

Improved Practices in Rearing Indigenous Chickens



CTA Practical Guide Series, No. 4

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Indigenous chickens play an important role in the livelihoods of most rural families in Eastern Africa. Despite increased use of commercial breeds by large-scale producers, around three-quarters of chickens in the region are indigenous breeds.

Facts about indigenous chickens

- Meat and eggs are tastier and preferred by most consumers to those obtained from commercial breeds
- Initial investment is less than that needed to keep commercial breeds
- More tolerant of harsh conditions, including diseases, than commercial breeds
- Can be fed on cheap, locally available feeds
- When allowed to range freely, they need little feeding or other care
- Women and youth often control income from chickens
- Local markets are readily available for both eggs and chickens
- Droppings are rich in nutrients: can be used for compost making, pond fertilizing and as feed for livestock.

Why improved management?

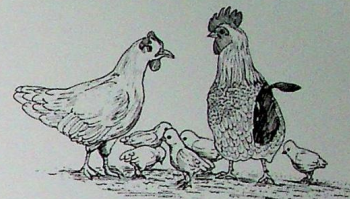
- Survival rate of chicks can be increased from three to eight out of ten.
- If you hatch your eggs and sell chicks, earnings can be much higher (up to 7-times higher) than if you simply sell the eggs.
- Simultaneous hatching of hens (so all chicks hatch at the same time) makes planning for vaccinations easier.
- By cooperating with neighbours, farmers with small flocks can access vaccines at more affordable rates.
- Planning your production to meet high seasonal demand – such as at Christmas, Easter and other festivals can greatly increase your profits.
- If hens are prevented from hatching their own eggs or brooding chicks, they will start to lay again more quickly – after just 21 days, instead of the usual three months.

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How do I start?

You will need:

- One cock for every 10 hens
- Water and feed containers
- Housing space
- Laying nests
- Carton box with ventilation holes
- A sisal sack or wood shavings
- A source of vaccines and drugs



Selection of the breeding stock

- Select a hen that is broody, does not abandon her eggs during hatching and looks after her chicks well.
- Select a healthy, strong cock.

Housing

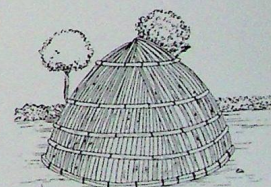
- Housing space (2 metres by 3 metres) or a *liuli* (traditional brooding basket). The *liuli* can be used as a brooder basket for chicks, either inside or outside the house.
- House should be raised to protect birds from predators.
- Perches should be provided in the house for chicken to roost on at night.
- The house should be well ventilated.



What are the improved management practices?

Feeding

- Provide a balanced diet. For example, a small handful of maize, a teaspoonful of local fishmeal and some fresh greens, in addition to scavenged feeds like insects, will provide a good diet for one chicken in a day.
- Provide clean water at all times.



Collecting the eggs

- Provide a safe, dry, dark place for the hens to lay.
- Collect eggs daily, write the date on the egg in pencil and store with the broad end facing upwards: this helps to ensure the embryo develops properly.

Hatching

- Use only eggs that were laid in the last 14 days.
- Hatch eggs using the mother hen, another broody hen, a (surrogate) duck or an incubator.
- For hens and ducks, make sure the number of eggs chosen for hatching corresponds to the bird's body size – all eggs must fit under the bird.
- For synchronized hatching (all chicks hatch at the same time), delay the first hen that becomes broody by giving it just one egg to sit on while you wait for other hens to lay their clutches and become broody.
- For successive hatching (the hen or the surrogate duck sits on eggs for two consecutive clutches), chicks are removed when they hatch and replaced with new eggs.
- After hatching, dispose of egg shells, clean the nest and transfer chicks to a brooder.
- Turn the eggs regularly, especially when using an incubator.



Brooding

- Brood chicks using a mother hen, foster hen, a lantern, kerosene brooder, charcoal stove or charcoal placed in a metal container.
- If a foster hen is used, condition it for a day by giving it new chicks.
- Where a lantern brooder or other heat source is used, place it in a cardboard box with ventilation holes or inside the *liuli* placed upon a sisal sack or wood shavings.
- Take care that chicks cannot get burned – cover charcoal stove or container, ensuring that there is no risk of fire.

