

## **Information-Seeking Behavior and Utilization among Snail Farmers in Oyo State, Nigeria: Implications for Sustainable Animal Production**

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### **Abstract**

*The authors of this study examined the information-seeking behavior and utilization among snail farmers in Oyo State with the view of improving animal production to achieve food and nutritional security.*

*Simple random sampling was used to select one hundred and twenty respondents out of three hundred and sixty-five registered members in Oyo state. Interview schedule was administered to elicit information relating to socio-economic characteristics, information-seeking behaviour and utilization among snail farmers and the constraints faced by the snail farmers. Data were analyzed using frequency counts, mean, percentages, and correlation.*

*Most of the respondents were literates. This factor increased their capacities for seeking and utilizing agricultural information. Lack of credit facilities and inadequate information from extension agents were the major constraints identified by the farmers. There was a significant relationship between the sources of information and information-seeking behavior of these farmers as well as the utilization of such information ( $r = - 0.261$ ;  $p_v = \geq 0.05$ ). Significant relationship also existed between constraints faced by the farmers and information-seeking behavior and utilization by these farmers ( $r = - 0.23$ ,  $p_v = 0.01$ ).*

*Most of the respondents had high information-seeking behavior and utilization, which implies that farmers are willing to seek information that will improve their productivity. Efforts should therefore be made to promote the information utilization of farmers through the extension services of agricultural development projects in order to facilitate the transfer of technology. This will enhance the productivity and income of snail farmers and subsequently improve their standard of living.*

**Keywords:** Information-Seeking Behavior, Utilization, Technology, Production, Snail Farmers, Nigeria

## Introduction

Information is the collection, storage, processing, and dissemination of new data, pictures, facts, messages, opinions, and comments required to understand and react accurately to personal, environmental, national, and international conditions, as well as to be in a position to take appropriate decisions (David, 2006). Quality information rests on three pillars, which include: accuracy, timeliness, and relevance. Accuracy of information is when information is free of bias, while timeliness means recipients can get information when needed. Information is an essential resource that individuals, government officials, and professionals should have access to (Bentley, Barea, Priou, Equise, & Thiele, 2007).

Snail farmers need to seek and utilize information that can improve the farming system in Nigeria. This will not only increase their agricultural productivity but also improve their standard of living. For farmers to increase their agricultural production, they must have good information-seeking behavior that will enable them to adopt improved production technology (Ali-Olubandwa, Odero-Wanga, Kathuri & Shivoga, 2010). Information-seeking behavior is a way of gathering sufficient data to address perceived information gaps. According to Owolade (2008), Information-seeking behavior is the “totality of human behaviour in relation to sources and channels of information sought” (p.3). The information seeking-behavior of an individual arises from the need to satisfy identified goals and move from the level of uncertainty to the level of certainty. Agricultural information is useful for farmers covering up their inadequacies in knowledge of certain basic practices that may include technical, marketing, social, and legal agricultural information. It often involves face-to-face communication, as

well as passive reception through advertisements in print and electronic media (Yahaya, 2003).

Owolade (2008) noted that “there is a lot of information available to snail farmers who are interested in increasing their productivity but farmers display diverse attitude towards seeking and utilizing the information available to them” (p.24). Some have a high information-seeking behavior while some others do not. This difference in attitude affects the type of information being sought and their productivity. Information-seeking behavior helps in ensuring improved snail farmers' livelihood through the utilization of information.

Snails have been recognized as a reliable source of protein to human beings, and they are useful in research. Some conventional animal protein sources such as beef, goat meat, pork, mutton, etc. have become too expensive for the average citizens in developing nations (Omole, 2000). Consequently, the common man has to look for cheaper and unconventional sources of animal protein for survival. Snail is an excellent and cheaper source of animal protein; it is low in sodium, fat and cholesterol but contains high levels of iron and calcium. It has been used in the treatment of hypertension, anaemia and other fat-related ailments (Owolade, 2008). Due to the increasing importance of snail, demand has been on the rise. It has been estimated that Paris (France) alone consumes more than 100 million snails annually (Owolade, 2008). Recently, snail populations in Nigeria have declined considerably because of the impact of human activities on their natural habitats. Such practices include deforestation, indiscriminate bush burning, and collection of immature snail for consumption. This trend, coupled with the fact that there are no significant efforts at large scale snail

breeding (as with other livestock such as cattle, sheep and poultry) means the possibility of snails going into extinction is not far-fetched.

Snail breeding is an important source of income for farmers in rural areas, private bodies and other institutions. The profitability of snail farming hinges largely on the use of modern techniques in production, which require acquiring information on hatchery, feeding, housing and marketing of the products.

