A FEASIBILITY STUDY BUSINESS PLAN ON GRASS CUTTER FARMING (10 COLONIES/FAMILIES)

FOR

D_SAM AGRO-FARM VENTURES

IGBOMINA FM RADIO ROAD, ILE ALAGBE COMPUND, PAMO-ISIN, ISIN LOCAL GOVERNMENT AREA OF KWARA STATE

MARCH 2019

D_SAM FOOD PROCESSING AND PACKAGING ENTERPRISES

PRODUCT: **D_SAM AGRO-FARM VENTURES LTD**

LIVESTOCK: **GRASSCUTTER/CANE RAT**

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1. Executive Summary

The Study on the establishment of a Grasscutters farm is based on the survey made by Kolawole Samuel Olayinka, who is the sole owner of the business. The name of the Farm will be **D_SAM AGRO-FARM VENTURES** and will concentrate on Livestock rearing.

From the research that was carried out it was discovered that the demand for Animal products like eggs and meat is not fully satisfied around some areas of Kwara and Ekiti States, though they are already existing farms operating around Kwara and Ekiti state environment, the farm will be sited at Isin Local government area in Kwara state which is closer to Ekiti State because of the high demand in some part of lrepodun, Ifelodun and some part of Ekiti State. The legal requirements for the establishment of this venture such as local government revenue (tax) per month and security payment (vigilante) per month have been inquired and will be carefully complied with.

The venture will help in providence employment to the local dwellers and also meeting the demand for farm animal product and making the price affordable in future, **D_SAM AGRO-FARM VENTURES** intends to go into livestock farming structures such as poultry, turkey, duck, guinea fowl, Grasscutters and goats.

For the purpose of this project, we basically go deep into Grasscutter Farming, due to high demand of this animal by almost everybody, and there is little or no such farm within the state.

2. MISSION STATEMENT:

2.1 Our Vision and Mission Statement;

i. Our Mission.

We will supply Grasscutters to different quick service restaurant in south west Nigeria and our vision is to be one of the known Grasscutters farmer supplier in Nigeria with a mission to raise healthy animal at a very affordable price.

ii. Our Vision.

Our vision is to become one of the leading Grasscutters Farmer in Sales of weanner, colonies and matures Grasscutters, Grasscutters processing, packing not just in Kwara State but also in South west Nigeria and provide Agric service for efficient service delivery.

2.2 Strategy and Implementation Summary Objective

- To increase number of our client by 20% within 2 years of existence
- To evaluate our strategic marketing by every three months
- To keep and maintain hygienic farms for healthy weaned and mature/adult Grasscutters.

2.3 Tactics and Strategy Impacts

D_sam Agro farms products will be priced at affordable rate. When a markup is placed on any of our products, customers will be willing to pay because of the affordable price.

The venture to be established is Grasscutter farm that will concentrate on the production of weaned (colony) and matured/adult animal, because of the fund required the venture will start with 10 colonies/families having the population of four LGA of Kwara State, which are Isin, Irepodun, Oke-Ero and Ekiti are target market and Kwara State as a whole. The farm site will be a permanent land and will need necessary equipment for its operation as it is entirely new firm to start from the scratch

3. BUSINESS REVIEW

Grasscutters (*Thryonomys swinderianus*), also called **Cane Rats** are non-ruminates. It is known as **GrassCutter** in English-speaking West African countries, **Agouti** in French-speaking West African countries and **hedgehogs** in Central Africa, they are rodents that are widely found in wet or grasslands areas in Africa. Though these animals are widely hunted in Africa, they can be domesticated like other micro-livestock animals such as rabbits and they require very moderate housing. Grass cutters are found in all the geopolitical zones of Nigeria are favourable habitat of

the animal. Grass cutters meat is regarded as a delicacy in not only all parts of Nigeria but in many other West and Central African countries. Low mortality and morbidity rates in a well managed grass cutter farm can be as low as less than 10% while cost of medication is very minimal and cost of feeding (especially the supplementary feed) is less than what is expended in an average poultry, or rabbitory farm. Cane rats live in small groups led by a single male. They are nocturnal and make nests from grasses or burrow underground. Individuals of the species may live in excess of four years.

Grass cutter meat has good market prospect all over Nigeria and although the Republic of Benin today is leading the pack in Africa with about 4000 Grasscutter farmers while Nigerian farmer are still under 500 farmers. That means that supply cannot meet the demand of teeming millions of Nigerians.

Grasscutters are generally great for rearing because of their fast reproduction rate which begins about seven months after birth, and can be about 4 to 10 babies per reproduction cycle, which usually happens two times in a year. With their market price going for as high as 7,000 Naira for each, 10 females could give birth to 200 grasscutters in a year, which would amount to about ₦1,400,000.

