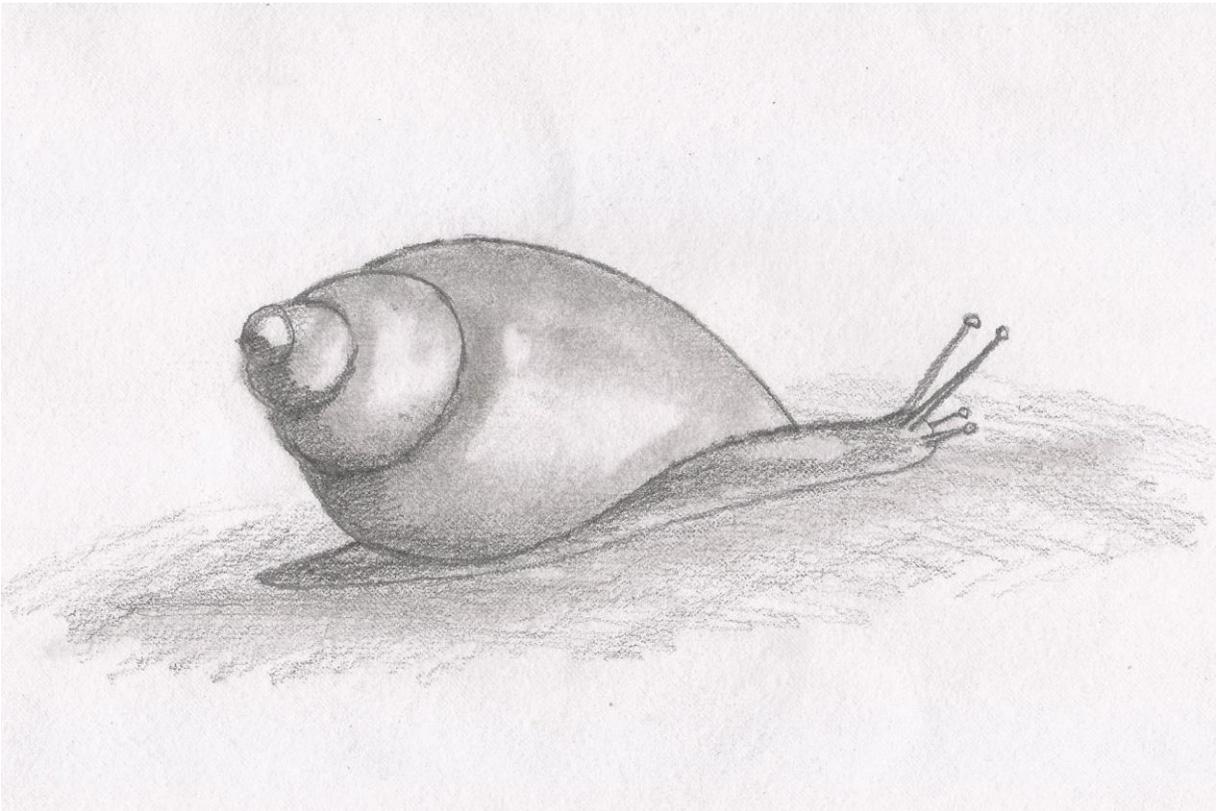


— **SMALLHOLDERS STEP-BY-STEP SERIES** —



**SNAIL FARMING AS AN ENTERPRISE
TRAINING PAMPHLET**

DEVELOPED BY THE

 **SMALLHOLDERS FOUNDATION**

".....for small farmers to overcome poverty"

**VERSION 1
REGULARLY UPDATED
MAY, 2013**

FORWARD

Nigeria has great potential to become an agricultural powerhouse. 70% of our great landmass is suitable for agriculture, yet only 30% of the land is currently used for cultivation. Nigeria's diverse climate, from the tropical areas in the South to arid zones in the North, allow the cultivation of virtually all agricultural products grown in the tropical and semitropical regions of the world. There is thus abundant opportunity for growth and expansion.

