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# ASSESSING THE FACTORS INFLUENCING THE WILLINGNESS OF URBAN DWELLERS TO ADOPT SNAIL DOMESTICATION TECHNOLOGY (HELICULTURE) IN SOUTHWEST NIGERIA

Banjo, A.A.,[*] Ahmed, A. O., Olawoore, T. O., Nosiru, M.O., Tokede, A. M., and Adebayo, D.O.

Forestry Research Institute of Nigeria, Ibadan, Nigeria
[*]Corresponding author: ahmadsquare8@gmail.com

## ABSTRACT

Urban dwellers are increasingly becoming interested in alternative sources of income and food production, such as snail domestication. Hence, this study investigates the factors influencing the willingness to adopt snail domestication technology among urban dwellers in the Southwest region of Nigeria. Utilizing a well-structured questionnaire, data were collected from one hundred and sixty (160) respondents across three purposively selected states: Oyo, Ogun, and Osun. The analysis employed descriptive statistics, correlational analysis, and t-tests to evaluate the relationships between various factors and the willingness to adopt the technology. Key findings reveal that personal sentiments (r) = -0.238; p= 0.003), perceived nutritional values (r= 0.339; p=0.000), and the ease of practice (t=-2.35; p=0.000) significantly impact respondents' willingness to engage in snail rearing. The findings indicate that a majority (t=-2.08; p=0.000) of respondents expressed a readiness to adopt snail domestication, contingent upon the availability of training, funding, and resources such as feed and breeding stock. The study concludes that addressing barriers related to training opportunities and resource accessibility is essential for promoting snail rearing as a viable source of animal protein. Recommendations include enhancing extension services and providing financial support to encourage adoption among interested individuals.

**Keywords**: Snail domestication technology, willingness, urban dwellers, Southwest, Nigeria.

## Introduction

Although myriads of agricultural strategies have been adopted in Nigeria, yet daily per capital animal protein intake (estimated at less than 10g) remains a far cry from the Food and Agricultural Organization (FAO) recommended minimum requirement of 35g (FAO, 2013; Kaldjob *et al.*, 2019). Over 80% of the Nigerian populace is poor and protein products such as: Meat is a rare luxury. In order to bridge this gap, it has been suggested that there is a need to explore other sources of animal protein in addition to conventional sources such as ruminants and poultry (Ahmadu and Ojogho, 2012; Gilbert, 2022). One of the important alternative sources of animal protein which has received relatively scanty attention in Nigeria is snail. To avert danger of malnutrition, especially among children, the giant African land snail is a good substitute of source of protein (Schönfeldt and Hall, 2012; Kaldjob *et al.*, 2019). The study of Neeraj and Shubhangi (2019) also lay bare that snail could be used to reduce the problem of malnutrition. Aromolaran *et al.* (2019) also noted that one of the important alternative sources of animal protein which has received relatively scanty attention in Nigeria is the snail.

In Nigeria, Ghana and Cote D'Ivoire, where snail meat is popular, snails are gathered from the forest during the wet season, but in recent years, wild snail population has

declined considerably primarily because of the impact of such human activities as deforestation, pesticide use, slash and burn agriculture, spontaneous bushfires and collection of snails before they attain maturity. In essence, small animals, such as giant snails and rodents, are threatened by extinction in Nigeria and African countries as a whole. Meanwhile, according to Ayodele and Asimalowo (1991) snail breeding started as far back as the beginning of the 20th century when the Romans raised snails on farms and fed them with special herbs to improve their tastes and increase overall snail availability. It is believed that rearing these types of animals in captivities is believed to be the most potent way to protect and preserve them from going into extinction. More specifically, Owolabi and Agbede(2006) pointed out that the existing conventional agricultural practices known today would not be able to keep pace with the expected rise in the population from 42.2 million in 1960 to over 200 million in 2050.

