

FARMING

A PARADIGM FOR FULL EMPLOYMENT AND ECONOMIC GROWTH

PRESENTED

BY

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INTRODUCTION

- Farming, over the years has been a major source of income not only to individuals but also to organizations and plays a strategic role in the economic development of a nation. This already is reflected in the economy of the advanced nations of the world and also glaring, is it's vital importance in the growth and advancement of the economy of the less advance nations.
- The agricultural sector is the backbone of any economy. It provides the basic ingredients for every society's survival in terms of food, employment opportunities and also raw materials needed for industrialization. Hence, industrialization and farming in relation to economic development, are not alternatives but complementary and mutually supporting.
- It is therefore only appropriate to place greater emphasis on the further development of the Agric sector wherein farming lies.



INTRODUCTION

LOOKING AT:

- TROPICAL POULTRY PRODUCTION
- CATFISH FARMING
- CROP PRODUCTION



TROPICAL POULTRY PRODUCTION



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HIGHLIGHTS

- Overview
 - Planning a Successful Poultry Venture
 - Preparation for Stocking.
 - Biosecurity
 - Nutritional Management for Tropics
 - Environmental Management for Tropics
- Water Management
 - Lighting and Feeding Programs
 - General Information
 - Farm Record
 - Vaccine and Vaccinations



