

# GIANT AFRICAN SNAIL



# POSITIVE POINTS FOR SNAIL FARMING.

- 1.** Snail Farming in Nigeria is relatively new. This presents an early entry opportunity for prospective investors.
- 2.** Snail Farming requires far less capital investment and yields an exponentially higher returns on investment.
- 3.** Snail Farming has lower risk compared to other livestock farming, once you are able to setup the farm correctly.
- 4.** The demand for snail is currently higher than the supply.
- 5.** Snail is an export commodity. With high demand from countries like Turkey, Brazil, China. Asia etc. ( google )
- 6.** Snail farming feeds are local and natural and readily available at very minimal input cost.
- 7.** If your start up capital is N100,000 you can generate more than N3 million in 15 months +.
- 8.** Nigeria climate is one of the best for Snail breeding. ( and many crops & livestock )
- 9.** You can earn huge returns as residual income and still keep your present as snails require minimal supervision

# Encouraging statistics ...

- In France alone, 40,000 tonnes of snails are eaten per year.
- U.S. imports of snails were worth more than \$4.5 million in 1995 and came from 24 countries.
- This includes preserved or prepared snails and snails that are live, fresh, chilled, or frozen.
- Major exporters to the U.S. are France, Indonesia, Greece and China.
- The U.S. exported live, fresh, chilled, or frozen snails worth \$55,000 to 13 countries; most were shipped to Japan, the Netherlands, and the United Kingdom.
- Individual statistics are not available for U.S. exports of prepared or processed snails from the U.S. Department of Commerce.

## QUESTION .....

- WHAT IS THE VOLUME OF SNAIL EXPORT FROM YOUR COUNTRY LAST YEAR ???

## Types of snail to farm...

Only snails that live on land and are edible should be selected for farming. Some kinds of land snails harbour parasites which can cause diseases in man. Many species of edible land snails are recognized in Nigeria. The popular species of economic interest is the West African giant snail's *Archachatina marginata* and *Achatina achatina*. These are therefore the recommended species.

*Achachantina marginata*



*Achatina achatina*





**PRIVATE SNAIL FARM IN CAMEROON.**



# FAO OBESERVATION.

- **In Ghana, Togo, Benin, Cameroon, many households depend on snails as a major source of income, making as much as 48,000 FCFA (\$100 USD) from their harvest per day. After about three years of snail farming. The impact on chronic poverty reduction is exponential. Most clients purchase for export in these countries.**

- . **An average African snail will lay at least 600 eggs in total per year.**
- . **The eggs hatch after 30 days.**
- . **Snails are hermaphrodites.**
- . **10 snail can become 6000 in a year and**
- . **10000 snails can easily become 600000 in a 12-month period.**
- . **How much is one snail in your country ?**

## **Where to get snails for your farm:**

The farmer can gather wild snails from nearby bushes for use in his farm. He could also buy from people who gather and sell wild snails. Snails could equally be bought from another snail farmer in his locality. Snails bought from the open market should never be farmed. These are of doubtful quality and may soon die shortly after introduction into the pens.