4. GRASSCUTTER FARMING:

4.1 Origin of the Grasscutter

Grasscutter is a wild herbivorous rodent found in the sub-Saharan region of Africa. It is the biggest after porcupine in the rodent class. It is referred to as Cane rat or cutting grass by many. Scientifically, it is referred to as *Thryonomys swinderianus*. Its sub-order is that of Hystricomorphic (porcupine relatives) and the super family is Petromuroidea (Rock rat- like), with genus *Thryonomys*.

Kingdom: Animalia

Phylum: Chordata

Subphylum: Vertebrata

Class: Mammalia

Order: Rodentia

Suborder: Hystricomorpha

Family: Thryonomyidae

Genus: Thryonomys

Species: Thryonomys swinderianus

The Species Are of Two Types *Thryonomys swinderianus* Temminck which is the giant breed and *Thryonomys gregorianus*

4.2 Physical Description of Grasscutters

The body length of *Thryonomys swinderianus* varies from 25-70 cm, with an average of 48cm and their tail reaches 0.65-26 cm in length The total body weight of adult ranges between 4-12 kg. The heaviest bodies have an average weight in males of 4.5 and 3.5 kg in females which looks like a giant guinea pig with a short tail. The body is heavily built, small round with bristle fur and coat and has a rounded ears, a short nose. Its forefeet are smaller than its hind feet, each with three toes. The fur reflects the general colour of the animal, with brownish colour from the base to the middle of the fur, while the upper fur appears light yellow to reddish. The combination of these colors gives the animal brownish yellow/red colour. Besides these, common colors that range f rom grayish black to brown exist.

The Grasscutter (*Thryonomys swinderianus*), matured adult measures 40-60 cm long; weighs 2-6 kg; mixture of reddish brown and grey fur; monogastric herbivore; quick runner; skilled swimmer; poor vision; good sense of smell; lives up to 4 years in captivity; Induced ovulation; Gestation period 150-156 days.

4.3 Characteristic and Production Capabilities

The following assumptions and production capacities can be made:

1. An economic unit comprises 1 male (buck) and 4 female (doe). (One mature male is mated to 5 females by colony or mass mating per year).
2. They can be easily reared or managed, and this made their domestication as an alternative to poaching them in the wild.
3. Age of puberty of does is 5months Pregnancy or gestation period of grass cutters is from 150-152days (5 months).
4. The female grass cutter (doe) can be said to be prolific. Prolificacy of the doe can be measured as the number of kids born per doe year or the number of kids per birth described as litter size. Average is 4 kids per birth.

5. Weaning age of 6weeks. Average numbers of kids per birth is 4 and number of kidding per annum is 4x2=8/year or 20 in 2years. This means a doe would produce on the average 4x2times in a year or 4x5 times in 2 years.
6. Birth weights vary from 100gm-106gm. mature body weight varies from 4-8kg but can reach up to 10kg.
7. Weaner grass cutter can be fattened to a slaughter weight of 5kg upward for meat.
   In 1year, therefore 10families of grass cutter [40does] will produce 160 grass cutters every 6 month as from the end of 1st year.

4.4 Breeding Grasscutters

The best way to breed Grasscutter is by raising them under intensive system, i.e. keeping them in cages or pens inside a very safe shed. It is very important to choose a very good location as this is high critical for successful Grasscutter rearing.

Other conditions that must be met for a successful grass cutter rearing include:

1. The area/location should be easily accessible and free from flood
2. It must be well ventilated, secured, availability of a source of feed and water
3. The number of Grasscutters kept and the objectives of production determine the size of the building or pen. However, the standard is that a family of Grasscutters, comprising one adult male and four females should be provided a space of 1.6-2 m^2.

