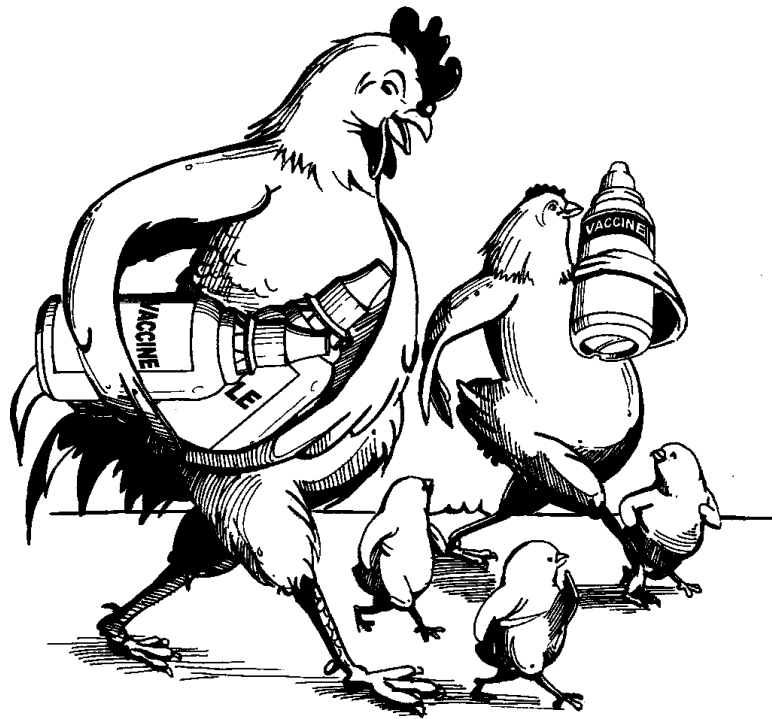


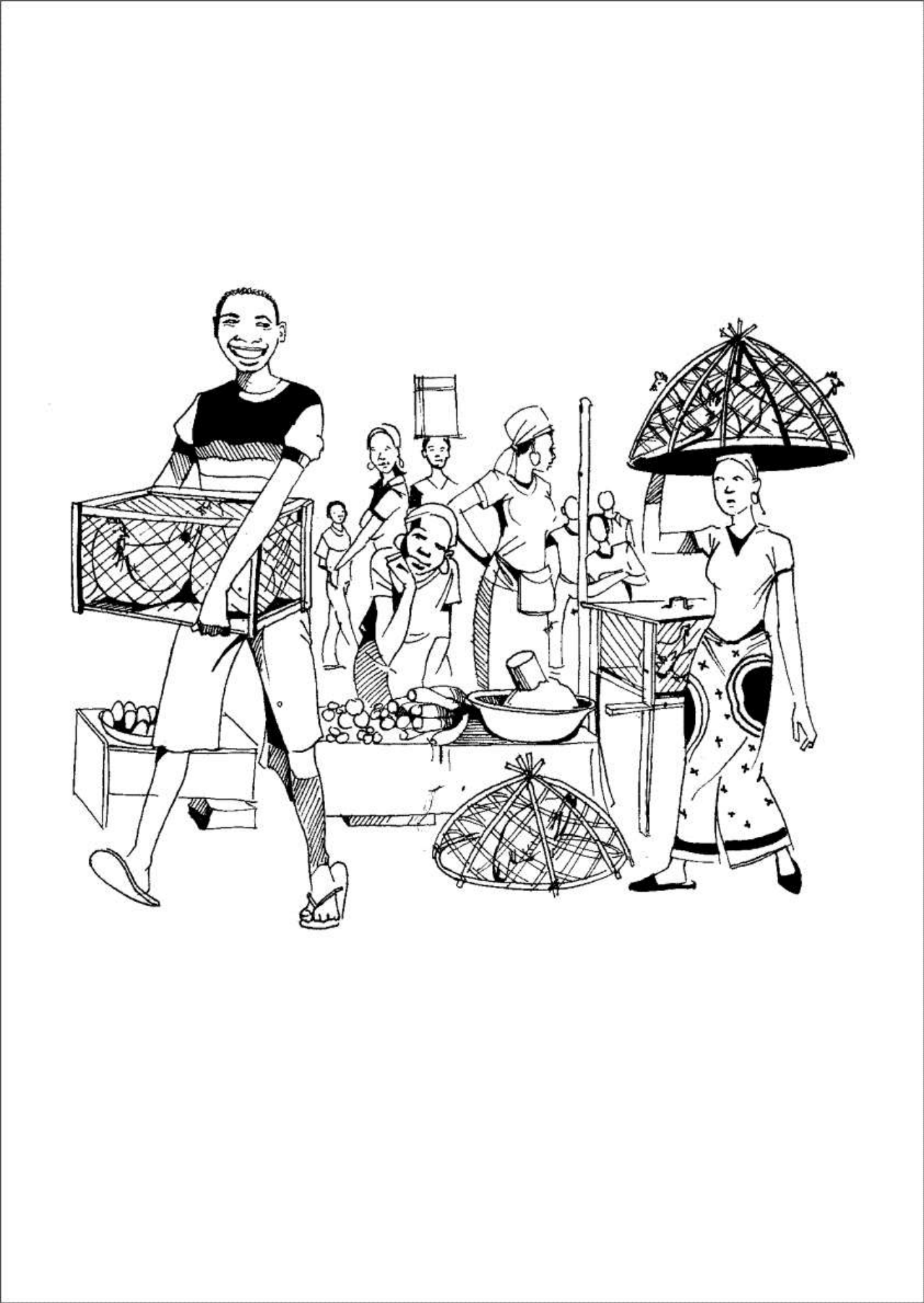


Republic of Zambia

# CONTROLLING



# NEWCASTLE DISEASE



# **NEWCASTLE DISEASE AND ITS CONTROL**

1. Read the written part that accompanies each illustration and practise presenting the information at home before your first public presentation.
2. Present each illustration in a way that people can see it clearly and ask your audience to explain what they see in it.
3. Once everyone has agreed on what the drawing shows, you can present the written part that accompanies each picture.