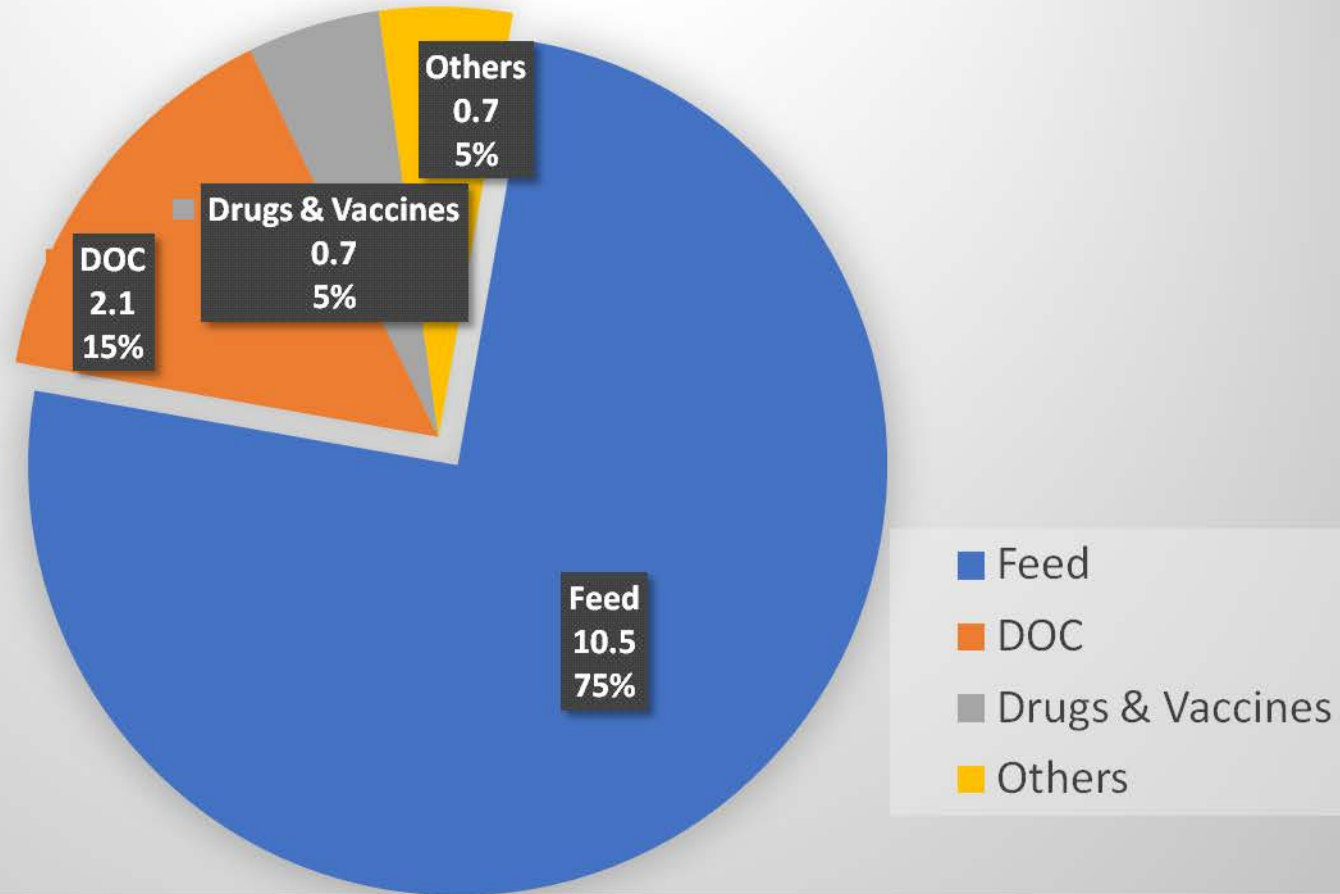
THE POULTRY INDUSTRY OVERVIEW

- **Size of Poultry Enterprises**
 - Small farm flocks
 - Large commercial operations
- **Important Factors for Success in Poultry**
 - Proper Nutrition
 - Good management (Feeding, Vaccination, Light etc)
 - Sanitation and Biosecurity
- **Types of Chicken Enterprises**
 - Egg production (Layer and Quail) (White Vs Brown eggers)
 - Meat production (Broiler, Turkey, Local and Scavengers)
 - Dual performers and Scavengers (**Noilers**)
 - Raising replacement pullets
 - Games



PLANNING A SUCCESSFUL POULTRY VENTURE

COST BREAKDOWN



PLANNING A SUCCESSFUL POULTRY VENTURE

➤ Requirements and Considerations.

- Space/Land- Proper Layout
- Structures- Suitable for our climate, Well placed and properly orientated
- Water source- Clean and Potable
- Equipment-Cages

- Drinkers
 - Feeders
 - Brooders
- } These should be in proportion with the floor spacing and stocking density



PREPARATION FOR STOCKING

➤ Cleaning

- Dry cleaning
- Wet cleaning

➤ Disinfection

Use a carefully selected chemical combination and give enough time for effectiveness.

➤ Laying of Beddings- Wood shavings and disinfect again / Set and re-disinfect the cages

- Spread white paper on the bedding material for the first few hours.

➤ Equipment - Drinkers and Feeders must be cleaned with soap and sponge.



BROODING TEMPERATURE REQUIREMENTS

Recommended Temperatures for Chicks

AGE	Cage Brooding		Floor Brooding	
Day 1-3	33-34°C	91-93°F	35°C	95°F
Day 4-7	32-34°C	90-93°F	33°C	92°F
Day 8-14	29-31°C	85-89°F	31°C	89°F
Day 15-21	26-29°C	80-84°F	29°C	84°F
Day 22-28	24-26°C	75-79°F	26°C	79°F
Day 29-35	21-23°C	70-74°F	23°C	74°F
Day 36+	21°C	70°F	21°C	70°F



BROODING TEMPERATURE REQUIREMENTS

- Environmental Temperature may be high enough to brood at times in the afternoon.
- Despite the heating needed, ventilation is of a serious importance.
- Observe the chicks for their distribution from a distance.
- Observe the warmth and ventilation at their floor level.



BIOSECURITY

An Essential Part of Poultry
Production



THREE SPECIFIC PRINCIPLES OF DISEASE PREVENTION

- 1. Secure by Design***
- 2. Secure by Planning***
- 3. Secure by Restriction***



ENVIRONMENTAL MANAGEMENT

CONTROLLING HEAT STRESS



ENVIRONMENTAL MANAGEMENT

➤ How do we achieve this?