4.5 Benefits of Grasscutter Farming

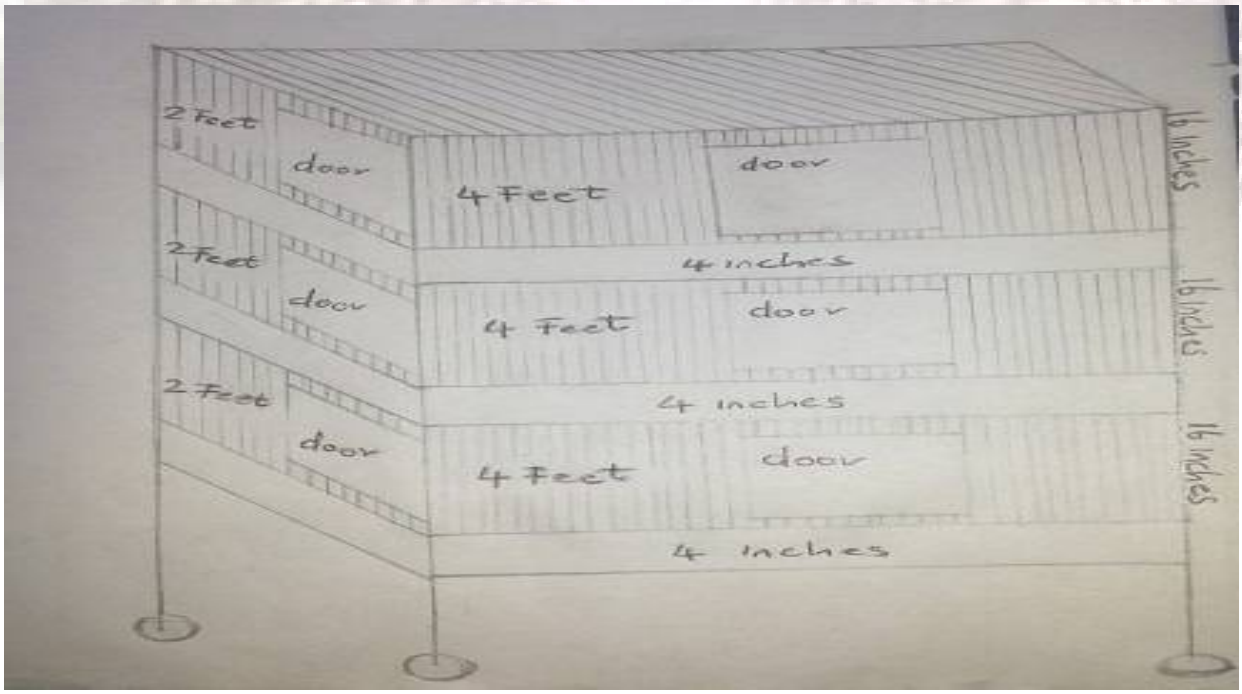
1. Source of Income and Employment.
2. Great Source of Protein.
3. Cheaper to run than poultry, fish, or pig farming.
4. Medicinal Uses.
5. Feeding Them Is Extremely Cheap (can be grass only).
6. Can be reared at home.

7. They sell for great prices.
8. More Demand than Available Supply.
9. They Can Be Pets.

4.6 How to setup Grasscutter Farm

Grasscutter Cage or Pen:

The Grasscutter pen or house has to be built to be adequately spacious. In setting it up, you must separate the region they sleep from the region they carry out any other form of activity. This is especially important because Grasscutters hate to sleep where they feed. One breeding female per pen is recommended and the surface area per adult Grasscutter is 0.2 m2.



The Cage/pen setup could be:

- A pen for adults
- A pen for mating
- A pen for giving birth and feeding the young
- A pen for fattening young Grasscutters

The pen's construction materials determine the layout of the pens. Brick pens are fixed and unmovable while metal pens are movable.

Using wood, bamboo or straw to construct pens for Grasscutters is not recommended because the Grasscutters can eat them. Rearing pens can be opened or closed, and when constructing, it is important to have passages to move around between rearing pens.

Types of cages:

1) Those made with sandcrete and metal door.

2) Those made of metal

3) Those made of wood and mesh wire.

Advantages of sandcrete cages include:

- They are durable.
- Less feed is wasted
- Probability of escape is low

Disadvantages include:

- Since Grasscutters throw themselves on the walls of the cage when trying to flee danger the probability of hemorrhagic stroke is high.
- They are immovable.
- Risk of feed contamination is high if the floor is not disinfected properly.
- Probability of pneumonia is high during raining season and hamattan.
- Difficult to clean.

Advantages of metal cages:

- Easy to clean
- Moveable
- Durable
- Doesn't require disinfection
- Feed contamination is minimized

Disadvantages include:

- Expensive to built
- Can cause pneumonia due to cold metal during cold weather

Advantages of cages made of wood and mesh wire:

- They are movable
- Cost effective
- Easy to clean
- Doesn't require regular disinfection
- Cases of pneumonia are minimized.

Disadvantages include:

- Requires maintenance
- Problem of feed wastage through gaps on the floor.
- Not as durable as the other two

When placing Grasscutters in their pens, you should ensure that each colony would be about 1 male to 4 females. Two fully grown males cannot live together, and would fight till one is dead. But by placing a colony of 1 male to about 4 females in a cage, you can be assured that they'd live peacefully and have a rich reproduction rate.

In constructing your Grasscutter cages, ensure it adheres to a close ***dimension of 180cm (1.8m) in length, 60cm (0.6m) in width, and 45cm (0.45m) in height***. They should all contain separate Grasscutter colonies, and be built in such a way that the temperature remains stable at all times. The cage should also keep the colonies secure from potential pests like snakes, soldier ants, and humans. You can ensure ants have no access by pouring engine oils around their pens, and surrounding areas; especially during the rainy season.