## **The Importance of village chickens**

Note: The Oral presentation starts here!

Chickens are an important source of food and income for most families in rural Zambia. More families raise chickens than any other type of animal.

Chickens grow very quickly and they are easy to take care. Anyone in the family can raise chickens.

They give us meat and eggs, which are both very important to stay strong and healthy. Chickens and eggs can also be sold easily to provide us with money when we need it. When we only need small amounts of money, such as for buying medicines or school books, it is much better to sell chickens or eggs than a cow or a goat.

Chickens are also important for ceremonies and festivals and they can easily be prepared when we have unexpected guests for a meal.

We should therefore try to look after our chickens. Today we want to talk about protecting our flocks from a disease that kills many chickens in our villages each year.

Newcastle disease is a problem for chicken farmers all around the world. In Zambia, Newcastle disease causes many deaths in both village chickens and chickens raised in urban areas.





## CHARACTERISTICS OF NEWCASTLE DISEASE

Apart from Newcastle disease, there are other diseases that can kill chickens. What are they?

However, in Zambia, Newcastle disease kills more chickens than any other disease.

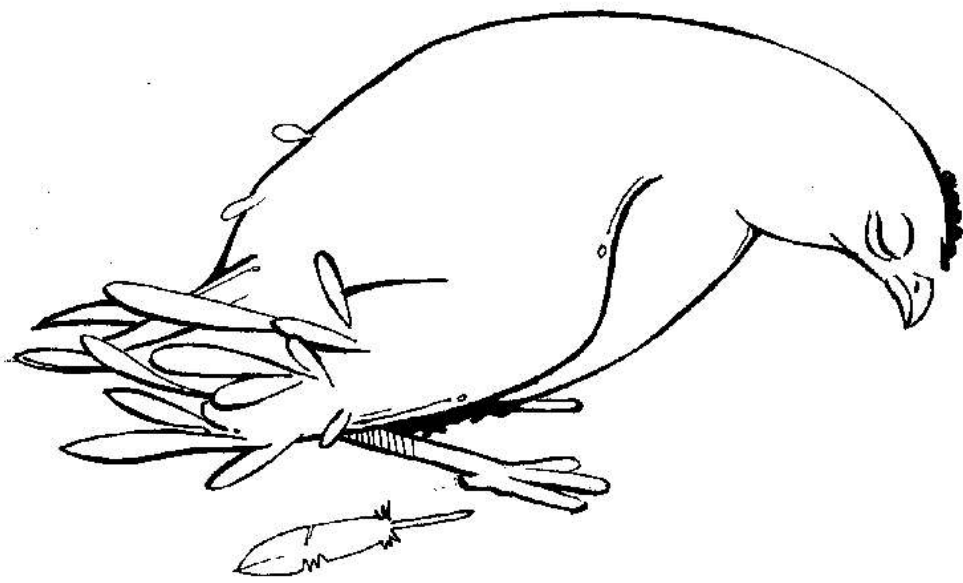
Therefore, we need to be able to recognize the characteristics of this disease.

The name given to Newcastle disease varies from country to country and sometimes from district to district.

For example, in the central region of Zambia it is sometimes called “Chimpupu” or “Chipumphu” in the eastern region.

What is the name of Newcastle disease here?





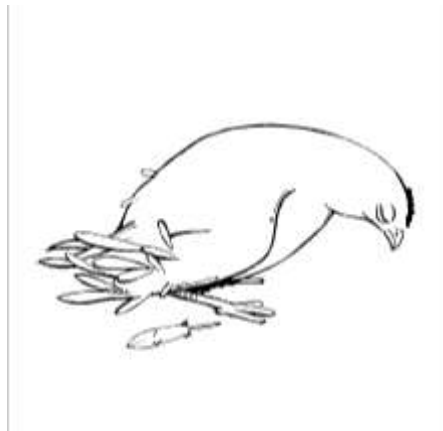
## WEARING A COAT

Look at this picture. What can you see?

The wings of the chicken are drooping. In some countries, the farmers say that the chicken is wearing a coat or that its coat is dragging on the ground.

Its feathers are fluffed up.

Sometimes its head will be swollen.







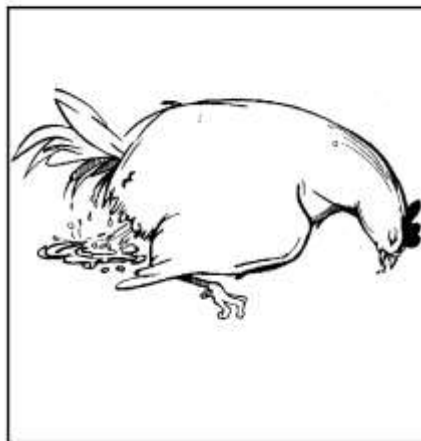
## **GREENISH LIQUID DIARRHOEA**

Please describe what you can see in this picture?

The chicken has diarrhoea (watery manure?) that is often green in colour. This means that the bird's droppings will be like green liquid rather than firm, well-formed manure.

The diarrhoea makes the feathers at the rear of the bird dirty.

### **Greenish diarrhoea**





## **TWISTED NECK**

What does this picture show?

This chicken has a twisted neck and fluffed up feathers.

Often it will have difficulty breathing. It may be gasping for air.

### **Twisted neck**





## **MANY DEATHS**

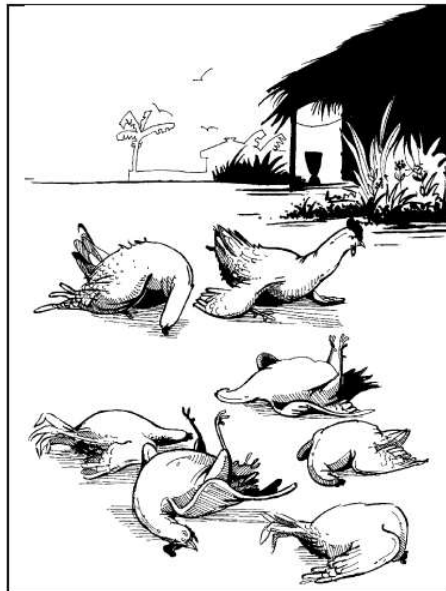
What is happening here?

