



**USAID**  
FROM THE AMERICAN PEOPLE



**Amalima**



**CNFA**  
Cultivating New Frontiers  
in Agriculture



# Chicken Production

## MODULE 1: Indigenous Chickens

AN ILLUSTRATED TRAINING GUIDE FOR AMALIMA LEAD FARMERS





# Why keep chickens?

meat



manure



eggs



money



# Notes

## 1 Meat and Eggs

- Chicken meat and eggs provide a readily available, high-quality source of proteins, vitamins and micronutrients.
- Eggs are an excellent source of iron, zinc and vitamin A, all of which are essential to health, growth and well-being for children, nursing mothers and people who are ill.
- Contribute to a nutritious, balanced diet, which is especially important for children, nursing mothers and people who are ill.

## 2 Manure

- Droppings are rich in nutrients and can be used for manure or composting, which is very good for your gardens and comes at no cost.

## 3 Money

- Chickens can also be sold to meet family needs such as food, medicines, clothes and school fees. In this way, they act as a ready source of cash for emergencies and small purchases.
- Smallholders can produce local chickens at little or no cost, which has a very significant competitive advantage over almost any other income-producing activity that you may choose. As such, the activity is essentially financially risk free.



# What do you need to start?

- To rear indigenous chickens you will need to provide shelter for the chickens, clean water, and occasionally feed.



*shelter*



*space to forage*



*clean water*



*feed*



# Notes

## 1 Food for the Chickens

- Local chickens (commonly known as *nkukhu makhaya*) forage for most of their food.
- Every now and then farmers can give purchased feed and leftover food.
- Giving purchased feed allows the chickens to have access to nutrients that are not found in foraged insects, seeds, and other locally available foods for them.

## 2 Water

- It is imperative that the chickens have access to clean water at all times throughout the day.

## 3 Shelter

- Living conditions must be established and maintained to accommodate the health and natural behavior of animals, including access to outdoors, shade, shelter, exercise areas, fresh air, and direct sunlight.
- Continuous confinement in cages is not recommended. This will prevent the chickens from scavenging for food and also puts them at risk of disease if the confinement areas are not cleaned regularly.
- Shelter also protects the birds from predators and bad weather.

# To start, you will also need...



*dry grass*

- Provides bedding for the chickens in the fowl run.
- Comfortable bedding for hens in nests and also safe for eggs.



*laying nests*

- Provide a safe, dark, dry place for the hens to lay eggs.
- Place grass or wood shavings in the nest as bedding.