The agricultural sector contributes 70% of labor force, 80% of consumed food, but only 40% of gross domestic product (GDP). 90% of agricultural production is produced by smallholders with the average farm size in the South reaching about 0.5ha and in the North 4ha. Subsistence smallholder farming thus continues to dominate the sector.

Snail farming as an enterprise is one of the numerous approaches which will successfully transform Nigeria's subsistence agriculture.

This training pamphlet which is part of our "easy to read and understand" Smallholders Step-by-Step Series is to:

- Equip farmers with "quick-win" skills to keep high quality snail,
- Equip farmers with "quick-win" financial skills to generate profit from snail farms,
- Encourage non-farmers to establish viable snail farms easily.

I will like to acknowledge the immense contribution of Mr. Chukwudi Precious, Programs Officer of The Smallholders Foundation. Chukwudi's focus is on re-engaging smallholder farmers to gradually move up the ladder from subsistence agriculture to a more commercial agriculture.

Nnaemeka C. Ikegwuonu,
Executive Director,
The Smallholders Foundation,
Owerri, Imo State, Nigeria.

Snails normally found in Nigeria belong to the group called pulmonata gastropod (respire using lung) and the family of animals known as Mollusca. They are hermaphrodites i.e. male and female reproductive organ both in one body, so one cannot really distinguish between the male and female specie.

Snails are very sluggish in movement and due to this attribute it has traditionally been a symbol of laziness. Snails are usually found in the forest or bush areas and are very active at night. They contain high percentage of protein (12-16%) and irons (45-50 mg/kg) they are low in fat and also contain almost all the amino acids needed by humans. Snail meat has a high medicinal value known to control hypertension and its blue liquid is used in stopping excessive bleeding from open wounds.

Helticulture (Snail farming) is as easy as ABCD because snails never fall sick, does not require you to buy food and does not require a lot of money to build them a pen. The only thing the rearing of snail requires is your attention and care. Snails reproduce rapidly. They are capable of producing 100 eggs and with the discovery of the Achatina Achatina, very high prolific specie of snail which can lay up to 1,000,000 eggs, snail farming is indeed a profitable business.

Species of snails found in Nigeria are:

- ❖ Zebra Nerite snail
- ❖ Tracked Nerite snail
- ❖ Horned Nerite snail
- ❖ Sulawesi snail
- ❖ Pond snail
- ❖ Apple snail

The Achatina achatina, Achatina fulica, Archachatina magenata all belong in the family of Achatinidae a diverse group of large pulmonat land snails, originally from western, eastern, and South Africa with long slender shells. In Nigeria they are mostly found in southeast and Niger delta region. Their size ranges from 3cm to 25cm. They mostly live in jungles in tropical countries, but some may live in grassland. They primarily feed on fruits and leaves. They are easy to find and not difficult to rear. They lay several batches of eggs each year. Generally, they are quite easy to care for, being able to put up with a range of conditions.