- Use of high rises and control houses where possible.
- Building to specification (Widths, Sides, Gaps in-between, Hight)
- Building orientation (avoiding sun direction, optimizing the wind)
- Arrangements and Layout (no structure should block the wind direction of pen houses)
- A row of shady but not bushy trees between Houses.
- Lawn paving with grasses.
- Avoid agitating the birds (bright clothing, sharp ring tone etc)



BASIC POULTRY NUTRITION IN THE TROPICS

➤ Forms/Kinds of Feed:

- MASHES
- CRUMBLES
- PELLETS

➤ Birds raised for commercial purposes should be given feeds mostly with concentrates and very little roughages. Concentrates are low in fiber content, but high in digestible nutrients.



BASIC WATER MANAGEMENT IN THE TROPICS



BASIC WATER MANAGEMENT IN THE TROPICS

- Water consumption and excretion are important in heat regulation by birds.
- Birds drink at least twice than they eat but may drink up to 4 times in hot weather.
- Temperature of the water can influence water intake and feed intake. The cooler the water the better.
- Water temperature is affected both in the storage tanks and drinking lines. Hence a routine flushing of the drinking lines is advisable.



LIGHTING AND FEEDING PROGRAMS



LIGHTING AND FEEDING PROGRAMS

- Feed between 60%-65% of daily feed requirement very early in the morning using light.
- The birds must finish this quantity of feed (between 11:00am – 12:30pm) before the weather gets very hot.
- Additional feeding and lighting is usually needed by evening/night.
- This timing varies from place to place, so determine your operations locally.



FARM RECORDS

- Record Keeping in poultry is of utmost importance. Besides its use in cost and profit tracking, it is useful in:
- Early disease detection
 - System malfunctions (blocked drinking line)
 - Pilfering etc.

Note: Keeping different records for different rows or lines in a laying pen or different houses makes tracking very easy.



COST ESTIMATE FOR 1000 DAY OLD CHICKS (DOC) BROILERS

ITEM	QUANTITY	RATE	AMOUNT (₦)
COST OF DAY OLD CHICK (DOC)	1000	450.00	450,000.00
TRANSPORTATION OF DOC	1000	15.00	15,000.00
FEEDS:			
STARTER	36	4,100.00	147,600.00
GROWER	24	3,200.00	76,800.00
FINISHER	120	4,000.00	480,000.00
COST OF VACCINE & OTHER MEDS:			
LASOTA /IB PRIMER	2	1,500.00	3,000.00
GUMBORO	2	1,800.00	3,600.00
ANTI COCCI - AVATEC	2	4,500.00	9,000.00
ANTIBIOTICS - BMD	2	2,500.00	5,000.00
MULTIVITAMINS	4	1,200.00	4,800.00
OPERATING COST:			
CARTONS FOR FLOORING	1	1,000.00	1,000.00
WOOD SHAVING	20	800.00	16,000.00
HEATING COST -GAS	3	4,500.00	13,500.00
UTILITY - WATER, LIGHT ETC	2	15,000.00	30,000.00
LABOUR - 1 STAFF	2	20,000.00	40,000.00
TOTAL			1,295,300.00



CATFISH FARMING



HIGHLIGHTS

- INTRODUCTION TO AQUACULTURE
- WHY CATFISH ?
- KEY AREAS OF CATFISH FARMING
- SYSTEMS OF CATFISH REARING
- BEST FISH FARMING PRACTICES



INTRODUCTION TO AQUACULTURE

- Aquaculture is the farming of aquatic organism including fish farming. This presentation will be concentrating on Catfish farming.
- Fish farming involves raising fish in commercial quantity for human consumption, in a controlled environment with intervention through regular feed supply, proper stocking density, good water management and protection from predators.



WHY CATFISH?

