Snail Rearing Extension for Food Security among Rural Women in Nigeria

S. O. ODEBODE and O. OGUNSUSI
Department of Agricultural Extension and Rural Development, University of Ibadan, Nigeria

Abstract


Because of geometrically increasing world population, and very low rate of technological advancement and adoption in developing countries, the issue of food security in a developing country like Nigeria has to be accorded due attention.

Efforts must be geared towards activities that can provide food for the household and at the same time provide income that could be used to purchase food items for household consumption. Snail production, therefore, has the potential for very high returns on investment with extremely low level of input.

This study examined the contributions of snail rearing to attaining household food security among rural women in Nigeria.

Three hundred and fifty registered women snail farmers were purposively selected from the six geo-political zones in Nigeria.

The study revealed that snail rearing contribute greatly to household food security by providing food and income to a vast number of households as a result of its potential for very high returns on investment with extremely low level of input. Even the space required for snail is proportionately less than that required for large animals. Moreover, there was a significant relationship between the level of contribution of snail rearing and contact with extension agent (or services).

The major conclusion of this study is that women snail farmers contribute significantly to food security in rural household. Extension activities and services should therefore, be improved upon to enhance snail production for food security.

Key words: Snail Rearing Extension, Food Security, Rural Women, Nigeria

Introduction

Snail production is one of the ways of meeting animals' protein requirements in West Africa in general and Nigeria in particular. The low fat content and low cholesterol level make snail a good antidote for vascular diseases such as hyperten-
Snail production was given little or no attention in the past, but in recent times there is a growing interest in its rearing due to human attempts in its domestication. The domestication of snail does not only diversify protein sources, it ensures that snails are not driven into extinction and also provides job opportunities for urban dwellers.

In Nigeria, Benin Republic and other West African countries, snail is considered a delicacy (Amusan and Omidiji, 1999).

Hunger and malnutrition continue to be a problem in the world and particularly among the developing countries. Malnutrition results from insufficient intake of specific nutrients. In Nigeria, for example, food situation has led to a tremendous increase in the price of food over the years, thus causing deterioration in living conditions of many families. Snail production has the potential for very high returns on investment with extremely low level of input. The space required for rearing snails is proportionately less than that required for large animals and snail production could be combined with other conventional livestock for complete utilization of food and space.

Food insecurity is a major social problem in Nigeria with far reaching developmental consequences and elimination of food problems should therefore, remain a top priority in development policies. The result of food insecurity is an increased predominance of malnutrition, and untimely death of many people.

The aim of this study therefore, is to examine the efforts of women in rearing snails for food security in Nigeria.

Women and Food Insecurity in Nigeria

Famine is an important form and worst manifestation of food crisis. It is a real and major problem among developing countries. In Nigeria, especially in the rural areas, hunger has become more intense and prevalent in many households. Food security is primarily a concern of poor people who are threatened with food crisis due to seasonal variations of food, poor household purchasing power, food preferences and poor access to agricultural production resources. Ensuring adequate food security has therefore been a major policy concern. There is therefore, a need to focus on the rural dwellers that produce the bulk of the food consumed by the urban populace.

The number of food-insecure people has more than doubled in Sub-Saharan Africa and has also increased in South Asia since 1970 (Kabber, 1990). However, of the total number of food-insecure people in the world, the United Nations Food and Agriculture Organization (FAO) estimates that 303 million live in South Asia, 197 million in East and Southeast Asia, 194 million in Sub-Saharan Africa, 54 million in Latin America and 30 million in the Middle East and North Africa.

Nigeria is one of the most populous countries in Sub-Saharan Africa. In the rural areas, hunger has become intense and prevalent in many households.

However, women constitute more than 60 percent of the adult population, resident in the rural areas of Nigeria. (Odebode, 1999). This contributes significantly to nation building and economic growth through their roles in agricultural produc-
tion, housekeeping and child welfare services among others.