For Grasscutters in the weaning stage, they can stay with their mothers between four to eight weeks. But when they're in the wild or moving together as a family, they can all be with their mothers for up to four months. By the time they're about seven to eight months old; they can be separated from their mothers and placed with the mature opposite sex, for mating to occur.

The male Grasscutters reach their mating stage at the age of seven months, while the females reaching their mating stage when they're about eight months old. The mating period should last for 140 days, and should be restarted with different males if after 160 days; the female Grasscutters show no signs of pregnancy.

Choosing a Breed:

In choosing the Grasscutter breed you want to rear, it's important you select one that's most demanded in your country, or that is accepted in the regions you intend to ship out to. The *Thryonomys Swinderianus* for instance are most popular in West Africa, while the *Thryonomys Gregorianus* are most popular in Central and East Africa.

Once you've determined what breed you intend to rear, you can purchase 4 healthy females and 1 large and healthy male for a start to make one colony. The healthy state of your Grasscutters is crucial to aid rapid reproduction. Since fertility is the most important thing in rearing animals, make sure you can purchase the healthiest Grasscutters you can find.

For the purpose of this project we are working with ten (10) colonies to start-off with.

Feeding the Grasscutters:

Feeding your Grasscutters is a lot cheaper than any other farm animal. Since they're herbivorous animals, the bulk of their diet lies majorly on grass.

Grasscutters need a balanced diet daily. The great mistake some Grasscutter farmers make is given their animals only green forage. That is one of the reasons for the slow growth and low milk production in nursing female Grasscutters. On the other hand, if they are not fed with green forage such as grasses or legumes, they would suffer digestive problems. A balanced diet would produce an average weight of 3.5kg and 2.8kg in male and female cane-rats respectively.

Some of the forage and concentrates that Grasscutters could be fed with as presented below:

1. Edible grasses such as Elephant grass or Napier grass, Sugar cane, Gliricidia sepium, Guinea grass, Gambia grass, herbaceous legumes like Stylo (Stylosanthes gracilis) and Pueraria phaseoloides.
2. Agricultural by-products such as garden wastes, leftover vegetables, ripe or unripe fruits (like pineapple, mango, plantain and pawpaw), coconut, leaves, pawpaw and bamboo shoots.
3. The root and pitch of oil and coconut palms, bark of the anacardium

4. By-products from agricultural processing like Brewers dried grain (BDG), corn bran, wheat bran and groundnut cake (GNC).
5. Tubers and roots: Yam, yam peels, cassava, cassava peels, potato, potato peels, cocoyam and cocoyam peels.
6. Cereals grain such as rice, millet, sorghum and corn.
7. Shells like egg shells, oyster shell or bone meal.
8. The male can also be fatten with broiler's finisher or broiler starter's feed to help attain market weight within short period of time

By constantly feeding your Grasscutters with rich (healthy) meals at all intervals, they can gain weight quickly and reach market size within a short time.

The cane rats usually prefer to drink liquid with artificial tastes, e.g palm wine (which is largely why they destroy oil palm plantations). In a privately grown setting, they can be fed water that has little additives in it.

Also, the Grasscutters should be fed with fodder 2 hours before feeding them concentrate in the morning and evening. It is also very important to provide water always to the animals. Hence, grassy fodder needs to be dried in the sun for 1-2 days before feeding them to animals.

Concentrate could be combined with fodder. The concentrate can be made up from just one ingredient or several ingredients. It is advisable to alternate the concentrate if single ingredient concentrate is used. If the concentrate is a mix of more than one ingredient, then it could be given to the Grasscutters continuously.

Feed Formula for Young Grasscutter

Ingredient	Quantity (kg)
Cassava	34.1
Wheat Offal	26
Soybean Meal	34.9
Vitamin Premix	3
Bone Meal	1.5

Ingredient	Quantity (kg)
Salt	0.5
Total	100
Proximate Composition	
Methabolizable Energy (ME)	2400 kcal/kg
Crude Protein (CP)	22%

For growers and adult Grasscutters, use this feed formula.