*water & feed containers*

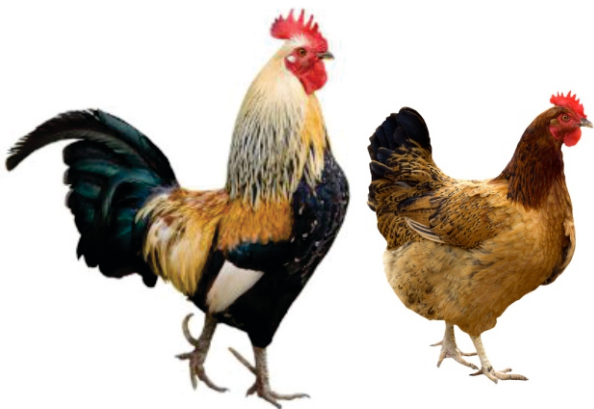
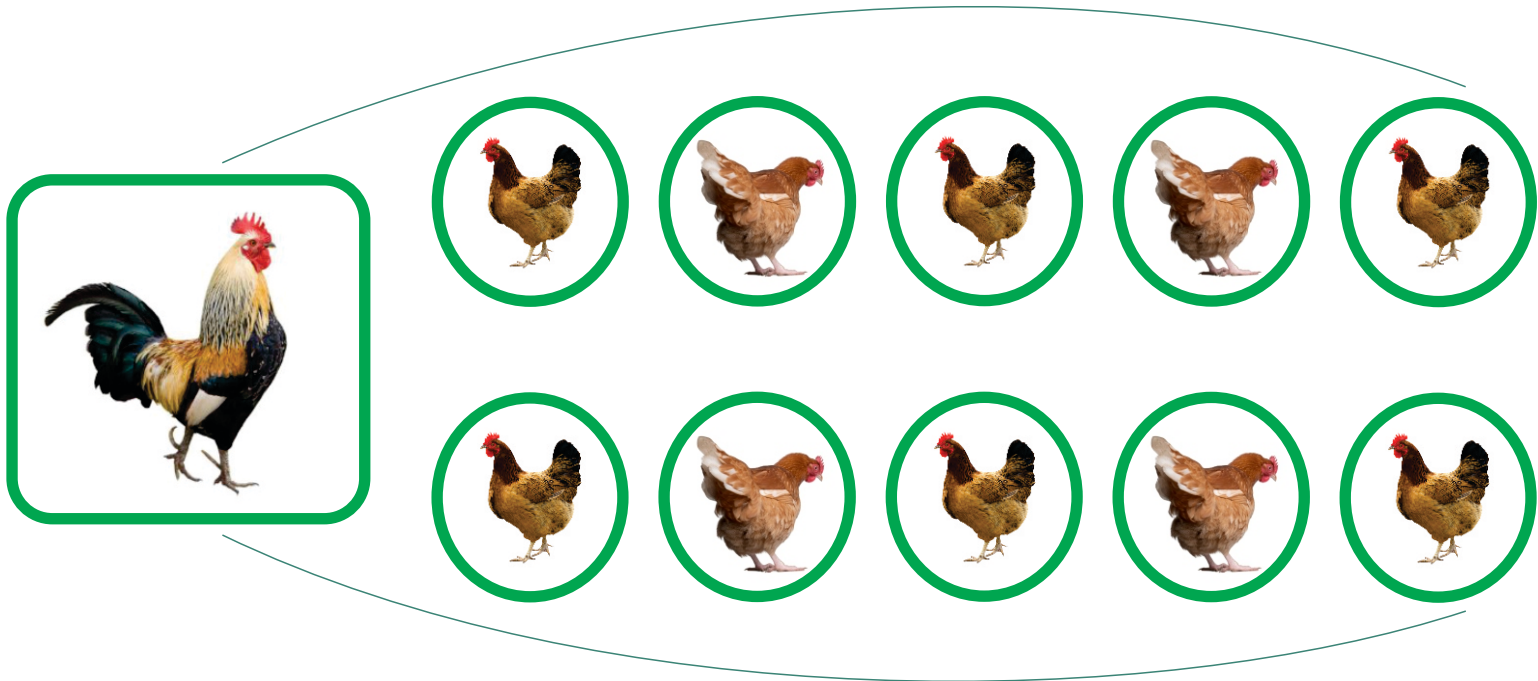
- Containers prevent feed wastage and keep out animals like rats.
- Keep the chickens fed without having to constantly clean out chicken excreta and feathers.



# Lastly, you also need the chickens.

- Chickens for breeding are readily available. Some choose to make VS&L groups specifically for the purchase of chickens for each member.
- It is also possible to save up individually and gradually purchase the chickens.

- When you get the chickens, get 1 rooster for every 10 hens.

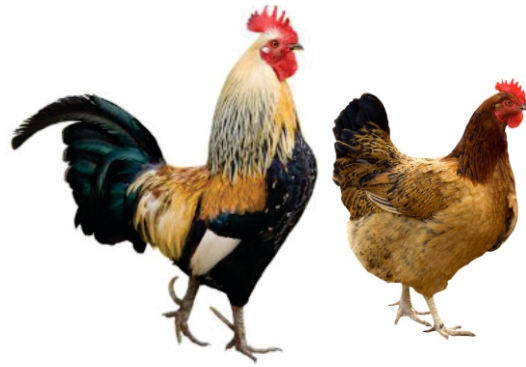


- Select strong and healthy birds.
- Examine the birds before purchase.

# Feeding your Chickens

OPTION

1



Most farmers feed leftovers and leave the chickens to scavenge.

OPTION

2



*purchased feed*



*scavenging*



*home made feed & grains*



*leftovers*

Ideal approach which leads to better meat and egg production.



# Notes

## 1 Option 1

- Most farmers use this approach.
- This option is very easy to implement. However, the food the chickens eat is not balanced.
- This method does not encourage full productivity as the chickens spend most of their time and energy finding food.







## 2 Option 2

- Depending on the time of the year they will be able to find part of their feed by scavenging in the surroundings of the household.
- As such, they will need an extra supply of nutrients in order to gain weight and for hens to lay a good quantity of eggs through supplementary feed.
- To produce well and have good resistance against diseases, birds need adequate quantities of good quality feed.
- Supplementary feed and clean water should be given at least early in the morning and again in the evening when the birds are returning to the house for the night.
- It is important that the feeders and drinkers are kept clean, so that infections do not spread through dirty feed and water.
- Give chickens access to clean water throughout the day.