# **ACCOMMODATION .....**

- **THE SIZE OF YOUR SNAIL PEN WILL DEPEND ON THE SCALE OF YOUR OPERATION.**

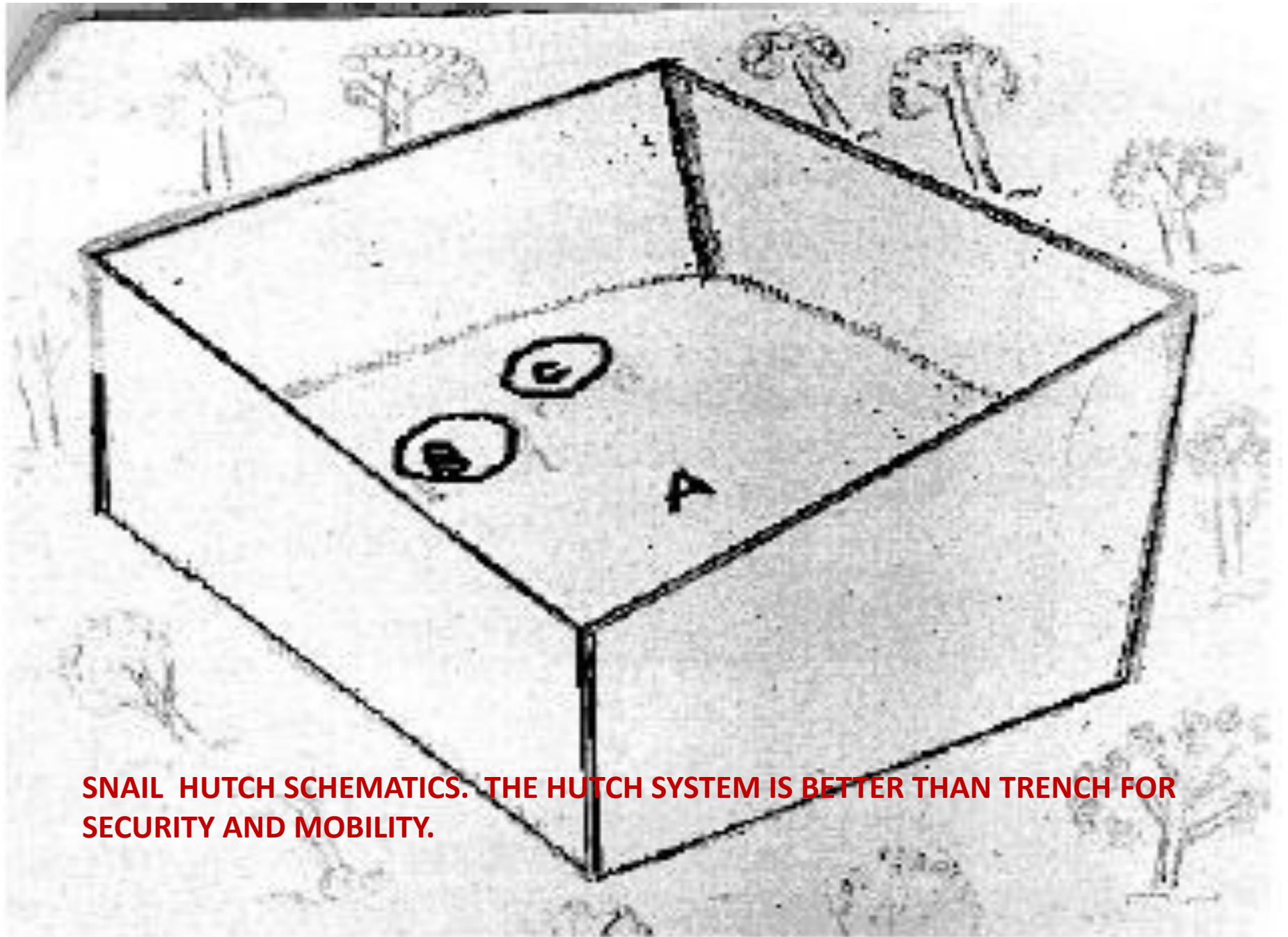
## **Preparation of site for 5m x 5m out-door snail pen:**

Choosing a suitable site close to the house. The snail farmer should clear the area of all plant materials like bushes, grasses, roots and weeds. The cleared materials should be evenly spread on the ground where the pen would be located. Burn the materials when dry. Burning of the area will clear it of insects, weed, seeds, rats and other pests. From the cleared area, a square of 5m x 5m is marked out for the snail farm. The ground in the square is dug to a few centimeters dept (20cm) and turned over with s shovel, hoe or other suitable implements. If any more insects and other enemies of snails are seen, more dried plant materials are spread on the ground and burnt again. The ground is then smoothen after digging. The ground should be smooth and well worked as it would be when planting a vegetable garden.

