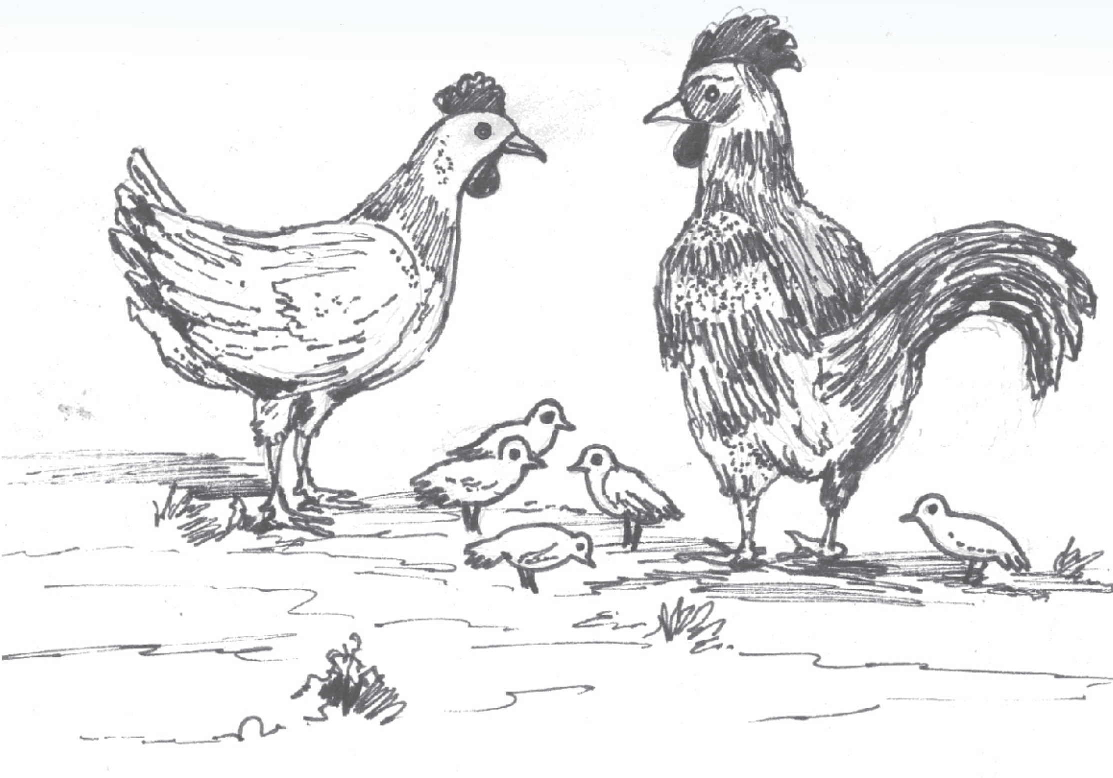

Improved Practices in Indigenous Poultry Farming:

A Technical Guide

PRACTICAL ACTION
Technolog challenging poverty

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Acknowledgements

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Additional Compilation: Thembinkosi Nyathi (Practical Action Southern Africa)

1.Introduction

Indigenous chickens production projects which are supported by Practical Action Southern Africa have not yet been significantly developed. Indigenous chickens production is small-scale and operated at household level. No community indigenous chickens production in rural Zimbabwe has been studied in much detail. However, indigenous chickens play an important role in the livelihoods of most rural families in Zimbabwe.

The market for indigenous chickens is very lucrative although the acfual size is not known due to the informal nature of the industry. The industry is not at all flooded as very few farmers – most of the commercial large – scale farmers – are in the industry.

These notes are meant for potential indigenous chickens producers and/or supporting agencies. They provide information on some of the requirements necessary for the establishment of an indigenous chicken farming project.

Advantages of indigenous chickens over commercial breeds

- Low production costs for the community producer
- Indigenous chickens produce premium quality meat that fetches premium prices on the market
- Ability to scavenge makes them cheaper to keep as they can look after themselves
- Useful in pest control as they eat grasshoppers and bugs
- Greater resistance to most diseases and parasite attack
- Droppings are rich in nutrients: can be used for compost making, pond fertilizing and as feed for livestock.

2. Pre - requisites

The pre-requisites for indigenous chickens production will depend on the method of rearing used. The pre-requisites necessary when indigenous chickens are being reared using the free range method are different from those required when commercial methods are used. The following are the general pre – requisites:

- There should be a group of people interested, and to some extent, experienced in chicken rearing, and committed to the project
- Enough land; minimum one hectare to set up chicken runs
- The area should have good ground cover for free range set ups
- The breeding stock of indigenous chickens (both male and female) or eggs should be available.

Partners or agents in the main city markets should be available. These will be useful as contact points between the producer and the market since it will be expensive for the community to transport slaughtered birds from the rural areas to the main city markets.

Legal Requirements for Commercial Production

The business should conform to Veterinary Service requirements as well as the legal regulations that govern the movement and sale of animals and meat products.

3. Key Implementation Steps

The following steps are key to the establishment of an indigenous chickens production project:

Identification of breeders

Identification of current or potential breeders as well as the current stock levels is an important stage. It is preferable to have households with previous experience in chicken rearing, with access to a large, at least grass covered land area, about one hectare for free range. For a group, it may be necessary to consider grouping neighbours so that the available land set aside for indigenous chicken farming can be combined to provide a larger area. Identify and set up institutional mechanisms that will ensure effective management of the project.