Recent improvement in snail production includes utilization of concentrate feeds in the nutrition of snails, and this requires specialized information from professionals. The continuous use of conventional methods in snail production cannot meet the present demand. With the rise in population, there is need for snail farmers to seek information in the use of modern techniques to increase their production. Moreover, snail rearing has become one of the fastest growing types of food production in developing countries.

The ever-growing demand for the local production of snail necessitates increases in its production. However, increase in local production can be achieved through capacity improvement of snail farmers by providing them information and through continuous education. This can only be achieved in the presence of keenly developed information-seeking behavior among farmers. Several factors that limit the information-seeking behavior of snail farmers have been identified. These include availability of infrastructures, technical competence, and literacy level.

### **Purpose of the Study**

The purpose of this study was to ascertain information-seeking behavior and utilization among snail farmers in Oyo State Nigeria with the view of improving access to information that will translate into

increased productivity.

### **The specific objectives of the study were to:**

- determine the selected socio-economic characteristics of snail farmers in Oyo State,
- identify the sources of information available to snail farmers in Oyo State,
- determine the level of information-seeking behaviour and utilization among snail farmers in Oyo State, and
- identify the constraints facing snail farmers in Oyo State.

### **Hypotheses of the study**

H0<sub>1</sub>: There is no significant relationship between sources of information and the level of information-seeking behavior and utilization among snail farmers.

H0<sub>2</sub>: There is no significant relationship between the constraints faced by snail farmers and their information-seeking behavior and utilization.

### **Methodology**

Primary data was used for this study. This was collected through the use of structured interview schedule. Personal characteristics of the respondents (such as age, level of education, sex, marital status, and family size), sources of information available on snail production, constraints faced by farmers, and level of information utilization were assessed in the study. A list of snail farmers was obtained from the snail farmers association at the Institute of Agriculture Research and Training (IAR&T), Apata Ibadan. There were 350 registered members, out of which 120 respondents were selected by simple random sampling technique. Descriptive and inferential statistical tools were used to

analyze the data collected. The descriptive statistical tools used include frequency count and percentage, while the inferential statistical tool used was correlation.

### **Results and Discussion**

Age distribution of the respondents revealed that most of the farmers were in their middle-age. This negated the assertion made by Akinbile (2004), which states that “most of the farmers in Nigeria are old with young people preferring white-collar jobs” (p. 35). As a majority of the farmers are middle-aged, they are active in agricultural production. Eighty-two percent of the respondents were males, while 18.0% were females. This showed that males are more involved in snail production than females, an observation that agrees with Owolade’s (2008). This may be because of the tedious nature of snail production activities. This finding is corroborated by Lawal (2012), who stated that “African women saw themselves as weaker vessels and object of use” (p. 2). She further pointed out that there are societies in Africa which see a woman as subservient to man, in mental and biological capacity. Such belief or perception of

women may limit their involvement in agricultural production. Women prefer processing and marketing of the farm produce to actual farm work (Akande, 2003).

Most of the respondents were literates. High level of literacy among respondents may therefore boost their capacity to seek and utilize information that will improve snail production. Regarding marital status, 85.0% of the respondents were married, 10.0% were single, and 5.0% were widowed. This showed that snail farming plays an important role in supporting family welfare. Most of the respondents were married. This may, however, slow decision-making and information utilization among farmers, as they are likely to consult family members before adopting and utilizing information.

Regarding religion, 68.0% of the respondents were Christians and 29.0% were Muslims, while 3.0% practiced traditional religion. This proved that snail farming is generally practiced among different religions. The implication is that there is no religious taboo against snail production in the study area.

**Table 1.** Distribution of Respondents Based on Selected Socio-Economic Characteristics in Oyo State, Nigeria, 2011 (n = 120)

<b>Variables</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Age</b>		
≥30	11	9.0
31-40	14	12.0
41-50	44	37.0
51-60	22	18.0
61-70	29	24.0
<b>Total</b>	<b>120</b>	<b>100.0</b>
<b>Sex</b>		
Male	98	82.0
Female	22	18.0
<b>Total</b>	<b>120</b>	<b>100.0</b>
<b>Level of education</b>		
No formal education	1	1.0
Primary	2	2.0
Secondary	11	9.0
Tertiary	106	88.0
<b>Marital status</b>		
Single	12	10.0
Married	102	85.0
Widowed	6	5.0
<b>Total</b>	<b>120</b>	<b>100.0</b>
<b>Religion</b>		
Christianity	81	68.0
Muslim	35	29.0
Traditional	3	2.0
Others	10	1.0

**Source: Field survey, 2011**

**Description of respondents according to family size in Oyo State, Nigeria, 2011.** Table 2 shows that 38.0% of the respondents had a family size of between 1 and 4 members, while 51.0% had a family size of between 5 and 7 and 12.0% had at least 8. This showed that most of the

respondents had family size of 5 or more. As a majority of the respondents had large family sizes, farming in the study area may depend on family labor. They may not need to employ outsiders to work on their farm. This should reduce cost of production and subsequently increase farmer's income.