# Supplementary Feeding

- Depending on the season, the chickens may find nearly all they need in the surroundings (e.g. during harvest) or close to nothing (during lean season).
- Supplementary feeding is very important for the upkeep of poultry, especially during the lean seasons.

## How to feed your Chickens

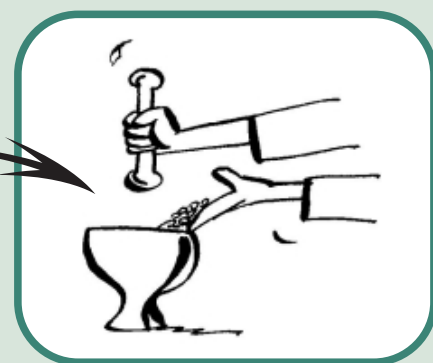
Age (weeks)	Amount of Feed to Give (per bird per day)
<p><b>Chicks</b> 1 - 3 weeks</p> 	<p>One third of a handful scoop of feed</p> 
<p><b>Growers</b> 4 - 8 weeks</p> 	<p>One handful scoop of feed</p> 
<p><b>Adults</b> 9 - 28 weeks</p> 	<p>One and a half handful scoops of feed</p> 



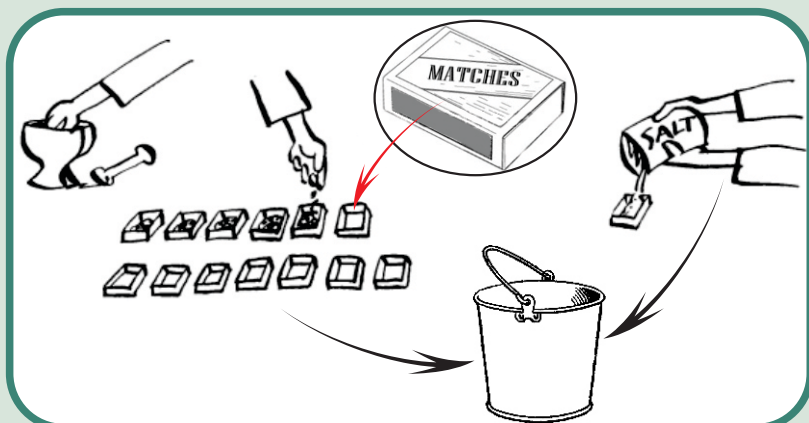
# Chickens also need minerals

- ❑ Minerals are important for bone formation, eggshell formation and a good health standing.
- ❑ To produce strong shells for their eggs, laying hens need free access to calcium (limestone or crushed bones).
- ❑ The easiest way to give chickens minerals is through giving them bone meal or purchased grits and feeds.

## Home made bone meal



- ❑ Gather as many bones and eggshells as you can.
- ❑ Scorch the bone on the fire.
- ❑ Crush the bones into a gritty powder.



- ❑ Enrich the bone meal by adding salt.
- ❑ Mix one match box full of salt to 13 match boxes of bone meal.

# Chicken Housing

## Mud hut run



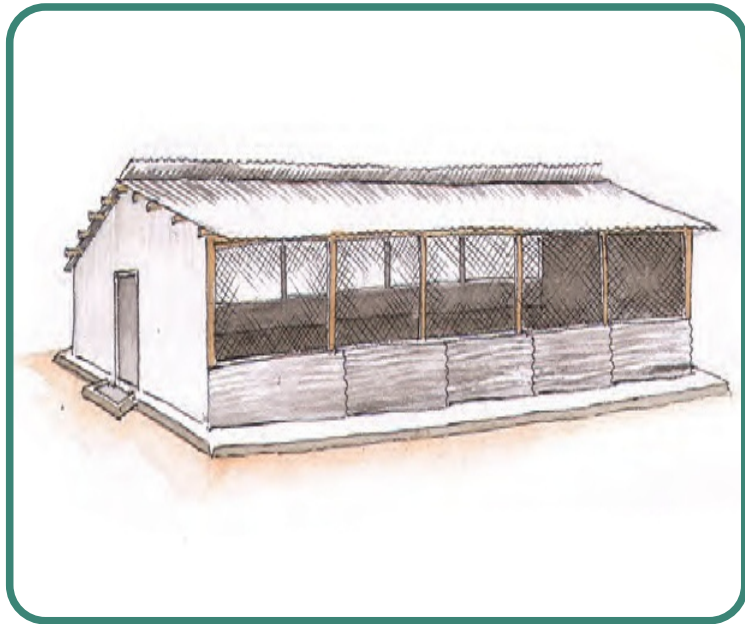
- Uses locally available materials.
- Relatively easy to construct.