Feed Formula for Grower & Adult Grasscutter

Ingredient	Quantity (kg)
Cassava	39.1
Wheat Offal	31
Soybean Meal	24.9
Vitamin Premix	3
Bone Meal	1.5
Salt	0.5
Total	100
Proximate Composition	
Methabolizable Energy (ME)	2450 kcal/kg
Crude Protein (CP)	18%

Health Management in Grasscutter Farming:

Health management is very important in all aspects of livestock farming. As a Grasscutter or cane rat farmer, the health of your big rats should be very important to you because if they come down with diseases, you would be spending additional money to combat those diseases. Of course, your cost of production is increasing. To protect your Grasscutters from diseases, the following measures should be done:

1. Inspect Grasscutters daily in order to detect any sick animals early.

2. Giving your animals the appropriate feed and taking basic hygiene measures help in reducing potential losses to diseases.
3. Avoid rough handling of your animals and unnecessary noise
4. Regularly disinfect the pens, sheds, cages its environment and materials. Wash the feeding and drinking troughs twice in a week.
5. Quarantine new Grasscutters for 2 weeks before joining them with the main stock.
6. Keep feed away from rodents by making the feed store rodent-proof.
7. Give minerals and vitamins supplements bi-weekly.
8. You can also give sweetened lemon juice which has been recognized as an immune system strengtheners. To make this juice, get 400 ml of pure lemon juice and add 55 cubes of sugar and mix with 20 litres of water.

How to Identify a Sick Grasscutter:

To know if a Grasscutter is sick, there are some observable signs you will see. These include:

- Loss of appetite
- Dull-looking or matted fur
- Social withdrawal or isolation from others
- Inability to escape capture
- Liquid or soft faeces
- Paralysis
- Coughing
- Inflammation of certain parts of the body
- Abnormally long incisors

Mortality in Grasscutter and how to reduce it

Before going into Grasscutter farming it is necessary to have adequate knowledge of the practice to keep mortality at a minimum. They are strong and shy creatures yet quite delicate. Unlike

chickens, goats, sheep and other domestic animals that have been around for a long while and are docile, Grasscutter are wild and the farm practice is novel hence the scanty literature available about them.

Causes of mortality and its prevention;

Cold: Grasscutter are extremely sensitive to cold. Prolonged exposure to cold causes pneumonia and eventually death if not addressed on time. To avoid this, a proper animal house and cage must be constructed that allows room temperature to be constant between 22 – 28^{o}C and protect them from direct wind and sunlight. In fact they can withstand heat much better than cold. There should be windows that can be adjusted to regulate temperature and allow ventilation. Those with pneumonia can be treated by heating up their environment and adding garlic and ginger to their supplement.

Injury: This can result from fighting, attempting to escape from cage, aggressive mating and improper handling and cage construction. Steps to prevent injury include:

- overcrowding should be avoided
- Two or more males (bucks) over 4 months should not be in the same cage
- Female (doe) should not be mated with aggressive male (buck)
- Provide enough feed to reduce competition
- Grasscutter run as if they are blind. They run into any obstacle in their path so the cages should be built in a way that injury is minimized when forcefully impact is made on the walls. Sand-crete drinkers and feeders should be minimized and kept at the edges of the cage to avoid clutter.
- Grasscutter below 4 months can be held at the tail while older ones should be held at the waist.

Bad feed: We are all familiar with the saying 'garbage in garbage out.' The farmer needs to know what they eat, how it's prepared, the ration per serving and the right time they should be fed. As their name implies, grass is their main feed but it's low in nutrient so they cannot function optimally on that alone. To meet their daily nutritional and caloric requirement, they are given supplements once a day. They eat many types of grass but seem to prefer elephant grass and panicum maximum. Wet grass and feed that contains mould should be avoided. Grasscutters have high insulin production and this causes the rapid depletion of sugar in their system which in

turn can result to fatigue and death. Poor feed and starvation is not advisable. So a balanced diet and sufficient feed is essential in preventing mortality.

Gastrointestinal parasites: These parasites are introduced into the animal primarily through contaminated grass and dirty environment. A major symptom of this infection is weight loss, watery stool, loss of appetite and excess water intake. This can be prevented by avoiding early morning grass, keeping their cages and animal house clean, inspecting and shaking the grass before serving. Those infected can be treated with bitter leaf or pawpaw seeds or garlic. Note that pawpaw seeds have an abortive ingredient hence should not be giving to pregnant ones. Animals can be de-worm every six months or only when weight loss is observed despite good feeding.

Poor hygiene: Grasscutters are neat animals. A dirty environment can be fatal. The need to keep their living quarters clean cannot be over emphasized. Their cages and surroundings should be cleaned every morning before giving them feed. Their drinkers should be washed thoroughly before and after use. If cement cages are used, ash can be used as a disinfectant. Waste must be cleared regularly to prevent odour and pests.

Inbreeding: Another cause of mortality is when Grasscutters siblings are mated. Offspring produced from such pairing tend to have genetic deficiencies that are deleterious to health and this reduces the chance of survival. It is therefore advisable to mate unrelated animals and this can only be done when proper records are kept. Agriculture is a science so the farmer should be observant and methodical in their practice.