Rural women suffer from food insecurity and gender based exclusions. This makes it difficult for them to get out of poverty than it is for men (Michael et al., 1996). Hence women’s experience of food insecurity in Nigeria especially is more severe because of gender-based forms of exclusion (Heyzer, 1992). They are responsible for 60-80 percent of the food produced in Nigeria in addition to their traditional reproductive, household and community management roles. This is because most members of the female labour force live and work in rural areas. African rural woman must be able to eliminate malnutrition from her family and has the major responsibility for lifting her family out of food insecurity (Olawoye, 1985). However, rural women in the developing countries have some coping mechanisms to alleviate poverty (Reardon, 1993).

Women have additional work and less assistance and under greater pressure than men. The result of this is that women are by-passed with resistant consequences on their families. However, lack of information on poverty reduction strategies by the rural women results in underutilization of their potentials and marginalization in the process of development.

One of the strategies or coping mechanism employed by the rural women in Nigeria, is their involvement in snail farming since hunger has become more intense and prevalent in many rural households, ensuring adequate food security has therefore been a major policy concern.

In addition, increase in population level, less agricultural land available and ever-growing number of people turning to forest products to supplement their income has made it imperative for women in the rural areas of Nigeria to rear snail to supplement their food intake and nutrition thus enhancing food security in Nigeria.

**Objective of the Study**

The main aim of the study is examine the contributions of snail rearing to food security in Nigeria (Figure 1).

![Fig. 1. Example of Snail in Nigeria](image)

Specifically, the study intends to:
- To identify the benefits of snail rearing and how these benefits help in ensuring household food security.
- To find out if any relationship exist between level of contributions of snail rearing in ensuring household food security and Age, Marital status and Educational levels of snail farmers.

**Methodology**

Three hundred and sixty registered women snail farmers were purposively selected from the six-geopolitical zones of Nigeria comprising of Kano State, Adamawa State, Kwara State, Oyo State, Imo State and Edo State. (North-West, North-East, North Central, South-West, South-East, South-South) and the data were analyzed using chi-square.
Results and Discussion

The findings of this study are presented below:

**Benefits Derived from Snail Rearing**

Most (60%) of the respondents derived food from snail rearing, 20 percent of them derived medicinal benefits from snail rearing while 15 percent of them derived some income benefits from snail rearing. The remaining 5 percent of the respondents derived other benefits such as raw materials used for livestock, feeds, creation of job opportunity, preservation of wildlife and reduction of seasonality of snail supply.

**Respondents’ Snail Farm Size (Production)**

The majorities (68 percent) of the women snail rearers rise between 300 and 350 snails per annum while 22 percent of them rise between 400 and 450 snails per annum.

**Household Food Security Level**

**Distribution of Respondents According to Household Food Security Level:**

The study reveals that 78 percent of the women interviewed had enough and good food for their family all year round (food secure), 15 percent had food for their family all year round but not always enough nor of the best quality.

On the basis of household snail consumption level, 83 percent of the respondents' families consume all the snails they produced at the household level while 13 percent of them consume less than half at the household level while 4.0 percent consume non of the snail produced.

This implies that snail consumption pattern is high and that it contributes to household diets. Moreover, food production still remain at a subsistence level and farmers hardly produce enough for their households with little or nothing left for market. This shows that the women are food secure because of the availability of the snails reared for the whole year. These data agree with Burfisher and Horenstein (1985) that much still need to be done to ensure respondents access to and control over resources to alleviate the constraints they face and to enhance production and provision of food for their household.

**Respondents Income Generation from Snail Rearing**

Survey report on the level of income generated from snail rearing revealed that 17 percent of the women snail farmers earn above N 30,000 from snail rearing per annum while 14 percent earn less than N 15,000.00 from snail rearing per year.

Based on income generated from snail rearing, 18 percent of the women snail rearers spend about half of their generated income on food, 15 percent spend about 3/4 of the generated income on food, while 12 percent spend a quarter of their income on food. This implies that a sizeable proportion of the snail farmers find the income generated from snail farming quite useful in meeting other household needs. Thus snail rearing provides income for the households.

