninety nine households in five randomly selected villages in five of the wards in the local government were sampled using a well structured questionnaire. The study revealed that majority of snail meat consumption determinant was female (56.6%) while more than 70% of them were below age 40years and married. It was established that not less than 71% of the respondents has formal education and are non-farmers. Respondents' income, availability as well as price of snail meat are major determinants of consumption pattern in the study area while religion belief has little or nothing to do with eating of snail meat in the study area. It is however recommend that more awareness on health as well as nutritional benefits of eating snail meat should be made in the study area while the government should endeavor to improve the purchasing power of the citizenry in the study area though empowerment in the area of snail farming.

**Keywords:** Snail meat, consumption, consumption, pattern, household, Ibarapa

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### **Introduction**

Report shows that the consumption of animal protein in Nigeria is 5.5kg per head per day which is absolutely below the Food and Agriculture Organization recommendation of 35kg per head per day (Okeke, 2015). This report may likely capture only meat from common livestock like chicken, cattle, goat among others. However it is very important to investigate into consumption of meat from other non conventional sources.

Although, snail is one of non timber forest products (NTFPs) as reported that in West Africa, snails dwell mostly in humid forest areas from where they are gathered by villagers for consumption and other uses

Ademosun, and Omidiji (1999), snail remains one of the important source of meat in Nigeria.

The meat is highly nutritious containing about 37.5% protein (on DM basis); has high iron content (45 to 59mg/kg) and low sodium (2.32g/100g) and fat (0.05-0.08%) contents (Sogbesan and Ugwumba, 2008). The meat is low in cholesterol and a source of vital minerals required for normal tissue development and maintenance; and it is an ideal meat for the diabetics and those with vascular disease such as heart attack, cardiac arrest, hypertension and stroke (Funmilayo, 2008).



The nutritional benefit of snail meat cannot be overemphasized because it offers all the amino acids required by man (Ismail, 2009). Snail meat is high in protein, iron, and low in fat. Snail consumption has increased in Africa due to more people avoiding red meat for meat for health reasons (Omole *et al.*, 2007). Unlike other extinction-prone wild animals that attract public or government intervention, the Giant African Snail (GAS) has received little to no intervention; if measures like snail farming are not promoted, the GAS may disappear from the forest.

However, snail meat is still a delicacy for many households in Nigeria. It is regarded as a form of game meat eaten occasionally instead of being a nutritious meat to be relished on a daily basis just like meat of other conventional livestock. Some ethnic groups even have superstitious beliefs that discourage the eating of snail meat or eating certain species of snail to the detriment of others.

The importance of snail farming cannot be underscored because of the great prospects in the business. Snails have become an important source of income to some farmers who dwell in the forest areas; they collect the snails in the wild and selling them at premium prices along the road side and at some rural and urban markets (Adejo *et al.*, 2016). Snails are also important in many food chains and they are freely used by fish and wildlife as food (Ayodele and Asimalowo, 1999). The amount of capital required for the establishment of a snailery is appreciably small and practice requires little labour with no strenuous physical exertion. Physically challenged, including the dumb, deaf and so on, can also carry out the work with ease. Snail generally is noiseless and quite easy to handle. They can be reared in urban environment without fringing on the ease of

neighbor. In addition, the meat appears as a delight on the table of most families (Omole *et al.*, 2007). They can be managed in small space (Ejidike, 2002). Selling of snails or snail farm establishment can go along way of solving unemployment, nutritional and health problems.

Studies show that most of consumers of meat products still do not consume snail as alternative to conventional meat types (Okeke 2015). Therefore, this study was carried out to examine the socio-economic analyses of snail consumption pattern among the people of Ibarapa local government, to provide reliable statistics and to stimulate further studies on it.

### Methodology

The study was conducted in Ibarapa Central Local Government area, Oyo state. Ibarapa Central Local Government is made up of two major towns which are; Igboora and Idere. Igboora consists of seven quarters (Igbole, Pako, Iberekodo, Sagan-un, Isale-oba, Okesherin and Idofin.) while Idere consists of three quarters which are; Koso, Malete, and Okeoba. The study area has human population of about 102,979 according to 2006 population census (NPC 2006). The major occupation of the people in this area is mainly agriculturally based (most of them are farmers) while other secondary income generating activities in the area include: Trading, Hunting, Blacksmithing, Teaching, weaving, Tailoring, Carpentry, and many more (Adeniyi *et al.*, 2013).

A structured questionnaire was used to elicit information from 100 respondents using multi-stage random sampling. Five wards were randomly selected out of ten political wards in Ibarapa Central Local Government



Area. Two villages were randomly selected from each of the wards to give a total of 10 villages. A systemic random technique was used to select ten (10) residential houses at interval of five (5) from each of the two randomly selected villages from each ward. Furthermore, one household from each residential house; hence a total number of One hundred (100) respondents were used. The questionnaire was used to obtain data on socio-economic characteristics of the sampled household as well as household expenditure on snail meat from the One hundred respondents. However, only 99 questionnaires were retrieved for analysis.