Fear: Grasscutters are shy and easily frightened. Their fight or flight response is flight and they can kill themselves while attempting to escape danger because it seems as if their threshold to pain drops remarkably when frightened. They run as if they are blind, hitting anything in their way and trying to use their teeth to forcefully tear open an escape route where possible. This can cause fatal injuries and those pregnant could have miscarriage if this fear persists for long. So it is important to keep them in a place where they feel safe. Such an environment should have minimum human presence and noise of any sort. Ensure that it is in an enclosed area and not

exposed to public view. More, given that Grasscutters are quite intelligent and are quick to know when things are slightly out of place, the farm attendant(s) should try to follow a particular routine when carrying out their duties in order not to frighten them unnecessarily.

Reproduction in Grasscutter Production

Some basic facts about Grasscutter with regards to reproduction are as follows:

- **Sexual maturity:** Male Grasscutters mature in 8 months or 32 weeks and they have a minimum body weight of 2.5kg while the female Grasscutters mature in 6.5 months or 26 weeks having a minimum body weight of 1.8kg.
- **Sex ratio:** 1 male can service 4 to 10 females.
- **Ovulation:** Just like female rabbits (does), female cane-rats start ovulating on sighting a male
- **Gestation period:** 152 days
- **Numbers of litters per year:** 2 litters
- **Number of young per litter:** 3-11 young
- **Suckling period:** 40 days before weaning

Selection for Breeding for Mating

In Grasscutter production, random selection should be avoided. You should procure the best animals from the nearest breeding center or another Grasscutter breeder. Additionally, when making your selection, it should be based on body weight. All the females within a family should be having almost the same body weight and the male Grasscutter should be 0.5-1kg heavier than the females. Don't buy or breed closely related mating pairs; that is, a male closely related to the females.

Mating in Grasscutters

A male Grasscutter is capable of mating with many females Grasscutters in a single period. The male should be placed in the mating pen and the female Grasscutter is moved from her own pen to the male's pen. Leave both in the pen for 24 hours.

Note: Don't move the male to the female pen because it may result to fight and mating may not occur. Also, avoid mating a male that is lighter than the female in weight.

There are two mating options in Grasscutter farming:

1. **Permanent mating:** Here, the male and female Grasscutters are allowed to mate together in the same pen but the young are moved to another pen after they have been weaned.
2. **Temporary mating:** Here, the female is placed together with the male until she is pregnant and she is moved to another pen.

Both permanent and temporary mating has their advantages and disadvantages.

Advantages of permanent mating

- Increased breeding cycle

Disadvantage of permanent mating

- Difficult to identify the mother of each offspring
- Less control over reproduction
- Risk of cannibalism
- Risk of exhausting reproductive females
- Under-exploitation of the male

Advantages of temporary mating

- Clear identification of mother and offspring
- Excellent management of breeding process
- Reduced risk of adult male killing offspring

Disadvantages of temporary mating

- Increased investment (several pens needed)
- Need for larger space to house females
- Reduced number of litters per female and per year

Gestation

The gestation period for Grasscutters or cane-rats is 152 days. After your male and female Grasscutters must have mated with each other, it is necessary to check if the female is pregnant.

Pregnancy test

4-8 weeks after mating, carefully insert a cotton bud into the genital of the female. If it changes color to red, then that Grasscutter is pregnant. If there is no discolouration, then the female is not pregnant.

Birth

Newborn Grasscutters resemble adult ones. Within a few hours, they can move around. After the female has delivered, she must be provided with enough feeds and water for adequate milk production.

Weaning Grasscutters

You should wean your newborn Grasscutters 40 days after they are born. This is necessary because any extension will make the mother to grow weak due to prolonged breastfeeding. When weaning, separate the males from the females. You can identify a male Grasscutter by distancing the genitals and anus, which is twice as large as those in the young females. The feeds or foods that are given to Grasscutters should meet all their daily nutritional requirements. Since the Grasscutters would be in captivity, their diet should consist of majorly green forage, but fresh or dried food could also be provided. They can also be given concentrates rich in energy, proteins and minerals.