**Table 2.** Distribution of Respondents on Family Size in Oyo State, Nigeria, 2011

<b>Family size</b>	<b>Frequency</b>	<b>Percentage</b>
1-4	45	38.0
5-7	61	51.0
8 and above	14	11.0
<b>Total</b>	<b>120</b>	<b>100.0</b>

**Source: Field survey, 2011**

**Description of respondents based on their organizations in Oyo State, Nigeria, 2011.** Farmers' organizations have been identified as an effective channel of information to farmers. This result revealed that 80.0% of the respondents belong to the snail farmers association while 20.0% did not. Because the majority of the famers

belong to some associations, useful information can be passed to the farmers through such associations by extension agents. This finding was supported by Androulidakis, Freeman, Bicoku, Peqini, Agolli & Korra (2002) who stated that “farmers’ associations aid adoption of improved fertilizer technology” (p 49).

**Table 3.** Distribution of Respondents Based on Farmers’ Organizations in Oyo State, Nigeria, 2011

Farmers’ Organizations’	Frequency	Percentage
Yes	80	96.0
No	20	24.0
Total	120	100.0

**Source: Field survey, 2011**

**Description of respondents according to scale of snail production in Oyo State, Nigeria, 2011.** Scale of production may influence information-seeking behavior and utilization among farmers. Scale of production refers to size of stock (the number of snails reared by the respondents). Table 4.0 shows that 53.0% of the respondents have 1,000 snails or less, 43.0% have 2,000 snails, and 4.0% have 3,000 snails, while only 1.0% of the farmers

have at least 4,000 snails.

This result revealed that most of the farmers were small-scale farmers. Farmers with large number of stocks may seek and utilize more information than small-scale farmers in order to maximize profits. Owolade (2008) also found “significant positive relationship between information-seeking behavior of farmers in Oyo state Nigeria and their farm size” (p.41).

**Table 4.** Distribution of Respondents on Scale of Production in Oyo State, Nigeria, 2011

Scale of Production	Frequency	Percentage
≥ 1000	64	53.0
1001-2000	52	43.0
2001-3000	4	4.0
Total	120	100.0

**Source: Field survey, 2011**

**Description of respondents based on sources of information in Oyo State, Nigeria, 2011.** Table 5 shows the various sources of information on snail farming to farmers. The result showed that the majority of the respondents sought information on snail production through various sources, which include radio, television, internet, telephone, extension agents, friends,

newspapers, video, and farmers’ associations. This showed that farmers are willing to seek and utilize any information that will increase their production. Sixty five percent of the respondents got information through radio, 76.0% obtained information from television, while 53.0% respondents indicated newspapers. The result also revealed that majority (65.0%) of the

respondents listen to radio. This indicated that radio may be a very effective medium of disseminating new agricultural innovations to farmers. This was corroborated by Ayandiji, (2003), who stated that the “radio is the cheapest and quickest means of passing information to farmers in Oyo state” (p.4). Kock, Harder, and Saisi (2010) also agreed that “radio is an effective medium of communicating market

information to farmers” (p.10). Therefore, efforts should be made by extension agents to ensure feedback from the farmers. Most (30%) of the respondents do not obtain information through telephone. This may be due to high cost charged by telecommunication companies in Nigeria for such services, making regular use of this medium unsuitable.

**Table 5.** Distribution of Respondents on Sources of Information in Oyo State, Nigeria, 2011 (n=120)

Sources of information	Frequency	Percentage
Radio	78	65.0
Television	91	76.0
Internet	21	18.0
Television	42	35.0
Extension agents	60	50.0
Friends	55	46.0
News paper	64	53.0
Farmers' Associations	70	58.0

**Source: Field survey, 2011**

**Constraints to snail farming in Oyo State, Nigeria, 2011.** Constraints experienced by respondents during snail production include difficulty in retrieving information from the internet, lack of credit facilities, poor market for produce, high cost of snail farming equipment, and inadequate information from extension agents. Seventy-eight percent of the respondents perceived the cost of snail farming equipment as prohibitive. This might hinder them from seeking and utilizing information that could have improved their agricultural productivity because they would not be able to purchase the recommended equipment. Seventy-seven percent of the respondents did not have access to information on snail

production. The result showed that limited access to information needed on snail production might affect farmers' productivity.

Seventy-four percent of the respondents had problems of poor management practices that cannot produce sufficiently buoyant credit facilities required to purchase high tech machineries.