# FENCE MATERIALS .....

- **CORRUGATED SHEETS.**
- **WOVEN PLANT MATERIALS.**
- **PLASTIC SHEETS.**
- **CHICKEN WIRE MESH.**
- **BAMBOO SHARDS.**
- **WOODEN POSTS OR SLABS.**

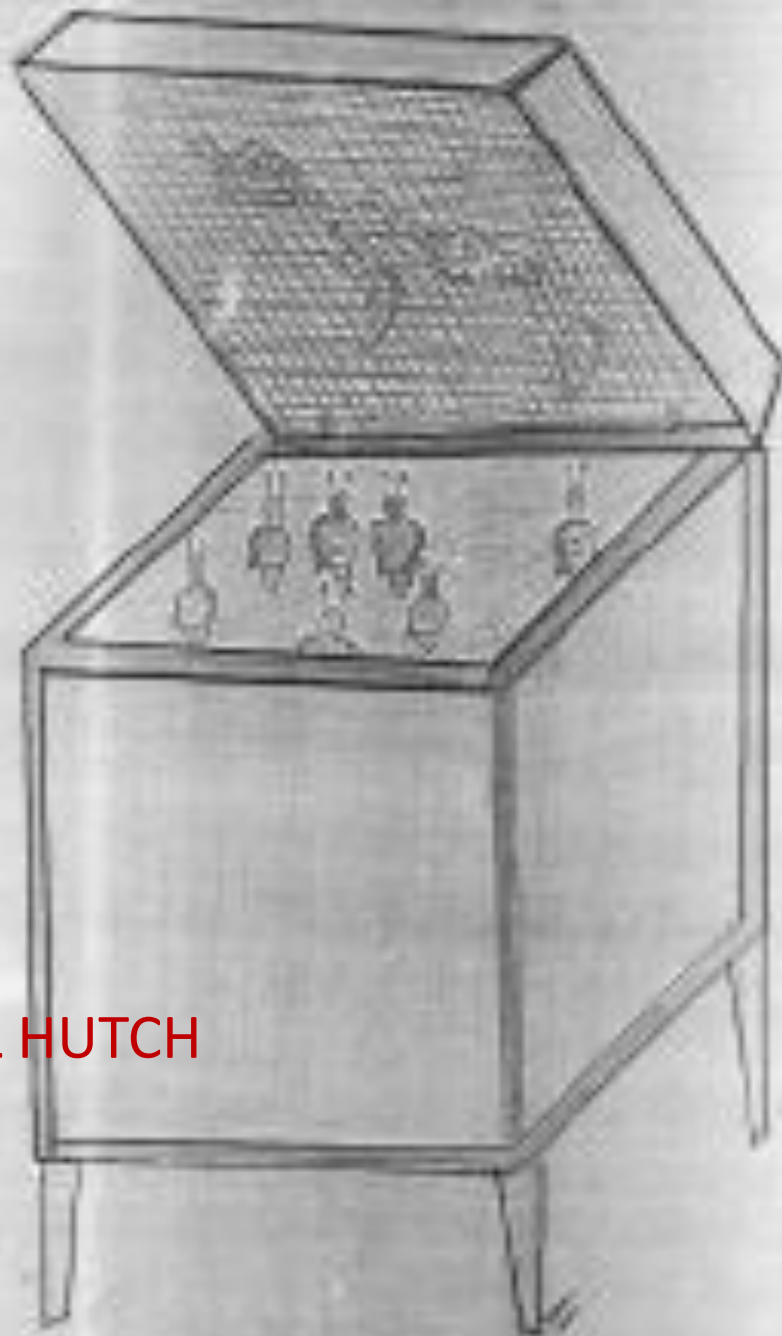
**YOUR DECISIONS WILL BE DRIVEN BY THE SCALE OF YOUR OPERATIONS.**