Thus, the need to look for new resources has never been greater than now. In the same manner, Ndah*et al.* (2017), stated that it is important that snail farming (heliculture) should be encouraged, because it is only i through conscious effort made by man to farm snails that conservation of these species of animals will be possible. This necessitates encouragement of heliculture (snail farming) as a means of conserving this important resource. All in all the adoption of the technology does not only protect snails from going into extinction, but also serve as a source of protein and income for urban dwellers since snail hunting is no longer a sufficient source of snail (Olukayode, 2005; Aminu *et al.*, 2020). However, there is a lack of comprehensive understanding of the factors influencing the willingness of urban dwellers to adopt snail domestication as a viable agricultural practice. This gap in knowledge hinders the promotion and expansion of snail farming in urban areas, potentially limiting the economic opportunities and food security benefits it can offer. Therefore, there is a need to investigate and identify the key factors affecting the willingness of urban dwellers to adopt snail domestication, in order to develop targeted strategies and interventions to promote sustainable snail farming practices in urban environments.

The study of Akinola and Letorna, (2008) and Alaye *et al.* (2020) have also shown that in some parts of Central and West Africa, consumers prefer meats of mini-livestock animals, popularly referred to as ‘bush meat’, and consider them a great delicacy, compared with farmed small-scale farming c

vehicles passable roads. According to Abbas and Yuansheng (2018), farmers' adoption was positively and significantly influenced by access to credit, extension contact, farming experience, education, tube-well ownership, landholding size, farmers' income and household size in the study area. According to them constraints are however not enough to fully explain why individuals in the urban areas of Southwest, Nigeria may be less willing to adopt the technology, other factors, such as perceptions regarding economic and nutritional value and ease of practice and health status should be considered.

The knowledge of these factors and their interactions can supply essential information towards the development of strategies to promote better snail rearing technology adoption by urbanites which could in turn result in improvements in quality of life. In view of this, this study explored the factors influencing the willingness of urban dwellers to adopt snail domestication technology. The study tested four hypotheses which are the relationship between the demographic variables of respondents' and their willingness to adopt, the relationship between personal sentiments of respondents and willingness to adopt, the perceived nutritional value and willingness to adopt and the ease of practice and willingness to adopt.

## Materials and Methods

### Description of study areas

This study was carried out in Southwest, Nigeria, which comprises of six states, Oyo, Ondo, Ogun, Osun, Ekiti and Lagos states. The area lies between longitude $30^0$ and $7^0$ East and latitude $4^0$ and $9^0$ North with a total area of about 78, 843 $km^2$(Oni *et al.*, 2016). National Bureau of Statistics (2021) reported that over forty-five million people live in Southwest Nigeria. Agriculture is one of the major source of income for greater number of people in the States providing food and shelter, employment, raw materials and remains an important source of internally generated revenue in the states. The climate is tropical with distinct wet and dry season with temperature ranging between 22-$38^0$C which favours the growth of food crops like yam, cassava, millet, maize, fruits, vegetables, plantains, cocoa and tobacco. Livestock like ruminant, poultry, fish and forest animals like snail which also can be found in thick forest riverine areas are also found in the State. The state has two vegetation zones which are derived savannah and forest zones.

### Sampling methods

Multi-stage sampling procedure was used for the study. At stage one, random selection of 3 states (Oyo, Ogun, and Osun) was done. At stage two, eight urban settlements were purposively selected from the three states (Ibadan, Ogbomosho and Eruwa from Oyo state, Abeokuta and Ijebu-ode from Ogun state, Oshogbo, Ife and Ilesha from Osun state). At stage three a total of 160 urban dwellers were selected from the eight urban settlements to respond to the structured questionnaire based on their readiness to participate.

### Data collection

A well-structured questionnaire was designed to solicit information on the respondents' socio-demographic status such as age, educational qualification, occupational status, marital status, and residential status. More so, information on respondents' perceived economic and nutritional value of snail domestication technology on their health status, perceived ease of practice as they all affect respondents' willingness to adopt the snail domestication technology in the study area as the dependent variable.

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**Data analysis**

The data collected were analysed through descriptive statistics, (percentage tables, chats and frequency tables) while inferential statistics. Coefficient correlation and T-test were used to draw inferences between the variables in the hypotheses.