5. FINANCIAL ANALYSIS

Expenditure Items	**N : K**
Equipment:	
Feeding trough: water trough (i.e 30: 20pcs at 500 each)	25,000
I weigh scale	4,000
Sundries (bucket, packer, broom)	1,000
	30,000
1. Housing:	
Cage/pen (2-model of 3-tier cages at N60,000 each)	120,000
To accommodate 12 families/colonies	
2. Labour:	
1 work at ₦10,000 / Month	120,000
3. Medication and drugs:	
Antibiotics and local drugs (herbs mainly)	10,000
4. Breeding stock:	
10 families/colonies at ₦55,000/ family(colony)	550,000
Transportation for animals	20,000
	570,000
5. Feedings (Mainly grasses with Supplementary feeds) :	100,000

Investment Capital:

For a 10 families unit, the investment capital will be as follows:

Items	₦
Capital Expenditure	
Housing	120,000
Breeding Stock	570,000
Equipment	30,000
Feed Cost	100,000
	820,000
Recurrent Expenditure	
Labour	120,000
Medication & Drugs	10,000
Contingency (Sundry Expenses as fuel etc.	10,000
	140,000
Consultancy fees for 1 year (Payable in 2 instalments)	**500,000**

Total Investment	
Capital Expenditure	820,000
Recurrent expenditure	140,000
Consultancy fees	500,000
Total	**1,460,000**

Income / Revenue

1st Year:

Average number of offspring produced per family/colony	16
10 families/colonies (**A**) will give 10X16	160
Male / Female ratio 1:1	80/80
Therefore 20 new families/colonies (**B**) from (**A**) 35,000 each	700,000

Excess male (buck) (**B**) 80-20 = 60 at 4000 each		240,000
		940,000

2nd Year

10 families (A) 1st 6 month produce 20 families X 35,000 =	700,000	
10 families (A) 2nd 6/7 months produce 20 families X 35,000	=	700,000
20 families (B) 2nd 6/7 months produce 40 families X 35,000	=	1,400,000
	=	**2,800,000**

Value of Excess males (Bucks)

By (A) 1st 6/7 months 60 X 4,000	240,000
By (A) 2nd 6/7 months 60X 4,000	240,000
By (B) 2nd 6/7 months 120 X 4,000	480,000
	960,000

Revenue	940,000
	2,800,000
	960,000
Total Revenue	**4,700,000**

Total Investment

Capital Expenditure	820,000
Recurrent Expenditure	140,000
Consultancy	500,000
Total Cost	**1,460,000**

Cost Benefit

Total Revenue	4,700,000
Total Cost	1,460,000
Profit	**3,240,000**

6. MARKETING / PROCESSING OF GRASS CUTTER MEAT.

Marketing of grass cutter will not present any problem in many parts of Nigeria. It has a large market that the demand is not being met yet. Grass cutter is readily sold when processed. Hotels and food canteen make brisk business with grass cutter meat. Owing to the fact that the demand is usually high because of its taste, nobody has thought it necessary to process grass cutter meat or have a butcher shop for it. The acceptability cuts across both religious and cultural beliefs.

It could be processed as dressed fresh, frozen or smoked. The average market weight of a matured home grown Grasscutter can be 4 – 7kg with an average dressing carcass of 65%.

Indeed Grasscutter meat can be turned into steaks, small chops, lunch meat, etc through research. Grasscutter farmers are assured of regular income in view of the high demand for bush meat by big 5–star & high class hotels, big & small restaurants eat-outs and local bukateria all over the country. Markets also exist among women and youths at most of our major high ways, road side villages, markets places, relaxation and drinking joints.

With processing its hair is used as sauce for stews in Ghana. Markets already exist over most of Africa, United States of America and Europe.

Weaners: Can be sold as pre-breeders from 2-5months of age to other farmers. In fact, this is more profitable as it commands same price for a family and its more in demand by potential farmers.

Matured/Adult Grasscutter: Could be sold at market weight of about 5kg to suppliers of local bukateria and big 5 star hotels and other hot spots at special fixed rate. It could also be sold per kg at meat shops and markets all over the country.

A major advantage of the Grasscutter farmers or breeders over the hunters of the ones in the wild is that most buyers now prefer slaughtered animals to the ones hunted or killed with gun shots especially the Muslim sects. Some consumer complained of bullet pellets in the meat of the hunted species at times.

7. SWOT ANALYSIS

- The strength of this business is high consumption of Grasscutters in this part of the continent and the availability of Grasscutters all year round.
- The weaknesses of the business are high capital base, lack of mechanized equipments and unavailability of hybrid feed.
- Opportunities of the business are growing population rate and growing consumption rate of Grasscutters.
- The main threat to this business might be unavailability of hybrid feed to increase growth and multiplication of Grasscutters.

8. CONCLUSION:

The meat of Grasscutter is delicious and there is a ready market for your Grasscutters or cane rats. Many people go to restaurants to eat Grasscutter's meat; hence, making restaurant owners demand more to satisfy their customers. No matter the number of Grasscutters you possess, you will surely get buyers who are ready to buy them. Don't let me forget to inform you that their meat is low in cholesterol and health scientists had confirmed that there are health benefits in consuming it. Nutritionists have also advised people to consume "bush meat" because it is in the class of white meat. Also, know that eating the meat of Grasscutters has no religious or cultural taboos. Therefore, they are universally acceptable.