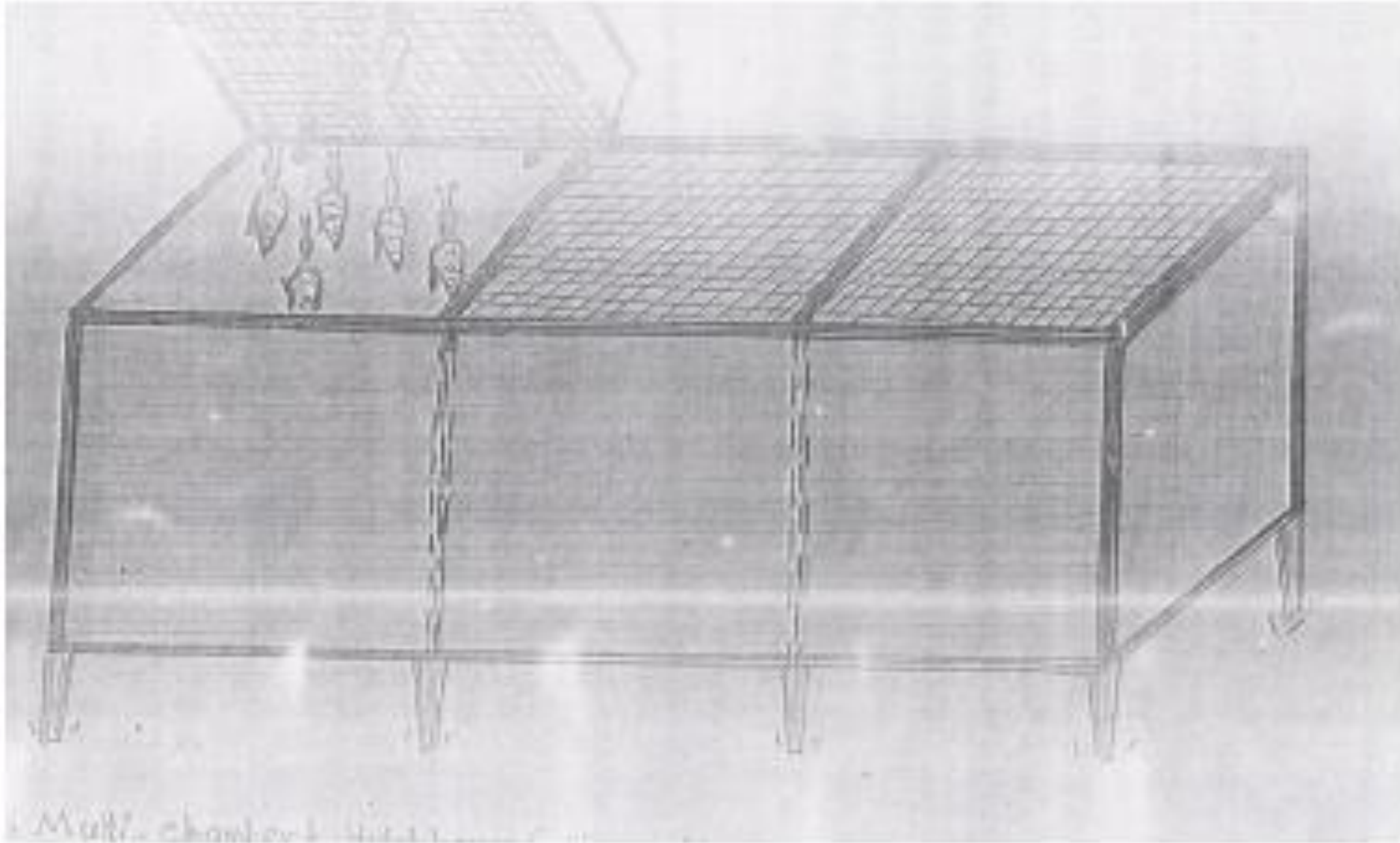
**SNAIL HUTCH SCHEMATICS. THE HUTCH SYSTEM IS BETTER THAN TRENCH FOR SECURITY AND MOBILITY.**

The hatching unit and rearing unit could be wooden boxes covered with wire mesh or out drums or even baskets. The floor of the hatchery or rearing unit is filled with rich organic/top soil to a depth of 4-7 cms. Perforate the bottom of such chambers to drain out excess water. Do not introduce newly hatched young snails into snail's pens to avoid cannibalism.