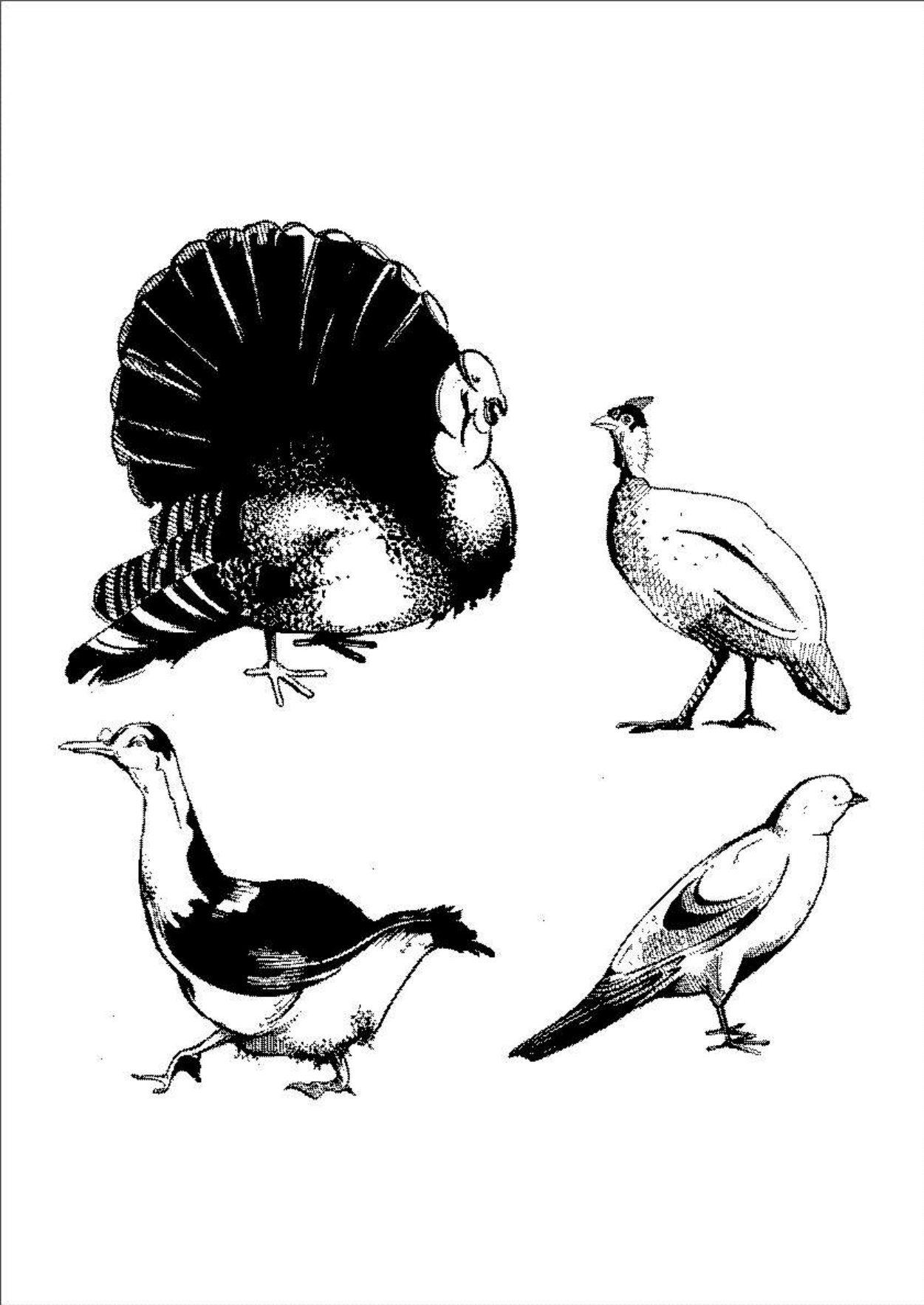
There are many dead chickens.

What disease can cause so many deaths in chickens?

Newcastle disease causes many deaths in a short period of time. “Bird flu” can also cause many deaths but it has not yet been reported in Zambia.

### **Many deaths**





## **BIRDS THAT CAN SPREAD NEWCASTLE DISEASE**

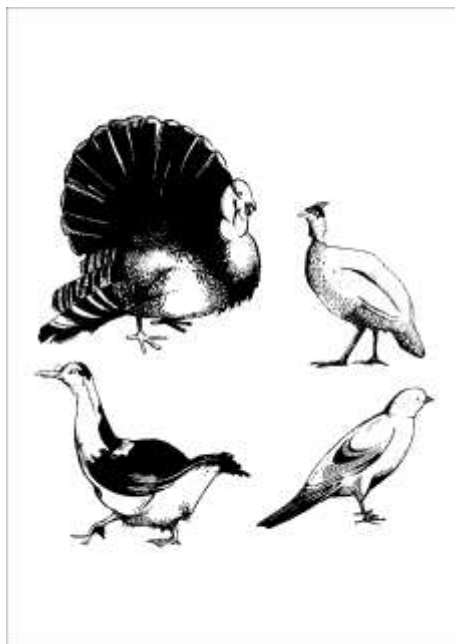
What birds do we have here?