- It's adaptative feature
- It's rugged and high survival rate.
- Availability of fresh water bodies in our environment



THINGS YOU NEED TO KNOW ABOUT CATFISH

- A smooth body fish. It has no scales.
- Omnivorous feeding habit.
- External air breathing abilities
- High resistance to disease
- Fast growth rate compared to other species
- Reproduces through artificial insemination
- Good Feed Conversion Ratio
- Low in lipid (fat) and high in protein
- High survival rate after the fingerling stage



KEY AREAS OF CATFISH FARMING

The business of catfish farming is divided into three broad areas:

1. Fingerling production
2. Fish food production
3. Processing to dried fish



SYSTEMS OF CATFISH REARING

There are diverse systems used in rearing catfish.

1. Intensive system of rearing Catfish
 - Plastic tanks
 - Block/ Concrete ponds
 - Tarpaulin ponds
2. Extensive system of rearing Catfish:
 - Earthen ponds
 - Cages/ nets in rivers





CONCRETE POND



PLASTIC TANKS



EARTHEN POND



REARING CAGE



MOBILE/TARPAULIN PONDS

BEST FISH FARMING PRACTICE

The general routine practice for fish farming includes;

- Stocking
- Water management
- Feeding
- Sorting or grading
- Harvesting and sales, and
- Processing (if need be).

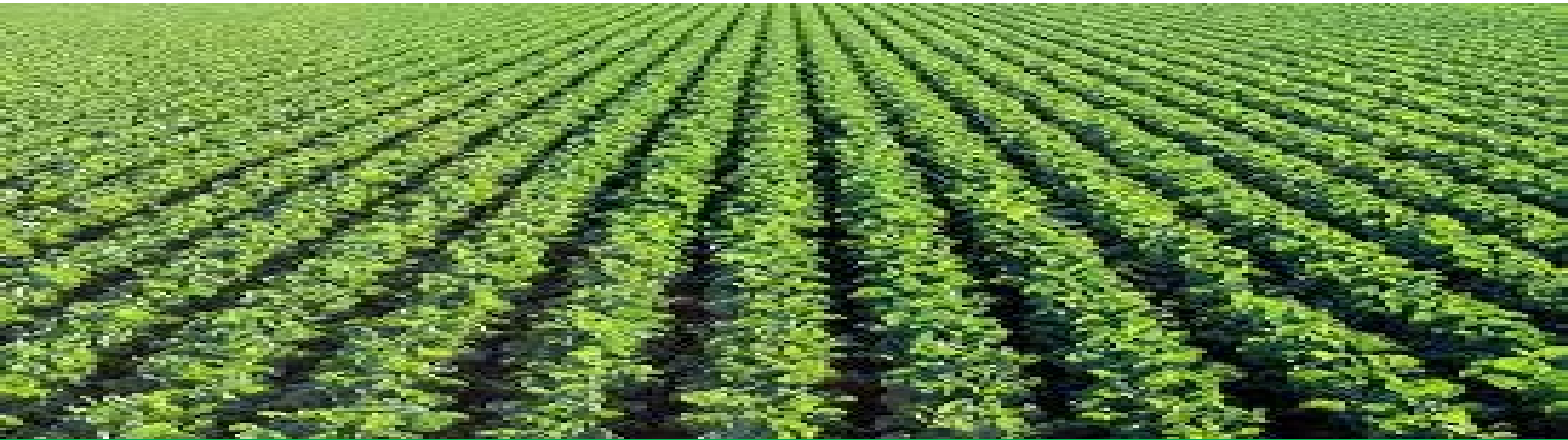


COST OF 1000 POST FINGERLINGS AND FEEDS / FEEDING CHART REQUIRED TO ATTAIN AVERAGE WEIGHT OF 1.4KG

			AMOUNT
1000 Post fingerlings at ₦15 each			15,000.00
FEED SIZE	QUANTITY	DURATION	
1.2mm	3kg	7 days	2,100.00
2mm	2 bags	14 days	21,000.00
3mm	4 bags	16 days	35,600.00
4mm	11 bags	30 days	97,900.00
6mm	20bags	40 days	178,000.00
8mm	30 bags	20 days	267,000.00
TOTAL	67 BAGS	127 DAYS	616,600.00