There is a poor market for produce. This may limit the farmers to subsistence level of production thereby preventing them from seeking more information that may increase production. Therefore attention should be geared toward addressing all these problems to achieve increase in snail production in Nigeria.

**Table 6.** Percentage Distribution of Respondents Based on Constraints to Information- Seeking Behavior and Utilization Among Snail Farmers in Oyo State, Nigeria, 2011

Constraints to snail farming	Severity		
	Not severe	Severe Freq.	Most severe
High cost of snail farming equipment	3.0	36.0	11.0
Low literacy level	6.0	0.001	0.00
Difficulty in accessing information	9.0	24.0	43.0
Difficulty in retrieval of information	13.0	31.0	33.0
Inadequate information	10.0	45.0	23.0
High cost of maintenance of equipment	44.0	23.0	8.0
Lack of good management practices	44.0	18.0	13.0
Poor market for the produce	6.0	41.0	32.0

Source: Field survey, 2011

**Description of respondents on frequency of information utilization in Oyo State, Nigeria, 2011.** This finding showed that the majority (84.0%) of the farmers rarely use information given on improved housing management practices and 74.0 % rarely use information on improving management practices, while most (66.0%) of the respondents always

make use of information on capital acquisition. Seventy percent use information on improved snail feeding. These results indicate that snail farmers made use (either rarely or always) of information on improved snail rearing to enhance their income. This implied that their standard of living will subsequently be improved.

**Table 7.** Percentage Distribution of Respondents Based on Frequency of Information Utilization in Oyo State, Nigeria, 2011

Variables	Never Use	Rarely Use	Always Use
Improving housing/land	2.0	84.0	14.0
Improving management practices	5.0	74.0	21.0
Improving snail production	9.0	71.0	20.0
Getting capital to start snail production	20.0	14.0	66.0
	6.0	24.0	70.0

Improving on feeding snail rearing			
Improving source of income	12.0	18.0	80.0
Improving on breed or parent stock	25.0	10.0	65.0

**Source: field survey, 2011**

**Description of respondents according to level of information seeking behaviour and utilization in Oyo State, Nigeria, 2011.** Table 7 revealed that 69.0 percent of the respondents had high or favorable level of information-seeking behavior and utilization while 31.0% had low or unfavorable. As most (69.0%) of the

respondents had high level of information-seeking behavior and utilization, this means that farmers are willing to seek and utilize information that will increase their production. Thus, farmers' income will be increased and their standard of living will be enhanced.

**Table 8. Distribution of Respondents According to Level of Information Seeking Behaviour and Utilization in Oyo State, Nigeria, 2011**

Information seeking behavior and utilization	Frequency	Percentage
High (favorable)	83	69.0
Low (Unfavorable)	37	31.0
Total	120	100.0

**Source: Field survey, 2011**

**Hypotheses Testing Relationship between sources of information and level of information-seeking behavior and utilization in Oyo State, Nigeria, 2011.** The r-value of -0.261 and p-value of 0.004 at 5-percent level of significance indicate that there was a significant relationship between sources of information and information-seeking behavior and utilization by the farmers. Therefore the null hypothesis was rejected. This implies that farmers' sources of information had great effect on the information utilization in snail production. This might be because some sources are more persuasive than the others;

for example, they might prefer interpersonal communication. The more interpersonal the media used for information dissemination, the greater the likelihood the farmer uses the information.

There was a significant relationship between constraints faced by farmers and information-seeking behaviour and utilization ( $r = -0.23$ ,  $pv = 0.01$ ). This implied that lack of capital and poor market for the farm produce prevented the farmers from using the information given. This may reduce their productivity and affect the food security of the country as a whole.

**Table 9.** Relationship Between Sources of Information, Constraints and Level of Information-Seeking Behavior and Utilization in Oyo State, Nigeria, 2011

Variable	r-value	p-value	Decision
Sources of information	-0.261	0.004	Significant
constraints	-0.230	0.011	Significant

At 5% level of significance

### **Conclusion, Recommendations, and Implications**

There was a favorable level of information-seeking behavior and utilization among the respondents. The farmers were willing to seek and utilize information that will increase their production and income. The farmers prefer an interpersonal medium of communication in the dissemination of information on snail production. The major constraints faced by farmers in the study areas include: difficulty in retrieving information from the internet, lack of credit facilities, high cost of snail farming equipment, and inadequate information from extension agents. These constraints limit farmers' productivity and can threaten the food security of the nation if the trend is not checked.

Government should provide credit facilities to snail farmers in the study areas and strengthen the extension activities of the Agricultural Development Programme by employing more extension agents to provide information to farmers.

Extension agents need to evaluate their roles and ensure that farmers are satisfied with information disseminated to them. This will encourage the farmers to adopt improved production technology as well as increase farmers' productivity to achieve food security in Nigeria.

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