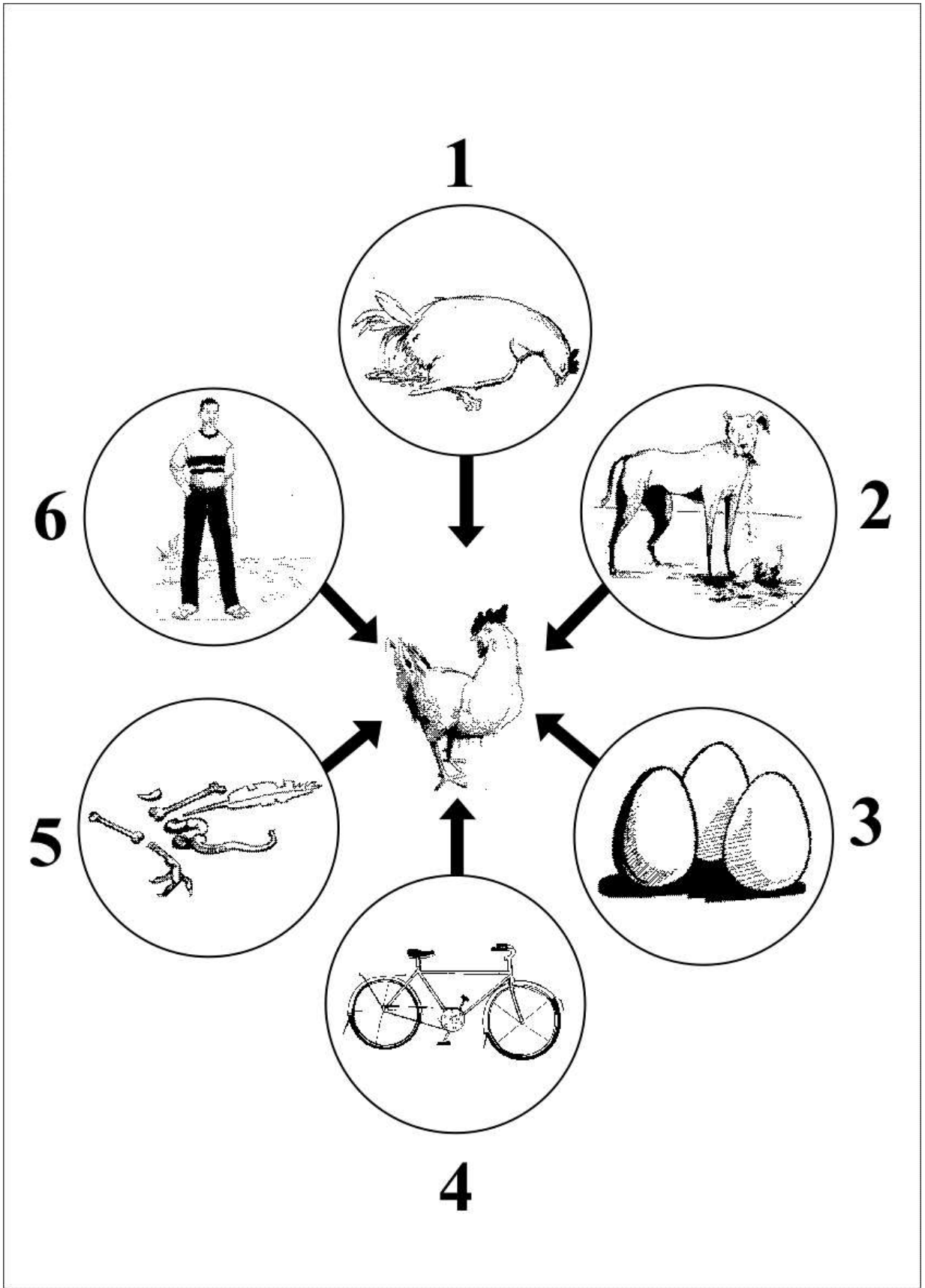
We have a turkey, a pigeon a duck and a guinea fowl.  
These birds can spread Newcastle disease.

Turkeys and pigeons can get sick from Newcastle disease. Guinea fowls do not get sick from Newcastle disease but they can still carry the disease and then transmit it to chickens.

Adult ducks can get Newcastle disease but they will not die. However, ducklings can get sick and may die from the disease.

So if you see that ducks of all ages are dying from a disease, it is because of another disease that attacks ducks. It is not Newcastle disease.







## HOW DOES NEWCASTLE DISEASE SPREAD

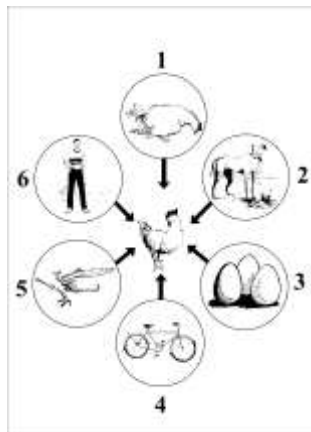
Here we have a drawing that has many parts. The drawing shows some ways that Newcastle disease can be spread. We will look at it part by part.

In the centre we have a healthy chicken. Around the chicken are circles containing different pictures.

(1) On top we have a chicken with diarrhoea (liquid manure). (2) There is a dog that is eating a dead chicken. (3) To the right are some eggs. 4) Then a bicycle. (5) Next are some leftover parts after a chicken has been slaughtered - some feathers, bones and internal parts. (6) The last circle shows a man and his footprints.

Newcastle disease is caused by very small particles (viruses) that we cannot see with our eyes. For example, the disease particles from a sick bird could sit on the shell of an egg and be transported to new areas. The particles could also be transported on shoes, birdcages, baskets, bicycles and vehicles.

Do you have any questions about this drawing?





# THERE IS NO CURE FOR NEWCASTLE DISEASE

What can we see here?

We can see a woman and a man.

The woman has a sick chicken.

The man is carrying a tray with some garlic, washing powder and chillies.

Have you ever used treatments like these to cure or protect your chickens? Did the treatments work?

Do you know of other traditional treatments?

When do you use these treatments? Is it when the chicken is already sick or before the chicken gets sick?