**Results and Discussion**

Table 1 presented the result of the socio demographic characteristics of the respondents. The table, shows that 67.7% were males, while the remaining 32.3% were females. In terms of educational status, the largest percentage (59.5%) had tertiary education, while the lowest (6.3%) had no formal education. Majority (77%) were married while just 0.6% were separated or divorced. 32.2% were between 31-40 years, 24% were between 40-50 years, 18.8% between 51-60, 15.8% <30 years, and 8.9% were 60 years and above. 1-5 household size was the highest with 58.2%, while 15 and above household was the lowest with 3.1%. Civil servant constituted, the highest percentage (36.1%) of the respondents' primary occupation followed by working with private firms (27.8%) and the least were artisans (0.6%). Farming was the respondents' most common secondary occupation (42.4%) and schooling the least (8.2%). 53.8% of the respondents live in rented apartments, while the remaining 46.2% lived in personal apartment.

Summarily, respondents were mostly married, educated, males between age 31-40, which is a working and very productive age, with minimum household size of 1-5. They were mostly civil servant, involved in farming of some sort and lived in rented apartments. The implication is that respondents are in their productive age, well-educated and were already involved with some sorts of farming, so it will be easy to adopt the technology. However, living in rented apartment may stand as a barrier towards adopting a new agricultural technology.

**Table 1. Distribution of Urban Dwellers to Adopt Snail Domestication Technology by Socio Demographics Characteristics in Southwest Nigeria**

| **Gender (N=158)** | **N (%)** | **Household size (N=158)** | |
|---|---|---|---|
| Male | 107 (67.7) | 1-5 | 92 (58.2) |
| Female | 51 (32.3) | 6-8 | 46 (29.1) |
| **Educational Status (N=158)** | | 9-11 | 7 (4.4) |
| No Formal | 10 (6.3) | 12-14 | 8 (5.1) |
| Primary | 18 (11.4) | 15+ | 5 (3.1) |
| Secondary | 36 (22.8) | **Primary Occupation (N=158)** | |
| Tertiary | 94 (59.5) | Civil Servant | 57 (36.1) |
| **Marital Status (N=158)** | | Private Firm | 44 (27.8) |
| S ingle | 25 (15.8) | Sole proprietor | 14 (8.9) |
| Married | 123 (77.8) | Farming | 16 (10.1) |
| Widow | 8 (5.1) | Retiree | 8 (5.1) |
| Separated | 1 (0.6) | Schooling | 7 (4.4) |
| Divorced | 1 (0.6) | Trading | 8 (5.1) |
| **Age range (N=158)** | | Artisan | 1 (0.6) |
| < 30 years | 25(15.8) | Others | 3 (1.9) |
| 31-40 years | 51 (32.2) | **Secondary Occupation (N=158)** | |
| 41-50 years | 38 (24) | Civil Servant | 19 (12) |
| 51-60 years | 30 (18.8) | Work with private firm | 27 (17.1) |

| | | | |
|---|---|---|---|
| 60 + | 14 (8.9) | Sole Proprietorship | 17 (10.8) |
| **Residential Apartment (N=158)** | | Farming | 67 (42.4) |
| Personal | 73 (46.2) | Schooling | 13 (8.2) |
| Rented | 85 (53.8) | Others | 15 (9.5) |

Source: primary data, 2024

Table 2 displayed the result of the respondents' personal experience about snail domestication technology. From the table, variable 5 'Termite can easily infest domesticated snail without the knowledge of the farmer.' ranked first with a mean of 2.91, while variable 4 'Domesticated snail does not grow well as compared to the one in the wild.' ranked second with a mean of 2.87. Variable 3 'Snail is a free gift of nature and should not be domesticated' ranked 3rd with a mean of 2.76, variable 2 'The hissing nature of snail is disgusting' ranked 4th with a mean of 2.69 and lastly variable 1 'Snail is usually irritating.' ranked 5th with a mean of 2.54. Summarily, only the means of variables 5, 4 and 3 were above the grand mean (2.75) and were the sentiments that affected the willingness to adopt snail domestication technology. This implies that sentiments associated with the pest infestation, the growth of snail and seeing snail as a free gift of nature were the determinants. This result corroborates the findings of Gilbert (2022) who pointed out that natural snails are preferable to domesticated species on account of fear of contacting angiostrongylus infection in the latter.