## Raised thatched run



- Requires purchase of net.

## Fowl run



- Requires purchase of materials.
- Construction by semi-skilled artisans.

## Raised netted run



- Requires purchase of netting.
- Uses locally available materials.
- Relatively easy to construct.



# Make sure the housing has:

1

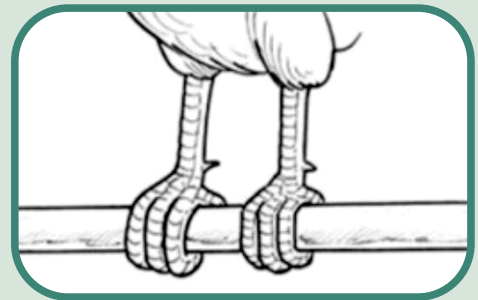
Nests for laying eggs and brooding.



2

Perches for the chickens to rest at night. The sticks used must match the size of the birds' feet.

**Birds that rest on the floor are easily attacked by disease and pests.**



3

Make sure the floor has no cracks and wont develop cracks in the future.

**Cracks provide hiding places for pests and parasites which can bring disease.**



4

The housing should be raised to protect birds from predators. The housing should also be well ventilated.



5

Use poles without bark. The bark can also harbour pests.



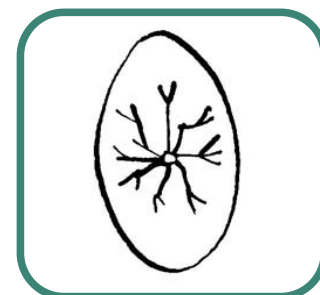


# Eggs and Brooding



- Nests for brooding must be individual. One nest per hen.
- Make sure the nesting areas are quiet, dark, cool and dry.
- Check and ensure that hens do not lay eggs in the same nest.

- Periodically check which eggs are fertile.
- Against a sharp light from a torch, fertile eggs have visible blood vessels.



■ Consume or sell all infertile eggs from the nest.



- In brooding check for pests (lice, ants, fleas, tampans etc).
- Ensure that food & water are readily available and nearby.

■ Pests can force hens to abandon brooding.



21 days



# Managing Diseases



- The best protection against diseases and parasites is good hygiene.
- It is therefore important that it is easy to clean the house or shelter.
- It should be tall enough for an adult to work in there.



- Seek vaccination advice from your local veterinary service office. It's always better to prevent than to manage.
- Seek advice on best practices for poultry health management.

# Common things to look out for

What can go wrong	Cause	What to do
<ul style="list-style-type: none"> <li><input type="checkbox"/> Blood in droppings, ruffled feathers and loss of appetite.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Coccidiosis. A parasite that lives in the intestinal tract.</li> <li><input type="checkbox"/> Stress.</li> <li><input type="checkbox"/> Poor hygiene.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Practice good hygiene. Clean poultry housing and feed containers.</li> <li><input type="checkbox"/> Avoid stressing the birds through overcrowding, exposure to cold and lack of feed.</li> <li><input type="checkbox"/> Treat as advised by your local vet.</li> </ul>
<ul style="list-style-type: none"> <li><input type="checkbox"/> Parasites - mites, ticks, fleas and lice.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Poor hygiene.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Practice good hygiene.</li> <li><input type="checkbox"/> Avoid use of poles with bark or cracks.</li> <li><input type="checkbox"/> Avoid cracked walls and floors.</li> <li><input type="checkbox"/> Use Diatomaceous Earth, Cedarcide, Borax laundry soap, herbs / garlic in water.</li> </ul>
<ul style="list-style-type: none"> <li><input type="checkbox"/> Worms.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Infection picked up from other birds.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> De-worm once during dry season and again at start of the rains or when chickens look weak.</li> </ul>
<ul style="list-style-type: none"> <li><input type="checkbox"/> Respiratory problems, mucus discharge, drop in rate of egg production and production of soft-shelled, off-coloured, irregular-shaped eggs.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Newcastle disease. A viral infection.</li> <li><input type="checkbox"/> Poor hygiene.</li> <li><input type="checkbox"/> Stress.</li> <li><input type="checkbox"/> Spreads by contaminated equipment, shoes and free-flying birds.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> There is no treatment for this.</li> <li><input type="checkbox"/> Vaccination against this disease is encouraged. Ask from your local vet.</li> <li><input type="checkbox"/> Good hygiene reduces the risk of exposure to the disease.</li> </ul>
<ul style="list-style-type: none"> <li><input type="checkbox"/> Chicks grow slowly, stay small, are weak and unhealthy looking</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Inbreeding</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Change roosters every year</li> </ul>
<ul style="list-style-type: none"> <li><input type="checkbox"/> Pimple heads</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Fowl pox</li> <li><input type="checkbox"/> Failure to vaccinate</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Vaccinate the wing web, preferably at 3 weeks of age or whenever there is a risk of the disease</li> </ul>
<ul style="list-style-type: none"> <li><input type="checkbox"/> Chickens eat eggs</li> <li><input type="checkbox"/> Plucking of feathers</li> <li><input type="checkbox"/> Wounding</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Overcrowding</li> <li><input type="checkbox"/> Lack of minerals (calcium)</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Feed calcium grit (purchased)</li> <li><input type="checkbox"/> Feed crushed bone meal or crushed egg shells</li> </ul>