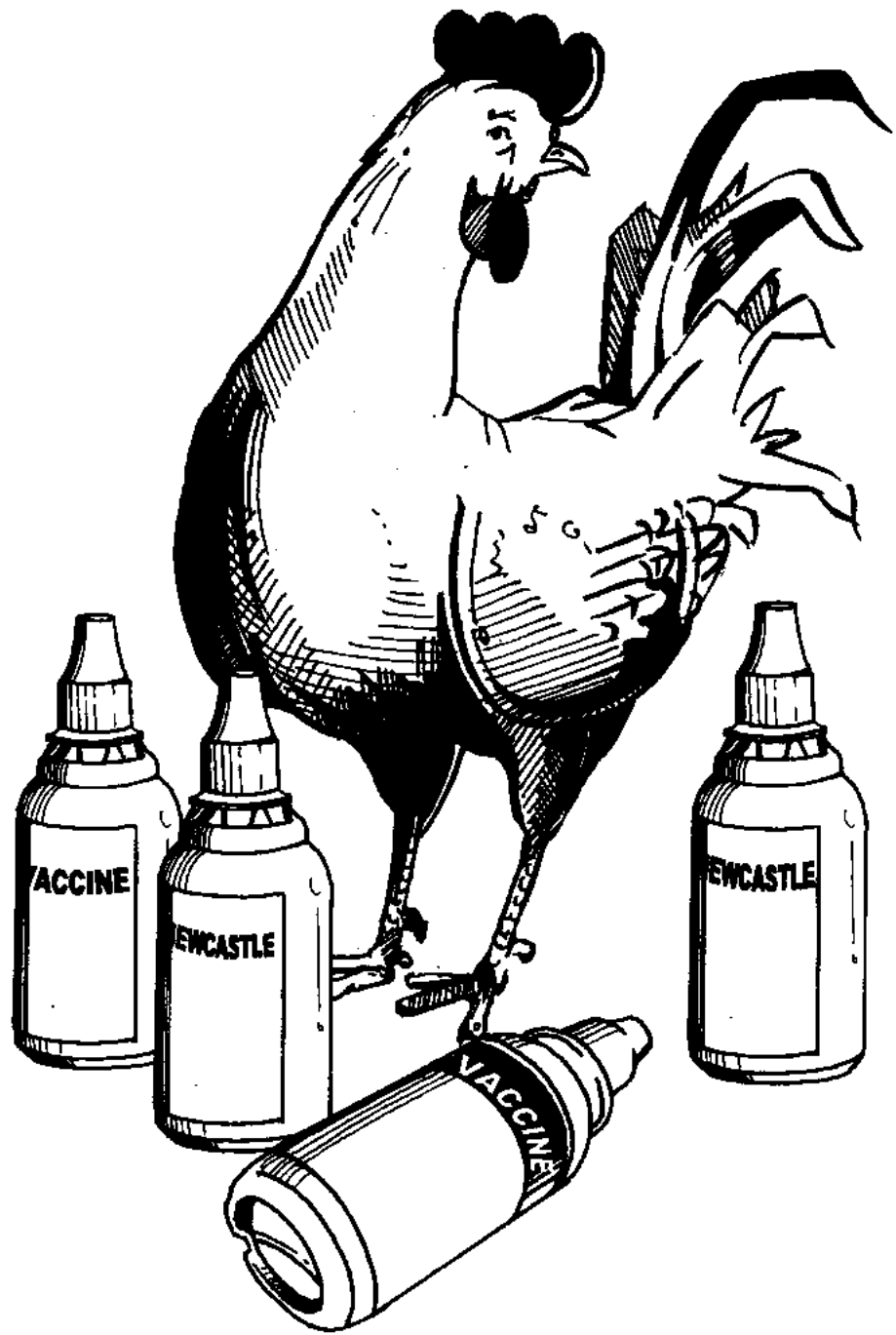
# WHAT TO DO TO RAISE HEALTHY CHICKENS

What does this pictures show us?

We can see a woman who is worrying about her chickens. She is wondering what she needs to do to raise healthy chickens.

**How can I have  
healthy chickens?**





# HOW CAN WE PREVENT CHICKENS FROM GETTING SICK

What can we see here?

There is no known cure for Newcastle disease. The only option is to prevent chickens from getting sick.

But how can we prevent them from getting sick? The most important way is by vaccinating them against Newcastle disease.

When should we vaccinate our chickens? They should be vaccinated at least one month before the disease is expected to occur.

Which chickens should we vaccinate? It is very important that only healthy chickens are vaccinated. Once a chicken gets sick, it is too late to give the vaccine. The vaccine will not cure a sick chicken.

The vaccine is harmless to chickens and people. After vaccination, the chickens can be slaughtered and eaten without causing any problems for people. Vaccinated chickens will also continue to grow and lay eggs normally.

The vaccine that we use to protect against Newcastle disease is called I-2. It is made in Zambia especially for village chickens and can be kept outside of a refrigerator for some time. The vaccine is useful because we know that we do not have many refrigerators in our villages.







## VACCINATING CHICKENS (EYE DROP)

What do we have here?

Someone is holding the head of a chicken and putting a drop into its eye.

The best way to give the Newcastle disease vaccine is by putting a drop into the eye of the chicken.

This skill can be easily learnt by farmers.

Chickens of all ages, from one day old to adults, need only one drop in one eye.

Look at the picture again. You can see that the eyedropper is held straight and this is important to make sure that a drop of the correct size is given to the chickens.

Also see that there are two pairs of hands in the picture. It is easier to vaccinate if one person holds the chicken while the other vaccinates it.



**REPUBLIC OF ZAMBIA  
MINISTRY OF LIVESTOCK AND FISHERIES DEVELOPMENT**

**NEWCASTLE DISEASE VACCINATION ANNUAL WORK  
CALENDAR**

<b>Record number of chickens to be vaccinated; Order vaccine</b>	<b>Procure and stock Vaccine</b>	<b>Vaccinate Chickens</b>	<b>Evaluate campaign</b>
<b>JANUARY</b>	<b>FEBRUARY</b>	<b>MARCH</b>	<b>APRIL</b>
<b>MAY</b>	<b>JUNE</b>	<b>JULY</b>	<b>AUGUST</b>
<b>SEPTEMBER</b>	<b>OCTOBER</b>	<b>NOVEMBER</b>	<b>DECEMBER</b>

## VACCINATION CALENDAR

What is shown here?

We have a calendar with instructions added to it.

The calendar has the months of March, July and November marked in black. These are the months when vaccination is to happen so that chickens are vaccinated every four months.

By vaccinating every four months, the chickens will be protected against Newcastle disease all year around.