**Table 2. Urban Dwellers' Experience about Snail Domestication Technology in Southwest Nigeria**

| Selected variables | Strongly Agree | Agree | Disagree | Strongly Disagree | Mean | Rank |
|---|---|---|---|---|---|---|
| Snail is usually irritating | 30 (19.1) | 40 (25.5) | 59 (37.6) | 28 (17.8) | 2.54 | 5th |
| The hissing nature of snail is disgusting | 10 (6.4) | 51 (32.5) | 74 47.1) | 22 (14) | 2.69 | 4th |
| Snail is a free gift of nature and should not be domesticated | 26 (16.6) | 20 (12.7) | 77 (49) | 34 (21.7) | 2.76 | 3rd |
| Domesticated snail does not grow well as compared to the one in the wild | 5 (3.2) | 41 (26.3) | 79 (50.6) | 31 (19.9) | 2.87 | 2nd |
| Termite can easily infest domesticated snail without the knowledge of the farmer | 3 (1.9) | 37 (23.6) | 88 (56.1) | 29 (18.5) | 2.91 | 1st |

Source: primary data, 2024

Table 3 assesses the health related issues and nutritional value of snail domestication and consumption in Southwest Nigeria. Variable 7 'Snail meat consumption prevents heart disease' ranked 1st with a mean of 2.86, variable 11 'Domesticated snail does not taste good as compare to the one in the wild' ranked 2nd with a mean of 2.77, variable 5 'Snail meat consumption is good for cancer patient' ranked 3rd with a mean of 2.73, variable 1 'The slimy substance from snail gives me allergy 'ranked 4th with a mean of 2.69, variable 12 'Snail meat is not palatable' ranked 5th with a mean of 2.62, variable 3 'The snail's appearance gives me allergy' ranked 6th

with a mean of 2.61, variable 4 'Snail meat is an antidote for hypertension patient.' ranked 7th with a mean of 2.57, variable 3 'The snail's appearance gives me allergy' ranked 8th with a mean of 2.42, variable 6 ' Snail meat consumption control diabetes' ranked 9th with a mean of 2.41, variable 10 'Snail meat consumption improves eye sight' ranked 10th with a mean of 2.37, variable 9 'Snail meat consumption aid in the development of the brain and the brain' ranked 11th with a mean of 2.32 and lastly variable 8 'Snail meat consumption aids the development of foetus' with a mean value of 2.18.

In summary, only the means of variables 7, 11, 5, 1, 12 were not below the grand mean (2.62) and considered to be variables on health issues having influence on the consumption and the adoption of the snail domestication technology. The implication is that health issues regarding the medicinal use of snail in preventing heart disease is most significant, followed by its comparative palatability with the ones in the wild, prevention of cancer, allergy from slimy nature and palatability were significant. Iheke and Nwankwo in 2016 found the medicinal use of snail in preventing heart disease. Besides the findings of this study is in tandem with the study of Kassie *et al.* (2013) which found that any type of risk associated with agricultural domestication technology, their ability to produce instant benefit and meet urgent needs can its influence consumption and adoption.

**Table 3. Distribution of Urban Dwellers on Health Related Issues and Nutritional Value of Snail Domestication in Southwest Nigeria**