Rearing chicks

- Provide clean water at all times in shallow, clean troughs.
- Provide soft feeds like flour from cereals or tubers.
- Allow chicks to roam freely when they reach 3 or 4 weeks of age.
- Vaccinate chicks against Newcastle disease at 4 days of age.

Record keeping

Keeping good records will help you to assess whether or not you are making a profit. The table below compares the profit made using traditional and improved management practices. Under traditional management, fewer eggs are laid and fewer birds are reared as many more chicks die.

For one hen	Traditional management	Improved management
Eggs produced per year	36	60
Eggs placed for hatching per year	30	30
Chicks hatched (8 out of every 10)	24	24
Growers reared and available for sale	6	18
Value of surplus eggs (US\$0.07 per egg)	$6 \times 0.07 = 0.42$	$30 \times 0.07 = 2.10$
Value of growers (US\$2.90 per grower)	$6 \times 2.9 = 17.40$	$18 \times 2.9 = 52.20$
Income from sales (eggs + growers: US\$)	17.82	54.30
Less costs:		
Feed	0	17.15
Other (vaccines, drugs)	0	3.40
Total costs	0	20.55
Profit per hen per year (US\$)	17.82	33.75

Profit obtained with improved management is about double that obtained with traditional management.

What can go wrong	Cause	What to do
Newcastle disease causes many birds to die	Local disease outbreak Failure to vaccinate	• Vaccinate at 4 days and again at 4 and 16 weeks of age • If this is not done, vaccinate just before the dry season or immediately when neighbour's birds are sick or dying • Follow vaccine manufacturer's recommendations
Fowl pox (pimple head)	Local disease outbreak Failure to vaccinate	• Vaccinate through the wing web, preferably at 3 weeks of age or whenever there is a risk of the disease • Follow vaccine manufacturer's recommendations
Fleas, ticks and lice	Poor hygiene	• Dust floor of house and nestboxes with an insect powder approved for use with chickens • Follow manufacturer's instructions
Worms	Infection picked up from other birds	• De-worm once during dry season and again at start of rains or when chickens look weak • Give dewormer in drinking water for 1 week or as recommended by manufacturer or veterinary officer
Blood in droppings	Coccidiosis, fowl typhoid or fowl cholera	• Treat as advised by your local vet • Provide clean feed and water troughs
Chicks grow slowly, stay small, are weak and unhealthy looking	Inbreeding – that is breeding from closely related birds	Change cocks every year
Poor hatchability	Storing unclean eggs (dirty or bloody) Using eggs older than 14 days Breeding from poor quality hens and cocks Disease in the flock	• Wipe eggs clean before storage • Write date on eggs before storage and hatch only those laid in the last 14 days • Provide clean, dry nestboxes • Select good quality breeding stock • Consult your veterinary officer

Case study

Mr. Lawrence Wamukoye has good reason to appreciate the benefits of adopting improved management practices for indigenous chickens. Proceeds from sales of chickens have enabled him to make the last payment due on his plot of land. He can also now afford to buy books and uniforms for his three children who attend a local primary school.

Lawrence is a small-scale farmer from Majengo village in Western Province, Kenya. He is a father of four and his family depends on just one-fifth of a hectare of land. A few years ago, he received training from a non-governmental organization, Africa Now, on improved methods of indigenous chicken keeping. He was shown how to vaccinate his birds and also how to timely produce to meet the high demand for chickens during religious and cultural festivals, such as Christmas. As a result he managed to reduce the previously high mortality rate in his flock, double the number of eggs his birds lay and increase his income.

He keeps 10 laying hens. When they hatch their eggs, he transfers the chicks to three traditional brooders and provides them with supplementary feeds. On average he sells 10 chickens every month and has around 150 birds on his farm at any one time.

He now plans to move his expanding poultry enterprise onto a new, bigger piece of land. To buy the land, he is arranging to obtain a loan from a local microfinance organization and is confident of repaying the loan from the proceeds of his successful indigenous chicken business.

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CTA is financed by the European Union.



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