Market analysis and project viability assessment

This involves studying the prices that both formal and informal markets are paying for birds, studying the current buying levels as well as the quality requirements demanded by the buyers. Market analysis at this stage is important as it allows the assessment of whether or not to set up the business venture. In conjuction with the community, analyse current breeding practices and identify areas that need improvement.

Environmental Impact Assessment (EIA)

An Environmental Impact Assessment (EIA) should address key issues including land-use conflicts between households and conflicts with other domestic animals, vegetation around the homesteads and diseases. In many cases, according to experience, this project has more impact at household level than at community, village or ward level, and therefore the EIA should have a particular focus at the household level.

Skills and Training Needs Assessment

It is important to determine the levels of skill in bird rearing and any related business management experience within the community. Communities with no previous experience can easily be trained in bird rearing and can produce good results. Other skills required include: Bird Dressing, Bookeeping, Participatory Monitoring and Evaluation (PM and E), Start Your Business and Manage Your Business, Costing and Pricing.

Viability Assessment

The viability assessment reconciles market research studies, resource assessments results – resource availability to sustain production, estimated costs of production, estimated accrual of benefits and project participants' skills base and training needs. A cost benefit analysis will inform whether the project is viable or not. It is also important to consider the various production methods available e.g. use of incubators, natural incubators under free ranging, among others.

Implementation Plan

The implementation plan of indigenous poultry project and the market demand, which usually peaks during the festive season.

Monitoring the Project

The monitoring and evaluation plan of an indigenous poultry production project needs to take the following into account:

- Egg production levels
- Periods of incubation and conditions
- Food conversion ration of the birds
- Market demand
- Sales and income
- Input cots (Fencing,feed,drugs e.t.c)

It is important that records are also produced daily so that monthly information can be compiled.

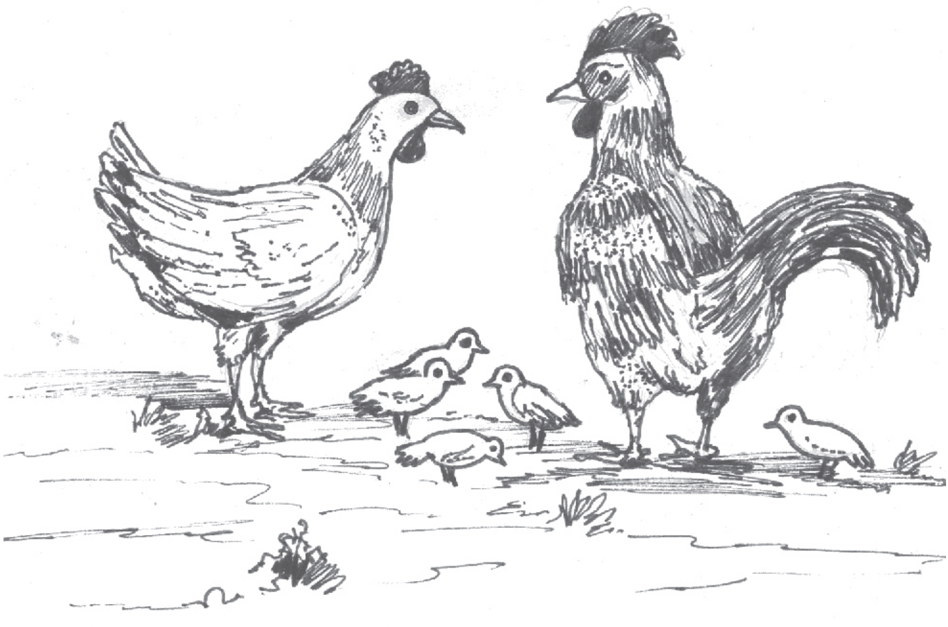
Financing the Project

Capital for an indigenous poultry production project can be sourced from commercial banks, microfinance institutions and non-governmental organizations (NGOs).

4. TECHNICAL INFORMATION

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.



Breeder Housing

Option One: Free Range

This is often used in rural settings where not much capital investment is required. An equal number of birds of each sex should be provided as the birds will pair up during the breeding season. In those cases, where the eggs have not been picked for brooding by chickens, the male poultry will stay with the female during the brooding period to guard the nest.

Option Two: Commercial Breeding

A

Indigenous chickens flocks can be kept confined under conditions similar to floor housed commercial chicken layers. In such cases, male bird placement should be one for every four to six females. Floor space should be provided at the rate of four to five birds per square metre. An enclosed outside run can be provided for every eight chickens.

B

Indigenous chickens breeders are kept in cages and artificially inseminated. Artificial lights are used to extend the day length to increase egg production. Though expensive, artificial insemination increases fertility rates by up to 85 per cent.

Improved management practices

Feeding

- Provide a balanced diet – 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.
- Clean water should be provided at all times.

Egg collection

- Eggs should be collected frequently – even daily.
- Put them in a safe,dry,dark place for the hens to lay
- If soiled, fine sandpaper should be used to clean them up. Never wash eggs because being porous; they absorb moisture which results in rotting.

Hatching

- Use 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 ducks 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.
- 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 three or four weeks of age.
- Vaccinate chicks against Newcastle disease at four 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	36	60
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*0.07=0.42	30*0.07=2.10
Value of growers (US$2.90 per grower)	6*2.9=17.40	18*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	17.82	33.75

Source Improved Practices in Rearing Chickens (CTA Practical Guide Series Number 4).

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
Fles, ticks and lice	Poor hygiene	• Dust floor of house and nest boxes 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 hatchibility	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

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