Advantages of snail farming

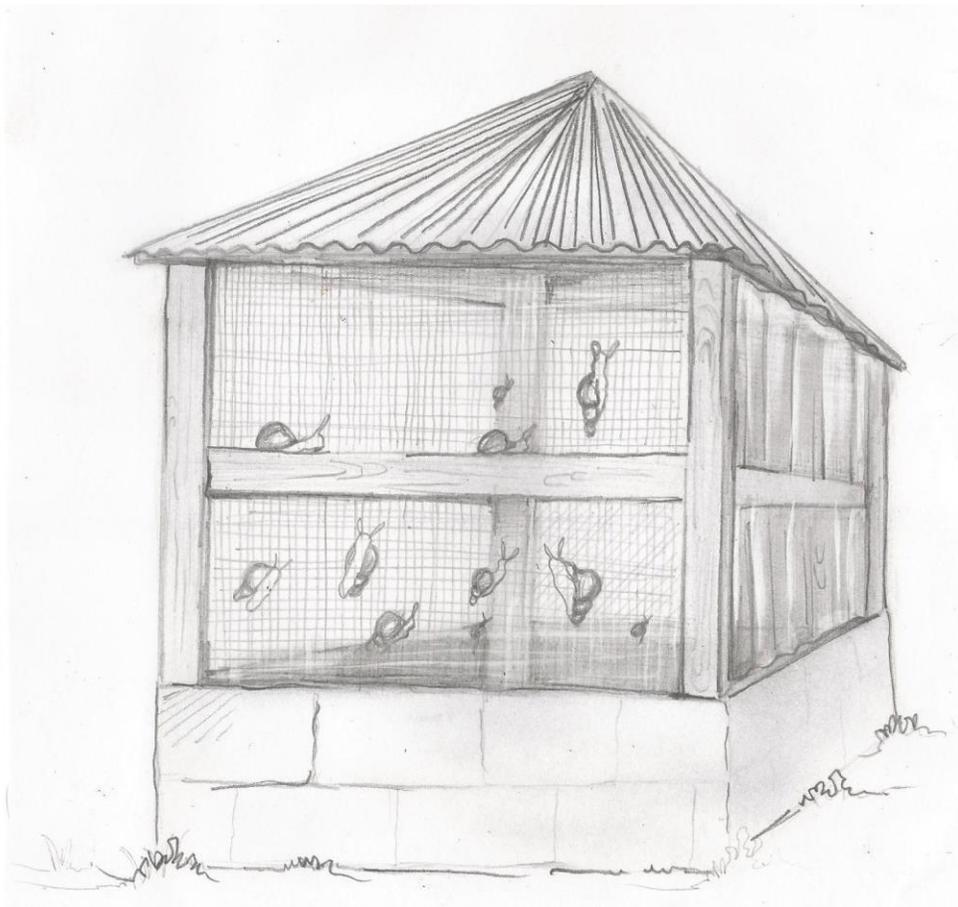
- ❖ Every part of the snail is vital in food, pharmaceutical, manufacturing and fishing industry.
- ❖ Snail farming requires a very little amount of capital and running cost is low.
- ❖ Snail farming is very conducive as no odour, stress, noise and irritation is involved.
- ❖ Profit generated in snail farming is far higher than one gained in livestock farming.
- ❖ Snail farming accumulates less loss and damages.
- ❖ It is compatible with other work responsibilities,

Steps in snail farming

Site Selection - Select lands that are plain with adequate shade. It should be homestead enterprise, on soil that is not waterlogged. Humus soil is recommended.