| Selected variables | Strongly Agree | Agree | Disagree | Strongly Disagree | Mean | Rank |
|---|---|---|---|---|---|---|
| The slimy substance from snail gives me allergy. | 30 (19.2) | 18 (11.5) | 79 (50.6) | 29 (18.6) | 2.69 | 4th |
| The odour emanating from the snails' habitat gives me allergy. | 31 (19.7) | 30 (19.1) | 65 (41.4) | 31 (19.7) | 2.61 | 6th |
| The snail's appearance gives me allergy. | 18 (11.5) | 71 (45.5) | 51 (32.7) | 16 (10.3) | 2.42 | 8th |
| Snail meat is an antidote for hypertension patient. | 9 (5.7) | 76 (48.4) | 46 (29.3) | 26 (16.6) | 2.57 | 7th |
| Snail meat consumption is good for cancer patient. | 26 (16.6) | 25 (15.9) | 72 (45.9) | 34 (21.7) | 2.73 | 3rd |
| Snail meat consumption control diabetes. | 19 (12.1) | 84 (53.5) | 25 (15.9) | 29 (18.5) | 2.41 | 9th |
| Snail meat consumption prevents heart disease. | 15 (9.6) | 41 (26.1) | 52 (33.1) | 49 (31.2) | 2.86 | 1st |
| Snail meat consumption aids the development of foetus. | 34 (21.7) | 73 (46.5) | 37 (23.6) | 13 (8.3) | 2.18 | 12th |
| Snail meat consumption aid in the development of the brain and the brain. | 42 (26.9) | 47 (30.1) | 42 (26.9) | 25 (16) | 2.32 | 11th |
| Snail meat consumption improves eye sight. | 5 (6.4) | 4 (5.1) | 26 (33.3) | 43 (55.1) | 3.37 | 10th |
| Domesticated snail does not taste good as compare to the | 3 (3.9) | 37 (48.1) | 12 (15.6) | 25 (32.5) | 2.77 | 2nd |

| | | | | | | |
|---|---|---|---|---|---|---|
| one in the wild. | | | | | | |
| Snail meat is not palatable. | 4 (5.1) | 39 (50) | 18 (23.1) | 17 (21.8) | 2.62 | 5th |

Source: primary data, 2024

Table 4 displayed the result the respondents' perception variables on the ease of practice of snail domestication technology. Variable 1' Snail habitat is quite disgusting and irritating' ranked 1st with 2.78, Variable 2 'There is high risk of theft' ranked 2nd with a mean of 2.47, while variable 3 'All together snail domestication is not easy to practice' ranked 3rd with a mean of 2.35. The implication is that all variables are significant and above the grand mean (2.0). The findings justify the assertion made by Gilbert (2022) that cultural and social restrictions are main impediment to snail domestication.

**Table 4. Distribution of Urban Dwellers on Ease of Practice of Snail DomesticationTechnology in Southwest Nigeria**

| Selected variables | Strongly Agree | Agree | Disagree | Strongly Disagree | Mean | Rank |
|---|---|---|---|---|---|---|
| Snail habitat is quite disgusting and irritating. | 83 (52.5) | 23 (14.6) | 40 (25.3) | 12 (7.6) | 2.78 | 1st |
| There is high risk of theft. | 86 (54.4) | 37 (23.4) | 27 (17.1) | 8 (5.1) | 2.47 | 2nd |
| All together snail domestication is not easy to practice. | 25 (15.8) | 70 (44.3) | 44 (27.8) | 19 (12) | 2.35 | 3rd |

Source: primary data, 2024

Table 5 shows the response to the variables related with the willingness to adopt the snail domestication technology. The response revealed that the willingness to adopt is relatively high with the highest as 86.1% to variable 7 'If you were given training on snail rearing, will you be willing to rear snails' and the lowest 50.6% to variable 1 'Do you have a space in your house to rear snails'. This implies that majority of the respondents are willing to rear snails if variables like snail domestication training, fund, availability of ready-made supplier of snail feed, and ready-made buyer are put into place. This result of this finding is in tandem with the study of Charles *et al*. (2017), which confirmed that availability of extension services for training access to the market and income level were all found to be very significant factors in determining adoption.