CROP PRODUCTION PROCESSES & PRACTICE



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INTRODUCTION

- Crop production is a sector of agriculture that remains the base of the Nigerian economy, providing the main source of livelihood for most Nigerians.
- This sector faces many challenges such as;
 - an outdated land tenure system that constrains access to land (1.8 ha/farming household)
 - a very low level of irrigation development (less than 1 percent of cropped land under irrigation)
 - limited adoption of research findings and technologies, high cost of farm inputs, poor access to credit
 - inefficient fertilizer procurement and distribution
 - inadequate storage facilities and poor access to markets
- Some common crops are mushroom, pawpaw, onion etc.



MUSHROOM (*Agaricus bisporus*)

- Mushroom belongs to the fungi family and to the class of *Basidiomycetes* and *Agaricales*.
- There are over two thousand types of mushrooms, but only 2.5-5 % are edible.
- Before choosing a mushroom farm site it is necessary to consider the climatic condition of the area:
 - **Temperature** - about 25°C
 - **Humidity** - 80 – 90% per day
 - **Light** - color and intensity
- Hygiene is vital on a mushroom farm. Thus, the surroundings of the farm should be clean and free from possible contamination from insects, moulds, infected soil etc.



PAWPAW (*Carica papaya*)

- Pawpaw belongs to the *Caricaceae* family. It originated from the tropics of the Americans, southern Mexico, and neighboring Central America.
- It is well adapted to many soil types. It likes to be warm with both sunshine and reflected heat.
- It needs a light, well-drained soil. It is easily killed by excess moisture; it does not tolerate salty water or soil.
- Pawpaw is harvested 9-10 months after transplant manually, using special instruments like sickles, knives or hand and it is usually harvested 3 to 4 times a week as its maturity stage is short-lived.



ONION (*Allium cepa*)

- Onion is a vegetable crop which belongs to the *Alliaceae* family. It is a biennial plant but usually grown as annual. This is because the onion bulb and stem mature within one year, flowers and sets seed in year two.
- The optimum temperature requirement for crop development is between 15°C – 25°C while for seedling growth, optimum temperature is between 20°C – 25°C. Insect activity is needed for pollination.
- The amount of moisture needed by the plant for irrigation purpose is about 350-550 mm. Irrigation frequency is between 5-7 days and the number of irrigation per growing season is about 15-20 times.



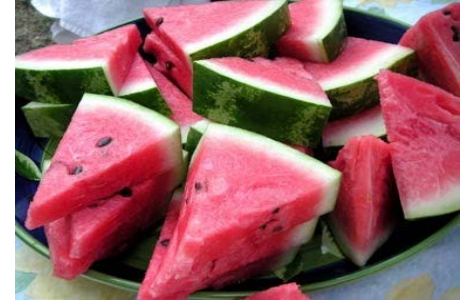
EWEDU (*Corchorus olitorius*)

- *Corchorus olitorius* when cooked, has a slimy texture similar to Okra. Its seeds are used as flavour, while the leaves are dried and are used to make herbal tea. The yorubas call it ***ewedu*** while the hausas, ***rama***.
- It prefers a very fertile soil and a hot humid climate; it can tolerate very wet conditions but not waterlogged soil.
- It can tolerate an annual precipitation between 40 and 429 m, an annual average temperature range of 16°C to 25°C and a pH in the range of 4.5 to 8.2. It can be grown throughout within the year.
- The *Corchorus olitorius* should be ready for harvesting 3 to 4 months after Planting, harvesting stops when no new leaves are formed or when there is no stand.