Step 1: Select land that has humus soil and flat

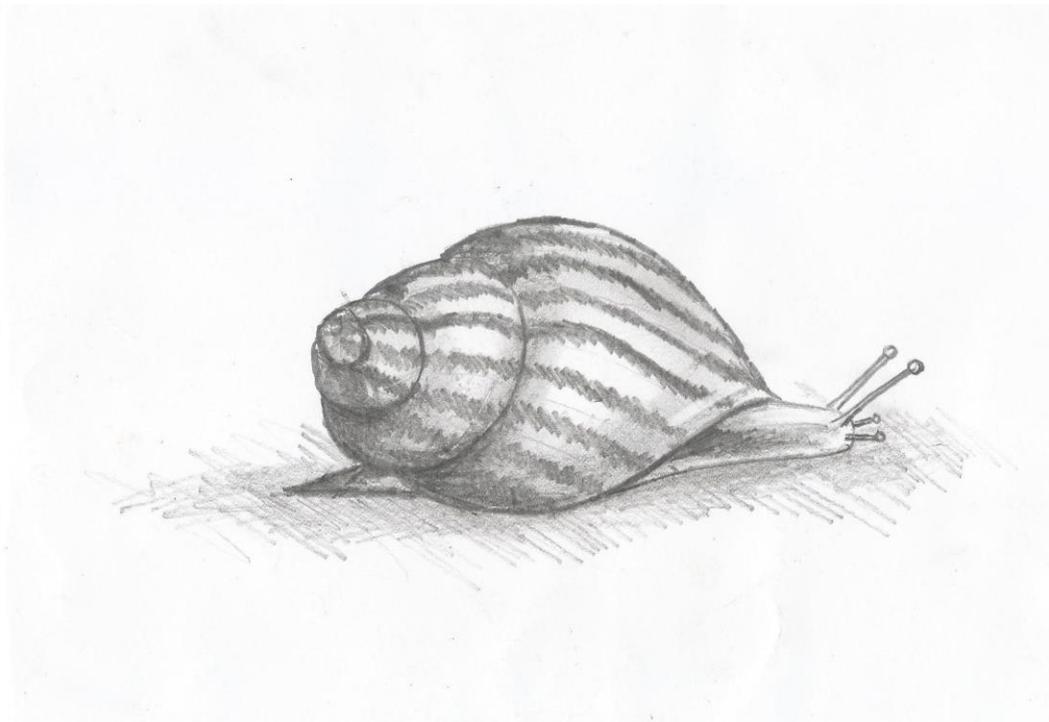
Housing: Use intensive system of rearing. It can be high or low fenced pen, tank pens, baskets, drums, trampolines. In the construction of high fenced pen the walls should be a dwarf wall with bricks 1m high built all around it and with wire gauze at the top. Dig a trench all-round the bottom of the fence and pour used engine oil to protect it from intruding insects. The same technique is used in low fenced pen. One can as well rear snails in his/her farm, it involves planting or bringing in snails loving plants such as plantain, banana, pawpaw and cocoyam. After attracting them you fence the farm dig trench round the bottom and pour engine oil in it to avoid intruding ants.



The intensive system is good for snail farming

Step 2: Use intensive system with trench round the bottom of the fence

Breed - There are many breeds of snails but the one recommended for farmers are the *Achatina achatina* *Archachatina marginata* which are the African giant snails.



Achatina Achatina, the African giant snails are good breeds

Step 3: Achatina achatina and Archachatina marginata are recommended for farmers

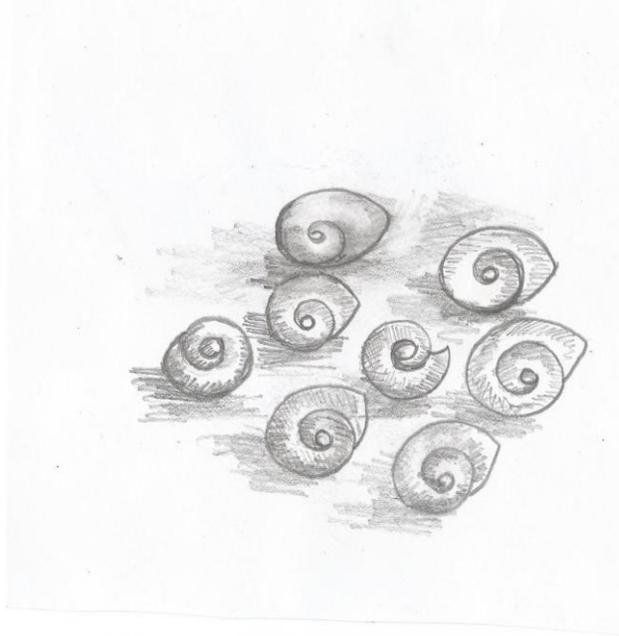
Stocking - In stocking one should select snails that are fleshy, have hard shells without damage, patches or nodes on the surface, sexually matured weighing 250-450gm.

Step 4: Stock snails that are healthy with good weight.

Feeding - The feeds recommended for snails are sweet potato, cassava tuber, soya bean, maize chaff, palm kernel cake, fish meal, cocoyam, pawpaw fruits and leaves, plantains and bananas. Food should be salt free, given morning and night only.

Step 5: Feed regularly morning and night with drinking water avoid mixing with salt, mix fruits and tuber leaves

Breeding and Health Management - Snails start laying eggs between 8-12 months when it is sexually mature. They lay eggs in the floor 2-4cm deep. Incubation period varies from 24-35 days. After hatching the baby snail stays in the soil for 2-5 days. The baby snails should be separated from the adult in another room in the pen.