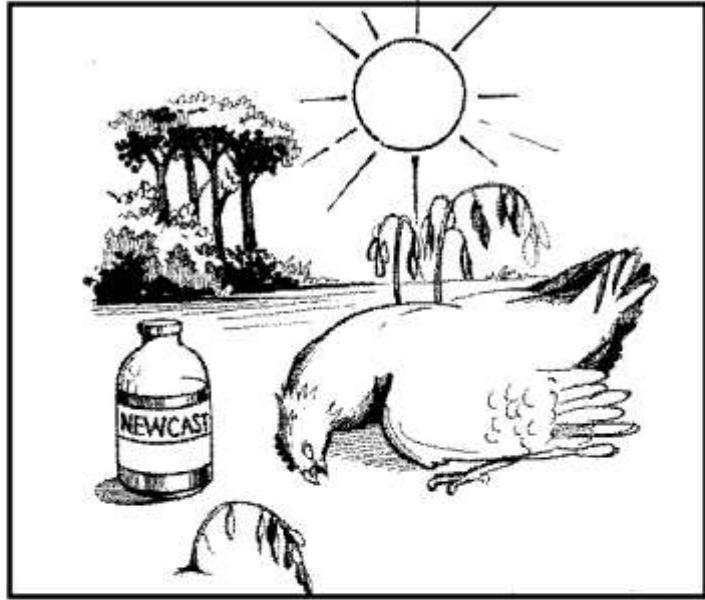
Young chicks will also be protected if we vaccinate regularly.

To make sure that we have the vaccine in time for the vaccination, we should count the number of chickens that we have and order the vaccine well before the campaign.

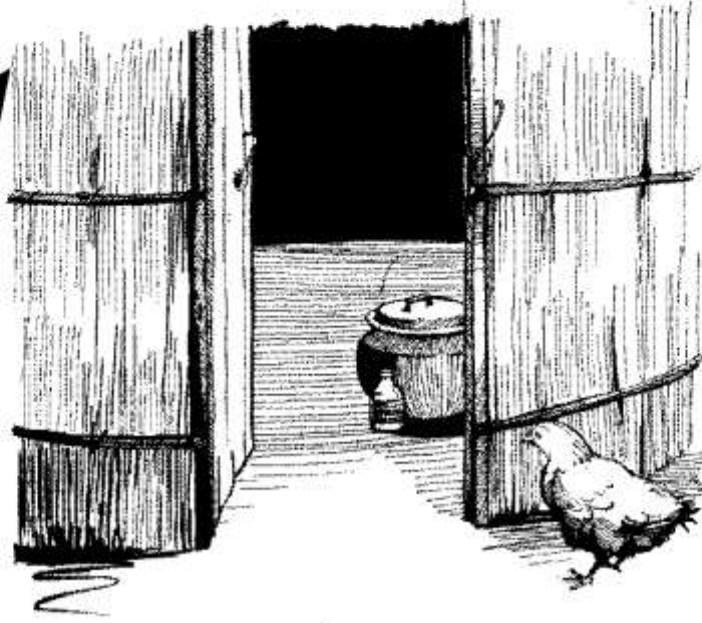
**REPUBLIC OF Zambia  
MINISTRY OF LIVESTOCK AND FISHERIES DEVELOPMENT**

**NEWCASTLE DISEASE VACCINATION ANNUAL WORK CALENDAR**

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<b>MAY</b>	<b>JUNE</b>	<b>JULY</b>	<b>AUGUST</b>
<b>SEPTEMBER</b>	<b>OCTOBER</b>	<b>NOVEMBER</b>	<b>DECEMBER</b>



2



1

## VACCINE CONSERVATION

What can we see in this picture?

We said that this vaccine can stay outside of the refrigerator for some time. But to make sure that the vaccine works well, we still need to take care of it.

In the top part of the picture we can see that the vaccine was left in the sun.

When this same vaccine was given to a chicken, the bird was not protected and got sick from Newcastle disease.

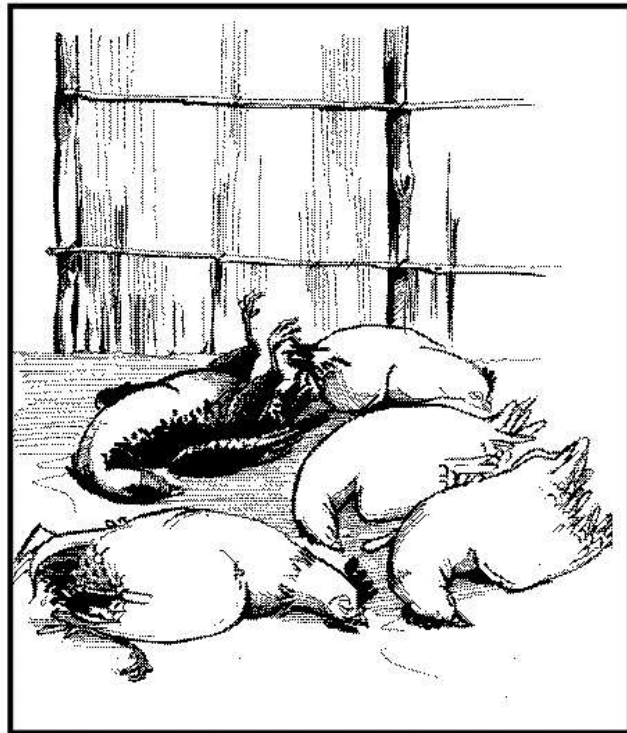
It is important to keep the vaccine in a cool and dry place. It should not come in contact with heat or sunlight. If possible, store the vaccine in a refrigerator.

In your house, you can keep the vaccine near the base of a clay water pot or wrapped in a damp cotton cloth. Keep it in the shade as shown in the lower part of the picture.

When you must carry the vaccine in the field, wrap it in a damp cloth and carry it in an open weave basket with a lid. Do not carry it in a plastic bag or in your pocket.

Remember to vaccinate the chickens in the shade.





## **DO NOT BRING NEW BIRDS TO YOUR FARM WHEN THERE IS NEWCASTLE DISEASE IN NEARBY VILLAGES**

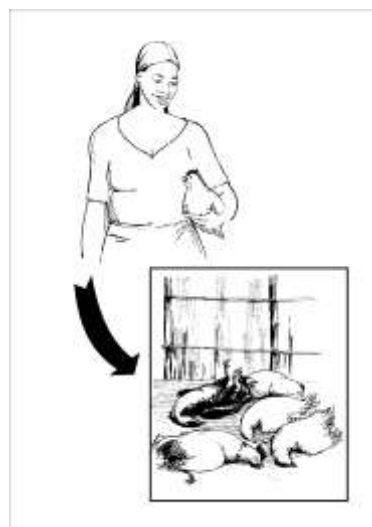
What can we see here?