SINGLE UNIT SNAIL HUTCH



**MULTI - CHAMBER HUTCH**

## **INTRODUCTION OF SNAILS INTO PEN:**

With the food and shelter plants in place, the snails can now be put into the pen. Snails selected for the farm should be very gently handled and carefully put into a container such as basket. In this way, they can be carried to the pen without hurting them. Before putting them in the pen, all grasses and weeds should be eliminated. The snails should be put in the pen in the evening when it is cool. They should never be put at the period of the day when the sun is hot. On days that no dew is available and the leaves of the plant and the ground are dry, wet them before putting the snails in. The newly introduced snails should be placed in different locations in the pen. Only the right number of snails should be put in the pen. Do not stock more than 15 – 25 mature snails/m<sup>2</sup>. There should be no overstocking. After introduction of snails a check should be conducted the following morning to see that they have all moved. Any snails found to be dead should be taken out and replaced by equal number of snails. At first the newly introduced snails will try to crawl out of the pen. The farmer should go round each morning and put them back. After about two weeks the snails will become used to their new homes and most of them will not try to crawl out.

## **FEEDS AND FEEDING OF SNAILS:**

Snails are voracious feeders and may consume about 10 times their body weight of leafy vegetable or plant material every day. To be successful in snail farming, the farmer must ensure a steady uninterrupted supply of foodstuffs to his snails throughout the snail growing season.

### **Food Plants:**

Snails feed on a wide variety of cultivated and wild plants. Young tender green leaves as well as dead and decaying leaves are eaten. Green leaves of Amaranthus, cocoyam, cassava, lettuce, cabbage, fluted pumpkin, hibiscus, are all eaten by snails. Before beginning, the farmer should find out what plants his snails like to eat. He can thus get information from an experienced snail farmer in his locality. He can also with his lantern watch snails at night and see what they are eating. Different plant materials could be dropped in the pen and by trial and error, he could find out which ones the snail would prefer.

## **Fruit Trees as shelter and food Plants:**

Some fruit trees provide shelter as well as food for snails. Banana, plantain, mango, pawpaw, sweet oranges, cocoa etc serve dual purpose of providing shelter as well as fruits. Snails prefer feeding on over ripe fruits of these trees. Ripe oil palm fruits, broken pods, seeds and seedlings of cocoa are also consumed by snails.

Generally, snails usually hide on shelter plants during the day when it is dry and move to food plants to eat at night or early in the morning when they are wet with dew.

## **Other Feeds:**

Snails also feed on synthetic diets containing a good amount of protein, calcium and phosphorus. An example of such diet is poultry mash. Wet poultry droppings, rotten vegetables and dead animals are all consumed by snails. Apart from the items mentioned here, there are many other foods in the farmer's locality which snails like to eat. As stated earlier, these could be found out by trial and error.

## **Feeding Habit of Snails:**

Snails are nocturnal and feed on a wide variety of feed mainly in the night, early morning, evening or on cold rainy day. Their activity level (including their rate of feeding) fluctuates with the ambient temperature.

## **TAKING CARE OF THE SNAILS:**

After the snails are put in the pen, the farmer should:

- \*Watch them carefully to see that they are eating well.
- \*Give them the right type of food in adequate quantity.
- \*Wet the food and shelter plants and moisten the ground regularly.

On dry days during the snail growing season, water the ground daily. Always water in the evening at sunset. Ensure that the soil is moist and not wet. In areas with dry season, when plants do not grow, snails dig into the ground to rest. They should not be watered at this time, otherwise the snails come out of the ground when they should not. The snails breeding season in Nigeria corresponds to the period of the rainy seasons.