**Table 5. Distribution of Urban Dwellers on Willingness to Adopt Snail DomesticationTechnology in Southwest Nigeria**

| Selected variables | Yes | No |
|---|---|---|
| Do you have a space in your house to rear snails | 80 (50.6) | 78 (49.3) |
| Are you willing to rear snails | 91 (57.6) | 67 (42.4) |
| Assuming you have access to fund, will you be willing to rear snails | 124 (78.5) | 34 (21.5) |
| Assuming you have enough plot of land, will you be willing to rear | 101 (64) | 57 (36.1) |

| | | |
|---|---|---|
| snails | | |
| If you have a ready-made buyer, will you be willing to rear snails | 106 (67.1) | 51 (32.3) |
| If you have a ready-made supplier of snails feeds, will you be willing to rear snails | 119 (75.3) | 39 (24.7) |
| If you were given training on snail rearing, will you be willing to rear snails | 136 (86.1) | 22 (13.9) |
| If you were to be living in your personal house, will you be willing to rear snails | 118 (74.7) | 40 (25.3) |

Source: primary data, 2024

Table 6 revealed the result of the relationship between demographic characteristics and willingness to adopt snail domestication technology. The result revealed the age of the respondents $(r = -210; p = 0.008)$, educational status $(r = 0.175; p = 0.028)$, residential apartment $(r = 0.360; p = 0.000)$, and primary occupation $(r = 233; p = 0.003)$, were significant. However, residential apartment, primary occupation and age were the most significant. This result is in line with the findings of Kariyasa and Dewi (2013) who revealed that information sources, level of education, and age also positively and significantly influenced the improved agricultural technologies. It is also in tandem with the findings of Okanlawon *et al.* (2019) in which age was found to be significant in the adoption of agricultural technology.

**Table 6. Result of Correlation Analysis Showing Relationship between Demographic Characteristics and Willingness to Adopt Snail Domestication Technology**

| Variables | *r value* | *p value* | *Decision* |
|---|---|---|---|
| Age | -0.210** | 0.008 | Significant |
| Sex | 0.006 | 0.938 | Not Significant |
| Educational status | 0.175* | 0.028 | Significant |
| Marital status | -0.018 | 0.818 | Not Significant |
| Residential apartment | 0.360** | 0.000 | Significant |
| Household size | 0.119 | 0.136 | Not Significant |
| Primary occupation | -0.233** | 0.003 | Significant |
| Secondary occupation | -0.067 | 0.405 | Not Significant |

Source: primary data, 2024. ** Correlation is significant at the 0.01 level. 1. *Correlation is significant at the 0.05 level.

The result of the findings on table 7 revealed the correlation between the respondents' personal sentiments and their willingness to adopt the snail domestication technology. The result revealed that the relationship was significant which means that the respondents' personal sentiments about snail in general will influence their willingness to adopt the technology. The coefficient of correlation (r) is -0.238 and the significance value is 0.003 (p>0.01). This is in line with the result of the study conducted by Margaret *et al.* (2015) that slightly deviated from other studies, the study confirmed that a key precondition for adoption to occur is the perception of farmers i.e. farmers' sentiments. Farmers' sentiments may have positive effect on adoption of a certain technology and it may also show a negative impact on adoption of another technology such as zero grazing technology.

**Table 7. Result of Correlation Analysis Showing Relationship between Personal Sentiments and Willingness to Adopt Snail Domestication Technology**

| Variables | *r value* | *p value* | *Decision* |
|---|---|---|---|
| Perceived nutrition value and willingness to adopt snail technology | -0.238 | 0.003** | Significant |

Source: primary data, 2024 ** Correlation is significant at the 0.01 level.

The result of the finding on table 8 revealed the correlation between the respondents' perceived health issues/ nutritional values associated to snails in general and their willingness to adopt the snail domestication technology. The result revealed that the relationship was significant which means that the respondents' personal sentiments about snail in general will influence their willingness to adopt the technology. The coefficient of correlation (R) is 0.339 and the significance value is 0.000 (p>0.01). This is in line with the result of the study of Teye and Odoi (2020) which proved that consumers have greater preference for bush in the wild because their perception of its higher nutritional benefits. Their preference had influence on their willingness to adopt the technology.