The baby snail stays in the soil for 2-5 days, please separate from the adults.

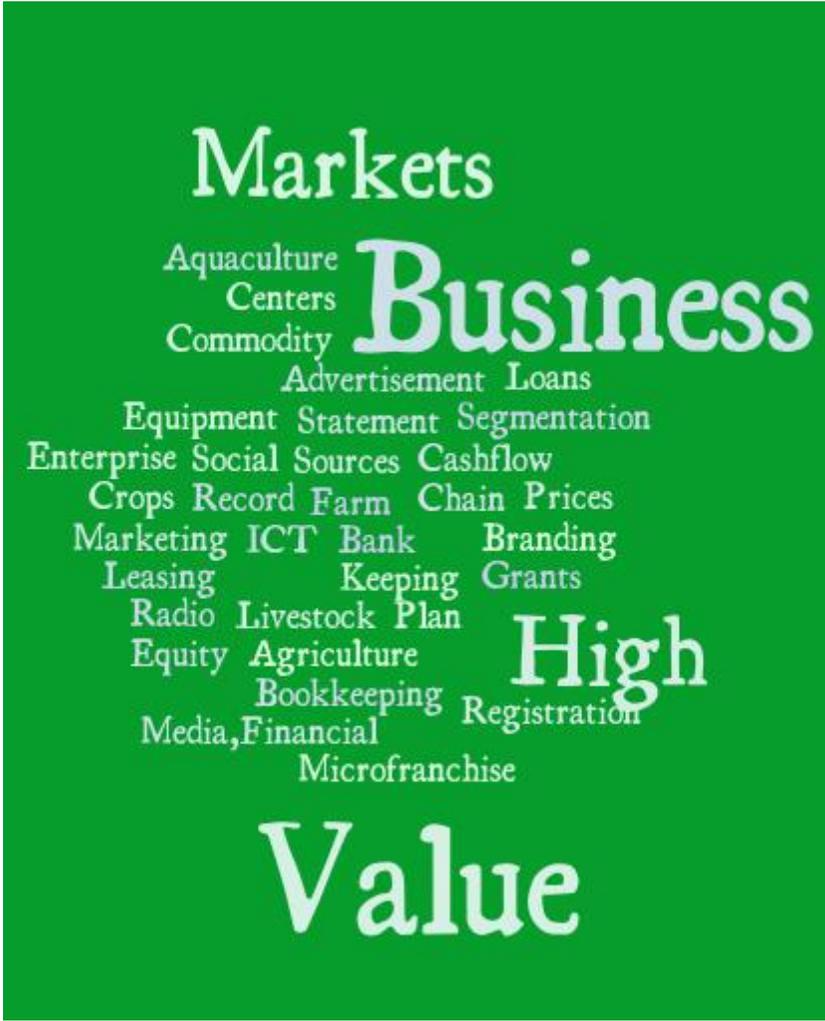
Step 6: Separate the baby snail from the adult and clean the pen.

Tentative Cost to establish 1 Snail Farming Enterprise

Item	Qty	Unit	Unit Price N	Value
Cost				
Snail	120	No	50	6,000
Feeds	-	-	-	30,000
Labor	12	Mth	3000	36,000
Snail Pen	1	-	15,000	15,000
Total Cost				87,000
Income				
130 x 100 eggs each at 80% hatchability	9,600	No	50	480,000
Total Income				480,000
Profit				393,000

REFERENCES

1. **Agromisa Foundation, Agrodok Series (2004):** Snail Keeping.
2. **IFAD/FGN/NDDC CBNRMP (2012):** A practical guide to improved package of practices for increased productivity of snail farming in the Niger-Delta.
3. **NFRA & FAO (2008):** Farm Management Advisory Services – Upstream and Downstream modular Enterprises Advisory Handbook.



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