I believe you are now 99.99% convinced that Grasscutter / cane rat farming is a profitable livestock farming project.

Key to some terminologies:

Family: ------ 1male plus 4 females

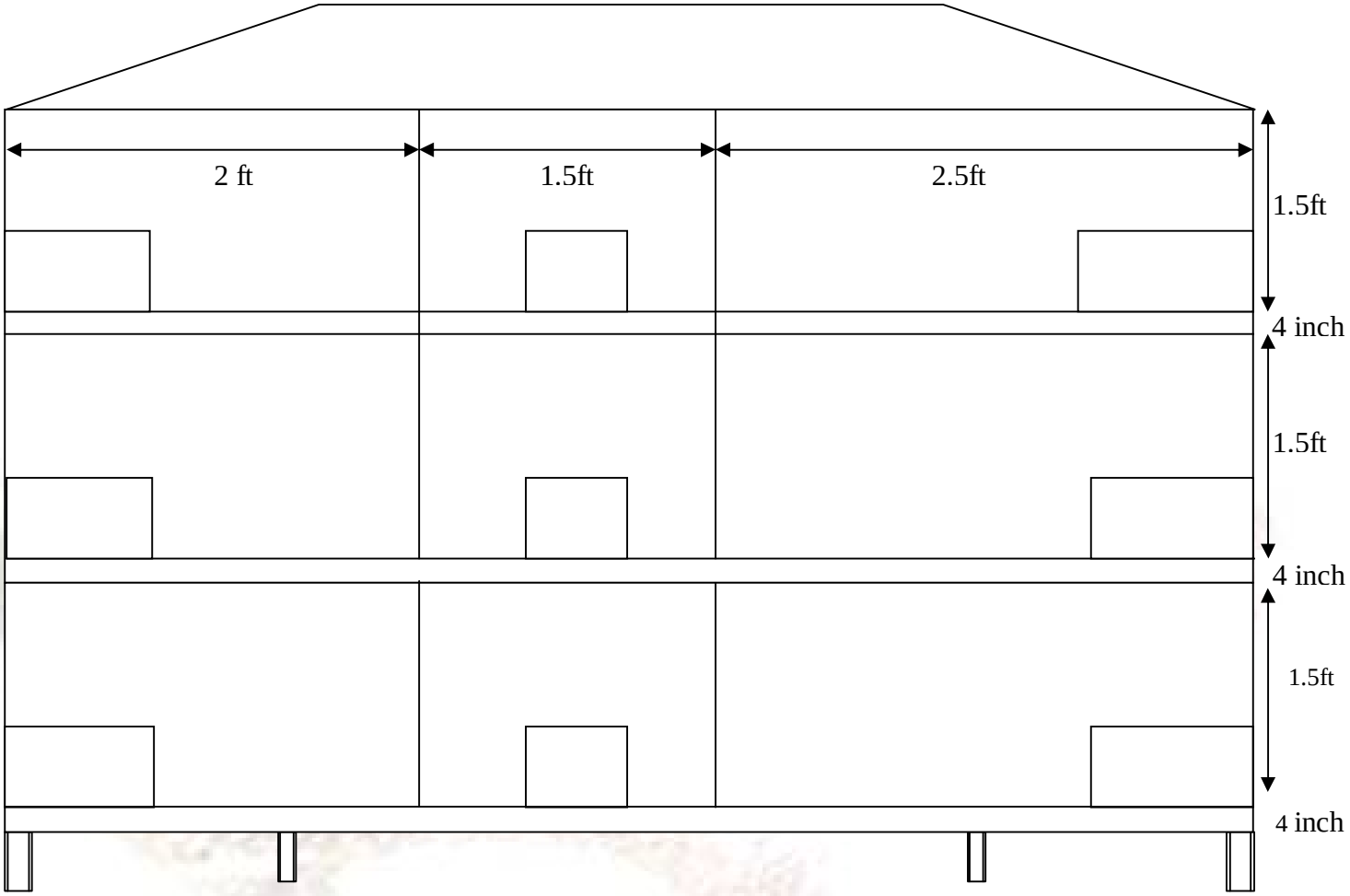
Colony: ----- Family of Grasscutters living together

Buck: ------ Adult male

Doe: -------- Adult female

Gestation period: ----Pregnancy period

Weaning: ----- End / stoppage of breast feeding/ suckling



ESTIMATION

2/3'' Plank	15	@250	3,750
3/4 '' Plank	2	@350	700
Iron Sheet	8	@500	4,000
Bokoharam Net	4yard	@400	1,600
Square Net	1 roll	@4,500	4,500
Nail and Others			1,200
W/Manship			5,000
TOTAL			**21,000**