Now we are going to talk about how we can avoid spreading Newcastle disease from one village to another.

The woman in this picture bought a chicken at the market and is bringing it home. After a few days, all of her chickens died.

It is important that you do not bring new birds to your farms when there is Newcastle disease in nearby villages.

Even when there is no outbreak of Newcastle disease it is a good idea to keep new birds separated from the flock for at least 10 days to make sure that they have no disease that can spread to the rest of the flock.







## **TAKE SICK CHICKENS AWAY FROM THE MAIN CHICKEN HOUSE**

Tell me what you see here?

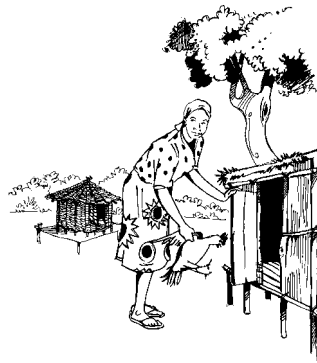
We can see one woman with a chicken and two chicken houses.

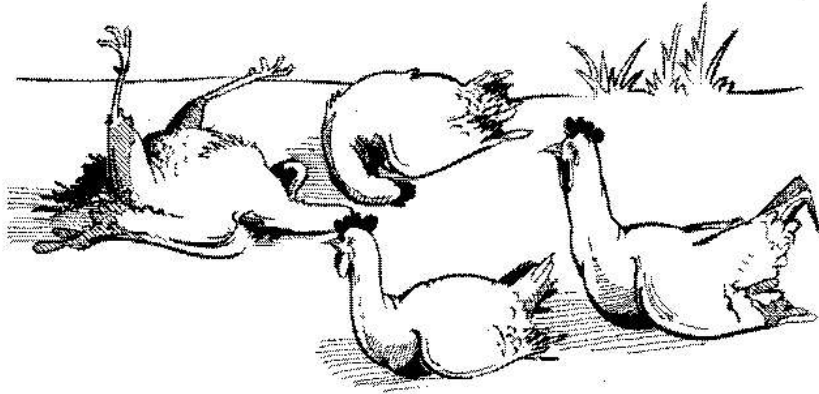
What is she doing?

She is taking a sick chicken away from the main chicken house to stop it from spreading the illness to her other birds. Once the bird is sick, it cannot be vaccinated. All you can do is offer it food and water and a safe place to rest.

Do many farmers have two chicken houses?

Maybe not. What could you do to keep sick chickens away from healthy chickens?





## CONTROL DURING AN OUTBREAK

What is happening here?

On top we can see many dead chickens.

What do you do when many chickens die from Newcastle disease?

When a bird is very sick, it is better to slaughter it.

Sick or dead chickens should not be carried from one house to another or to new villages where the chickens are still healthy.

Any chicken that has died from disease should be burnt or buried.

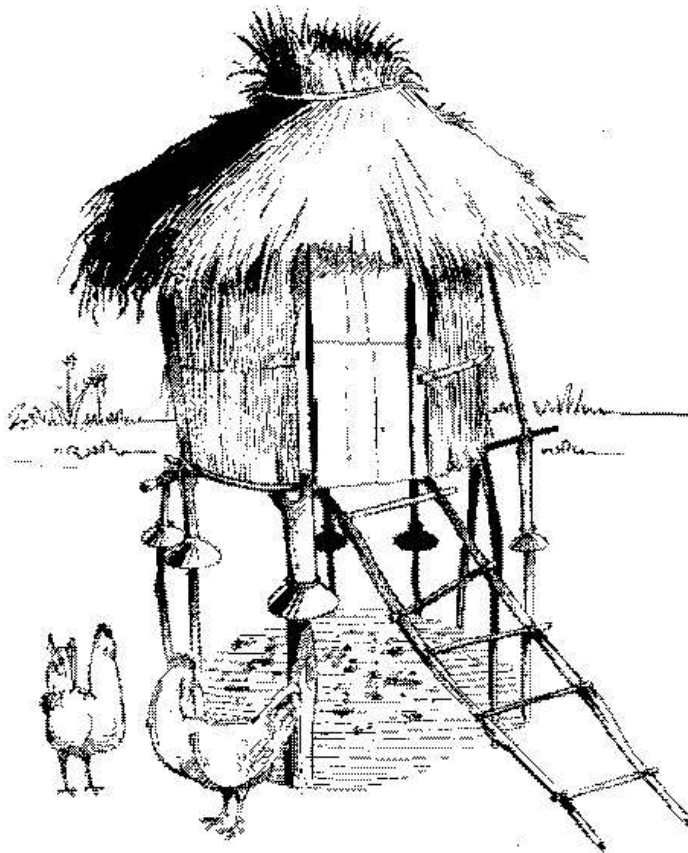
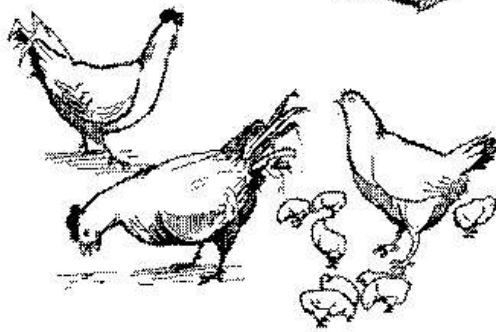
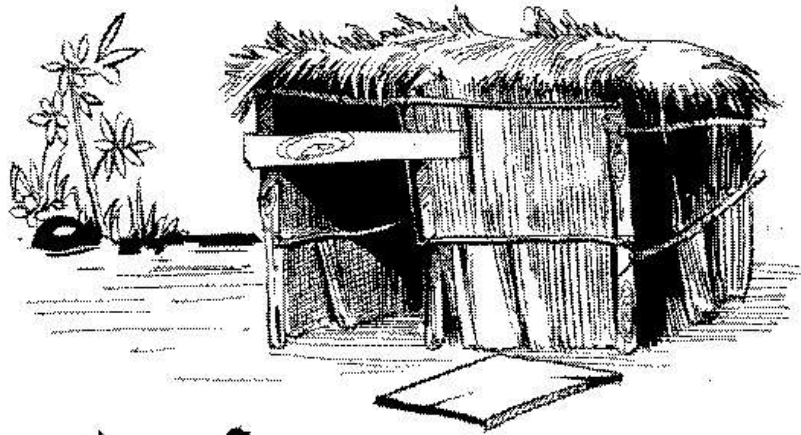
If you do not burn or bury the whole chicken, make sure that the parts that you have not used are burnt or buried. These unused parts may be feathers, bones or internal parts.