### Results and Discussions

Table 1: Socio-economic characteristics of the respondents in the study area

Variables	Frequency (n=99)	Percentage
<b>Gender</b>		
Male	43	43.4
Female	56	56.6
<b>Age</b>		
11-20	7	7.1
21-30	30	30.3
31-40	44	44.4
40 above	18	18.2
<b>Marital status</b>		
Single	20	20.2
Married	59	59.6
Divorce	16	16.2
Widow/widower	4	4
<b>Religion</b>		
Christian	44	44.5
Muslim	44	44.5
Traditional	11	11.0
<b>Educational qualification</b>		
No formal education	18	18.2
Primary education	32	32.3
Secondary education	34	34.3
National diploma	15	15.2
<b>Occupation</b>		
Farming	28	28.3
Civil servant	20	20.2

### Method of Data Analysis

Data obtained was analyzed using both descriptive statistics and multiple regression technique.

Within the context of this study, a snail consumption model is implicitly stated as:

$$C = f(X_1, X_2, X_3, X_4, X_5, X_6, e)$$

C = Rate of snail meat consumption

X<sub>1</sub> = Family size

X<sub>2</sub> = Level of education

X<sub>3</sub> = Religion

X<sub>4</sub> = Age

X<sub>5</sub> = Price of substitutes

e = Error term.



Business	30	30.3
Others	21	21.2

Source: Field survey, 2016

From the result obtained majority (56.6%) of the respondents were female while 43.4% were male which implies that snail consumers were dominated by female in the study area. This corroborated the report of Adeniyi *et al.*, (2013) who submitted that female folks usually determine the choice of meat consumed in the family. This result also shows that 44.4% of the snail consumers fall between 31-40 years of age, implies that, in the study area, snail consuming is done by active and energetic people in the middle ages as reported by Adeniyi *et al.*, (2013) and Adejo *et al.*, (2016). The result further shows that 59.6% of the respondents were married, which implies that majority of the respondents could have a larger number of the family which could increase consumption level. It also shows that 34.3% of the respondents had secondary school education, 18.2% has no formal education, 32.3% and

15.2% had primary school and national diploma respectively in the study area, which implies literacy in the study area is still relatively low however that education influences respondents perception on snail consumption which is in agreement with earlier report by (Akinnusi, 2004) who submitted that level of literacy plays important role in acceptance and consumption of snail meat. More over the table 1 shows that 30.3% were self employed while 28.3%, 21.2% and 20.2% were farmers, while others are civil servant respectively. This is in variance from the discovery of Adeniyi *et al.*, (2013) that reported that most of the snail eaters are farmer in their study area. The result also shows that both Christian and Muslim were 44.5% and 44.5% respectively while 11.1% were Traditionalist in the household of the study area. This implies that snail may not have any religion taboo.

**Table 2: Snail preferred to be eaten by the respondents in the study area.**

Variable	Frequency (n=99)	Percentage
<i>Archachatina marginata</i> (Giant West African snail)	55	55.6
<i>Archatina archatina</i> (Giant African snail)	44	44.4

Source: Field Survey, 2016.

Table 2 shows that Majority (55.6%) of the respondents preferred eating *Archachatina marginata* while the remaining 44.4% preferred eating *Archatina archatina*. This

confirms the result of Adeniyi *et al.*, (2013) who reported that *Archachatina marginata* is more preferred by consumers.

**Table 3: Perceived health benefits of eating snail by the respondents in the study area**

Variable	SA	A	UN	D	SD
Snail meat reduce obesity	13(13.1)	43(43.4)	37(36.7)	6(6.1)	1(1.0)
Snail meat cure cancer	35(35.4)	31(31.3)	29(29.3)	4(4.0)	0(0)
It prevent blood pressure	57(57.6)	0(0)	11(11.1)	31(31.3)	0(0)
It high in nutritional value	0(0)	54(53.5)	12(12.1)	4(4.0)	30(30.3)

Source: Field Survey, 2016.



Key: SA= Strongly Agree, A= Agree, UN= Undecided, D= Disagree, SD= Strongly Disagree

Table 3 shows that 43.4% of the respondents agree that snail consumption reduce obesity while 35.4% of the respondents were strongly agree that snail consumption helps in curing cancer in the study area. It also revealed that majority (57.6%) of the respondents strongly

agreed that snail consumption is good for preventing high blood pressure. It is interesting to see that the result also shows that 53.5% of the respondents agreed that snail have high nutritional value.