The result of the chi-square analysis in Table 1 shows that there is no significant relationship between household food security level and degree of contribution of snail farming ($X^2 = 3.84; P = 0.05$) (Tables 2, 3 and 4).

The implication of this is that the higher their involvement in snail farming, the higher the degree of contribution of snail
Table 1  
**Distribution of women snail farmers based on benefits derived from snail farming**

<table>
<thead>
<tr>
<th>Benefits Derived from Snail Rearing</th>
<th>Frequency</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provision of food</td>
<td>108</td>
<td>40.0</td>
</tr>
<tr>
<td>Provision of income</td>
<td>43</td>
<td>12.0</td>
</tr>
<tr>
<td>Supply of Raw materials for livestock</td>
<td>36</td>
<td>10.0</td>
</tr>
<tr>
<td>Preservation of wildlife</td>
<td>18</td>
<td>5.0</td>
</tr>
<tr>
<td>Encourages recycling</td>
<td>29</td>
<td>8.0</td>
</tr>
<tr>
<td>Medicinal purposes</td>
<td>72</td>
<td>20.0</td>
</tr>
<tr>
<td>Creating job opportunity</td>
<td>18</td>
<td>5.0</td>
</tr>
<tr>
<td>Reduces seasonality of snail supply</td>
<td>36</td>
<td>10.0</td>
</tr>
<tr>
<td>Total</td>
<td>360</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 2  
**Distribution of respondents according to farm size (production)**

<table>
<thead>
<tr>
<th>Farm size</th>
<th>Frequency</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;100 snails</td>
<td>36</td>
<td>10.0</td>
</tr>
<tr>
<td>Between 300-350</td>
<td>245</td>
<td>68.0</td>
</tr>
<tr>
<td>Between 400-450 snails</td>
<td>79</td>
<td>22.0</td>
</tr>
<tr>
<td>Total</td>
<td>360</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 3  
**Distribution of respondents according to income generated from snail farming**

<table>
<thead>
<tr>
<th>Income level per annum</th>
<th>Frequency</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;N= 15.000.00</td>
<td>241</td>
<td>67.0</td>
</tr>
<tr>
<td>Between N= 15.000 and N= 30.000.00</td>
<td>50</td>
<td>14.0</td>
</tr>
<tr>
<td>Above N= 30.000.00</td>
<td>69</td>
<td>19.0</td>
</tr>
<tr>
<td>Total</td>
<td>360</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4  
**Distribution of respondents based on income (amount) spent on food**

<table>
<thead>
<tr>
<th>Income spent on food</th>
<th>Frequency</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>About 1/4</td>
<td>50</td>
<td>14.0</td>
</tr>
<tr>
<td>About 1/2</td>
<td>64</td>
<td>18.0</td>
</tr>
<tr>
<td>About 3/4</td>
<td>54</td>
<td>15.0</td>
</tr>
<tr>
<td>All</td>
<td>191</td>
<td>53.0</td>
</tr>
<tr>
<td>Total</td>
<td>360</td>
<td>100.0</td>
</tr>
</tbody>
</table>
rearing to attaining household food security. Moreover, there is a pronounced effect of extension services contact on snail rearing Table 5 that is, snail rearing level can be boosted by improving extension agents' contact with snail farmers to educate them on snail farming.

Conclusion
A major conclusion of this study is that snail farming provides food, income, raw materials for livestock, preserves wildlife, encourages recycling, medicine, creates job opportunity and reduces seasonality of snail supply. Moreover, most of the women farmers have a large farm size and large output.

A relationship exists between household food security level and the degree of contribution of snail farming to household food security.

It is therefore recommended that sources of information on snail farming should be improved and appropriate veterinary services should be made available and affordable to snail farmers to treat diseases causing the death of snails and good hygienic environment should be maintained. This will also enhance production for increased household food security.

References