## **CAUSES OF MORTALITY IN SNAILS:**

Snails have many enemies. These include termites, soldier ants, frogs, toads, rats, snail eating birds, lizards, and larvae of some beetles. Common salt is also poisonous to snails. Over crowding is a serious cause of mortality in snail pens. When too many snails are crowded in a pen, they produce undesirable secretion which is observed to reduce their productivity. To remedy these;

- \*Examine the pen fence regularly and mend any openings.
- \*Use materials that keep out pests from your fence.
- \*Maintain the right stocking density in you pen.
- \*Keep away poisonous chemicals like common salt.



## **HARVESTING SNAILS:**

Generally, snails that are well fed and managed would be ready for harvesting within 12 to 24 months from the date of stocking. Also, when the farmer sees a lot of baby snails in the snail pen, he could harvest the fully grown snails that he first put into the pen. Average weight of a snail a well matured snail of the giant type is 200gm. It takes not less than two years of efficient feeding to attain this weight. Growth rate is slow and a lot patience has to be exercised in snail farming.

# POST HARVEST ....

- SNAILS MEANT FOR EXPORT SHOULD HAVE ABSOLUTELY INTACT SHELLS AND STRONG CONSISTENCY AND WELL CLEANED.
- SORT OUT THE SNAILS ACCORDING TO THE NEED. **1.** CONSUMPTION. **2.** LOCAL SALES.
- **3.** SUPPLY TO DISCERNING BUYERS. RE-STOCKING OF THE FARM. **4.** EXPORT.
- **5.** RESEARCH.

## GOING FORWARD .....

### **Economics of Snail Production:**

Unlike other livestock enterprises, housing for snails is cheap to construct. Snails could easily be kept even in make shift housing. The feeding of snails is cheap, snails do not compete with man for food, rather, they feed on the wastes from man's kitchen, poultry droppings, leaves and over ripe/rotten fruits. Snails have very high multiplication ratio.

The *A. marginata* for example lays up to 80 – 100 eggs/growing season while the *A. achatina* lays up to 300 eggs or more in a growing season. Snails hatch within 30 days and in 12 – 24 months are ready for table. One snail therefore can in a growing season give 100 – 300 new snails (depending on the breed).

**In June 2008, a farmer in Umuahia in Nigeria started with 12 snails that cost N480. At the end of two growing seasons, he had 2900 snails as quite a few had died and he had personally consumed some. He fed them on leaves from his farm, fruits and household food waste like leftover food. He sold 2800 out of the 2900 snails at an average of N40 each. His original cash investment of N480 had netted him N112,000 .**

## Prospects .....

Internationally, snail meat commands good market in Europe and North America. The French snail requirement is about 5 million kg/annum, out this, more than 60% is imported. Italy is said to consume about 306 million snails annually. Back home in West Africa, Cote d'Ivoire has an estimated annual snail consumption of 7.9 million kg. Although the annual snail consumption figure for Nigeria is not known, one thing is certain that the demand is far ahead of the supply. Snail farming in Nigeria therefore has very bright future.

## **Summary and conclusion**

Snail meat (Congo meat) is a high protein food. Collection from the wild is not sustainable. Therefore conscious efforts should be made to rear snails in captivity.

To start a snail farm, the following are required: enough edible live snails, a good site, enough food and shelter plants and a pen for the snail. Snails require soil that is rich in humus with enough calcium for shell and egg formation. Snails prefer damp soils. Protect snails from wind. Snails are cold blooded. Therefore avoid sudden changes in atmospheric humidity and temperature. Choose snails for rearing that conform to: good strong shell; snails that fill their shell; fully grown and large snails. House only one type of snail together construct snail pens using materials available in your environment and according to your resources. Do not stock more than 15-25 snails/m<sup>2</sup>.

Ensure steady and uninterrupted. Food supply to snails on dry days, water the ground daily. Keep solidier ants, frogs, toads, rats, snail eating birds, lizards and some beetle larvae off snail farm. Avoid common salt in snail farm. Snails mature in 12 – 24 months.

Snail farming is very profitable and therefore highly recommended even as a hobby.