**Table 4: Attitude and interest toward snail consumption in the study area**

Variable	SA	A	UN	D	SD
Prefer eating to rearing	0(0.0)	31(31.3)	45(45.5)	16(16.2)	7(7.1)
Rearing than eating (size)	0(0.0)	22(22.2)	45(45.5)	20(20.2)	12(12.1)
Prefer eating and rearing	0(0.0)	39(39.9)	42(42.4)	14(14.1)	4(4.0)
Not eating and not rearing	0(0.0)	11(11.1)	13(13.1)	30(30.3)	45(45.5)
Eating snail as whole meat	0(0.0)	11(11.1)	11(11.1)	50(50.5)	25(25.3)

Source: Field Survey, 2016.

Key: SA= Strongly Agree, A= Agree, UN= Undecided, D= Disagree, SD= Strongly Disagree

Table 4 shows the respondents' attitude toward snail consumption in the study area and it revealed that majority (45.5%) of the respondents in the study area were undecided on if they prefer eating snail meat than rearing snail. The result also revealed that 42.4% of the respondent were also undecided if they prefer both eating and rearing snail in the study area. However, higher percentage (45.5%) of the respondents strongly disagree

that they do not prefer both rearing and eating of snail. This finding follows the reports of Akinnusi, (2000) who submitted that majority of people that rear snails also consume snail meat.

Meanwhile, 50.5% of the respondents disagree that they eat snail as whole meat while 25.3% also strongly disagree on eating snail as whole meat in the study area.

**Table 5: Constraints facing snail consumers in the study area**

Variable	SA	A	UN	D	SD
Eating snail meat is income determinant	17(17)	45(45.5)	19(19.2)	11(11.1)	7(7.1)
Snail meat is very expensive	13(13.1)	22(22.2)	33(33.3)	25(25.3)	6(6.1)
Snail meat is tasteless	14(14.1)	24(24.2)	19(19.2)	21(21.2)	21(21.2)
Snail meat is not readily available	0(0.0)	0(0.0)	6(6.1)	36(36.4)	57(57.6)
My religion forbid eating snail meat	5(5.1)	1(1.0)	5(5.1)	36(36.4)	52(52.5)

Source: Field Survey, 2016.

Key: SA= Strongly Agree, A= Agree, UN= Undecided, D= Disagree, SD= Strongly Disagree

The result as presented in table 5 above shows that 45.5% of the respondents agreed

that their income determines the level of consuming snail while only 11.1%, disagreed.



This is in agreement with the findings of Adeniyi *et al.*, (2013) who reported that majority of their respondents believe that consumption of snail is income dependent. From the result obtained it was also revealed that 33.3% of the respondents were undecided if the price of snail is a constraint to eating snail meat in the study area. The result further shows that 57.6% and 36.4% of respondents strongly disagreed and agreed respectively that snail are not readily available in the study

area. This defers from the findings of Adeniyi *et al.*, (2013) in an earlier study. Meanwhile, the study also shows that that 52.5% of respondents strongly disagreed that their religion does not permit snail consumption as 36.4% also disagreed on this in the study area. This is in line with Adeniyi *et al.*, (2013) that earlier reported that religion is the least constraint facing their respondents on snail consumption.

**Table 6: Factors that determine snail meat consumption**

Model	Coefficients	Std. Error	T-value.
(Constant)	5.149	0.603	8.541
X <sub>1</sub> Family size	0.034	0.160	0.210
X <sub>2</sub> Education	0.024	0.080	0.295
X <sub>3</sub> Religion	-0.178	0.116	-1.530
X <sub>4</sub> Age	0.195	0.116	2.101
X <sub>5</sub> Price	0.019	0.080	0.235
X <sub>6</sub> Health	0.308	0.175	1.755

Source: Field Survey, 2016.

The regression on consumption of snail meat as shows in table 6 above revealed that Age and Health of the respondents were significant at 5% level, though has a positive relationship to the rate at which the household consume snail in the study area, this implies that as the Health and Age of the respondents increases there is a probability that the rate at which the snail is consumed will increased this is in variance from the submission of Cobbinah *et al.*, (2008) that as people get older the probability of consuming snail decreases.

### Conclusion and Recommendations

This study reveals that among the socio-economic characteristics of household considered, income, availability as well as price of snail are the main determinants of consumption pattern of snail meat in the study area. However other factors like religion

belief, age of respondents and their education level play less significant role in the snail meat consumption pattern of the respondents.

In view of the findings of this study awareness should be intensified through education and media promotion on nutritional benefits of snail meat in human diets while the purchasing power of the dwellers in the study area should be improved through adequate poverty alleviation programme and empowerment

It is however imperative for government to provide enabling environment that will encourage more farmers to venture into snail production and for existing snail farmers to increase their production in other to increase the availability of snail meat as well as reducing the price of snail meat so that more people may be able to afford it.

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