Always purchase and use certified and registered medicines.



# Record Keeping



- ❑ The keeping of records is a very useful management tool.
- ❑ Records can help farmers as well as extension workers and other technical people to identify problems and optimise production.

- ❑ Farmers should keep small booklets and record:
  - deaths, clinical signs and/or suggested causes
  - general laying ability (number of eggs per seating)
  - number of seatings per year
  - number of chicks hatched
  - number of chicks reared (to, say, 8 weeks of age)
  - number of chickens and eggs sold and unit prices
  - vaccination and other treatments applied (when and with what).

# How to keep records?

## Poultry Production Record

Name of Farmer: \_\_\_\_\_ Period: \_\_\_\_\_

Record	Date	Number	Comment
1. Hens			Health status, age, laying?
2. Cocks			Health status, age?
3. Growers			
4. Chickens			
5. Dead birds			Cause of death?
6. Eggs laid			
7. Fertile eggs incubated			
8. Chicks hatched			
9. Chickens vaccinated			With what and how?
10. Birds given medicine			With what and how?

Record	Date	Number	Price	Comment
1. Cocks sold				
2. Hens sold				
3. Growers sold				
4. Chicks sold				
5. Eggs sold				
6. Eggs consumed				
7. Chickens consumed				
8. Poultry given away as gifts				
9. Chickens purchased				
10. Feed purchased				

# Consumption, Sale and Marketing

## Selecting chickens for consumption or sale:

- **Sell or eat hens that are not laying well.** In this way, a farmer will not waste valuable feed resources on unproductive birds while at the same time the quality of the flock will gradually be improved.
- Cull cockerels for consumption or sale. Keep only the best cockerels for breeding.
- Sell or eat hens that are older than 2 years, as egg production and meat quality rapidly fall after this age.

## Selling your chickens:



- There is a high demand for village chickens in urban areas.
- In addition to individual consumers, some restaurants require village chickens in bulk.

- As such, try to market your chickens in urban areas as well as your local markets.
- Produce and sell more birds before public holidays when people like to prepare feasts with meat.
- Farmers can sell eggs instead of taking the risk of raising chicks in times of drought.



# What to do with the money you earn?



*School fees*



*Health costs*



*Groceries*

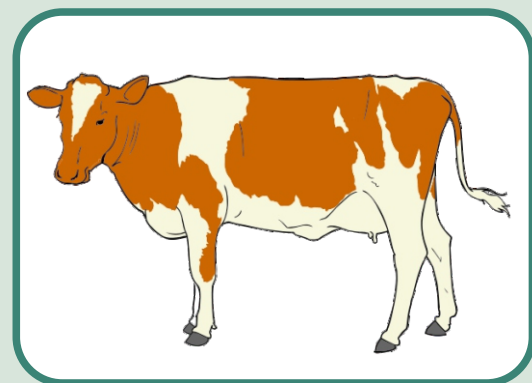
- Income from your poultry could help with home groceries, school fees, medical expenses and purchase of agricultural & home inputs.



*Assets*



*Other bigger livestock*



- Priority should be given to reinvesting in the poultry business. Farmers could buy more hens, feed or build bigger structures.
- It is also wise to buy assets such wheelbarrows, carts, and paravet kits.
- You can also diversify by buying other livestock such as goats, and then breeding those goats to eventually buy a few heifers.