**Table 8. Result of Correlation Analysis Showing Relationship between Nutritional Values and Willingness to Adopt Snail Domestication Technology**

| Variables Description | r- value | p- value | Decision |
|---|---|---|---|
| Perceived nutritional values and willingness to adopt snail technology | 0.339 | 0.000** | Significant |

Source: primary data, 2024 ** Correlation is significant at the 0.01 level.

The result of the finding on table 9 presented the T-test analysis between the respondents' perceived ease of practice of snail rearing technology and their willingness to adopt the snail domestication technology. The result showed that the relationship was significant i.e. the perceived ease of rearing of snails by respondents would influence their willingness to adopt the technology. The dependent variable in the hypothesis i.e. perceived ease of practice was tested against willingness to adopt using T-test. Result revealed in Table 9 showed that perceived ease of practice was significantly related to willingness to adopt (t=-2.35; p=0.000; t=-2.08; p=0.000). This is in agreement with the findings of Ndah *et al*. (2017) which stated that farmers live with risk everyday which could be attributed to challenges of theft, diseases, fire, and decrease in price and so on which invariably affect income and adoption of the mini livestock practice

**Table 9. Result of T-Test Analysis for Test of Relationship between Ease of Practice and Willingness to Adopt Snail Domestication Technology**

| Variables Description | M | SD | T | df | P |
|---|---|---|---|---|---|
| Perceived ease of practice | 2.35 | 0.883 | 33.338 | 156 | .000 |
| Willingness to adopt | 2.08 | 1.038 | 25.144 | 157 | .000 |

Source: primary data, 2024

## Conclusion and recommendations

The majority of the respondents show willingness to practice snail rearing technology, if variables like, training of respondents, availability of funds and snail feeds are put in place. However, it is important to know that personal sentiments of the respondents, perceived health status and nutritional values, ease of practice and some personal characteristics of the respondents were also found to be significant on the respondents' willingness to practice the snail rearing domestication technology in the Southwest, Nigeria. Based on the study findings, it was recommended that extension officers should make available proper trainings to interested individuals of all ages, tribes and gender on the adoption of the snail domestication technology. The government should be able to give soft loans to individuals who are willing to practice snail rearing domestication technology to encourage them.

## References

Abbas, C. A. andYuansheng, J. (2018). Factors influencing the adoption of improved wheat varieties by rural households in Sindh, Pakistan. AIMS Agriculture and Food, 3(3), 216-228.

Ahmadu J. and Ojogho O. (2012). Economics of Snail Production in Edo State, Nigeria. International Journal of Agriculture Sciences. Volume 4, Issue 5,

Akinola, O, and Letorna A.F. (2008). Grasscutter farming: An initiative in protein supply. An invited paper presented at Agricultural product development strategy workshop organised by River State Sustainable Development Agency (RSSDA) held on 9 th - 10th September, 2008 in Port-Harcourt, River State.

Alaye, S.A., Akande, O.A., Onihunwa, J.O., Layade, K.T., Akinade, T.G., Joshua, D.A. andOjo, B.S (2020). Acceptability and Constraint of Snail Meat as Source of Animal Protein among Inhabitants of Lafia Metropolis, Nassarawa State Nigeria. International Journals of Sciences and High Technologies. Vol. 21 (1)

Aminu, F.O., Edun, T.A. and Abiodun, G.T (2020). Analysis of the determinants of technical efficiency of snail farmers in Ogun State, Nigeria. Nigerian J. Anim. Sci. 2020, 22 (1): 233-240

Aromolaran A.K., Alarima C.I., Awotunde J.M. and Olatunde O.A. (2019). Willingness of snail consumers to choose snail production as livelihoods in Ibadan Southwest Local Government Area of Oyo State, Nigeria. Agro-Science, 18 (3), 29-34. DOI: https://dx.doi.org/10.4314/as.v18i3.6

Ayodele, I. A. andAsimalowo, A. A (1991). Essentials of Snail Farming. Ibadan: Lovemost Publication. Pp 33-37

Banjo, A. A., Tokede, A.M., Ogunsola. A.J., Nosiru, M.O., Ahmad, A.O. andOyaniyi. T. (2020). Factors Determining the Willingness to Adopt Grasscutter Domestication Technology among Urban Dwellers in Southwest Nigeria. Journal of Applied Science and Environmental Management. Vol. 24 (11).