At the bottom of the picture, the woman is putting feathers and other parts of a bird into a pit.

When chickens have died from Newcastle disease, do not try to introduce new birds into the same area for at least 30 days.

**Discard infected material carefully**





# CHICKEN HOUSES

What can you see here?

There are two types of chicken houses.

Do you have a chicken house at home? What type is it?

A good chicken house will prevent predators from getting our chickens and stop disease spreading easily between birds.

Big chickens can get into an elevated chicken house. The floor in this house is made with cane to allow the manure to fall through to the ground away from the birds.

Hens with chicks cannot sleep in raised chicken houses unless there is a gently sloping ramp for them to use. Otherwise, they must be kept in houses on the ground.

It is important that the door to the chicken house is large enough for the ground inside to be cleaned.

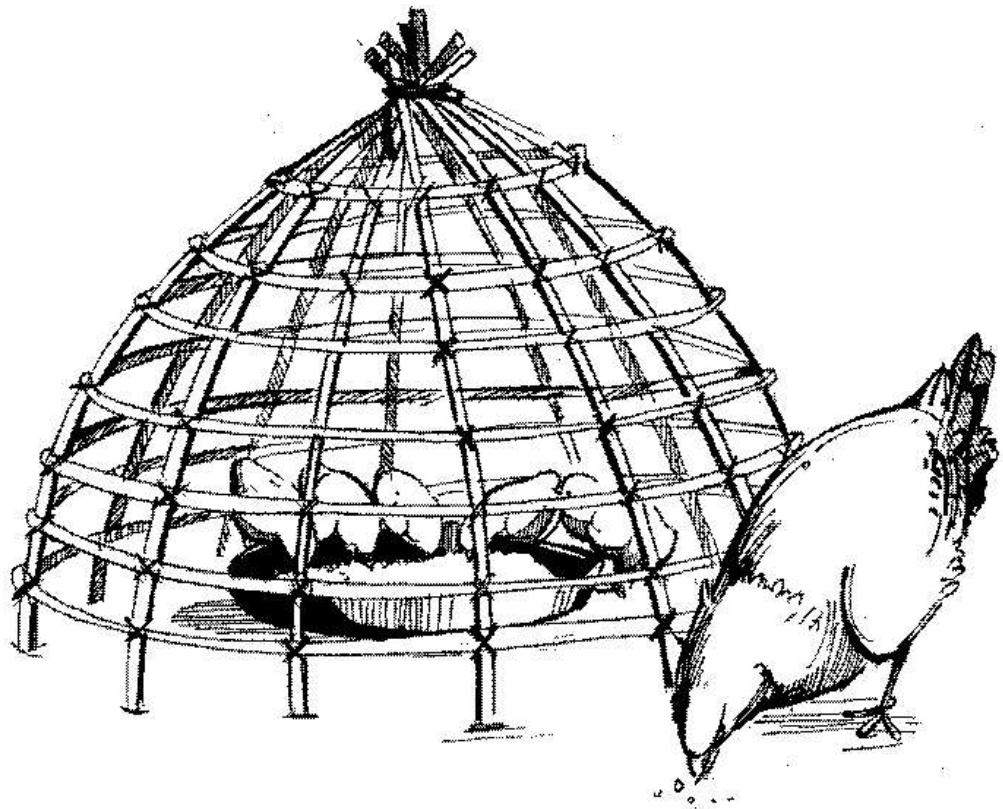
Always remove the bark from the wood so that parasites such as fleas, lice and mites cannot hide under the bark.

Clean your chicken houses at least once a week. After cleaning, put ash on the ground and the walls to stop problems with fleas and mites.

If there has been a disease outbreak in your flock it is advisable to burn the old chicken house and construct a new one in a different place. If this is not possible, do not allow the birds to use the chicken house for 30 days after the end of a disease outbreak.

## Good housing





## **GOOD NUTRITION**

Tell me what you see here?

Village chickens usually find their own food.

But if we can give them a little extra food, then they will produce more.

A bird that eats well will also be better able to fight off disease and will respond better to vaccination.

Good nutrition is very important for your chicks.

How can we give chicks more food?

We can give them leftover food, ground rice or maize, green leaves, insects and ground shells. Give them clean water as well.

The cage in this picture can be used to give small amounts of food to the young chicks without feeding the hens. This means that when you do not have a lot of food available, you can give very small amounts to the chicks only.

**Good nutrition**







## **LOOK FOR SOMEONE FROM VETERINARY SERVICES OR EXTENSION SERVICES**

What is happening here?

We have two women talking. One of the women has a sick chicken.

We know that Newcastle disease is not the only thing that causes problems in our chickens.

If you have any questions, always ask someone from the veterinary or extension services. They are there to help you.

This is the end of my presentation. If you have any questions or comments, I will be happy to talk with you about them.

**Any questions?  
Ask the Veterinary or  
Extension Services**



## **ACKNOWLEDGEMENTS**

We would like to thank the Australian Centre for International Agricultural Research, the Mozambican National Veterinary Research Institute, the Poultry Working Group in Maputo, staff of the District Agriculture Offices in Bilene and Manhiça and the village chicken farmers in Magul and Maciana villages. We would like to thank also the Chongwe villages where this flip chart has been pre-tested.

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Further information is available from the following website:

<http://www.kyeemafoundation.org/irpc.php>  
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