WATER MELON (*Citrullus lanatus*)

- Watermelons are tropical or subtropical plants and need temperatures higher than about 25 °C (77 °F) to thrive.
- Watermelon performs optimally at a low or moderate rainfall, or high sunshine also; sweeter watermelons are produced during the dry season.
- In Nigeria, water-melons grow well both in the rain forest regions and in the dry savannah regions, but foliar diseases are less destructive in the drier zones.
- The temperature of the climate has to be hot in order to avoid poor germination which is why the largest production of the crop comes from the northern part of Nigeria where the suitable climate is found.



OKRA (*Abelmoschus esculentus*)

- Okra originates from West Africa. It is scientifically named "*Abelmoschus esculentus*" and can also be called "*Hibiscus esculentus*".
- This crop belongs to the *Malvaceae* family.
- Its fruits are used to make soups, sauces, stews, curries, and even salads while the leaves are used to feed farm. Roasted okra seeds are ground and used as a substitute for coffee in some areas.
- It thrives well in well-drained deep soil. The optimum temperature required is 25-30°C and it takes about 90-100 days to start flowering.
- 2015 production statistics revealed that Nigeria is the second-largest producer of okra in the world after India with a production capacity of 2,067,900 tons.



Cucumber (*Cucumis sativus*)

- Cucumber is a widely cultivated plant of the *Cucurbitaceae* family. It originated from southern Asia.
- It is a creeping vine that bears cylindrical fruits that are used as culinary vegetables.
- A well drained fertile soil with a pH of 6.0 – 7.0 is important for cucumbers and they thrive in a sandy loam soil.
- The optimum temperature for growth is about 30°C and the optimum night temperature 18–21°C; the minimum temperature for good development is 15°C. High light intensity is needed for optimum yields.
- In Nigeria, cucumbers are grown majorly in the North particularly Jos; due to the climatic requirements.



HOW TO ACCESS THE NIRSA AGSMEIS LOAN





SECTORS

- Agricultural sector
- Real Estate
- Manufacturing
- Mining
- Petrochemicals
- Service sector
- Information and Communication (ICT)
- Creative Industry



STEP 1: VISIT WEBSITE TO APPLY

AGSMEIS Loan Application Scheme

nirsalmfb.caderp.com › account ›



STEP 2: TRAINING

- *Applicants will be trained on Entrepreneurship and Business Development.*
- *Training could be Online or Offline depending on the EDI and the training can last for one or two weeks depending on the EDI also.*
- *Applicants are trained on basic Entrepreneurship module like Human Resource Management, Business Development Services, Financial Management and other Vital Modules.*



STEP 3: DEVELOP AND SUBMIT YOUR BUSINESS PLAN

This is usually done by your EDI or BSP



STEP 4: INTERVIEW AND ACCOUNT OPENING

- *At this point, your EDI has submitted all your documents for profiling by NIRSA after which you will be invited for an interview.*
- *The interview by NIRSA may either be online or offline.*
- *This is the account opening stage.*



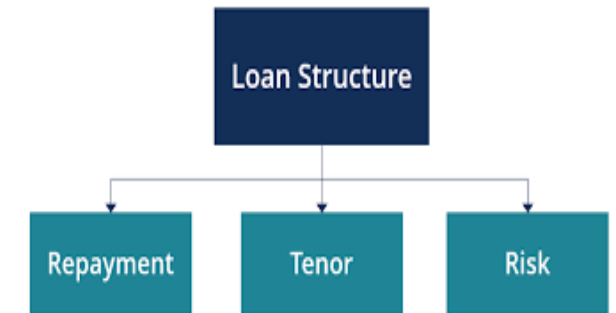
STEP 5: DISBUREMENT

- The value of your loan will be credited to your NIRSAL MFB ACCOUNT which will be used to offset the bills for the Equipment and Inputs supplied to you by your VENDORS.
- In most cases only the amount of WORKING CAPITAL, where necessary is paid to the applicant. Every other payment goes directly to your vendors.



STEP 6: REPAY LOAN

- The loan will be repaid plus 9% Interest, spread over 3 to 5 years period.



Thanks For Listening



JOAN EICHIE DANIELS (*Managing Director*)
HIBA VENTURES