Charles, N. T., Simon, N. and Patrick, K. (2017). Factors affecting adoption of tissue culture bananas in the semi-arid areas of Lower Eastern region of Kenya. International Journal of Recent Research in Life Science (IJRRLS) 4(3), (1-26).

Food and Agriculture Organisation of United Nation (FAO) (2013). Food Balance Sheets.

Gilbert, N. M. (2022). Snail farming (Heliciculture): Benefits, economic viability, challenges and prospects. International Journal of Research in Agronomy 5(2): 09-11

Iheke O.R. andNwankwo N.F. (2016). Analysis of the technical efficiency of snail farmers in Abia state, Nigeria. Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development. 16(1):205-212.

Kaldjob, M. C., Enangue, N. A., Siri, B. N. andEtchu, K. (2019). Socio-economic perception of snail meat consumption in Fako division, south-west region Cameroon. International Journal of Livestock Production. Vol. 10(5), pp. 143-150.

Kariyasa, K. andDewi, Y. A. (2013). Analysis of factors affecting adoption of integrated crop management farmer field school (ICM-FFS) in swampy areas. International Journal of Food and Agricultural Economics (IJFAEC).

Kassie. M., Jaleba, M., Sheferaw B., Mmbando F. andMekuria M., (2013). Adoption of Interrelated of Sustainable Agricultural Practices in Smallholders Systems, Evidence from rural Tanzania Technological Forecasting and Social Change 80 (3) 525-540

Margaret, M. and Samuel, K (2015). Factors determining adoption of new agricultural technology by smallholder farmers in developing countries. Journal of Economics and sustainable development, 6(5).

National Bureau of Statistics (2021) Nigeria gross domestic production report NBS https://nigerianstat.gov.ng/

Ndah N. R, Celestine Fonyikeh-Bomboh CL, Chia EL, Enow EA, Yengo T, andNgwa A. D (2017). Assessment of Snail Farming from Selected Villages in the Mount Cameroon Range, South West Region of Cameroon. Asian Research Journal of Agriculture 6(4):1-11

Neeraj, J. andShubhangi, P. (2019). Meat demand - Snailed it: A comprehensive review on snail rearing, to meet the meat demand in future India Journal of Entomology and Zoology Studies 2019; 7(6): 396-400

Ngombe, J., Kalinda, T., Tembo, G., andKuntashula, E. (2014). Econometric Analysis of the Factors That Affect Adoption of Conservation Farming Practices by Smallholder Farmers in Zambia. Sustainable Development 7, 124-138.

Ogunjimi, S.I, Obaniyi, K.S andAdedeji I. A. (2001). Peri-Urban and Urban Farmers' Perceptions of Mini-Livestock Farming in South-western Nigeria. The International Journal's Research Journal of Social Science and Management. Vol. 2(1).

Olukayode, O. (2005). Sustainable Development and Network Limited. Grow Snail in Idle Backyard. Unpublished Manuscript

Oni, F. G. O. andOdekunle, T. O. (2016). An Assessment of Climate Change Impacts on Maize (ZEA Mays) Yield in South-Western Nigeria. International Journal of Applied and Natural Sciences (IJANS). Vol. 5, Issue 3, 109-114.

Owolabi, H.O. and Agbede, A. (2006). HIV/AIDS Awareness and Prevalence among University of Ilorin Students: A Needs Assessment Survey Accra. Ghana Association of African Universities.

Schönfeldt H. C. and Hall N. G. (2012). Dietary Protein Quality and Malnutrition in Africa. British Journal of Nutrition 108(S2):S69-76.

Teye, M. andOdoi, F. N. A. (2020). Consumer Acceptance Carcass and Sensory Characteristics of Meats of Farms and Wild cane rats (Thyronomysswinderianus). Scientific African Volume 8. https://doi.org/10.1016/j.social.2020.e00461.